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1908

THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

MONTHLY BULLETIN

1908

PREPARED UNDER THE DIRECTION OF

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DIRECTOR OF THE WEATHER BUREAU

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INTRODUCTION.

As has been stated at the end of the Crop Bulletin for December, 1907, the crop reporting service will henceforth be discontinued by the Weather Bureau, said service having been intrusted to the Bureau of Agriculture. As to the rest, the form of the BULLETIN adopted last year will be retained, some slight modifications excepted. A peculiar feature of this year's BULLETIN will be an *Earthquake Catalogue;* viz, at the end of the Seismological Bulletin of each month will be added a list of all the seismic disturbances observed in the Philippines in the said month during the period 1890–1907.

We subjoin a list of all the meteorological stations of the Weather Bureau in operation on January 1, 1908, together with the names of the respective observers, who must be held largely responsible for the accuracy of the observations published in the bulletins. As regards the longitudes and latitudes of the said stations, we beg to state that some inaccuracies have been discovered during the preceding year in the assumed geographical position of some stations. Hence the coördinates of all of them have been carefully revised with the aid of the latest maps of the Philippines published by the United States Coast and Geodetic Survey, and the resulting corrections applied.

SECONDARY STATIONS AND OBSERVERS OF THE WEATHER BUREAU.

Station.	North latitude.		East longitude.		Observers.	Class.
	°	′	°	′		
Jolo	6	03	121	00	Roman Cabigtin	III
Isabela, Basilan	6	42	121	58	Inocencio Rodriguez	IV
Zamboanga	6	54	122	05	Francisco Ventus	III
Davao	7	01	125	35	Lamberto Garcia	III
Cotabato	7	13	124	15	Timoteo Panem	III
Dapitan	8	40	123	25	Severino Hamac	III
Butuan	8	56	125	32	Generoso Copin	III
Yap, western Carolines	9	29	138	08	Eusebius Lehmann	IV
Tagbilaran	9	38	123	51	Fernando Rocha	II
Surigao	9	48	125	29	Leandro Albano	II
Maasin	10	08	124	50	Aguedo Espina	III
Cebu	10	18	123	54	Domingo Angeles	I
Bacolod	10	41	122	56	Segundo Peñaflorida	III
Iloilo	10	42	122	34	José Ma. Sison	I
San Jose Buenavista	10	44	121	55	Benito Pelaez	III
Tuburan	10	45	123	50	Agapito Borja	III
Cuyo	10	51	121	01	Luis A. Austria	IV
Ormoc	11	00	124	36	Ricardo A. Luna	I
Tacloban	11	15	125	00	Perfecto Paulino	II
Capiz	11	35	122	45	José E. de Leon	II
Borongan	11	37	125	26	Cesareo Montes	IV
Calbayog	12	04	124	36	Pio Santos	II
Palanoc, Masbate	12	22	123	36	H. L. Heath	IV
Gubat	12	55	124	08	Antonio Rocha	III
Legaspi	13	09	123	45	Bernardino Costa	I
Sumay, Guam, Ladrones Islands	13	24	144	38	Herbert Taylor	III
Virac	13	35	124	14	Juan Lugod	III
Batangas	13	45	121	03	Enrico Cabral	III
Atimonan	14	00	121	55	Leon G. Guinto	I
Silang	14	14	120	58	Marcos Medina	IV
San Antonio, La Laguna	14	22	121	32	Faustino Lafrades	IV

SECONDARY STATIONS AND OBSERVERS OF THE WEATHER BUREAU—Continued.

Station.	North latitude.		East longitude.		Observers.	Class.
	°	′	°	′		
Corregidor	14	23	120	35	Mariano Atienza	III
Balanga	14	41	120	32	Francisco Tiangco	IV
Olongapo	14	49	120	16	Gregorio Yuse	II
San Isidro	15	22	120	53	Bernardo Pecache	II
Tarlac	15	30	120	35	Atanasio Caliolo	III
Baler	15	40	121	34	Angel Barcenas	IV
Dagupan	16	03	120	20	Domingo Torres	I
Bolinao	16	24	119	53	Mateo Gimenez	III
Baguio, Benguet	16	25	120	36	Gregorio Galvan	III
San Fernando, Union	16	37	120	19	Ovidio Centeno	III
Echague	16	41	121	39	Godofredo Resurrección	III
Candon	17	12	120	26	Luis Quismorio	IV
Vigan	17	34	120	23	Pastor Daroy	II
Tuguegarao	17	36	121	40	José C. de Leon	II
Aparri	18	22	121	38	Manuel Delgado	I
Santo Domingo, Batanes Islands	20	28	121	59	Claudio Castillejos	III

With regard to barometric observations we call attention to the following: Lack of agreement in the monthly means of atmospheric pressure of some stations prompted us to undertake an investigation whether this was due to changes in the instrumental error of some of the instruments, or to errors in the assumed elevation of the barometer above the level of the sea. Although this investigation is not yet entirely completed, we can give the following sufficiently well-determined corrections, which must be applied to the barometric observations made during 1907 at the stations of Cebu, Iloilo, Ormoc, Legaspi, and Vigan:

	mm.
Cebu	−0.55
Iloilo	+ .36
Ormoc	+ .37
Legaspi	− .38
Vigan	− .38

Of these corrections the one for Vigan is due to an error in the assumed elevation of the instrument above sea level; that for Cebu and Ormoc results from both factors mentioned, viz, instrumental error and faulty elevation; the rest are due exclusively to instrumental errors. In order, therefore, to be able to compare the barometric observations made during the present year, 1908, with those of 1907—as is done regularly in the comparative table found in every number of the Meteorological Bulletin—it is necessary to first apply the corrections mentioned to the observations of these stations as published for the preceding year. Nevertheless, the barometric means for Legaspi show that the respective correction is not to be applied to the observations made there during January and February of 1907, but only beginning with March. Moreover, the correction for Iloilo has been applied already to the observations published in December's Bulletin, 1907. In preparing the said tables we have determined the differences between the means of the present year and those of the year immediately preceding, by applying the corrections as stated.

To facilitate the understanding of the tables of observations published in the Meteorological Bulletin we beg to remark that the hours of observation are, for first and second class stations, 2 a. m., 6 a. m., 10 a. m., 2 p. m., 6 p. m., and 10 p. m.; those for third and fourth class stations, 6 a. m. and 2 p. m. The time used by the observers is that of the one hundred and twentieth meridian east of Greenwich. The barometer readings are corrected for capillarity and temperature and reduced to sea level, but *not* to standard gravity. The correction which is to be applied to the readings as given, whenever it is desired to reduce them to standard gravity, is given at the head of each meteorological table.

The signs and symbols employed in this BULLETIN are the following:

Symbol.	Equal to—	Symbol.	Equal to—
Ci.	Cirrus.	q	Squally weather.
Ci.-S.	Cirro-stratus.	u	Ugly or threatening weather.
Ci.-Cu.	Cirro-cumulus.	v	Visibility of distant objects.
A.-Cu.	Alto-cumulus.	w	Wet, or heavy dew.
A.-S.	Alto-stratus.	●	Rain.
S.-Cu.	Strato-cumulus.	≡	Fog or mist.
N.	Nimbus.	⌓	Dew.
Cu.	Cumulus.	⊕	Solar corona.
Cu.-N.	Cumulo-nimbus.	⊕	Lunar corona.
S.	Stratus.	⌣	Lunar halo.
Fr.-Cu.	Fracto-cumulus.	○	Solar halo.
Fr.-N.	Fracto-nimbus.	≺	Heat lightning.
Fr.-S.	Fracto-stratus.	⟦≺	Thunderstorm.
S.-cf.	Stratus-cumuliformis.	T	Thunder without lightning.
N.-cf.	Nimbus-cumuliformis.	↙	Strong wind.
M.-Cu.	Mammato-cumulus.	⌒	Rainbow.
b	Bright, clear sky.	∞	Dry mist.
c	Cloudy weather.	S.	Smooth sea.
d	Drizzling, light rain.	L.	Long rolling sea.
g	Gloomy or stormy looking weather.	T.	Tide rips.
		M.	Moderate sea or swell.
o	Overcast.	H.	Heavy sea.
p	Passing showers of rain.	R.	Rough sea.

NOTE.—A small zero ($^{\circ}$) or 2 (^{2}) used as an exponent to the above symbols indicates respectively that the intensity of the meteor denoted by the symbols thus affected was small or very great.

INTRODUCCIÓN.

Según se indicó al fin del Crop Bulletin de Diciembre de 1907, el servicio de cosechas queda suprimido en adelante en nuestro Boletín, por haberse encargado de él el Bureau de Agricultura. Por lo demás, salvo ligeras modificaciones, conservamos en esta publicación la misma forma que adoptamos el año anterior. Sin embargo, al fin de cada Boletín Séismico se añadirá este año un catálogo de los temblores ocurridos en Filipinas en el mes correspondiente durante el período de 1890 á 1907.

Damos en el texto inglés una lista de todas nuestras estaciones con los nombres respectivos de los observadores, los cuales son en gran parte responsables de las observaciones que se publican en este Boletín. En cuanto á la longitud y latitud de dichas estaciones, hacemos constar aquí que en vista de algunos errores que se echaron de ver el año pasado en la supuesta situación de algunas de ellas se han revisado todas con mucho cuidado, teniendo á la vista los más recientes mapas de Filipinas publicados en Washington por el Coast and Geodetic Survey y conforme á ellos se han aplicado las correcciones convenientes.

Otra advertencia debemos hacer con respecto á las observaciones barométricas. La falta de conformidad que se observaba en las medias mensuales de la presión atmosférica de algunas estaciones nos movió á tomar algunos medios para averiguar si había cambiado en algunos casos la corrección instrumental de los barómetros ó si tal vez en otros era algo errónea la altura de los mismos sobre el nivel del mar. Aunque nuestras investigaciones no han terminado todavía, sin embargo podemos ya dar como bastante averiguadas las siguientes correcciones adicionales que deberían aplicarse á las observaciones barométricas de 1907 de las estaciones de Cebú, Iloílo, Ormoc, Legaspi y Vigan:

	mm.
Cebú	—0.55
Iloilo	+ .36
Ormoc	+ .37
Legaspi	— .38
Vigan	— .38

De estas correcciones la de Vigan es debida á un error en la altura sobre el nivel del mar, la de Cebú y Ormoc debe atribuirse parte á error instrumental y parte á error de altura; las demás únicamente á error instrumental. Según esto, pues, si se quieren comparar las observaciones barométricas de este año 1908 con las del año próximo pasado, como solemos hacerlo en una tabla comparativa de presión y temperatura que acompaña el texto inglés de nuestro Boletín Meteorológico, es preciso aplicar dichas correcciones á las observaciones publicadas dicho año. Con todo, las medias barométricas de Legaspi indican que no debe aplicárseles la tal corrección adicional en los meses de Enero y Febrero de 1907, sino únicamente desde el mes de Marzo. Además, á las observaciones de Iloílo se aplicó ya la propia corrección en el Boletín de Diciembre, 1907. Para deducir las diferencias que damos en la tabla mencionada entre las medias de este año y las del año pasado, hemos aplicado antes todas las correcciones necesarias.

Para mejor inteligencia de los cuadros de observaciones que publicamos en el Boletín Meteorológico, téngase presente que las horas de observación para estaciones de primera y segunda clase son 2 a. m., 6 a. m., 10 a. m., 2 p. m., 6 p. m. y 10 p. m.; y en las de tecera y cuarta clase, 6 a. m. y 2 p. m. El tiempo seguido por nuestros observadores es el del meridiano 120 Este de Greenwich. Las lecturas barométricas se dan corregidas de capilaridad y temperatura y reducidas al nivel del mar, pero no á la gravedad normal. La corrección que por gravedad debe aplicarse, se da al principio de cada cuadro meteorológico.

Los signos y símbolos usados en este Boletín son los siguientes:

Símbolos.	Significado.	Símbolos.	Significado.
Ci.	Cirrus.	q	Achubascado.
Ci.-S.	Cirro-stratus.	u	Tiempo feo ó amenazador.
Ci.-Cu.	Cirro-cúmulus.	v	Trasparencia del aire.
A.-Cu.	Alto-cúmulus.	w	Húmedo.
A.-S.	Alto-stratus.	●	Lluvia.
S.-Cu.	Strato-cúmulus.	≡	Niebla ó neblina.
N.	Nimbus.	⌓	Rocío.
Cu.	Cúmulus.	⊕	Corona solar.
Cu.-N.	Cumulo-nimbus.	⊕	Corona lunar.
S.	Stratus.	◡	Halo lunar.
Fr.-Cu.	Fracto-cúmulus.	○	Halo solar.
Fr.-N.	Fracto-nimbus.	<	Relámpago sin trueno.
Fr.-S.	Fracto-stratus.	⌈<	Tempestad de trueno.
S.-cf.	Stratus-cumuliformis.	T	Trueno sin relámpago.
N.-cf.	Nimbus-cumuliformis.	↙	Viento duro.
M.-Cu.	Mammato-cúmulus.	⌒	Arco-iris.
b	Despejado.	∞	Niebla seca.
c	Nublado.	S.	Mar lisa ó llana.
d	Llovizna ó lluvia ligera.	L.	Mar tendida.
g	Mal cariz; tiempo cerrado, fosco.	T.	Mar rizada.
		M.	Mar moderada.
o	Cubierto.	H.	Mar gruesa.
p	Lluvia pasajera.	R.	Mar alborotada.

Nota.—Un ° ó un ² puestos como exponentes de los signos, indican respectivamente una muy débil ó una muy fuerte intensidad en el meteoro que representan.

BULLETIN FOR JANUARY, 1908.

METEOROLOGICAL BULLETIN FOR JANUARY, 1908.

By Rev. José Coronas, S. J.,

Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—Owing to the complete absence of atmospheric depressions from our Archipelago during January, 1908, the monthly means of pressure are found to have been considerably above the normal values for the month at all the stations, while the excess over the corresponding means for January, 1907, is still more pronounced. The highest pressures within the Philippines have been observed during the period from the 4th to the 11th, both dates included, and the lowest during the last days of the month, the lowest daily mean having occurred on the 31st.

The mean temperatures differed but slightly from those of January of the last year. The most notable differences are those resulting for Dagupan and Vigan, which respectively reached +1.9° C. and +1.0° C. For Manila the absolute maximum was 32.5° C., registered on the 19th and 31st; and the absolute minimum 17.3° C., observed on the 8th. Other minima only slightly above the lowest have been registered at Manila on January 7, 9, 15, and 16.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS JANUARY, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from January, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from January, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°C.	°C.	°C.		°C.	
Tagbilaran	760.29	+1.70	762.72	7	758.12	31	26.1	+0.5	32.1	17,18	20.4	5
Surigao	60.61	+1.70	62.87	4,7	58.27	31	25.4	— .2	30.4	11,19	19.8	8
Cebu	60.41	+1.85	62.74	9	58.37	31	25.8	— .1	30.1	11	21.1	7
Iloilo	60.78	+1.56	63.50	9	58.70	31	25.8	+ .7	31.8	20	20.9	7
Ormoc	60.84	+2.06	63.29	6	58.67	31	24.9	0	31.8	10	17	7
Tacloban	61.15	+1.97	63.73	6	58.69	31	25.3	0	31.5	24	21	30
Capiz	61.38	+1.77	64.28	9	58.78	31	25.7	+ .3	29.5?	24	19.6	31
Calbayog	61.60	----------	64.13	6	59.22	31	24.6	----------	31.5	20,31	17.7	7
Legaspi	61.84	+1.65	64.49	9	59.34	31	25.4	0	30	13,15	20.8	31
Atimonan	62.31	+1.55	65.29	10	59.26	31	25.5	+ .7	31.5	22	21.3	31
Olongapo[1]	60.98	----------	64.42	10	58.53	31	26.2	----------	----------	----------	19	16
San Isidro	62.24	+1.24	65.48	10	58.90	31	24.7	+ .2	34.7	31	16.9	8
Dagupan	61.69	+1.38	64.91	10	58.58	31	26.9	+1.9	33	30	21.6	11
Vigan	61.91	+1.32	64.79	10	59.02	31	26.2	+1	31.8	28	21	13
Tuguegarao	----------	----------	----------	----------	----------	----------	23.9	----------	34.8	20	15.7	7
Aparri	64.17	+1.31	68.60	10	60.13	31	23.5	+ .4	30.2	25	17.4	12

[1] 22 days only.

Precipitation.—An examination of the following table of rainfall shows that the stations of Luzon to the north of Manila report a total amount of precipitation somewhat in excess of that during January, 1907; while the capital and the stations of southern Luzon, the Visayas, and Mindanao fell generally short of it. The most remarkable differences are those for Legaspi, Ormoc, Bacolod, Iloilo, and Tuburan. Tagbilaran is the only station in the Visayas which reports a total rainfall greater than that of January of the preceding year. The amount of rain registered at Manila differed from the normal for January by —8.7 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JANUARY, 1908.

Station.	Total.	Departure from January 1907.	Rainy days.	Departure from January 1907.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*	
Jolo	51.5		12		29	28
Isabela, Basilan	52.6	− 18.3	5	−1	17.3	29
Zamboanga	10.1	− 58.2	3	−5	5.8	29
Davao	193.3		7		50.5	8
Cotabato	50.9		13		11.4	14
Dapitan	22.2	− 39.3	18	+6	4.3	27
Butuan	90.3		17		25.9	17
Yap, W. Carolines	342.1	+210.3	20	−1	115.8	29
Tagbilaran	90.5	+ 50	14	0	28.3	9
Surigao	332.9	− 81	23	+5	44.4	12
Maasin	150.4		8		68.1	11
Cebu	96.1	− 5.3	13	+2	29.5	12
Bacolod	66.1	−189.6	13	+2	18	9
Iloilo	15.1	−182.7	8	−3	5.1	5, 10
San Jose Buenavista	35.1	− 97.3	5	−2	18.3	28
Tuburan	64.8	−175.4	10	−4	17.8	1
Cuyo	1.8	− 81.8	3	−2	.8	29
Ormoc	66.2	−295.1	19	+3	19.6	1
Tacloban	211.4	−129.4	22	0	34	26
Capiz	62.2	−132.5	18	+5	13.5	9
Borongan	425	− 99.7	26	−2	63.8	17
Calbayog	182.2	− 33.2	24	+1	30	25
Palanoc, Masbate	103.6		25		16	15
Gubat	357.1		24		41.4	11

Station.	Total.	Departure from January, 1907.	Rainy days.	Departure from January, 1907.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*	
Legaspi	303.4	−323.2	24	+1	46	28
Virac	246.3		27		52.6	25
Batangas	9.3		7		5.1	12
Atimonan	173.6	−100.9	17	+2	22.8	25
Silang	18.6	23.3	2	−2	16.8	7
San Antonio, Laguna	164.2	−105.3	16	+1	27.9	3
Corregidor	28.2	− 6.3	2	0	22.9	25
Manila	18.9	− 2.5	9	+6	11.4	3
Balanga	13.8	− 14.7	4	0	6.4	13
Olongapo [1]	2.1		3		1.4	13
San Isidro	18.4	+ 18.4	4	+4	15.3	13
Tarlac	5.8	+ 2.8	4	+3	3	25
Baler	395.5		17		100.4	12
Dagupan	21.9	+ 17.7	7	+3	12.2	25
Bolinao	20.9		8		15	23
Baguio	73.4	+ 62.7	6	+3	44.7	25
San Fernando, Union [2]	30.7		4		10.2	25
Candon	19.8	+ 17	4	+2	8.6	28
Echague	60.6		18		10.4	25
Vigan	0	0	0	0	0	0
Tuguegarao	53.4	+ 41.2	10	+6	23	28
Aparri	90.5	+ 7.4	16	+3	27.9	23
Santo Domingo	217.7	+ 16.6	22	+5	41.1	24

[1] 22 days only.

[2] 23 days only.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Por efecto de la ausencia de depresiones atmosféricas en nuestro Archipiélago durante el mes de Enero último, los valores medios mensuales de la presión resultan en todas las estaciones bastante superiores á la normal de dicho mes y más aun á la media de Enero, 1907. Las más altas presiones se observaron en Filipinas del 4 al 11 ambos inclusive, y las más bajas los dos últimos días del mes. La media diaria menor de todo el mes corresponde en todas partes al día 31.

Las temperaturas medias difieren poco de las de Enero del año pasado. Las diferencias más notables son las de Dagupan y Vigan que alcanzan un valor de +1.9 °C. y +1.0 °C. respectivamente. En Manila la máxima absoluta ha sido 32.5 °C. y fué registrada los días 19 y 31: la mínima absoluta 17.3 °C. se observó el día 8. Otras mínimas diarias no muy superiores á la absoluta se registraron en Manila los días 7, 9, 15 y 16.

Precipitación acuosa.—Examinando la tabla de lluvia que acompaña el texto inglés, hallamos que las estaciones de Luzón al Norte de Manila nos dan un total de precipitación acuosa algo superior al de Enero de 1907, al paso que Manila y las otras estaciones del Sur de Luzón, de Visayas y Mindanao nos lo dan inferior, siendo las diferencias más notables las de Legaspi, Ormoc, Bacólod, Iloílo y Tuburan. La estación de Tagbilaran es la única en las Visayas que da cuenta de un total de lluvia superior al de Enero del año próximo pasado. La cantidad de agua recogida en los pluviómetros de Manila difiere de la normal de Enero en —8.7 mm.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Temperature.									Relative humidity, mean.	Vapor pressure, mean.	Evaporation.	
		Open air.[2]			Underground.								Free exposure, total.	Shelter, total.
		Mean.	Maximum.	Minimum.	0.25 meter.		0.50 meter.		1.50 meters.	2.50 meters.				
					8 a. m.	2 p. m.	8 a. m.	2 p. m.	8 a. m.	8 a. m.				
	mm.	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	*Per ct.*	*mm.*	*mm.*	*mm.*
1	761.29	25	31.2	21.1	26	27.6	26.8	26.9	27.8	28.1	81	18.8	4.7	2.3
2	61.87	24.7	31	19.5	25.9	27.8	26.7	27	27.6	28.1	78	17.7	5.8	2.7
3	62.47	23.1	27.8	20	25.9	25.7	26.7	25.9	27.6	28	89.8	18.8	3.6	1.8
4	64.50	23.8	29.3	20.4	25.7	26.3	26.6	26.6	27.6	28.1	82.4	18	3.2	1.5
5	64.57	24	29.3	20.5	25.7	26.7	26.6	26.9	27.7	28.2	77	16.9	6.2	2.8
6	64.64	23	31	18.7	25.2	27	26.4	26.6	27.7	28.1	77.8	16.1	6.4	3
7	64.64	22.5	31	17.7	25	26.8	26.3	26.7	27.5	27.9	78.4	15.7	5.4	2.9
8	64.63	23.3	29.7	17.3	25	27	26.2	26.6	27.4	28	75.9	15.9	5.4	2.7
9	65.06	23.3	29.3	18	25	26.1	26.1	26.3	27.4	28	79.9	16.8	5.2	2.5
10	65.31	23.8	29.1	19.4	25.1	26.6	26	26.4	27.5	28	75.5	16.2	7.5	3.1
11	63.72	24.4	30	20.2	25	26.5	26	26.2	27.3	27.9	78	17.6	8.2	3.7
12	61.74	24.5	31.2	18.4	25	26.6	26	26.4	27.3	27.9	80.2	18.1	7.1	3.1
13	61.68	24.5	30.2	21.5	25.6	26.9	26.2	26.5	27.4	28	90.2	20.6	2.5	1.4
14	61.30	24.4	31.4	20	25.7	27	26.4	26.8	27.4	28	82.9	18.6	4.4	1.8
15	60.81	23.8	31.2	17.5	25.3	27.3	26.3	26.7	27.4	27.9	76.5	16.5	5.4	2.7
16	60.42	23.3	29.8	17.7	25.3	26.9	26.3	26.8	27.2	27.8	81.7	17.4	5.5	2.7
17	60.75	25.1	30.4	19.5	25.5	27.7	26.3	26.9	27.3	28	82.3	19.3	4.6	2.2
18	60.23	25.1	30.5	20.6	26.2	26.9	26.5	26.7	27.3	27.9	86.9	20.5	3.5	1.9
19	60.14	26.3	32.5	21.2	26.2	28.5	26.8	27	27.3	28	77.2	19.3	5.8	2.6
20	61.37	25.6	30.5	21	26.6	28	26.8	27.1	27.3	28	81	19.3	6.1	3.1
21	62.34	25.3	30.5	21.9	26.6	27.8	26.9	27	27.3	28	79.5	19	4.4	2.3
22	62.82	24.7	31.4	20.4	26.3	27.8	26.8	27	27.2	27.9	78.7	18	7.6	3.7
23	62.44	24.1	28.5	19	25.8	26.9	26.7	26.9	27.3	28	85.7	19.1	3.8	2.5
24	61.91	24.2	28.2	21.4	26	27	26.7	26.9	27.2	27.9	87.8	19.6	2.9	1.4
25	61.52	24.3	28.4	21.7	25.9	27.3	26.6	26.9	27.2	27.9	88.3	19.8	3	1.6
26	61.01	25.7	31.3	21.4	26.1	27.9	26.8	27	27.4	28	80.5	19.5	3.6	1.7
27	61.11	25.6	31.8	22.3	26.6	28.2	26.9	27.2	27.3	27.9	75.7	18.3	6.5	3
28	61.27	25.3	32.1	19.7	26.2	28.3	26.9	27.3	27.3	27.9	74.1	17.3	8.4	3.8
29	61.26	24.2	28.3	21.4	26.3	27.3	27	27	27.3	27.9	81.7	18.3	5.9	2.5
30	59.37	25.8	32.2	20.4	26	28.2	26.8	27.2	27.3	27.9	76.3	18.6	6.6	2.8
31	58.96	26.1	32.5	21.7	26.7	28.9	27	27.7	27.3	28	74.2	18.4	6.5	2.6
Mean	762.10	24.5	30.4	20	25.8	27.3	26.6	26.8	27.4	28	80.5	18.2	5.3	2.5
Total													165.7	78.4
Departure from normal	+0.94	−0.5	+0.5	−0.5							+2.7	0	—12	

Date.	Wind.				Clouds.					Sunshine.		Rainfall.	Miscellaneous.
	Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Amount, mean.	Prevailing form and its direction.							
						Upper.		Lower.					
		Km.	*Km.*		*0–10.*					*h.*	*m.*	*mm.*	
1	ESE	123	13	E	4.8	A.-Cu.	SE by E	Cu.	E by S	7	55		≡ a.
2	ENE, ESE	160.5	17.5	E	4.9	A.-Cu.	Variable	Cu.	E	8	30		⌓ ≡ a.
3	ENE	114.5	12	E	8.8	A.-Cu.	NE	S.-Cu.	E by N	2	35	11.4	≡° ●° a. ● p.
4	E	114.5	9.5	WNW	6.8	A.-Cu.		S.-Cu.	ENE	4	35	.9	≡° a. ●° p.
5	E	198	20.5	E	7.6	A.-Cu.		Cu.	ENE	4	25		≡° a.
6	SSE	178	15.5	WNW	4	A.-Cu.	E	S.-Cu.		6	45		≡ a.
7	E	136	15	WNW	3	Ci.		Cu.	NE by N	8	25		≡° a.
8	N, SE	154.5	12.5	WSW	2.4	Ci.		Cu.	NE by N	8	35		⌓ ≡ a.
9	E	112.5	10	ESE	7.9	Ci.-S.	SSW	Cu.	NE by E	3	25		≡° a.
10	NNE	260	28.5	N	7	Ci.-S.	SSW	Cu.	E	5	40	.1	d ≡ a. ◯° p.
11	NNE	198	15	E	7.8	A.-Cu.	SSW	S.-Cu.	ENE	3	50		≡° a.
12	E	146.5	15.5	NE	7.7	A.-Cu.		Cu.	E by N	5	05		⌓ ≡ a.
13	NNE	143.5	15	NNE	8.7	A.-Cu.	ESE	S.-Cu.	E	4	35	1.1	⌓ ≡ ⌒ d° a. ● p.
14	ENE	149.5	11.5	NNW	4.6	A.-Cu.		Cu.	ENE	6	05		⌓ ≡° a.
15	E, ESE	186.5	18.5	SSE	2	Ci.		Cu.		9	00		⌓²≡° a.
16	S, WSW	120.5	11.5	WSW	3.8	Ci.		Cu.	ENE	7	35		≡° a.
17	N	114.5	11.5	WSW	6.7	Ci.	SW	Cu.	E	7	05		≡ a.
18	E	107.5	12	WNW	6.7	A.-Cu.		Cu.	E	5	50		≡° a. d p.
19	SE	205.5	24	SE	4.3	A.-Cu.	E	Cu.	E	9	50		⌓ ≡ a.
20	SE	133.5	13.5	W	7	A.-Cu.	E	S.-Cu.	ENE	5	15		≡ ⊤ a.
21	ESE	157	23	E	8.4	A.-Cu.	E, SSW	Cu.	ENE	3	15		≡° a. d° p.
22	E	223.5	23.5	SE by E	8.6	A.-Cu.	SE	N.-cf.	ENE	3	10		≡ a.
23	Variable	137	13.5	WNW	6.7	Ci.-S.	SSW	Cu.	E	4	05	.5	≡° a. d p.
24	NE, SE	154	22	ESE	8.2	Ci.-S.		Cu.	ESE	1	10	1.4	≡° a. d a. p.
25	Variable	116.5	12.5	W	9.8	Ci.-S.		Cu.-N.	NE	0	50	2.8	≡° a. ● p.
26	SSE, NNE	190.5	13.5	SSE	5.8	Ci.	SE by S	Cu.	NE	7	25	.5	●° ≡° a. d° p.
27	E	134	15	E	7.8	A.-Cu.	SE	Cu.	ENE	3	55		≡° a.
28	E	219.5	29.5	E	5.6	Ci.		Cu.	E by N	7	05		⌓ ≡° a. ↙° p.
29	NE	149	13.5	E	9.6	A.-Cu.	E	Cu.-N.	E	0	20	.2	≡° d° a. ●° ⊤° p.
30	ESE	197.5	22.5	ESE	4	Ci.-S.	SW	Cu.	ESE	8	55		≡ a. ↙° p.
31	SSE	203	17	SE by S	2.7	A.-Cu.	E	Cu.	E	9	30		≡° a. ↯ p.
Mean		159.3	16.4		6.2					5	38		
Total										174	40	18.9	
Departure from normal		—10.8			+1.1					—18	41	—8.7	

[1] All the mean values given in this table are deduced from hourly observations.
[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	759.64	26.6	31.9	22.4	79	N quad.	1.3	8.2	Ci.-S.	Cu. E	------	○° p.
2	60.42	26.5	29.4	23.4	81.4	NNE, SE	1	9.5	A.-Cu.	N. E	15.5	● a. p.
3	60.88	25.9	30.4	22.3	79.5	NNE, N	1.7	7	Ci.-S., A.-Cu.	S.-Cu.	------	d p.
4	62.36	25.4	30	21.6	73.3	NNE	1.3	7	A.-S.	Cu.-N. E	------	
5	62.47	25.2	29.9	20.4	77.1	N	1.5	7	Ci.-S. E	Variable	.5	d p.
6	62.71	25.4	30	22.3	73.2	NNE	1.3	4.8	A.-S.	Cu. E	------	≡° a.
7	62.72	24.9	29.4	21	70.3	N, NNE	1.5	6.2	A.-Cu. E	Cu. E, NE	------	
8	62.23	26.4	30.5	22.3	77.1	N	1.5	7	------	N. NE	.5	d a. p.
9	62.62	25.5	29	22.5	84.1	NNE	1.5	8	------	N. E	28.3	● a. p.
10	62.23	26.1	30.7	22	75.5	NNE	1.2	5.8	------	Cu. E	.1	d° p.
11	60.44	26.6	30.7	23.4	78.4	N	1.7	9.2	A.-S., A.-Cu.	Cu.-N. E, NE	.9	d p.
12	59.43	26.4	29.4	23.8	82.7	NNE	1.2	8	A.-S.	S.-Cu. NE	6.7	● p.
13	59.67	26	29.7	23.4	84.8	NNE, N	1.2	7.8	A.-S.	N. E	7.1	● p.
14	59.44	26.5	31.4	23.5	80.5	NNE	1.3	7	A.-Cu.	S.-Cu. E	------	d° p.
15	59.04	26.3	31	22.8	79.9	NNE, SE	1.5	6.8	------	S.-Cu. E	------	d° p.
16	58.80	26.6	29.9	23.6	82.6	NNE, SE	1.3	8.5	------	Cu.-N. E	.5	●° a.
17	59.16	26.6	32.1	22	79.5	NW	1.2	5.2	Ci.-S.	Cu. E	------	
18	58.80	26.5	32.1	23.5	77.9	NNE	1.3	6.2	A.-S.	S.-Cu. E	------	
19	59.02	26.2	30.5	21.9	77.8	N, NNE	1	7.5	Variable	S.-Cu.	------	
20	60.07	26.6	31.4	23.5	81	NW, N	1.2	9.5	------	Cu.-N. E	2.3	T ● p.
21	61	26.6	30.3	23.8	78	NNE	1.2	9.2	A.-Cu.	Cu.-N. E	------	
22	61.04	26.7	30.9	22.8	72.4	NNE	1.5	8.8	A.-S.	Cu. E	------	
23	60.87	25.7	30.3	21.5	73.5	NNE	1.2	4.2	Ci.-S.	Cu. E	------	
24	60.12	25.6	31	21.5	80.8	NNE, SE	1.3	6.2	Ci.-S.	Cu.-N. E	------	d° p.
25	59.59	25.3	28.7	22.4	82.3	NNE	1.5	9.2	------	N., Cu.-N. E	11.4	● p.
26	59.44	25.8	28.7	23	83.5	NNE	.8	10	A.-S.	Cu.-N. E	9.4	● a. p.
27	59.27	26.3	29.1	23.1	80	N	1	10	A.-S.	Cu.-N. E	------	d° p.
28	59.22	27.1	30.7	23.7	76.2	NNE	1.2	9.8	Ci.-S., A.-S.	Variable	------	
29	59.54	25.7	29.1	23.4	84.3	NNE	1.2	9	------	S.-Cu., N. E	6.3	● a. d p.
30	58.50	26.2	30.6	22.3	76.3	NNE	.8	6	------	S.-Cu. E	------	
31	58.12	25.5	31.6	21.3	79.8	NNE	1.2	4.8	------	Cu.-N. E	1	d p.
Mean	760.29	26.1	30.3	22.6	78.8	------	1.3	7.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	90.5	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	759.90	25.1	27.8	22.4	91	Variable	0.6	9.2	Ci.	N.-cf. NE	2.8	d a. p. Ω
2	60.80	25.3	28.7	22.2	89.5	Variable	1.1	9	Ci.	Cu. NE, E	------	Ω a. p. d°
3	61.40	25.5	29.2	22	84	NE	1.8	7.5	Ci.	N.-cf. ENE	34.3	● a. p.
4	62.87	25.5	28.3	20	78	NE	2.2	6	Ci.	Cu. ENE	.8	d a. p. Ω
5	62.75	25.7	28.6	21.5	82.4	NE	1.8	5.2	Ci.	Cu. N, NE	.5	Ω d a. ⌒ a.
6	62.91	26.3	28.8	21.7	74.5	NE	4.1	5.2	Ci.	Cu. NE	.5	d a. p.
7	62.87	25.4	26.3	21.5	77	NW, NE	2.7	10	Ci.-S.	Fr.-N. NW	------	Ω a.
8	62.32	25.4	27.9	19.8	86.3	NE, NNW	1.2	5.5	Ci.	Cu. E, N	.3	Ω ⌒ a. d p.
9	62.84	25.9	28.4	22.1	83.8	ENE	2.3	9.5	Ci.-S.	N.-cf. NE	10.9	●° a. p. Ω ⌒
10	62.42	25.6	27.6	21.5	84.6	NE	1.8	8.8	Ci.	Cu. E, NE	7.9	Ω d a. ●° p.
11	60.42	26	30.4	22.9	87.8	NE	3.2	10	Ci.-S.	Fr.-N. NE	32.5	● a. p.
12	59.96	25.1	27.7	22.5	90.3	E	2.4	9	Ci.-S.	N. NE	44.4	● a. p.
13	60.27	25	26.4	22.7	90.7	E	1.6	9.5	Ci.-S.	Fr.-N. E	33.9	d a. ● p.
14	59.83	26	29.7	22.3	84.7	NE, E	1.7	7.5	A.-Cu.	Cu. NE	.8	Ω a. d p.
15	59.17	25.4	27.5	22	88	NE	.8	4.2	Ci.	Cu. NE	2.8	Ω ●° p.
16	59.16	25.4	28.1	21.8	88.3	Variable	.8	6	Ci.	Cu. NE	------	Ω a. p.
17	59.62	24.4	27.7	21.8	94.3	NE, NNW	.9	6.5	Ci.	Cu. NE	7.4	Ω a. ●° p.
18	59.33	26	29.7	22.9	87.5	NE	1.6	6.5	Ci.	Cu. NE	------	d° a. Ω ϟ p.
19	59.54	25.6	30.4	21.9	86.5	SE	.8	6.5	Ci.	Cu. NE	.3	Ω a. d p.
20	60.43	25.7	28.9	23	91.5	Variable	.9	10	A.-Cu.	N.-cf. NE	1.9	d a. p. Ω ϟ
21	61.59	24.9	27.6	22	89.3	E	1.2	9.8	Variable	Cu. NE	------	d° a. p. Ω
22	61.24	25.8	29.6	22.4	85	SSE, NE	1.5	7.8	Ci.-S.	Cu. NE	------	Ω a. d° p.
23	61.26	25	29.5	20	85	S	.9	7	Ci.	N.-cf. NE	1.6	d a. p. Ω
24	60.49	26.4	29.9	21	84.2	ESE	1.9	3.5	Ci.	Cu. E, NE	------	Ω a. p.
25	59.78	24.8	28.6	21.7	91.2	ESE	1.4	9.8	Ci.	N.-cf. E, NE	40.7	● a. p.
26	59.83	24	25.8	21.4	94	ESE	.8	10	Ci.-S.	N.-cf. ENE	27.7	d a. ● p.
27	59.60	24.3	26.2	21	95.5	N quad.	2	10	Ci.-S.	N. NE	27.2	● a. p.
28	59.50	24.8	28.2	22	91.5	E	1.4	9.8	Ci.-S.	Fr.-N. NE	30.8	● a. p.
29	59.70	25.6	29.7	22	88.8	E quad.	2.7	9.2	Ci.	N.-cf. ENE	17.6	● a. d p.
30	58.78	26	30.2	21.1	86	ENE	1.7	7.2	Ci.	N.-cf., Cu.	5.3	p a. d Ω p.
31	58.27	25.6	29.9	20.8	85.2	NE quad.	1.4	4	Ci.	Cu. NE	------	Ω a. p.
Mean	760.61	25.4	28.5	21.7	87	------	1.7	7.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	332.9	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[ϕ=10° 18′ N ; λ=123° 54′ E ; barometer above sea, 4.5 meters ; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.					Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.					
									Upper.		Lower.			
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.					mm.	
1	759.83	25.2	29.4	23.3	89	NE	4.3	6.5	Ci.		S.-Cu.	E	4.6	Ω ≡ a. ● p.
2	60.35	26.1	29.2	23.2	82.8	NE quad.	10.2	3.2	Ci.		Cu.	ENE	.8	●° Ω ≡ a.
3	60.87	25.6	28.5	23.3	87.4	NE quad.	10.5	4.2	Ci.		S.-Cu.	E	2.5	Ω ≡ ● ↙° a.
4	62.38	25.8	29.2	22.5	75.2	NE	10.8	3.2	Ci.		Cu.	ENE	------	Ω ≡ a.
5	62.57	24.9	28.4	21.9	82.9	NE	9.5	5.5	Ci.		Variable		4.6	Ω ≡ a. ● p.
6	62.73	25.7	28.5	22.7	76	NE quad.	10.4	4	Ci.		S.-Cu.	ENE	------	Ω ≡ a.
7	62.45	25.1	29.5	21.1	74.7	N	9.1	3.5	A.-Cu.	E	Cu.	NNE	------	Ω ≡ a.
8	62.13	26.3	29.8	22.5	78.8	NE	9.7	5.2	A.-Cu.	E	Cu.	NE	13.7	Ω ≡ a. ⌈ʒ p.
9	62.74	24.1	28.9	21.4	86.3	N	8.7	6.8	Ci.		Variable		17	Ω² ≡ ● a. p.
10	62.19	26.2	29.6	22.5	76.3	NE	11.2	2.8	Ci.		Cu.	NE	------	Ω² ≡ a.
11	60.55	26.7	30.1	24.4	78	NE	11.4	7.2	A.-Cu.		N.-cf.	NE	------	Ω ≡ a.
12	59.81	25.4	29.4	23.2	86.5	NE	9	6.2	A.-Cu.		Cu.-N.	E	29.5	Ω ≡ a. ●² ↙° p.
13	59.90	25.9	29	22.8	85.1	ENE	8.6	7.2	A.-Cu.	ENE	N.-cf.	NE	.8	Ω ≡ p ⌒ a.
14	59.58	26.4	29.3	23.8	81.3	NE	10	3.8	A.-Cu.	E	Cu.	NE	------	Ω ≡ a.
15	59.08	26.2	29.1	21.3	76.5	ENE	10.3	3.5	Ci.		Cu.	NE	------	Ω² a.
16	58.87	25.8	28.9	22.2	81.2	E	9.6	3.5	Ci.		Cu.	NE	------	Ω ≡ a.
17	59.28	25.8	29.4	22.6	84	E, NE	9.4	3.2	Ci.		Cu.	N, NNE	------	Ω ≡ a.
18	59.15	26.4	29.5	22.7	81	NE	7.5	5	Ci.		Cu.	NE	14.2	● ≡ a.
19	59.35	25.3	28.9	21.3	80.2	NE, E	6.8	5.8	Ci.-S.		S.-Cu.	ENE	------	Ω² ≡ a.
20	60.09	26.4	30	22.5	82.3	ENE, NE	6.1	7	A.-Cu.	SE	S.-Cu.	ENE	------	Ω ≡ ⊽ a.
21	60.98	26.2	29.3	23.8	81.2	NE quad.	10.3	6.5	A.-Cu.	SE	Cu.	N, NE	------	Ω ≡ a.
22	61.23	25.5	29.7	22.6	82.7	N, ENE	10.9	5.8	Ci.-S.		Cu.	ENE	1.3	Ω ≡ a. p p.
23	61.10	24.9	28.5	21.4	80.3	NE quad.	11	4.8	A.-Cu.	E	S.-Cu.	ENE	3.8	●° ↙° ≡ a. p p.
24	60.39	25.6	29.3	22.7	81.9	N, E	8.5	5.2	Ci.		Cu.	ENE	------	Ω ≡ a.
25	59.91	25.7	29	21.9	84.5	NE	7.6	6.5	Ci.-S.		Cu.	ENE	------	Ω ≡ d° a.
26	59.59	25.5	28.9	23.4	87	N, E	7	7.5	A.-Cu.	E	Cu.	NE	2.5	Ω ≡ p a. d p.
27	59.47	26.5	29.8	23.9	80.6	NE, ENE	9.6	7.8	A.-Cu.	ENE	S.-Cu.	NE	------	Ω ≡ a.
28	59.43	26.1	28.6	24.1	83.1	NE, ENE	9.9	8.2	Ci.-S.		S.-Cu.	ENE	------	Ω ≡ a.
29	59.67	26	28.4	23.8	82	NE, ENE	9.6	7	Ci.		S.-Cu.	NE	.8	Ω ≡ d a.
30	58.77	26.2	29.5	22.6	79.6	E, NE	8.5	3.8	A.-Cu.	SE	Cu.	ENE	------	Ω² ≡ a. ∞ p.
31	58.37	25.5	29.5	21.8	80.5	N, E	9.5	3.2	Ci., A.-Cu.		Cu.	ENE	------	Ω² ≡ a. ∞ p.
Mean	760.41	25.8	29.2	22.7	81.6	------------	9.2	5.3	------------------		------------------		------	
Total	--------	------	------	------	------	------------	--------	--------	------------------		------------------		96.1	

ILOILO.

[ϕ=10° 42′ N ; λ=122° 34′ E ; barometer above sea, 6 meters ; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.					Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.					
									Upper.		Lower.			
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.					mm.	
1	760.09	26.2	30.5	23.5	83.8	N, NE	10.5	6.5	Ci.		S.-Cu.	NE	2.3	d² ⌒ p.
2	60.91	26.5	30.1	23.6	79.2	N; NE	15.2	5.8	Ci.		Cu.	NE	.2	≤° d a.
3	61.14	25.5	30	22.8	81	N, NE	16.9	4.5	A.-Cu.	NE	Cu.		------	Ω d. ⌒ a.
4	62.95	25.2	29.5	22.5	75.2	N, NE	19.8	3	Ci.		Cu.	NE	------	Ω a.
5	62.98	24.2	28.9	21.4	81.7	NE	19.1	7	A.-Cu.		S.-Cu.	NE	5.1	●° a. p.
6	63.25	25	29	21.6	76.1	NE	20.1	2	A.-Cu.	NNE	Cu.		------	d p.
7	63.26	24.3	29.5	20.9	74.7	NE	18.8	1.5	A.-Cu.		Cu.	NE, N	------	
8	63.13	23.6	28	22	88	NE	17.5	9.2	A.-Cu.		N.	NE	.8	d° ⊕ a. ●° p.
9	63.50	23.9	27.4	22	86.1	NE	18.5	9.2	Ci.		N.	NE	1	●° a. p.
10	62.86	24.4	27.8	22	87.6	NNE	18.9	7.5	------------------		N.	NE	5.1	d a. ● p.
11	61.32	25.2	29.2	22.5	84.3	NNE	20.3	6.8	Ci.		S.-Cu.	ENE	.3	p a. p. ⌒²
12	60.04	26.1	30.5	23.1	82.2	N, NE	16.5	8	Ci.		N.		------	d° p.
13	60.22	26.7	30.6	23	77.8	N, NE	15.6	7	A.-Cu.	E	Cu.		------	
14	59.98	26.3	30.4	23.5	75.2	NE	18.9	3.8	Ci.		Cu.	NE, E	------	
15	59.46	25.8	30.4	22.5	78.8	NE	15.9	2.5	Ci.		Cu.		------	
16	59.34	26.2	31.2	23	78.2	NE	14	5.2	Ci.	E	S.-Cu.		------	d° p.
17	59.64	26.2	30.3	23.1	78.5	N, NE	13.3	4.5	Ci.		Cu.	NE	------	d° a.
18	59.34	26.5	30.8	22.7	78.9	NE	10.4	7.8	A.-Cu.	E	Cu.		------	
19	59.52	26.7	31.4	22.3	74.7	NE	13.1	5.5	Ci., A.-Cu.	S, E	Cu.	NE	------	Ω a.
20	60.44	26.9	31.8	23.5	80	NE, N	11.5	7	A.-Cu.	E	Fr.-Cu.	NE	------	
21	61.23	26.9	30.9	23.9	77.7	NE	16.9	5.8	A.-Cu.	SE	Cu.	NE	------	d° a.
22	61.34	26.5	31.5	23.4	72.5	NE	18.9	4.5	A.-Cu.	SE	Cu.		------	Ω a. p° p.
23	61.23	26.1	30.9	22.3	73.5	NE	16.7	3	Ci.	S	Cu.	NE	------	
24	60.41	26.6	31	23	75.9	NE	14.3	6	A.-Cu.	E	Cu.	NE	------	d p.
25	60.07	26.6	31.2	22.9	76.1	N	12.6	5.5	Ci.		Cu.		------	Ω a.
26	59.94	26	30.5	23.5	82.5	N, NE	12.6	8.5	A.-Cu.	E	Cu.		------	d° p.
27	59.73	26.5	31.1	23.5	79.4	N, NE	17.3	8.8	A.-Cu.		Fr.-N.	NE	.3	d a. p.
28	59.68	25.6	30.2	23.5	83.7	N, NE	17.2	9.2	A. S.		Fr.-N.	NE	------	d p.
29	59.64	26.4	31	23.5	78.7	NE	16.2	7.2	Variable		Fr.-N.	NE	------	d a.
30	58.73	26.5	31.5	23.3	71.8	NE	11.9	3.2	A.-Cu.	SE	Cu.		------	Ω a.
31	58.70	25.7	31.6	21.5	73	NE quad.	13.7	2.2	Ci., A.-Cu.		Cu.	NE	------	
Mean	760.78	25.8	30.3	22.8	78.9	------------	15.9	5.7	------------------		------------------		------	
Total	--------	------	------	------	------	------------	--------	--------	------------------		------------------		15.1	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	760.14	24.6	28	21.4	92.8	SW, S	2.7	9.5	Ci.-S.	Cu.-N. E	19.6	Ω d a. ● ⊤ p.
2	60.87	24.7	30.1	21	86.1	SSW, W	4.1	5.8	Ci. ESE	Cu. N	------	Ω a. d ⊤ p.
3	61.25	25.8	31	22	70.8	ENE	6.6	5.5	Ci.	Cu. ENE	.8	p a.
4	63.10	23.6	29.5	20.6	78.7	W, NE	4.4	4.5	Ci.	Cu. NE	------	Ω d° a. p.
5	63.13	24.2	28.9	21.2	80.4	Variable	6.2	9	Ci.-S.	Cu. ENE	2.3	●° a. p.
6	63.29	24.2	30.8	20.1	75.6	NE quad.	4.1	6.8	Ci.	Cu. NE		d° a.
7	62.87	23.6	30	17	73.2	N	6	3	A.-Cu. ESE	Cu.	------	Ω ≡° a.
8	62.58	24.3	30.1	20.2	86	Variable	4.5	6	Ci., Ci.-S.	Cu. ENE	14	Ω ⊠ p.
9	63.14	24.9	29.2	22.4	84.7	N	4.8	7.8	A.-Cu. NE, E	Cu. NE	.8	d a. p.
10	62.62	25.7	31.8	21	73.2	Variable	5.8	3.8	Ci.	Cu. NE	.5	Ω a. d p.
11	61.02	24.8	27.2	22.7	87.9	N quad.	5.2	9.5	Ci.-S.	Cu. ENE	3.3	●° a. p
12	60.17	25.8	30.3	22.3	80	SE, NE	5	6.2	Ci., Ci.-S.	Cu. E	.2	d a. p. ⌒
13	60.23	26	29.7	22.8	80.4	NE	5.9	8	A.-Cu. E, SE	Cu. ENE	------	d° a. p.
14	60.01	25.6	31	22.4	78.1	E	5.9	5.2	Ci.-S.	S.-Cu. NE, ENE	------	Ω a. d° p.
15	59.52	24.1	29	19.6	88.8	NW, SSE	3.5	6	Ci.-S.	Cu. ENE	6.9	Ω d a. ● p.
16	59.21	24.6	29	20.7	88.5	SSE, ESE	4.1	7.8	Ci., Ci.-S.	Cu. NE	.5	Ω² d a°. ●° p.
17	59.65	24.9	30.5	20	85.5	NNE	5.3	5.5	Ci.	Cu. ENE	1	Ω a. ⌒ ● p.
18	59.42	25.1	29	22.6	84.5	Variable	5.3	6.8	A.-Cu. E	Cu. ENE, E	2	● a.
19	59.68	24.1	28.7	19.9	87.8	SSW, S	3.5	7.5	Ci. SE	Cu. E	2.3	Ω ≡° d a. ● p.
20	60.48	25.5	30.4	21.1	85.1	Variable	3.9	6.5	A.-Cu. SE, SSE	Cu. ENE	------	Ω a. d p.
21	61.75	25	28.6	21.2	80.4	Variable	5	9	Ci.-S.	Cu. ENE	.2	d p.
22	61.78	25.6	29.1	23.1	71.7	NE	7.1	5.5	Ci. SE	Cu. ENE, E	3.8	● p.
23	61.74	25	30	20.8	74.7	E	5.3	5.2	Ci.	Cu. ENE	.2	d p.
24	60.75	25.7	30.5	21.9	78.5	ESE	5.1	7.8	A.-Cu.	Cu. E	1	●° p.
25	60.21	25	31.4	19.6	80.4	Variable	4.7	7	Ci. SE	Cu. ENE, E	------	Ω² ≡ d
26	60.06	25	28.8	22.4	85.2	NE	4.1	9.8	Ci.-S.	Cu. NE, E	2	● p.
27	59.91	25.2	28.2	23.2	83.2	E, SSW	3.8	9.5	Ci.-S.	Cu. E, ENE	------	d° a.
28	59.75	25.2	29.6	23.1	81.2	NE, ESE	5.3	8.2	Ci.-S.	Cu. E	4.8	● a. d p.
29	60.01	26	31	22.1	76.5	SSE	6.3	6.5	Ci.	Cu. E	------	d° p.
30	59.11	24.8	31.6	18.4	75.7	Variable	6.3	3.5	A.-Cu. SSE, S	Cu. ENE	------	Ω ≡ a.
31	58.60	24.7	30.5	20	81.5	N	5.8	3.5	Ci.-S., Ci.	Cu. ENE	------	Ω a.
Mean	760.84	24.9	29.8	21.2	81.2	------	5	6.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	66.2	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	760.31	24.8	30	22.8	93.2	W	0.8	7.5	Ci.-S.	Cu.-N. ESE	8.9	Ω² ● a. p. ⌒
2	61.18	26.1	30.2	23.9	83.8	Variable	.7	7	Ci.-S. W, WSW	Cu. NE	------	
3	61.81	26	30.7	22.7	81	E	.7	4.2	Ci. WSW	Cu. E	6.3	● a. d p.
4	63.38	24.6	30	22.3	79.2	NNE	1.2	4	Ci., Ci.-S.	Cu. NE	------	⌒ a.
5	63.64	24.6	28.7	22	82.1	NE	1.5	9	------	Cu.-N. NE, ENE	9.4	● a. p. ⌒ ↯°
6	63.73	24.8	29.4	23.3	77.5	N, NE	1.2	3.2	------	Variable		
7	63.29	25.1	29.4	21.9	75.3	NW	1.5	5	Ci.	Cu. NE	------	
8	62.74	25	29.5	22.5	85.5	NW	1	6.5	Ci.-S.	Cu.-N. NE	4.3	● a. p. Ω²
9	63.51	25	29.4	22.7	85.5	NW, NE	1.5	8.2	Ci.-S.	Cu.-N., NE by E	11.6	● a.
10	63	25.6	30.5	22.4	82.7	N quad.	1.5	3.5	Ci.-S.	Cu., S.-Cu. NE	------	Ω a.
11	61.37	25.1	29.4	23.5	87.9	N	1	9.2	A.-Cu.	N. NE	20.4	● a. p. ⌒ ⊕°
12	60.65	24.8	29	23.4	91.7	ESE	.5	9.5	------	N. ENE	11.2	● a. p.
13	60.64	26	30.4	23.2	82.6	NW, NE	.8	5.8	Ci.	Cu. NE by E	2.3	● a.
14	60.26	25.8	31.4	23.5	83.1	Variable	1	4.5	------	S.-Cu.	------	
15	59.68	25	28.7	22.5	88.3	NW	1	6.5	------	Cu.-N. NE	11.2	Ω² ● a. p.
16	59.44	25.6	29.2	23.3	86.6	NNW, SE	1	7.8	Ci.-S. NE	Cu.-N. NE, SE	2.5	● a. ⊕² p.
17	60	24.9	30	22.4	90.2	NW, WNW	1	5.5	Ci.	Variable	21.6	≡ Ω ↯ ● a. p.
18	59.71	25.4	30.4	23.5	86.8	NW, WNW	.8	5.8	Ci.-Cu. E	Variable	4	● a. p. ⌒ ⊕²
19	59.84	25.6	31.1	22.5	86.3	E, NW	1	8.2	Ci.-S.	Cu.-N. E	3	Ω² a. ● p.
20	60.92	26	30	23	83.8	NW, E	1	6.2	A.-Cu. E	Variable	------	Ω² a.
21	62.10	24.4	28	22.5	90.7	ENE, NW	.3	9.2	------	Cu.-N. NE	3.5	Ω a. ● p.
22	62.07	25.6	30.6	23.5	81.8	NE	1.5	6.8	Ci. WSW	S.-Cu. ENE	------	↯° p.
23	61.82	25.2	31.2	22	84.1	NW	1	8	------	Cu.-N. E	3.5	● a.
24	61.06	25.8	31.5	23.6	83.8	E	.5	7.5	------	Cu.-N. E	5.8	d ⌒ a. ● p.
25	60.40	25	31	22.5	87.9	NW, NE	.5	8.2	Ci. SW	Cu.-N. ESE	5.3	Ω a. ● p.
26	60.43	24.4	26.5	23	91.5	NW	.5	9.8	------	N. E	34	● a. p.
27	60.25	24.9	28.5	23	89.6	WNW	.7	10	------	Cu.-N. E	6.9	d a. ● p.
28	60.33	24.6	27.5	23.6	90.5	N quad.	1	10	------	Cu.-N. E	29.4	● a. p.
29	60.20	26	30.4	22.5	83.3	NW, ENE	1	6.8	Ci.-S. WSW	Cu. E	2.5	● a.
30	59.35	26	31	21	80.8	Variable	.5	4.8	Ci.-Cu. SW	Cu. ESE	------	Ω a.
31	58.69	26.1	30.8	22.7	78.4	NNW	.7	3.5	------	S.-Cu. E	3.8	● a. d p.
Mean	761.15	25.3	29.8	22.8	85	------	.9	6.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	211.4	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ = 11° 35′ N; λ = 122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	760.11	26.3	28.7	22.5	88.2	ESE, NE	1.2	8	Ci.-S.	Cu.-N. SE	------	d° a. p.
2	61.30	26.3	28.6	22.8	86.8	NNE	1.2	7.8	Ci.-S.	Cu.-N. NE	3.3	● p.
3	61.74	25.8	28.1	21.9	87.3	ENE	1.2	9	Ci.-S.	N. NE	1	d° a. p. ∩
4	63.68	25.5	28.1	21.5	82	NE, E	1.5	6.2	Ci.-S., Ci.	N. NE	.5	d° a. p.
5	64.10	24.9	27.5	22.2	83.7	NE	2	10	------	N.	8.4	● a. p.
6	64.24	24.9	27.2	21	87.1	NE quad.	1.2	8	Ci.-S.	Cu.-N. NE	1.3	● a.
7	64.12	25.2	27.9	21.3	80.4	NE	1	4	Ci.	Cu. NE	------	
8	63.66	25.2	26.6	22	85.5	NE	1.8	10	------	N. NE	.8	d a. p.
9	64.28	24.3	27	21	88.5	NE, ENE	1.8	10	------	N.	13.5	d a. ● p.
10	63.79	24.8	26.4	21.6	87.7	NNE, ENE	1.3	9.8	Ci.-S.	N. NE	7.2	d a. p.
11	62.30	25.6	27.1	22.4	87.8	NNE	1.3	9.5	Ci.-S.	N. NE	2	d° a. p.
12	60.87	25.7	28.6	21.7	88.5	NE	.8	9	Ci.-S.	N. NE	4.9	d° a. ● p.
13	60.98	25.8	29	21.1	88.8	ENE, NNE	.7	7.8	Ci.	Cu.-N. E, SE	------	d° a. p.
14	60.79	26	28.3	22.1	86.3	NE quad.	.5	6.2	Ci.-S.	Cu. NE	------	d° ϖ² p.
15	60.12	25.9	28	22.2	86	NNE	.8	5.5	Ci.	N. NE	.8	∩ a. d p.
16	59.92	26	27.9	22.2	85.7	NE quad.	1	6	Ci.	Cu.-N. E	------	d° a.
17	60.29	26.2	28.5	22.2	87	NE	.8	4.5	Ci.	Cu. NE	------	d° a. p.
18	59.81	26.2	28.9	22.9	87.8	ENE, NE	.8	7	Ci.	Cu.-N. NE	5.5	● a. p.
19	60.01	26.1	28.9	21.5	86.2	E, NE	.5	6.5	Ci.-S.	Cu.-N. NE	------	Ω° a. ∩² ϖ² p.
20	60.40	26.7	28.8	23.1	86.2	NE	.8	6.2	Ci.-S.	Cu.-N. NE, E	------	
21	61.70	26.4	28.3	22.3	86.7	ENE	.8	7.2	Ci.-S.	Cu.-N. NE	------	
22	62.16	25.9	27.6	22.5	88.2	NE quad.	1	6.8	Ci.	Variable	------	
23	61.83	25.5	28.9	21.5	85.8	ENE	.5	4	Ci.	Cu. E	------	
24	61.06	25.8	29.5	21.3	88.2	ENE	.7	6	Ci.-S.	N. E	------	d° a. p.
25	60.66	25.7	28.6	21.5	88.7	NE	.5	5.8	Ci.	Cu.-N. NE	1.5	d a. p.
26	60.68	26	29	22.2	90.5	NE	.8	7.8	Ci.	N. E	4.6	d a. ● p.
27	60.52	26	28.3	22.3	89.2	NNE, NE	.8	8.2	Ci.-S., Ci.	Cu.-N. NE, E	------	d° a. p.
28	60.19	25.9	28	22.2	88.3	NE	1.7	10	Ci.-S.	N. E	2	d a. p.
29	59.77	25.9	28.9	21.7	88.3	NE	1.2	8.2	Ci., Ci.-S.	N. NE, E	2.8	↙° ●° a. d° p.
30	58.99	26	29.4	21.4	87.3	NE, E	.5	4.5	Ci.	Cu.	.8	d a.
31	58.78	25.1	28.8	19.6	87.3	NE	.3	4	Ci.	Cu. E	1.3	Ω° d a.
Mean	761.38	25.7	28.2	21.9	87	------	1	7.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	62.2	

CALBAYOG.

[ϕ = 12° 04′ N; λ = 124° 36′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	760.87	25	29.5	21.5	90.5	N	1	8	A.-Cu.	S.-Cu. NE	4.6	●° a. p. ⚡
2	61.77	25.1	29	22.6	84	N	1	6.2	A.-Cu.	S.-Cu. NE	------	p a. ⚡ p.
3	62.11	24.9	29.5	21.9	82.8	N	1.3	5.8	A.-Cu.	S.-Cu. NE	8.6	● a. ⚡ p.
4	63.92	23.9	28.5	20.8	81.5	N, NNE	1.3	5	A.-Cu.	S.-Cu. NE	.3	d a. p ⚡ p.
5	64.05	23.7	29	20.1	85.7	N, NNE	1.2	7.5	A.-Cu.	Cu.-N. NE	.8	d° a. ●° ↙° ⚡ p.
6	64.12	23.4	28.5	19	84	N, NNE	1.3	4.8	Ci.	S.-Cu. NE	------	d° a. p° p.
7	63.88	23.3	28.4	17.7	78.5	N	1.7	4.8	Ci.	S.-Cu. NE	------	
8	63.25	24.4	28.9	22.4	91.3	N	1.3	8	Ci.-S.	Cu.-N. NE	9.4	p ∩² a. ●° ⚡ p.
9	64.04	23.8	26.8	22	91.2	N	1	8	A.-Cu.	Cu.-N., S.-Cu. NE	14	●° a. p ⚡ p.
10	63.59	24.7	30.2	21.8	85.5	N	1.5	5.5	Ci.	S.-Cu. NE	1.3	p a.
11	62.08	24.5	27	21.8	91.8	N	1	9.2	A.-Cu., Ci.-S.	Cu.-N. NE	4.6	●° a. d ⚡ ϖ p.
12	61.12	25	29.5	22.5	88.8	N, NE	1.2	6	A.-Cu.	S.-Cu. NE	4.3	●° a.
13	61	25.8	31.2	22.3	84	N	1	4.5	Ci., A.-Cu.	S.-Cu. NE	------	⚡ p.
14	60.86	25	29.1	21.5	85.8	N	1	4.2	Ci.	S.-Cu. NE	1.8	●° ⚡ p.
15	60.13	24.7	29.5	21.7	90	N	1.5	6.8	Ci.-S.	S.-Cu. NE	6.6	∩ p a. ● ⚡ p.
16	59.73	24.3	29	22.6	94.8	N	.8	7.5	Ci.-S.	Cu.-N. NE	24.9	d a. ● ⚡ p.
17	60.48	24	29.1	20.7	93.3	N	1	6.8	A.-Cu.	S.-Cu., Cu.-N. NE	22.1	d° a. ● ⚡ p.
18	60.05	24.8	29.5	22.5	92.7	N	1	7	A.-Cu.	S.-Cu. NE	7.1	d a. ●° p.
19	60.27	25	30	21	91.2	N, W	1	6.8	A.-Cu.	S.-Cu. NE	3	●° a. p. ⚡
20	61.08	25.7	31.5	22.6	89.2	N, W	1	6.8	A.-Cu.	S.-Cu. NE	4.1	d° a. ●° ⚡ p.
21	62.41	24.4	26.6	22.2	92.5	N	1	7	Ci.-S.	Cu.-N. NE	2.5	d a. p. ⚡
22	62.56	24.9	30	21.5	86.3	N	1	7	Ci.	S.-Cu. NE	1	●° a. ⚡ p.
23	62.13	25.2	30.8	19.8	83.3	N	1	5	Ci.	S.-Cu. NE	------	⚡ p.
24	61.35	25	30.2	20.8	87.5	N, NE	1	5	A.-Cu.	S.-Cu. NE	2	p ⚡ p.
25	60.85	24.2	29.5	20.5	90.7	N, NE	1	7.2	Ci., Ci.-S.	S.-Cu., Cu.-N. NE	30	● ⚡ p.
26	60.84	24	26.5	22	94.7	N	1	7.8	Ci.-S.	S.-Cu., Cu.-N.	17.5	p a. ●° ⚡ p.
27	60.71	24.1	29	22.2	93.7	N, NE	1	7.2	A.-Cu., Ci.-S.	S.-Cu., Cu.-N. E	4.3	p a. ●° ⚡ p.
28	60.86	24.2	26.2	22.6	89.7	N	1.5	7.5	Ci.-S.	Cu.-N. SE	6.9	●° a. ⚡ p.
29	60.68	25.5	30	22	85.8	N	1	6.8	A.-Cu.	S.-Cu. NE	------	∩° p a. ⚡ p.
30	59.58	25	31	20.8	87.7	N, WNW	1	5.5	A.-Cu.	S.-Cu. NE	.5	p a. ⚡ p.
31	59.22	25	31.5	20.1	84.2	N	1	4	A.-Cu.	S.-Cu. NE	------	⚡ p.
Mean	761.60	24.6	29.2	21.4	88.2	------	1.1	6.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	182.2	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 4.2 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	760.99	26.1	28.7	23.6	85.2	N	12.4	8.2		Cu.-N. ENE	3.8	●° a. p p.
2	61.89	26.2	29	24.1	79.7	NNE	16.2	8.2	Ci.-S.	Cu. NE		d° p.
3	62.32	25.8	28.5	23.6	77.1	NE quad.	16.5	3.5		Cu.-N. NE	4.1	●° a.
4	64.20	24.8	28.6	22	74	NE	16.5	4.2		Cu. ENE	4.8	●° a. p p.
5	64.22	25.1	26.9	22.9	75.5	N	20.9	6.8	A.-Cu.	Cu. NE	1	d a. p.
6	64.39	25.4	28.7	22.9	73.2	N	16.6	2.5		Cu. NE	.2	d a.
7	64.02	25.4	28.6	23	67.8	N, NNE	17.1	1		Cu. NNE		
8	63.87	24.4	26.4	23.9	77.2	N	18.5	7.8		Cu.-N. NNE		d° a.
9	64.49	25	28.6	22.9	78.5	N	16.1	8.2		Cu.-N. NNE	2.3	●° a. d p.
10	64.09	25.1	27.9	22.5	82.2	N, NNE	19.2	9.5		Fr.-N. NE	1.8	d a. p.
11	62.63	24.8	27	23	88.2	NNE	18.6	9.8	A.-Cu.	Fr.-N. NE	19	● a. p.
12	61.42	25.4	29	22.4	86.8	NE quad.	14.5	5.8	Ci.	Fr.-N. NE	29.5	● a.
13	61.42	26.6	30	23.6	82.3	NE quad.	10.5	3		Cu.-N. NE, E		p° p.
14	61.24	25.6	29.9	23	80	NE quad.	13.4	5.2		Cu. NE	4.6	d a. ●° p.
15	60.36	26.2	30	23.7	80	N	13	1		Cu. NE		
16	59.93	25.3	29	23.4	84	NNE	12.2	3.8	Ci.	Cu. NNE	2.8	d a. p.
17	60.30	25.7	29.7	21.4	83.2	N	9.1	8	A.-Cu. E	N. N	5.3	d° a. ● p.
18	60.24	25.6	29.2	22.5	85.3	NNE	7.4	7.5	A.-Cu. E	Cu.-N. NE	14.2	● a. d p.
19	60.38	25.7	29.3	23.2	84.8	N, NE	8.9	4	Ci., A.-Cu.	Ci., Cu.-N. E	6.1	d a. ● p.
20	61.18	26	29.6	23	84.7	NE	9.1	5.5	A.-Cu.	Cu.-N., Cu. ENE	8.9	● a. p.
21	62.35	25.6	29	23.9	84.5	N	8.4	8	A.-Cu. S	Cu.-N.	5.1	● a. d p.
22	62.74	26.5	29.2	24.9	76.1	NE	17.7	6.2	Ci.-Cu. SSW	Cu.-N., Cu. ENE		d a.
23	62.36	25.9	28.9	23.1	80.3	NE	14.3	2.2		Cu. E, ENE	3.8	● a. p.
24	61.66	25.5	29.2	23.3	82.5	NE	16.8	6.8		Cu.-N. E	9.4	● a. p.
25	61.12	25.2	27.9	23.3	85.7	NE	9.9	8.5		Fr.-N. ESE	18.5	● a. p.
26	60.95	24.9	28.9	23.4	89.7	NE	10.6	8.5	Ci. S	Cu.-N. ENE	22.6	● a. p.
27	61.06	25.2	28.5	23	86.7	N, NNE	12.4	10	Ci.-S.	Fr.-N. ENE	31.5	● a. p.
28	61.19	23.7	24.8	22	93.3	NE, N	16.9	10		N. NE	46	● a. p.
29	61.06	24.5	28	22.4	87.4	N, NE	15.1	9.2	A.-Cu.	Fr.-N. ENE	30.7	● a. p.
30	59.62	25.9	29.7	22.6	83.5	NE	9.1	5.5	A.-Cu.	Cu. ESE	27.4	● a.
31	59.34	25.1	29.4	20.8	80.8	NE	5.7	.8		Cu.		
Mean	761.84	25.4	28.6	23	81.9		13.7	6.1				
Total											303.4	

ATIMONAN.

[ϕ = 14° 00′ N; λ = 121° 55′ E; barometer above sea, 7.8 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	761.24	26.1	30	23.5	87	NE	1.3	7.2	Ci.	S.-Cu. NE		d° a.
2	62.34	26.1	30	23.4	84.8	NE, NNE	1.2	8	Ci.-Cu. S	S.-Cu. NE	5.1	d a. ●° p.
3	62.51	25.6	29.8	23.3	85.2	NE	2	8	Ci. SE	S.-Cu. NE		d p.
4	64.64	25.3	29.6	23.4	79.8	ENE	2.7	7.8	Ci.	S.-Cu. NE		
5	65.16	25.5	29.1	23.3	79	NE	2.7	4.5	A.-Cu. NE	S.-Cu. NE		d a. ↯° ⊤ p.
6	65.02	25.6	30.1	23.2	76.3	NE, ENE	3	2.2	A.-Cu. NE	Cu. NE		
7	64.91	25.4	29.8	22.9	77.1	NE	3.3	3.8		Cu. NE		↯°
8	64.98	25.5	29.6	23.4	78.2	N, NE	3.3	4.5	Ci.	Cu. NE		↯° ⊕°
9	65.12	25.9	30.1	23.5	83.5	NE	3.7	7.5	Ci.	S.-Cu. NE		d° ↯° a. p. ⊕²
10	65.24	25	27.5	22.9	84.6	NE	4.3	8.5	Ci.	S.-Cu. NE		↯° d ⊕° p.
11	63.84	25.8	29.6	22.9	83.9	NE	4.3	8	Ci.-Cu. SW	S.-Cu. NE	5.1	● a. d ⊕² p.
12	62.20	25	27.5	22.4	91.7	NE	3.2	9.5	Ci.	S.-Cu. NE	17.8	●° ↯° a. d ∩ ⊕ p.
13	61.74	25.8	30.4	23.1	89.5	NE, NNW	1.5	7.2	Ci.	S.-Cu. NE		⊕²
14	61.74	26	30.8	23.4	85.3	NE	2.5	3.2	A.-Cu. NE	Fr.-Cu. NE	1.8	●° a. ⊕°
15	61.10	25.3	27.1	23	85.5	NNE	1.8	9.2	Ci.	S.-Cu. NE		d° a. p. ⊕²
16	60.52	25.7	30.3	23.1	87.2	NNE	2.3	8.5	Ci.	Cu. NE	5.1	d a. ● ∩ ⊕ p.
17	60.80	25.1	26.9	23.5	92.3	N, NNE	2	7.8	Ci.	S.-Cu. NE	21.3	●° a. p. ⊕²
18	60.38	25.7	28.7	23.8	90.5	N quad.	1	8.8	Ci.	Cu. NE	19.3	●° a. p. ⊕°
19	60.46	25.8	30.9	23.1	88.2	NNE	1.5	7.2	Ci. SE	Cu. E, N	3	●° p. ⊕°
20	61.56	25.6	28.3	23.3	89.3	NNE	.8	10	Ci.	S.-Cu. NE	2	d a. p.
21	62.51	26.1	30.5	22.6	86.5	NE, NNE	2	8.2	Ci.	S.-Cu. NE	8.2	●° a. p.
22	63.02	26.5	31.5	23.6	83	NE	2.7	4.8	Ci.	Cu. E		⊕²
23	62.44	25.4	29	23.4	87.2	NE	1.2	8.2	Ci.	S.-Cu. NE, E	5.3	●° a. p. ⊕²
24	61.84	25.9	31	23.3	86.5	NE	1.5	6.5	Ci.	S.-Cu. E		⊕° d° a.
25	61.40	24.9	29	22.5	91.3	NE, SW	1	8.8	Ci.-S.	S.-Cu. E, NE	22.8	●° a. p.
26	61.30	24.7	27.4	22.3	93.9	N, NE	1.7	9.5	Ci.-S.	N. NE	13.4	●° a. p.
27	61.41	25.4	29	22.5	89.8	NE	1.8	8.8	Ci.	S.-Cu. NE	10.2	● a. d ↯° p.
28	61.51	25.9	27.9	23	88.7	NE	2.8	9.5	A.-Cu. ESE	S.-Cu. NE	6.1	d a. ● p.
29	61.55	25	26.8	23	87.7	NE	3	10	Ci., Ci.-S.	S.-Cu. NE	15.4	●° ↯° a. p.
30	59.76	25.2	28.5	22.6	90.5	N	1.2	9.2	Ci.	Cu. E, S	11.7	● a. d Ω p.
31	59.26	25.2	29.2	21.3	84.3	SW, NNW	.7	3.2	Ci.	Cu. ESE, E		Ω² ≡° a.
Mean	762.31	25.5	29.2	23	86.1		2.2	7.4				
Total											173.6	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[ϕ=14° 49′ N; λ=120° 16′ E; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	------	------	------	------	------	------	------	------	------	------	------	
2	------	------	------	------	------	------	------	------	------	------	------	
3	------	------	------	------	------	------	------	------	------	------	------	
4	------	------	------	------	------	------	------	------	------	------	------	
5	------	------	------	------	------	------	------	------	------	------	------	
6	------	------	------	------	------	------	------	------	------	------	------	
7	------	------	------	------	------	------	------	------	------	------	------	
8	------	------	------	------	------	------	------	------	------	------	------	
9	------	------	------	------	------	------	------	------	------	------	------	
10	764.42	25.4	------	22.1	67.2	NE	1.2	7.5	Ci.-S. S	Cu.	------	⊍ ∞ p.
11	63.46	25.8	------	22.1	71.7	NE	1	6.8	A.-Cu. S	Cu.-N. NE	------	∞ p.
12	61.47	26.9	------	23.4	70.2	NE	.8	6	A.-Cu. ESE	Cu.-N. ENE	------	≡° a. ∞ p.
13	61.36	24.9	------	22.6	88.7	NE	.8	8.2	Ci.-S.	Cu.-N. E	1.4	d a. p.
14	60.80	26.6	------	21.4	76.7	NE	.6	3.8	A.-Cu.	Cu. NE	------	≡° a. ∞ p.
15	60.52	25.1	------	19.4	79.1	NE	.6	3	Ci.-S.	Cu.	------	∞ a. p.
16	60.01	25.1	------	19	80.5	Variable	.5	4	Ci.-S.	Cu.	------	≡° a. ∞ p.
17	60.44	25.3	------	19.8	83.2	Variable	.6	5.8	Ci.-S. W	Cu.	------	∞ ⊍ p.
18	59.83	26	------	21.1	84.1	NE	.4	7.2	Ci.-S.	Cu., Cu.-N. E	------	≡ a. ⌒ p.
19	59.85	27.3	------	22.7	83.2	NE	.7	7.2	Ci.-S.	Cu.-N. E	------	∞ p.
20	60.96	27.1	------	22.2	78.5	NE	.6	6	A.-Cu. SE	Cu.	------	≡ ⦶ a. ∞ p.
21	61.76	26.4	------	23.3	81.1	NE	.7	8.2	A.-Cu. E, SE	Cu. NE	------	≡° a. d° p.
22	62.20	26.8	------	23.2	73	NE	.9	7	A.-Cu. E, ESE	Cu. E	------	≡° a. ∞ p.
23	62.06	26.2	------	21	80.7	NE	.6	8.2	Ci.-S.	Cu. E	------	
24	61.51	24.6	------	22.6	89	NE	.4	8.8	Ci.-S., A.-Cu.	Cu.-N. E	.3	d a. p ∞ p.
25	61.28	24.7	------	20.6	88.8	Variable	.3	9.2	Ci.-S.	Cu.-N. E	------	≡ a.
26	60.59	27.1	------	22	85.3	NE	.4	5.5	A.-Cu. SE	Cu.	------	d° a. ∞ p.
27	60.74	27.5	------	23.4	84.5	NE	.5	8.5	Ci.-S. SW	Cu. ENE, NE	.4	d ≡° ○° a. ∞ p.
28	60.78	26.9	------	22.5	81.8	NE	.6	5.2	Ci.-S.	Cu. NE, ENE	------	≡° a. ∞ p.
29	60.31	25.8	------	23.7	80.2	NE	1.7	9.5	A.-Cu.	Cu.-N. NE, SE	------	≡° a. ∞ p.
30	58.75	27.8	------	24.1	78.7	NE	.8	6.8	A.-Cu. SSE	Cu. E	------	≡° a. ∞ p.
31	58.53	------	------	23	------	NE	.8	5	Ci.-S.	Cu. NE	------	≡ a. ∞² p.
Mean	760.98	26.2	------	22.1	80.3	------	.7	6.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	2.1	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	761.39	25.8	32.7	20.7	73.2	ENE, ESE	0.9	2.8	Ci.	Cu. NE	------	Ω ≡
2	62.05	24.8	31.7	19.7	73.5	E	1	5	Ci. SE	Cu.	------	Ω² a.
3	62.58	24.3	30.4	20	74.7	Variable	.6	8.8	A.-S.	N E	0.5	Ω a. d p.
4	64.44	24.4	28.8	21.2	74.5	NW quad.	.5	7.2	A.-Cu. E	Cu. NE	------	
5	64.85	24	30.5	18.5	71.9	E quad.	1.1	4.2	Ci.	Cu. NE	------	Ω a.
6	64.83	23.8	30.5	19.6	71.5	E	.9	5	A.-Cu. E	Cu. NE	------	
7	64.72	23.2	30.4	17.2	71.5	ESE	.7	1.2	Ci.	Cu.	------	Ω a.
8	64.68	23.4	31.5	16.9	70.1	ESE	.6	1.8	Ci.	Cu.	------	Ω² a.
9	65.17	23.2	31.4	17.4	72.5	ESE	.4	5.2	Ci. S	Cu. NE	------	Ω² a.
10	65.48	24	31	17.8	66.3	NE	.8	7.2	Ci.-S. S	Cu. NE, ENE	------	Ω ○²
11	64.08	23.9	29.6	19.8	71.2	NE	.2	7	A.-Cu. S, SE	Variable	------	
12	62.06	24.6	32.6	17.7	70.8	NE	0	5	A.-Cu. SE, ESE	Cu.-N. E	------	Ω²
13	62.02	23.8	27	22.2	91.7	N, WNW	0	9.2	A.-S.	N NE	15.3	● a. d p.
14	61.38	24.8	31.5	20.8	78	Variable	.4	5	A.-Cu. SW, SE	Cu. E	------	Ω
15	60.88	24.2	31.2	18	72.5	NW, E	.2	1.8	Ci.	Cu.	------	Ω² ≡
16	60.47	24.1	31.5	18.2	74.5	NW, ESE	.2	3.5	Ci. S	Cu. NE	------	Ω ⊍°
17	60.81	25.3	32.5	19.9	73.3	NW, N	.3	5	Ci. S	Cu. E	------	
18	60.18	25.8	33	20	75.3	NW	.3	5.8	Ci.	Cu. SE	------	⦶°
19	60.34	26.1	31.7	22	72.7	NNE, E	1	6.2	Ci.-S.	N NE	------	
20	61.44	25.9	33.3	19.5	69.6	NE, E	.6	4.8	Ci.	Cu. E	------	
21	62.39	25.7	32.4	21.9	73.5	E	.7	8.5	A.-Cu. S	Cu. E, NE	------	
22	62.98	24.8	30.6	21.7	72.3	NE quad.	.8	9	A.-Cu. SE	Variable	------	
23	62.63	24.4	31	19.5	77.7	NE	.2	7.2	Ci.	Variable	1.8	Ω a. d p.
24	62	24.4	29	21	78	E	.2	9.5	A.-Cu. SE	N E	------	
25	61.69	24.3	30	20.8	80.6	NW, E	.2	10	A.-S.	N E	------	⦶²
26	61.13	26.2	33.7	21.2	71.2	Variable	.5	4.5	A.-Cu. ESE	S.-Cu.	------	Ω
27	61.22	25.9	32.5	21.6	72.1	NE quad.	.7	6.2	A.-Cu. SE	Cu. E	------	Ω
28	61.52	25.2	31.6	20.3	74.3	E quad.	1.2	4.2	A.-Cu. E	Cu. NE, E	------	Ω²
29	61.49	24.2	28.6	21.6	76.9	Variable	.3	8.5	A.-Cu. SE	Cu.-N. E	.8	d a. p.
30	59.64	25.4	32	20.7	73.3	ENE	.8	4.8	Ci. S	Cu. E	------	
31	58.90	26.6	34.7	21.8	69.9	NE, ESE	.2	5.2	Ci. S	Cu. E	------	⩽ p.
Mean	762.24	24.7	31.3	20	73.8	------	.5	5.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	18.4	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force. (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	761.04	28.2	32.6	24.1	72	NNW	9.6	6.2	Ci.-Cu., Ci.	S.-Cu.	------	
2	61.44	27.4	31.5	24.4	70.8	SSE	13.5	5.5	Ci.	S.-Cu., Cu.	------	
3	61.92	26.6	31.4	23.9	72.1	SSE	11.8	5.8	A.-Cu.	S.-Cu.	.8	p ⊤° ⚡ p.
4	63.79	25.8	29	24	73.5	S	13.4	8	A.-Cu.	S.-Cu.	------	
5	64.20	26.2	31.6	22.4	66.7	S	13.3	2	------------------	S.-Cu.	------	
6	64.30	26.4	31.3	22.3	68.2	S	11.4	2	------------------	S.-Cu., Cu.	------	
7	64.22	26.5	31.5	21.7	65.2	S	9.4	2.2	Ci.-Cu.	S.-Cu., Cu.	------	
8	64.23	26.2	29.9	22.8	67.3	S	11.4	2.2	Ci.	S.-Cu., Cu.	------	
9	64.54	25.8	30.8	22.1	71.2	S	11.6	6	Ci.	S.-Cu. E	------	⌣ p.
10	64.91	26.2	31.5	22.2	64	S	13.8	7	Ci.-S.	S.-Cu., Cu.	------	⌣ p.
11	63.61	26.3	31.3	21.6	67.2	S, SE	9.4	4	A.-Cu.	S.-Cu. NE	------	
12	61.62	26.6	30.5	21.9	72.3	S	10.5	1.5	------------------	Cu.	------	
13	61.42	26.4	28.2	24	81.3	S	7.5	8.8	Ci.	S.-Cu.	.3	d a. p.
14	60.82	27.1	31.2	24.4	79.2	S, NNW	11.3	2.8	Ci.	S.-Cu.,Cu.	------	
15	60.42	26.8	31.2	23.1	78.5	SE, NW	8.8	3.2	Ci.	S.-Cu.	------	
16	59.90	26.8	31.1	23.5	73.8	SE	10.8	4.5	Ci.	Cu., S.-Cu.	------	
17	60.50	27	29.6	23.5	80.8	NW	8.7	3.5	Ci.	Cu.	------	⊖ p.
18	59.82	27.1	29.9	24.6	87.3	NW	9.3	4.5	Ci., Ci.-S.	S.-Cu., Cu.	------	
19	59.73	28.1	32.5	23.8	78.5	SE	9.8	5.5	Ci.	S.-Cu.	5.3	v ⌈⚡ p.
20	61.09	27.6	31.7	23.1	75	NW	10.5	3.2	Variable	S.-Cu., Cu.	------	
21	61.63	28.4	32.9	24.8	70.2	SE, SSE	14.1	8.5	A.-Cu.	S.-Cu.	------	⚡ p.
22	62.27	27	30.6	24.6	70.9	S, SSE	11.8	9.2	A.-Cu.	S.-Cu.	------	d° p.
23	62.13	26.8	29.9	23.7	72.3	S	9.1	7.2	Ci.-S., A.-Cu.	S.-Cu.	.3	d p.
24	61.43	27	30.8	22.9	72.5	SE	8.5	6.5	Ci., A.-Cu.	S.-Cu. SE	------	v p.
25	61.46	26.2	29.1	22.6	77.5	NW	8	8.2	Ci.	S.-Cu.	12.2	⊖ a. ● p.
26	60.80	27.1	29.4	23.9	80.2	NW	8.4	6.2	Ci.	S.-Cu., Cu.	2	●° a.
27	60.58	28	32.5	24.9	78.8	Variable	8.6	4.5	A.-Cu., Ci.	S.-Cu.	------	⚡ a.
28	60.78	27.5	32.5	23.9	74.5	SE, S	9.7	4	Ci.	S.-Cu. E	1	p p.
29	60.42	26.5	30.5	24.5	71.7	S, SE	16.4	9.8	------------------	S.-Cu.	------	d° p.
30	58.89	27.7	33	23.6	72.2	SSE	13.9	7	A.-Cu.	S.-Cu.	------	
31	58.58	28.1	30.9	25.2	72.2	SE, NW	9.1	4.2	A.-Cu.	Cu.	------	⊤° ⚡ p.
Mean	761.69	26.9	31	23.5	73.5	------------	10.8	5.3	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	21.9	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force. (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	761.45	26.2	29.5	22.5	-------	WNW	0.8	2.2	A.-Cu.	Cu. ESE	------	d p.
2	61.64	26.4	30	22.8	-------	NW	1.5	.2	Ci.	Cu.	------	Ω a.
3	62	26.7	29.5	23	-------	NW	1	.5	A.-Cu SSE	Cu.	------	
4	64	26.2	28.5	24.5	-------	Variable	1.2	7.8	A.-Cu. SW	S.-Cu.	------	d a.
5	64.30	26	29.5	23	-------	W	1	.5	A.-Cu.	Cu.	------	
6	64.55	25	27.7	21.5	-------	WNW	1	.2	A.-Cu.	Cu.	------	Ω a.
7	64.53	25	27.7	22	-------	NW	.7	0	Ci.	Cu.	------	
8	64.59	25.1	28	22	-------	NW	1	.8	Ci.	Cu.	------	Ω a.
9	64.65	25.7	29.5	22.5	-------	NW, NE	1.8	1.2	Ci.	Cu. NE	------	≡° a. ○ ⌣ ↙° p.
10	64.79	26.8	31	23.5	-------	NE	3.2	2	Ci.	Cu.	------	↙° a. ○ ⌣ p.
11	63.59	26.2	29.5	22	-------	Variable	1.2	.5	A.-Cu. S by W	Cu.	------	
12	61.87	26.3	29.5	24	-------	SW, NW	.7	0	------------------	Cu.	------	Ω a.
13	61.59	25.8	30	21	-------	NE	.5	2.8	A.-Cu.	Cu. W	------	Ω a. ⊖ ⚡ p.
14	61.07	26	29	23	-------	Variable	.7	5.8	Ci.	Cu. NE, NW	------	
15	60.69	26.2	29.5	23	-------	Variable	.8	2	Ci.	Cu. NNW	------	
16	60.41	25.4	28.1	22.5	-------	E	.8	.2	Ci.	Cu.	------	Ω a. ⌣ p.
17	60.88	25.4	29.5	21.6	-------	NE, NW	.7	2.2	Ci.-S. WSW	Cu.	------	≡° ○ a.
18	60.07	25.4	29	21.5	-------	NW	1.3	.8	Ci.-S.	Cu.	------	Ω a. ↙° p.
19	60.01	26.8	30.5	22.5	-------	Variable	.8	1	A.-Cu.	Cu. WSW	------	Ω a. ⊖ p.
20	61.34	27	30	23	-------	NW	1.2	2.8	A.-Cu.	Cu. ENE, WNW	------	Ω a. ⊖ p.
21	61.75	27.7	31.6	24	-------	SW	1.2	6.8	A.-Cu. SW	Cu. N	------	⚡ ⊖ p.
22	62.32	27.1	30	23.6	-------	NW, W	.8	7	A.-Cu. SW	S.-Cu., Cu.	------	
23	62.28	26.5	30	23.5	-------	Variable	1	7.8	A.-Cu. SW	S.-Cu. NE	------	⊖ ○ a. d p.
24	61.67	25.8	29.8	22.5	-------	WSW	.8	3	A.-Cu. SW	S.-Cu., Cu.	------	
25	61.53	25.9	29	22	-------	N	1.8	1.5	A.-Cu.	S.-Cu., Cu.	------	⊖ a. ⊕ ↙° p.
26	61.04	26.4	29.5	23.5	-------	W, N	2.2	2.8	Ci.-S.	Cu.	------	d° a. ↙° p.
27	60.86	26.5	30	22.5	-------	WNW	1	0	Ci.	Cu.	------	Ω a.
28	60.92	27.4	31.8	23	-------	E	1.8	5.2	Ci.-S. SE	Cu., S.-Cu.	------	Ω a. ↙° p.
29	60.47	27.8	31	24.5	-------	NE, WNW	3	4.5	A.-Cu. SSW	S.-Cu., Cu.	------	↙° a. d p.
30	59.24	26.6	30.7	23.9	-------	NW	1	9	Ci.-S.	S.-Cu.	------	⊕ d p.
31	59.02	26.3	31.5	22.8	-------	NW	1.7	3.8	A.-Cu. SW	S.-Cu., Cu.	------	↙° p.
Mean	761.91	26.2	29.7	22.8	-------	------------	1.2	2.7	------------------	------------------	------	
Total	--------	------	------	------	-------	------------	--------	--------	------------------	------------------	------	

METEOROLOGICAL DATA, ETC.—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1		25.9	34.1	21.4	77.8	N	0.3	5.5		S.-Cu., Cu.		Ω² ≡² a.
2		23.6	27.1	21.1	85.2	N, NW	2.2	8.2		S.-Cu. N		Ω a.
3		22.8	27.6	19.4	80	N	.8	7.8		S.-Cu. NW		Ω a. d° p.
4		21.8	25.2	19.3	87.3	N	.3	9		S.-Cu.		Ω a. d° p.
5		22	29.7	18.7	87.3	NNE	.2	6	Ci, Ci.-Cu.	Variable		Ω a.
6		23	32.6	17.4	76.5	N	.2	5.2		Cu. S, NE		Ω² ≡ a.
7		22	30.6	15.7	79.8	N	.8	2.5		Cu. N		Ω² ≡² a.
8		22.2	28.4	19.4	87.2	N	.8	9		Cu.-N.	6.1	● a.
9		21.9	26.8	20	85.7	N, NE	.3	9.2		Cu.-N., S.-Cu	1.3	● a.
10		22.3	28.8	18.9	80.7	N	.2	7	Ci.	Cu. E	3.8	● a. ∪²
11		22.7	27.2	18.5	86.9	Calm		10		S.-Cu. N		Ω² d a.
12		24.4	31.3	20.7	84.5	N	.2	8.2		Cu. N		Ω² a.
13		26	32.6	20.7	80.7	S	.2	7		S.-Cu.		Ω² a.
14		25.7	33.6	22.2	81.8	Calm		5.5		Cu. NE		d a.
15		24.8	32.7	20.7	78.1	NW	.5	5.2	Ci.	Cu. S		Ω² ≡ a.
16		23	31.5	17.4	82.6	NW, N	.3	5.5	Ci.	Cu. N		Ω² ≡² a.
17		24.2	32.2	21.1	86.5	NE	.7	8		S.-Cu.		Ω² a. ⌒ p.
18		25.3	33.2	22.4	84.5	NW	.5	8.2		S.-Cu. N		Ω a.
19		26.3	34.5	21.7	79	SSW, S	.3	5.2		Cu. S, SW		Ω a.
20		25.5	34.8	20.2	75	N	.5	1	Ci.	S., Cu.		Ω a.
21		24.6	32.4	19.7	81.7	NE	.8	6.8	Ci.-Cu.	S.-Cu. N		Ω² ≡ a. d p.
22		24.7	30.6	21.3	84	N	.2	7.2		Variable	1.3	d a.
23		22.7	26.8	20.9	87.2	N	1	7.5		Cu.-N. N, NE	1.7	● a.
24		23.6	30.3	20.3	83.3	E	.8	7.5	Ci.	Variable	4.3	● a. d p.
25		24.1	33.5	18.1	81.6	SE, S	.3	6.2		Cu. SW	3.1	Ω² a. ● p.
26		25.1	32.2	21.2	81.7	NE	.7	8	Ci.	S.-Cu. N	7.3	● a. p.
27		24.7	30	22.2	87	NE	.8	7.5		S.-Cu. N		d a. p.
28		23.9	29.3	21.6	86	N	.5	9		N., S.-Cu.	23	● a. p.
29		22.8	25	20	86.8	NE, N	.3	10		Cu.-N.	1.5	d a. ● p.
30		24.7	31.5	20.2	79.2	SE	.5	8	Ci.-Cu.	S.-Cu. S		d a.
31		25.9	33	21	78	SE, NE	.5	8	Ci.-Cu.	S.-Cu. S		Ω d p.
Mean		23.9	30.6	20.1	82.7		.5	7.1				
Total											53.4	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.				
1	762.97	25.1	29.8	21.4	85.3	SE, NE	12	1.8		Cu.-N. E		↯° p.
2	65.10	22	24.5	20.5	92.8	NE	26.7	10		N. NE	12.7	↯° ● a. p.
3	65.33	22.6	25.2	20.5	84.5	ENE, E	20.1	10		S.-Cu. E	4.3	● a.
4	67.01	21.7	23.1	20.1	88.3	E	6.7	10		S.-Cu. E	.5	d a.
5	66.83	21.9	24.5	19.2	87.5	E	7.2	9.5		S.-Cu. SE		
6	66.21	22.9	26.5	19	81.8	SE	9.4	1		Cu.-N. SE		Ω a.
7	66.60	22.5	27.1	18.7	81.7	SW, NE	11	2		Cu.-N. NE		Ω a.
8	67.12	22	25.1	19.5	87.3	NE	16.4	10		Cu.-N. NE	7.1	● ↯° a. p.
9	68.13	22.2	24.1	19.4	84.2	E	17.2	10		S.-Cu. E	14	● a.
10	68.60	22.7	26	18.6	82.5	E, ENE	16.4	5.2	Ci. S	S.-Cu. E, SE		Ω ∪ a.
11	66.72	22.6	25.5	20	91.3	ENE	11.6	9.5		N. E	7.9	● a.
12	64.20?	22.3	27	17.4	91.2	E	6.9	5		Cu.-N. SE, S	.3	Ω ≡ a. d p.
13	63.32	24.4	28.1	21.4	89.4	E, SE	7.3	3		Cu.-N. SE	1	d a.
14	62.76	24.3	27.9	21.5	87.3	E, SE	13.3	4.8	Ci. W	Cu.-N. E		↯° p.
15	62.31	24.2	27.7	21	85.7	S, NE	8.4	2.8	A.-Cu. S	Cu.-N. SE		Ω a.
16	62.45	23.5	27.6	19	86.8	E, S	7.6	3.2	A.-Cu. SE	Cu.-N., S.-Cu.		Ω ≡ a.
17	62.64	24.4	28	21.6	86.8	E	9.2	8		S.-Cu. E	.8	d a.
18	61.71	24.7	27.4	22.5	91.2	NE	8.4	9.8	Ci.-S. W	Cu.-N. E	4.3	d a.
19	60.94	25.3	29	21.7	88.9	E	8.6	1.8		Cu.-N.		Ω ≡ a.
20	62.15	24.9	29.6	21.9	87.3	S	9.4	0				≡ p.
21	64.39	24.2	28.4	21.5	90	ENE	11.7	9.8	A.-Cu. SW	S.-Cu. E	1.8	d p.
22	64.81	24.4	27.4	21.9	85.2	ENE, E	11.2	9.2		S.-Cu. E		
23	65.08	22.3	26	19.5	93.3	NE	14.7	10		N. NE, E	27.9	● a. p.
24	63.57	23	28.8	19.8	90.1	SW, S	9.6	8.8	A.-Cu. S, SW	S.-Cu. E	1.3	d a.
25	62.68	24.6	30.2	20.6	85.9	S, NE	9.6	0				Ω a.
26	62.93	24.4	27.5	21.6	87.8	S, NE	11.6	5.8	A.-Cu. S	Cu.-N. S, NE		
27	63.60	24.8	27.7	22.6	82.8	NE	19.4	8.5		S.-Cu. E		
28	64.26	24.2	26.4	22	82.2	NE	23.4	9.2		S.-Cu. E		
29	64.23	23	25	20.7	83.5	E	13	10		S.-Cu. E	6.1	● p.
30	60.42	23.2	27.4	20	90.2	SE	8.8	9.2	A.-Cu. S	S.-Cu. S	.5	d a.
31	60.13	24.7	27.9	22.4	89.4	Variable	6.6	7.8	A.-Cu. SW	S.-Cu. SW		
Mean	764.17	23.5	27	20.6	87.2		12	6.6				
Total											90.5	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	22.8	97	57	4	8	------	Ω ≡ a.
2	30.3	21.8	97	72	7	8	------	Ω ≡ ⊤ a.
3	30.8	22.8	98	81	7	8	3.6	Ω ≡ a. ● p.
4	30.9	22.4	97	76	8	8	------	Ω ≡ d a.
5	30.7	21.2	93	66	3	3	------	Ω ≡ a.
6	31	21.3	96	70	4	5	------	Ω ≡ a.
7	30.3	22.8	78	67	5	6	------	↙° noon
8	30.3	25.1	78	70	7	7	.8	p a.
9	29.2	24.6	88	80	10	9	1	Ω° ● a.
10	30.9	25	89	53	7	5	------	
11	30.3	23.2	89	74	4	8	------	⊕ p.
12	31.8	24.3	96	77	3	8	------	d° p.
13	30.2	21.8	98	89	4	10	2.8	●° a. p.
14	30	22.7	99	88	8	10	.8	$Ω^2$ $≡^2$ d a. p.
15	29.5	24.3	95	80	10	9	.8	Ω° ≡° ●° a. ⊕ ⌒ p.
16	31.2	22.8	98	74	8	5	.5	$Ω^2$ $≡^2$ ●° a. ⊕ p.
17	31	24.2	96	79	9	7	1.5	Ω ≡ ●° a. ⊕ ⊍ p.
18	31.3	22.5	97	74	4	7	------	$Ω^2$ $≡^2$ a.
19	31	23.4	97	78	7	8	------	Ω ≡ a.
20	31.1	23.9	97	88	7	9	2.3	Ω ≡ a. ● ⊤ p.
21	30.9	23	98	70	10	7	------	Ω ≡ a.
22	31	22.9	95	77	4	9	------	
23	31.2	22.9	98	74	5	4	------	Ω° a.
24	30.9	21.3	97	71	4	4	------	Ω ≡ a.
25	30.7	21.4	96	75	5	9	------	Ω ≡ a.
26	30.3	22.6	97	81	9	10	------	Ω ≡ a.
27	31.3	22.8	97	76	7	8	------	Ω ≡ a. d ϟ p.
28	29.6	23	97	94	7	10	29	Ω ● ⌈ϟ
29	29.1	23.5	96	87	10	10	6.1	● a.
30	31.5	22.2	98	71	6	5	------	
31	31.4	22.8	94	70	9	6	2.3	● a.
Mean	30.7	22.9	94.7	75.5	6.5	7.4	------	
Total	------	------	------	------	------	------	51.5	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.3	22	96	92	------	------	8.1	Ω a. ● ⌒ p.
2	31.5	21.5	96	71	------	------	------	≡° a.
3	30.5	21.5	87	73	------	------	------	Ω a.
4	29.5	22.5	92	68	------	------	------	≡° Ω a.
5	30	22	86	62	------	------	------	≡° Ω a.
6	30	21.5	95	68	------	------	------	Ω a.
7	29.5	22	75	67	------	------	------	Ω a.
8	29.7	20.5	93	74	------	------	------	Ω a.
9	29	22	91	68	------	------	------	Ω a.
10	30	21.6	86	62	------	------	------	Ω a.
11	28.4	22	93	70	------	------	------	
12	30.5	23.2	92	72	------	------	------	Ω a.
13	32	23.2	96	76	------	------	------	Ω a.
14	33	23	96	80	------	------	8.4	Ω ≡° a. p d p.
15	31.5	23	96	96	------	------	10.2	Ω a. ● p.
16	33	22	96	77	------	------	------	Ω a.
17	33.6	21.5	96	74	------	------	------	Ω ≡° a.
18	33.7	23	97	76	------	------	------	Ω ≡° a.
19	31.8	24	96	74	------	------	------	Ω a.
20	34	22.5	98	81	------	------	------	Ω a.
21	32.5	22	91	71	------	------	------	Ω a.
22	34	23.5	96	81	------	------	8.6	● a.
23	32.5	22	92	63	------	------	------	Ω a.
24	30.5	21	99	70	------	------	------	Ω a.
25	29.4	21.5	97	68	------	------	------	Ω a.
26	31.2	22	96	66	------	------	------	Ω a.
27	33	22	96	76	------	------	------	Ω a. ⊤ p.
28	29.5	22.5	96	71	------	------	------	Ω ≡° a. ⊤ p.
29	30.5	22.5	89	84	------	------	17.3	● a. p. ⊤
30	30.5	21.5	96	77	------	------	------	Ω a.
31	32.5	22	96	78	------	------	------	Ω a.
Mean	31.2	22.2	93.5	73.7	------	------	------	
Total	------	------	------	------	------	------	52.6	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	23	94	75	9	8	------	
2	29.3	22.2	81	80	2	8	------	
3	30.2	22	85	65	3	4	------	
4	29.5	21.8	87	75	3	3	------	
5	30.2	20.5	88	68	1	1	------	
6	29.4	21.5	86	76	1	8	------	
7	29.6	21	92	66	1	1	------	
8	29.2	21	85	69	4	1	------	
9	30.4	22.9	83	76	8	5	------	
10	29.6	22.5	90	75	8	8	------	
11	29.6	21.5	82	76	6	8	------	
12	31.9	23.6	87	70	4	5	------	
13	29.1	23.8	91	73	9	2	------	
14	31.1	23.8	92	81	6	4	------	
15	30.5	23.4	86	79	4	4	------	
16	31.5	23	84	76	3	5	------	
17	30.2	23	87	79	3	5	------	
18	30.2	23	84	74	3	9	------	
19	29.4	22.6	88	75	3	10	2	● p.
20	29.2	22.4	89	79	5	9	------	
21	29	22.9	90	79	7	4	------	
22	28.8	23.6	90	74	9	9	2.3	● a.
23	30.5	21	83	67	3	4	------	
24	29.7	21.7	91	78	3	6	------	
25	29.5	21	83	68	3	5	------	
26	29.1	22.4	84	73	4	9	------	
27	31.4	23	96	77	5	9	------	
28	28.5	23	90	88	8	9	------	
29	30.2	22.1	85	76	10	5	5.8	● a.
30	31	22	88	74	3	8	------	
31	29.1	22.4	86	78	7	3	------	
Mean	29.9	22.4	87.3	74.8	4.8	5.8	------	
Total	------	------	------	------	------	------	10.1	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.7	22.3	97	73	6	5	------	
2	31.6	20.5	97	75	7	6	------	
3	31.7	20.9	96	65	5	8	------	
4	30.5	21.3	95	71	6	5	------	
5	31.3	21.1	91	70	5	7	------	
6	28.4	22.5	95	85	9	9	23.4	● a.
7	30.2	21	94	74	5	7	------	
8	31.6	21.4	96	80	6	8	50.5	● p.
9	30.7	21.8	96	75	5	7	------	
10	31.9	21.6	96	70	5	7	19.8	● p.
11	32.3	21.1	95	67	8	6	------	
12	31.2	22	94	77	6	8	------	
13	32.2	21.6	98	69	6	5	------	
14	30.7	23	96	81	7	7	------	
15	32.9	22.6	92	65	6	6	25.9	● ⊤ p.
16	31.7	21.7	98	71	6	7	------	
17	32.1	21.9	97	75	7	9	18.3	● p.
18	32.3	22	95	76	7	7	------	
19	33.1	21.9	97	78	6	5	------	
20	32.4	22	97	76	7	6	------	ϟ p.
21	32.7	23.2	95	69	5	6	------	
22	31.9	21.1	95	78	5	7	13	● p.
23	31.6	21.6	96	72	6	5	------	⊤ p.
24	32.5	21.8	99	72	7	8	------	
25	30.7	21.1	96	79	6	5	------	
26	32.5	22	94	73	6	5	42.4	● p.
27	32.3	21.9	97	76	7	6	------	
28	31.4	22.1	97	73	5	5	------	⊤ p.
29	30.1	22	96	72	6	5	------	
30	31.8	22.2	95	72	6	7	------	
31	31.6	20.6	96	79	6	8	------	
Mean	31.6	21.7	95.7	73.8	6.1	6.5	------	
Total	------	------	------	------	------	------	193.3	

METEOROLOGICAL DATA, ETC.—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature.		Relative humidity		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.9	21.9	91	64	10	6	1	d p.
2	33.4	22	95	63	7	7	------	≡ Ω a.
3	33.5	20.7	92	52	2	8	------	Ω a.
4	34.7	19.9	92	57	1	7	------	Ω a.
5	34.5	19.3	91	60	2	7	------	≡ Ω a.
6	34.7	20.5	93	64	6	9	------	≡ a.
7	33.5	20	91	60	8	8	------	≡¹ Ω a.
8	33	20.2	92	59	0	5	1	≡° Ω a. d p.
9	34.7	20.5	97	63	0	4	------	≡² a.
10	34.3	20.4	89	63	1	5	------	
11	33.1	19.8	96	66	7	7	1.8	d p.
12	35	21.5	97	85	10	9	5.3	≡² d a. ● ⌒ p.
13	33.6	21.8	94	70	1	6	1	d ⊤ < p.
14	35.2	22.5	96	72	7	9	11.4	≡ a. ⌒ d p.
15	32.8	21.7	98	66	9	3	------	≡² a.
16	35.4	22.5	97	56	2	4	------	⊤ d a.
17	35.2	23.3	94	69	8	5	4.1	⊤ ● p.
18	34	23	97	65	9	7	3.6	⊤ ● p.
19	34.7	22.8	91	54	3	7	------	⌒ p.
20	33	23.3	94	74	10	7	8.9	≡ a. d < p.
21	34.1	21.2	96	64	10	4	.8	≡ a. ⊤ d p.
22	34.2	20.5	93	64	2	8	------	
23	34	20.2	91	51	2	5	------	≡ a.
24	34.1	21.8	79	59	9	4	------	
25	35.2	21.3	94	64	7	7	6.6	≡ Ω a. ● p.
26	33.1	21.8	97	64	10	10	.8	≡² Ω a. d ⌒ p.
27	34.2	21.8	96	58	10	5	------	≡ Ω a.
28	35.2	21.8	94	65	7	5	4.6	≡ Ω a. ⊤ ● p.
29	32.5	------	------	67	10	9	------	d a.
30	35.5	21	84	65	10	9	------	
31	33.7	19.8	95	50	0	1	------	
Mean	34.1	21.3	93.2	63	5.8	6.4	------	
Total	------	------	------	------	------	------	50.9	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.7	23.4	83	71	4	6	------	≡ a. < p.
2	29.9	25.1	82	74	7	5	.5	●° a.
3	30.1	25.5	75	72	8	5	.3	●° a.
4	30.3	25.3	81	76	8	4	.3	●° p.
5	29.6	25.1	82	72	4	5	------	
6	30.2	25.3	80	70	10	5	1.6	● a.
7	30.4	24.7	87	71	6	4	------	
8	29.8	24.9	86	73	7	7	------	
9	29.8	24.7	89	77	5	6	------	ϖ p.
10	29.7	24.6	86	75	8	5	1	● a. ϖ p.
11	30.4	24.9	82	77	10	9	?	● a.
12	29.8	24.6	83	76	10	10	1.5	●° a. p.
13	29.9	25	84	77	10	8	.8	● a.
14	30.3	25.2	84	78	9	8	1.5	● a. ϖ p.
15	30.5	25.7	84	82	9	6	------	ϖ p.
16	30.1	24.5	83	85	8	3	------	
17	29.7	24.7	83	85	5	4	2.3	● a.
18	30.3	25.1	82	88	9	5	1	● a.
19	30	25	85	90	8	5	------	Ω a. ϖ p.
20	30.2	25.4	85	88	9	10	------	●° ≡ a.
21	29.8	24.7	80	86	8	9	1.8	● a
22	29.7	24.5	80	89	4	6	------	
23	30.4	25.7	82	79	9	7	------	
24	30.1	25.5	82	80	9	7	------	
25	30.2	25.6	87	76	6	8	1.5	● p.
26	29.6	25.4	84	77	10	8	.8	● a. d° p.
27	29.7	25.1	86	77	9	9	4.3	● a. p.
28	29.7	25.4	79	75	10	9	.8	● a. d° p.
29	29.9	25.6	80	78	10	10	1.5	● a.
30	29.5	25.3	80	75	9	4	.3	d a.
31	30.2	25.2	86	77	5	4	.5	
Mean	30	25.1	83	78.3	7.8	6.5	------	
Total	------	------	------	------	------	------	22.2	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.6	21.5	91	78	7	10	------	≡ a. d p.
2	29	21.2	98	72	4	7	------	Ω ≡ a. d p.
3	28.6	19.3	97	70	9	5	2.8	● ≡ a. d p.
4	28.2	20	94	73	2	8	------	Ω a. d p.
5	28.5	20.3	96	65	8	4	------	⌒ p.
6	28.5	20	96	64	7	7	------	Ω² d a.
7	26.3	19.9	95	73	9	10	------	Ω ⌒ a. d p.
8	27.6	20.2	96	76	4	7	------	Ω ≡ a. d noon.
9	27.6	20.8	98	75	8	8	.8	Ω ≡ d a. p.
10	27.5	21.4	96	80	3	8	1	●° a. p. ≡
11	28.7	23.3	98	82	8	8	12.2	● a. p.
12	29.6	23	98	80	6	5	3	Ω ● a ⋓ p.
13	28.8	23.3	95	83	7	8	1	●° a. p. ≡ Ω ⋓
14	27.6	23.2	97	83	10	8	5.6	● a. d ⋓ p.
15	28.2	22.6	96	78	7	7	------	Ω ≡ d a.
16	29	21.4	99	73	7	6	1	● p.
17	28.6	20.3	96	76	2	7	25.9	≡ a. ●² p.
18	28.7	22.5	93	68	7	3	------	p noon
19	28.7	22.6	97	74	8	9	------	d° p.
20	29.3	23	93	65	8	7	------	Ω a. d p.
21	27.8	22	95	77	9	10	14.2	● a. d p.
22	28.8	20	93	71	9	7	1	p p.
23	28	20.4	96	69	6	8	.5	Ω a. p p.
24	30.1	21.6	95	58	7	4	------	Ω a.
25	29.8	22	95	85	9	9	3.6	d Ω a. ● ↙° p.
26	------	------	96	91	7	10	------	Ω a.
27	------	------	------	------	------	------	2	● p.
28	29.8	23.4	98	94	0	8	2	● ⊤ p.
29	28.5	21.1	95	78	10	8	12.7	● a.
30	28.5	21.3	95	72	8	4	1	Ω ●° a. p.
31	28.2	21.7	91	72	1	7	------	Ω² ≡ a.
Mean	28.6	21.5	95.6	75.2	6.6	7.2	------	
Total	------	------	------	------	------	------	90.3	

YAP (Western Carolines).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	23.4	83	73	6	7	------	
2	29.8	22.5	88	76	6	7	------	
3	30	22.7	92	77	6	5	------	
4	30.1	22.9	83	84	5	3	1.5	
5	29.5	22.5	79	84	4	4	5.3	
6	28.2	22.2	84	84	7	8	3.8	
7	28.8	22.8	90	79	7	5	1.3	
8	30.4	23.7	82	76	5	5	------	
9	27.7	23.3	82	90	5	10	2.5	
10	27.5	23.2	93	96	9	7	58.4	
11	28.2	22.7	84	79	9	8	8.9	
12	28.8	22.8	83	83	7	10	------	
13	27.8	23.9	88	80	8	9	1.8	
14	28	23	90	84	5	6	3.3	
15	27.9	23.3	92	93	6	10	21.6	
16	29.5	23	95	80	8	7	1.3	
17	28.2	24	95	94	8	9	.5	
18	28.2	23.2	94	91	8	7	------	
19	29.3	23	88	88	7	6	43.2	
20	28.3	22.3	73	79	6	6	1.8	
21	29.5	22.6	87	78	7	7	8.1	
22	27.7	21.8	88	76	8	9	3.8	
23	28.9	22	86	89	5	6	------	
24	28	21.9	88	98	8	8	------	
25	27.5	22.5	88	88	6	7	9.7	
26	28.2	22.3	84	84	8	7	------	
27	29.2	22.1	90	84	7	6	2.5	
28	29.5	22.5	83	92	3	7	------	
29	28.9	22.4	92	92	6	4	115.8	
30	27	21.9	93	91	8	4	------	
31	28.7	22.2	96	83	10	7	47	
Mean	28.7	22.7	87.5	84.7	6.7	6.8	------	
Total	------	------	------	------	------	------	342.1	

METEOROLOGICAL DATA, ETC.—Continued.

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.4	22.6	91	93	10	10	12.4	☇ d ⌒ a. p. ≡
2	28.8	22.1	92	80	10	8	------	d° a.
3	29.8	22.6	93	77	10	10	------	d ≡ a. ↙° p.
4	29.2	20.9	93	62	9	5	------	↙ ●° noon.
5	29.5	20.5	87	73	6	10	------	d a. p. ↙°
6	30	21.2	87	58	4	6	------	d° a.
7	28.2	19.3	90	63	3	9	------	d° a.
8	28.7	21.1	87	77	10	5	------	d ⌒ a. p. ≡^{2}
9	28.1	21.6	90	80	8	10	23.4	≡^{2} ● a. d ↙° p.
10	30.3	21	91	74	10	10	------	↙° d ≡ ⊍ p.
11	27	22.6	96	93	10	10	68.1	● a. p.
12	28.9	22.8	95	74	10	6	5.3	d ↙° a. p. ⌒ ≡^{2}
13	28.6	23.2	95	79	10	10	4.1	d ≡ a. p.
14	28.8	21.9	90	78	6	7	------	⊍ ϖ p.
15	28.5	21.7	89	82	10	6	------	d ≡ a. p.
16	29.4	23.1	87	71	9	10	4.1	☇ d ≡ a. ∞ p.
17	29.9	22	93	77	9	5	------	☇ a. d ⊍ p.
18	29.7	22.6	92	70	10	7	17.3	p ↙° a. ☇ ⊍ p.
19	28.1	22.2	88	78	10	10	------	d° a.
20	30.5	23	91	77	8	10	------	
21	28.6	22.4	87	78	9	10	------	d ☇ p.
22	30.5	22.5	82	88	8	10	------	d° p.
23	29	20.5	90	73	6	10	------	
24	29.1	21.6	93	72	7	4	------	d ⌒ ↙° a. p.
25	27.5	22.7	93	87	10	10	15.7	d ≡ a. ● p.
26	27	23	95	86	10	10	------	d° ≡ a.
27	27.9	23	96	84	10	10	------	d° p.
28	29.3	23.5	91	70	10	10	------	d° a. ↙° p.
29	29.3	22.6	90	71	9	10	------	d ↙° a. p.
30	30.4	22.1	90	63	6	4	------	
31	29.6	21.8	90	71	10	5	------	d a. p. ⌒^{2}
Mean	29	22.1	90.8	76.1	8.6	8.3	------	
Total	------	------	------	------	------	------	150.4	

BACOLOD.

[ϕ=10° 41′ N; λ=122° 56′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.1	22.5	93	77	4	8	15.2	☈ p.
2	28.8	23.5	93	74	9	6	6.4	● ⌒ a.
3	29.5	23.4	91	72	5	6	------	
4	28.5	23.3	91	69	6	2	------	↙° p.
5	28	22.6	95	77	9	6	2	p a. ↙° d p.
6	28.5	22.6	84	66	6	2	------	↙° a. p.
7	27.3	21.1	89	69	2	2	------	
8	26.5	22	93	83	6	6	2.5	⌒ d a. p p.
9	26.1	22.2	93	87	9	8	18	●° a.
10	27.5	22.8	91	90	9	9	2.5	d a. p.
11	27.2	23	93	83	10	9	7.9	● a. ↙°
12	29.1	24	92	81	6	8	1	p° a. d p.
13	28.1	23.8	93	79	2	8	3.3	p ϖ p.
14	29	23.7	95	73	3	6	------	ϖ p.
15	28.9	23	94	72	6	4	------	d a. ϖ p.
16	29	23.6	94	73	8	4	------	⌒° a.
17	29.5	23.1	94	71	8	6	------	ϖ p.
18	29.4	21.2	95	77	6	8	------	ϖ p.
19	29.1	21.5	87	72	6	8	------	
20	29.5	22.9	97	81	5	8	------	ϖ p.
21	29.7	23	90	70	7	8	------	ϖ p.
22	29.6	23.6	87	75	6	5	------	↙° p.
23	30.2	21.6	87	65	5	2	------	
24	29.7	22.9	85	82	2	8	1.5	p° p.
25	30.5	22	95	80	3	8	------	
26	28.4	23.6	93	90	8	8	.5	⌒ d a.
27	29.1	23	94	76	9	9	------	d° a.
28	27.4	24.1	92	95	9	10	4.8	p° a. ●° p.
29	29.1	23.6	87	79	9	8	.5	d^2 a. p.
30	29.9	22.5	92	75	7	6	------	
31	30.5	19	90	68	2	3	------	d° p.
Mean	28.8	22.7	91.6	76.8	6.2	6.4	------	
Total	------	------	------	------	------	------	66.1	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	22.4	83	63	7	6	------	
2	32.2	23.2	91	63	8	7	------	
3	32.9	20.2	86	85	1	10	4.1	● p.
4	31.7	20	91	45	5	2	------	Ω a. ↙° p.
5	31	18.7	86	69	1	10	------	d p.
6	31.5	19	87	58	0	3	------	
7	32	18.4	71	49	0	1	------	
8	29.9	18	86	68	3	10	------	
9	30	20.9	90	69	10	10	------	d° a. ϖ p.
10	31.6	22	82	69	8	10	------	
11	31.8	19.3	98	69	0	7	------	Ω a.
12	32.3	21.3	95	60	10	7	------	Ω d° a. ϖ p.
13	33.3	22.6	90	66	10	10	.5	Ω a. d p.
14	33.6	21.3	94	59	3	0	------	Ω a.
15	33	20	93	60	1	3	------	Ω a.
16	32.5	20.9	90	67	4	7	------	Ω a.
17	32	21.7	92	63	10	3	------	Ω a.
18	32.1	21.5	88	79	10	10	9.7	● p.
19	32	20	94	68	3	4	------	Ω a.
20	31.9	22	91	74	10	10	------	d° ⊤ ☇ p.
21	32.8	23.1	90	66	10	4	------	
22	33.6	22	84	60	10	3	------	
23	33.5	19.3	88	52	4	2	------	Ω a.
24	31.3	19.2	91	74	4	8	------	Ω a. d° p.
25	32.2	21.6	88	63	2	4	------	p° p.
26	32	22	89	84	3	10	2.5	● p.
27	31.9	22.7	93	68	10	10	------	Ω a.
28	31.4	23.5	91	89	5	10	18.3	☈ p.
29	31.9	22.5	96	74	10	10	------	d° a. p. ☇
30	31.6	22.4	96	69	10	1	------	Ω a.
31	31.9	20.2	91	66	0	0	------	Ω a.
Mean	32.1	21	89.5	66.7	5.5	6.2	------	
Total	------	------	------	------	------	------	35.1	

TUBURAN.

[ϕ=10° 45′ N; λ=123° 50′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.4	21.9	96	88	10	10	17.8	d a. ●^{2} p.
2	29.7	23.5	95	82	9	8	8.9	● a. d° p.
3	31.3	21.9	96	58	8	7	------	d p.
4	29.7	20.9	95	64	3	8	------	Ω^2 a. d° p.
5	28.4	20.2	93	85	10	10	2.3	d a. ●° p.
6	29.7	20.1	93	71	2	8	------	Ω^2 a.
7	28.4	20.8	87	67	3	5	------	Ω° a. ϖ^2 p.
8	27	22.9	92	87	10	9	7.4	●° a. ↙° d p.
9	27.1	23	94	95	10	9	13.2	d ⌒ a. ↙ ● ϖ p.
10	28.2	21.1	96	84	9	5	------	⌒° d a. ϖ^2 p.
11	27.7	22.5	87	95	10	10	5.6	d° a. ● p.
12	30.4	23.4	95	72	6	8	------	d a. ϖ^2 p.
13	29.9	22.5	96	84	10	8	------	d p.
14	30.3	21.7	96	75	2	8	------	d ϖ^2 p.
15	29.2	22.2	97	74	3	4	------	Ω^2 a.
16	28.1	23.2	95	83	5	9	3.3	⌒ d a. ●° p.
17	29.2	22.8	97	75	9	5	------	ϖ^2 p.
18	29.6	23	96	74	10	8	------	d° a.
19	28.6	20.6	95	81	8	9	------	Ω^2 ○^{2} a. p.
20	29.1	22.4	96	78	8	8	------	Ω^2 a. d p.
21	30.3	22.7	96	68	9	9	------	d° a.
22	31.7	21.4	96	79	3	9	------	Ω^2 d p.
23	29.6	20.1	96	61	8	9	------	Ω^2 a. d° p.
24	28.6	20.6	96	76	9	9	------	Ω^2 d° a. p.
25	29.1	21.2	95	77	3	10	------	Ω^2 a.
26	30.2	23.2	96	81	10	10	2	Ω^2 ●° a. d p.
27	29.9	23.4	91	77	10	10	2	d a. ●° p.
28	30.2	23.4	96	78	10	10	2.3	p a.
29	32	22.2	96	62	10	8	------	
30	30.4	21.1	95	66	9	4	------	Ω^2 a. p.
31	29.6	20.7	95	74	8	5	------	
Mean	29.4	22	94.7	76.5	7.5	8	------	
Total	------	------	------	------	------	------	64.8	

METEOROLOGICAL DATA, ETC.—Continued.

BORONGAN.
[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.3	23.9	94	91	10	8	30.7	↯° p a. ● p.
2	28.3	22.3	98	74	8	6	1.3	Ω ≡ ●° a. ↯° p.
3	29.2	22.9	82	66	5	5	------	↯ a. p. d p.
4	29.3	22.3	74	64	4	6	5.1	p a. ● p. ↯ a. p.
5	28.3	20.8	86	83	10	10	20.8	↯ p a. p.
6	28.7	23.6	84	65	9	6	------	↯° a. p.
7	28.6	19.1	95	61	3	9	.8	Ω² ≡ a. ●° p.
8	30.8	20.9	97	95	8	8	8.9	Ω ≡² a. p ● p.
9	28.2	22.8	91	78	9	8	9.4	↯ p a. p.
10	28.9	23.3	90	75	5	8	3	↯° p a. p.
11	26.6	23.2	93	88	10	8	31.7	●² a. ↯ ● ⊕ p.
12	29.2	23.4	84	91	10	9	15	↯° p a. ↯° ● p.
13	29.3	22.8	96	79	8	6	1.5	Ω ≡ a. ↯° p p.
14	28.7	23.2	93	89	9	7	5.3	p a. ↯ ● p.
15	29.2	21.3	96	77	8	7	6.9	●° a. ↯° p p.
16	29.4	22.8	96	83	10	7	.8	●° ○ a.
17	29.3	20.9	95	83	6	8	63.8	Ω ≡ a. ●² ⩽ p.
18	29.6	22.4	98	73	10	6	8.9	≡ a. ● a. p.
19	29.5	21.3	98	76	9	8	14	● a. p.
20	30.2	23.2	97	75	9	7	6.4	●° p a. p ● p.
21	26.7	22.7	97	96	10	10	60.5	●² a. ↯ ● p.
22	29.7	22.8	92	76	9	10	.5	↯° a. ↯ p p.
23	29.9	21.7	90	72	5	6	------	Ω² ≡ a. ↯° p.
24	29.7	23.2	83	81	4	7	1	↯° p a. ↯ p.
25	29.4	22.5	97	82	8	10	24.6	Ω p a. ●² p.
26	28.2	22.7	93	92	10	10	37.3	● a. ↯ ●² p.
27	27.8	23.4	96	94	10	10	49	●² a. p.
28	27.3	23.4	92	82	10	9	11.4	↯° ● a. ↯° p p.
29	29.8	23.4	84	81	8	6	6.4	↯° p a. p.
30	30.1	21.8	96	69	5	4	------	Ω ↯° a. d p.
31	30	23.1	96	61	8	2	------	Ω a. ↯° p.
Mean	29	22.5	92	79.1	8	7.5	------	
Total	------	------	------	------	------	------	425	

GUBAT.
[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.5	22.8	90	83	10	10	13.7	● a. d a. p.
2	29.7	23.6	97	93	10	10	14	● a. d a. p.
3	29.2	23.7	96	70	10	4	22.9	p a. ● p.
4	28.4	22.2	76	89	2	5	10.4	● p.
5	27	22.2	93	91	10	10	19.3	● d a. p.
6	28.6	22	92	90	10	5	2.3	d ⌒ p a.
7	29	20	92	64	2	8	------	
8	27	22.8	88	79	10	10	------	d a. p.
9	28.2	21.2	91	84	10	10	14.2	↯ ● a.
10	26.5	22.6	97	92	10	10	19.8	↯ ● a.
11	28	22.8	85	92	10	10	41.4	↯ ● a.
12	29	22.5	95	98	10	10	8.4	●° a. p.
13	30.4	23.5	92	78	8	6	------	d p.
14	28.9	23.8	93	81	5	4	3.3	● p.
15	29.3	22.5	97	83	10	5	------	
16	30	21.5	98	80	8	6	5.1	● p.
17	28.6	21.5	98	86	10	10	12.7	●² a. d a. p.
18	30.9	22.5	95	77	10	6	4.6	↯ ● a.
19	30	22	95	88	8	8	11.4	p a. d p.
20	30.4	21.4	98	76	10	8	3.8	● p.
21	29.2	23.5	88	86	10	10	------	d p.
22	29.4	22.7	93	80	10	5	26.7	● a p.
23	30.9	22.5	95	71	10	3	4.6	● d a.
24	29.2	24.6	85	90	8	8	10.2	↯ ● a. d p.
25	28.9	23.4	98	86	6	10	16.8	● a. d p.
26	28.8	22.8	88	84	10	10	16.5	● a. d p.
27	28.9	22.9	92	90	10	10	17.8	● d a. p.
28	25.8	23	98	93	10	10	26.7	● a. p.
29	28.5	22.3	83	83	10	10	30.5	d a. p. ●² p.
30	30.5	22.7	96	74	10	8	------	
31	30.8	21.9	96	70	5	5	------	
Mean	29	22.6	92.6	83.3	8.8	7.9	------	
Total	------	------	------	------	------	------	357.1	

SUMAY, GUAM (Ladrones Islands).
[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28	23.2	84	77	10	10	------	
2	29.6	24.8	84	70	10	10	------	
3	27	23.4	87	83	8	4	------	
4	28	23.8	84	77	10	5	------	
5	27.6	24	85	84	7	10	------	
6	28	24.2	73	66	5	4	------	
7	27.6	24	83	73	4	5	------	
8	28.4	24.4	84	77	8	7	------	
9	26	23.4	91	90	10	10	------	
10	28.4	24.2	92	71	9	7	------	
11	28	24.6	83	68	8	9	------	
12	28.4	22.6	85	66	10	5	------	
13	28.2	22.8	77	70	9	8	------	
14	28.8	24	81	69	4	5	------	
15	28.8	24.2	83	68	3	7	------	
16	27.6	24	82	67	5	8	------	
17	28.4	23.6	79	84	3	8	------	
18	28	24	87	70	7	6	------	
19	29.8	24	82	63	1	4	------	
20	27.4	22.6	83	72	5	3	------	
21	27.6	24.6	76	77	10	6	------	
22	27.4	24.8	79	80	10	4	------	
23	27.8	24.4	79	70	8	5	------	
24	26.4	24.8	79	84	10	10	------	
25	28	24.6	79	70	9	6	------	
26	27.8	24.4	80	75	10	7	------	
27	29.2	24.4	83	64	7	5	------	
28	28.6	24.8	83	66	10	5	------	
29	28	24.6	83	73	8	8	------	
30	28	24.6	95	70	7	4	------	
31	29	25	75	87	4	8	------	
Mean	28.1	24.1	82.6	73.6	7.4	6.5	------	
Total	------	------	------	------	------	------	------	

VIRAC.
[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.2	23.1	88	71	4	8	1	● a.
2	30.3	22.5	88	73	9	9	2.8	⌒ ○ a. ● p.
3	31.5	22.3	85	69	8	3	.8	d a. ●° p.
4	30.3	21.8	79	70	4	8	.3	d noon.
5	28.9	21.7	91	78	10	9	2	● a.
6	29.5	22	76	66	6	4	.3	d² a.
7	29	18.4	92	64	3	5	------	
8	27.2	22.2	83	75	9	9	------	
9	29.4	22.1	81	66	7	8	.8	d a. p.
10	29.2	21.7	94	75	9	7	7.6	● ⌒² ↯ ⊕
11	29.5	23.2	86	78	9	10	11.4	↯ ●° a. p.
12	29.5	23.2	88	73	9	4	7.4	d a. p ⊤° ⊕
13	30.6	21	90	72	7	3	.3	d ⌒ a. ↯ ●° p.
14	30.2	20.7	96	72	1	7	10.7	● a. d p.
15	30.4	21	96	68	3	6	------	
16	30.2	20.8	94	80	8	9	------	≡ d° a. ⊕° p.
17	29.5	20.5	96	86	8	8	1.5	≡ ●° a. p.
18	30.4	22.4	97	75	10	4	14.2	● a. p.
19	29.4	20	96	83	3	10	1	d a. p. ⌒ ⊕
20	30.4	21.8	97	77	3	7	1	●° a. p.
21	30.4	21.4	96	82	9	9	1	●° a.
22	29.9	21.2	85	76	6	4	.5	
23	30.3	22.4	96	80	9	8	11.9	↯ ●° ⌒ a. d ⌒ p
24	30.6	23.6	96	87	9	10	7.9	● a. p. ↯°
25	29.9	22.7	91	87	9	8	52.6	● ↯° a. p.
26	31	22.3	99	89	9	9	13	● a. p. ↯°
27	30.3	22.7	97	92	10	10	20.3	● a. p.
28	27	22.2	97	94	10	10	48.5	● a. p.
29	29.9	22.3	87	86	9	10	4.3	d a. ● p.
30	30.1	22.9	94	85	10	5	22.9	● ↯° a.
31	30.8	19.7	95	85	1	1	.3	●° a.
Mean	29.9	21.8	91.2	77.9	7.1	7.2	------	
Total	------	------	------	------	------	------	246.3	

METEOROLOGICAL DATA, ETC.—Continued.

BATANGAS.
[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.8	21.5	93	68	7	8	1.5	● a.
2	30.9	21.6	93	60	6	5	------	↙° p.
3	30.4	21	96	58	6	7	------	
4	30.2	21.3	87	62	7	6	------	
5	30.5	18.7	93	59	5	5	------	
6	30	18.8	92	56	1	6	------	
7	30.2	15.7	96	56	3	4	------	
8	29	14.3	97	63	1	6	------	
9	30.1	17.7	97	60	6	7	------	○ ⊕ p.
10	30.5	20.2	93	60	7	9	1	● p.
11	31.5	21.2	97	56	9	7	------	
12	30.2	21.4	90	79	4	5	5.1	↙ ● d° p.
13	31.4	20.8	97	55	5	6	------	
14	30.9	22	93	61	3	4	------	
15	30.8	18.4	92	61	4	6	------	
16	29.6	18.2	96	73	3	7	------	
17	31.1	19.7	96	65	5	7	------	
18	31	20.9	96	69	7	6	------	
19	32	21.6	96	54	6	7	------	
20	30.8	21.4	91	67	9	7	------	d° p.
21	31.4	22	96	65	9	6	.3	●° a.
22	31.5	22.1	93	59	6	8	------	
23	31.6	19.7	96	60	2	7	.3	●°
24	30.8	21.8	93	64	2	7	------	
25	31.5	21.7	94	72	9	9	------	d° ⌒ p.
26	30.4	19.8	97	86	3	7	.3	●° p.
27	31.4	21.8	91	56	9	7	------	
28	30	20.4	91	66	7	9	.8	●° p.
29	28	21.4	96	75	9	9	------	
30	32	21	96	58	6	7	------	
31	33.2	19.1	97	54	2	4	------	
Mean	30.7	20.2	94.2	63.1	5.4	6.6	------	
Total	------	------	------	------	------	------	9.3	

SILANG.
[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.3.	18.7	96	74	2	3	------	
2	28.6	18.3	98	73	7	7	------	Ω ≡ a.
3	28.5	18.8	97	72	8	6	------	d a.
4	28.6	18	98	72	2	7	------	
5	27.8	18.2	97	73	5	9	------	Ω ≡ a. p p.
6	27.3	17.7	96	73	2	3	------	
7	27.2	17.8	97	72	4	9	16.8	≡ a. ● p.
8	27	17	97	76	9	8	------	d p.
9	27.2	17.3	97	76	8	6	------	Ω a.
10	27	17.5	97	75	3	5	------	≡ a. ↙° a. p.
11	26.8	17.8	97	76	9	9	------	d p a.
12	27.6	18.8	98	76	5	3	------	Ω ≡ a.
13	27.3	18.4	97	76	7	5	1.8	● a.
14	27.4	18	98	76	9	9	------	d a.
15	27.8	18.1	98	76	9	6	------	Ω ≡ a.
16	29.3	20	96	72	2	7	------	≡ a. p p.
17	29	20.3	97	72	5	7	------	Ω ≡ a.
18	29.2	20.3	97	74	5	3	------	Ω ≡ a.
19	29.6	20	98	73	9	5	------	Ω ≡ a.
20	29.9	20.8	97	73	9	8	------	d a. p p.
21	29.5	20.7	97	72	3	3	------	≡ a.
22	29.6	21	97	72	5	4	------	Ω ≡ a.
23	29.9	20.7	96	69	2	2	------	↙° a. d p.
24	29.9	20.5	97	71	3	5	------	Ω ≡ a.
25	29.7	20.6	98	71	3	3	------	≡ a.
26	29.5	20.4	96	71	2	3	------	≡ a.
27	29.5	20.4	96	70	7	2	------	
28	30.2	21	97	70	4	3	------	Ω ≡ a.
29	30.6	20.2	98	71	8	8	------	Ω ≡ a.
30	30	20.9	98	71	7	3	------	
31	30.1	21.2	98	71	2	5	------	Ω a.
Mean	28.7	19.3	97.1	72.9	5.3	5.4	------	
Total	------	------	------	------	------	------	18.6	

SAN ANTONIO.
[ϕ=14° 22′ N; λ=121° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	20	94	84	5	4	3.8	
2	27.2	21	91	83	3	7	------	
3	25.3	20.2	98	91	9	7	27.9	
4	25	19	93	82	5	7	8.9	
5	26.2	18.5	83	76	6	4	------	
6	27	19.6	87	78	7	2	------	
7	27.8	17	94	67	2	4	------	
8	27.5	16.6	94	63	2	2	------	
9	25.2	19.1	94	76	3	4	------	
10	26	18.2	86	73	4	3	------	
11	27.2	18.9	89	77	4	3	2.8	
12	25.5	19.9	87	97	10	9	12.7	
13	28.2	20.2	99	80	8	7	3.8	
14	27	20.5	98	82	8	6	------	
15	27	19.6	91	69	9	3	------	
16	26	19.9	96	80	10	7	------	
17	27.6	20.5	88	89	7	5	2.5	
18	28.5	21	98	80	8	5	3.6	
19	28.4	20.4	99	75	7	7	------	
20	28	20.3	93	98	8	7	1.8	
21	27.9	19.5	96	82	7	7	5.6	
22	27	19.8	89	87	5	10	4.8	
23	26.9	20	95	83	1	9	------	
24	26	20	96	85	9	9	27.4	
25	27	19.7	98	84	10	8	20.3	
26	27.4	20	95	77	3	7	13.2	
27	28	19.5	96	78	7	7	------	
28	27.3	19.9	91	91	4	9	14.2	
29	27.9	20	91	95	8	10	10.9	
30	27.9	19.1	93	81	8	6	------	
31	29.4	18.6	98	60	1	1	------	
Mean	27.2	19.6	93.2	80.7	6.1	6	------	
Total	------	------	------	------	------	------	164.2	

CORREGIDOR.
[ϕ=14° 23′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.9	22.7	83	69	4	2	------	
2	30.2	23	79	64	10	10	------	
3	29.6	22.2	86	81	10	10	------	d p.
4	27.7	21.5	87	69	10	10	------	
5	28.8	22.5	78	70	10	3	------	
6	29.3	21.7	83	66	10	4	------	
7	28.2	20.2	78	63	2	2	------	
8	28.3	21.4	76	62	3	1	------	
9	28.7	21.7	83	68	10	10	------	
10	28.7	21	85	86	10	10	------	
11	27.8	21.9	75	70	10	10	------	
12	28.7	22.2	87	72	3	10	------	
13	27.2	22.2	87	77	10	10	------	
14	29.2	22.5	91	67	10	3	------	
15	29.2	20.7	83	57	2	1	------	
16	30.7	21.2	78	63	1	1	------	
17	31.2	21.3	75	66	10	3	------	
18	29.4	23.7	82	71	1	10	------	
19	30.5	22.2	87	65	10	10	------	
20	29	22.3	86	66	4	8	------	
21	30	22.8	87	64	10	10	------	
22	30.5	22.4	76	63	10	10	------	
23	29.5	22.2	85	68	10	10	5.3	● p.
24	29	20.2	95	73	10	10	------	
25	28.6	22.5	87	70	10	10	22.9	● p.
26	30	20.9	85	75	3	1	------	
27	29.5	22.2	88	88	10	10	------	
28	30.7	22.7	82	65	1	2	------	
29	30.4	22.3	93	72	10	10	------	
30	31.5	22.7	79	73	10	10	------	
31	30.2	23.8	91	68	10	2	------	
Mean	29.4	22	83.8	69.4	7.5	6.9	------	
Total	------	------	------	------	------	------	28.2	

METEOROLOGICAL DATA, ETC.—Continued.

BALANGA.

[ϕ=14° 41′ N; λ=120° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	21	88	59	4	1	------	
2	31.5	20.5	85	58	6	10	------	
3	30.5	20.3	87	70	2	10	1.3	●° p.
4	29.9	21.3	91	63	10	10	------	
5	30.5	21.4	81	58	10	9	------	
6	30	19.9	83	53	9	3	------	
7	30	18	90	56	1	2	------	
8	30.6	17	90	49	1	1	------	
9	30.5	18.4	89	56	6	6	------	
10	29.9	20.1	81	54	7	7	------	↙° p.
11	30.5	21.3	70	59	10	10	------	↙° p.
12	31.7	20.9	80	57	1	6	------	p° p.
13	29.4	22.5	90	76	10	10	6.4	d a. ●° ⊤ p.
14	31	19.6	94	65	2	5	------	
15	30.5	18.2	91	53	0	1	------	
16	30.6	17.5	92	64	0	5	------	⌓² a.
17	32.1	19.4	91	60	8	4	------	
18	32.3	19.9	91	65	2	8	------	
19	31.3	22.4	92	62	7	2	------	
20	31.7	22	90	59	10	3	------	
21	30.5	21.9	91	72	10	9	------	
22	31	21.8	86	65	10	10	------	d p.
23	30.5	20	91	70	2	10	------	
24	29.5	21.5	95	75	10	7	1.8	●° p.
25	28.9	20.6	91	73	10	10	4.3	●° p.
26	32.1	21.1	92	63	9	1	------	
27	31.5	21.6	87	59	10	6	------	
28	32	20.8	91	54	1	6	------	
29	30.5	22.8	84	64	10	10	------	↙° a.
30	31.5	21.9	78	62	8	2	------	
31	32.2	21.3	91	53	10	1	------	
Mean	30.9	20.5	87.8	61.5	6.3	6	------	
Total	------	------	------	------	------	------	13.8	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10	0–10.	mm.	
1	33.9	21.5	92	49	9	3	------	⌓ ≡ a.
2	33.7	18.9	94	48	1	5	------	⌓ ≡° a. ↙° p.
3	32.2	19.6	93	55	4	9	------	⌓° ≡° a. d° p.
4	31	20.5	87	65	10	5	------	↙° p.
5	32.5	18	84	56	1	8	------	⌓ ≡ a.
6	32.6	18.4	95	61	4	5	------	≡ a. ∞ p.
7	32.2	16.4	94	41	0	3	------	⌓° ≡° a. ∞ p.
8	32.9	15.5	93	38	0	2	------	⌓ ≡ a. ∞² p.
9	31.5	16.6	93	47	7	6	------	⌓ ≡ ↙° a. ◡° p.
10	31.2	17.5	81	41	7	5	------	⌓ ≡° ○² ↙° ∞ ◡²
11	31	17.6	86	52	5	6	------	⌓ ≡° a. v p.
12	33.4	17.7	92	48	1	4	------	⌓° ≡° a.
13	27.5	21.5	90	79	10	10	1.5	≡° d° a. ●° a. p.
14	33	19.4	96	50	4	3	------	≡° a.
15	33.6	17.9	95	47	1	0	------	⌓² ≡ a. ϖ p.
16	34	17	94	44	1	3	------	⌓ ≡ a. ∞ p.
17	34.6	20	92	48	1	6	------	⌓ ≡° a. ϖ² ◡² p.
18	35	19.4	95	52	4	7	------	⌓ ≡° a.
19	32.7	20.5	94	59	10	6	------	⌓° ≡ a. ϖ p.
20	34.9	18	94	57	1	4	------	⌓ ≡° a. ∞² p.
21	32.8	20.4	94	62	5	10	.3	⌓ ≡ a. ●° p.
22	32.2	19.9	93	53	8	8	------	d° p.
23	32.3	18.4	94	51	3	10	1	⌓ ≡² a. ↙ ●° p.
24	30.6	20.1	92	70	6	9	------	≡° a. d° p.
25	30.9	20.1	91	55	10	10	3	≡° d° a. ●° d° p.
26	34.4	20.8	96	44	4	3	------	≡ a. ∞° p.
27	33.6	21.4	89	52	7	7	------	⌓ ≡ ↙° a. ∞ p.
28	34.1	20.3	95	51	0	6	------	⌓ ≡ ↙° a.
29	31.4	20.5	88	56	7	10	------	⌓° ≡ ↙° a. d° p.
30	33.3	20	87	57	8	7	------	≡ a. ↙° p.
31	34.5	21	92	49	6	3	------	⌓° ≡° a. ≤° p.
Mean	32.7	19.2	91.8	52.8	4.7	5.9	------	
Total	------	------	------	------	------	------	5.8	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.4	23.2	------	------	10	2	------	
2	27.2	22.1	------	------	10	10	17.8	
3	25.6	21.6	------	------	10	10	22.9	
4	25	21	------	------	10	10	9.2	
5	24.5	20.5	------	------	8	10	6.1	
6	26	21.2	------	------	10	5	------	
7	26.5	20	------	------	0	0	------	
8	27	18.9	------	------	0	3	------	
9	26	21.2	------	------	10	10	------	
10	27	23	------	------	8	2	------	
11	26.3	21.3	------	------	10	3	------	
12	27.5	20	------	------	0	10	100.4	
13	25.3	23	------	------	10	10	30.5	
14	27.3	23	------	------	10	10	------	
15	27	22	------	------	4	1	------	
16	27	21	------	------	10	2	------	
17	28.3	21.6	------	------	3	2	------	
18	28	22.5	------	------	0	4	9.7	
19	27.4	23.5	------	------	10	3	2.6	
20	27.8	21.3	------	------	9	2	30.5	
21	25.6	22.6	------	------	10	10	7.2	
22	26.2	22.5	------	------	7	9	53.4	
23	25	20	------	------	0	10	35.6	
24	26.2	21.3	------	------	10	10	53.6	
25	25.6	22.1	------	------	10	10	3.8	
26	27.4	20.9	------	------	5	4	------	
27	28.2	21.7	------	------	3	10	11.8	
28	27	23	------	------	10	10	.1	
29	25	22.5	------	------	10	10	------	
30	26.8	21.2	------	------	10	8	.3	
31	27.8	22.9	------	------	10	1	------	
Mean	26.6	21.7	------	------	7.3	6.5	------	
Total	------	------	------	------	------	------	395.5	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	22	81	59	10	4	------	
2	31.8	22.4	86	62	1	3	0.3	≡ a.
3	30.2	22.8	82	61	6	5	2	●° p.
4	30.3	22.5	82	76	10	8	------	d° a. p.
5	31.3	21.8	78	51	7	0	------	↙° p.
6	31	21.3	80	56	6	0	------	∞ p.
7	31.3	20.5	83	56	1	1	------	∞ p.
8	31.5	20.3	89	55	2	1	------	
9	30.9	19.5	87	58	1	4	------	d° ◡² ϖ² p.
10	32	21.4	74	52	3	4	------	◡ p.
11	32.2	19.6	80	56	7	3	------	◡² p.
12	32.9	19.1	86	61	6	1	------	
13	33.3	21.5	89	69	7	10	.5	≡ ⌓ d a. p.
14	33	23	91	68	7	1	------	
15	31.7	21.3	92	62	0	1	------	⌓² a.
16	32.8	20.3	86	64	4	4	------	≡ ⌓ a.
17	30.9	20.4	89	71	5	3	------	≡² ⌓² a.
18	30.3	21.6	87	66	6	7	------	
19	32.3	20.3	87	74	7	1	.5	≡ ⌓ a. ⊤° ≤ p.
20	32.6	22.1	89	59	9	4	------	
21	33.3	25.5	89	59	10	7	------	≡ ⌓ a. ⊤° p.
22	30.3	23.8	81	64	8	10	------	∞² d° p.
23	32.3	22.1	88	59	10	10	15	● p.
24	31.3	21.1	95	64	10	6	.3	d° p.
25	33	20.7	89	67	6	2	.8	≡ ⌓ a. d° p.
26	33.3	23.4	90	69	10	5	------	⌒° a.
27	32.3	23.8	85	57	3	1	------	
28	32	23.3	82	69	3	2	------	≡ ⌓ a. d° p.
29	31	22.8	87	61	10	10	------	d° p.
30	31.3	23.4	71	60	8	8	------	↙° a. p.
31	30.8	24.3	89	69	10	4	1.5	● a. ≤ p.
Mean	31.8	21.9	85.3	62.4	6.2	4.2	------	
Total	------	------	------	------	------	------	20.9	

METEOROLOGICAL DATA, ETC.—Continued.

BAGUIO.
[ϕ=16° 25′ N; λ=120° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	22	13.2	95	89	6	8	0.5	●° p.
2	23	12.5	94	74	9	4	------	
3	22.3	12.3	92	97	5	10	12.2	● ≡ p.
4	20	12.5	93	83	9	10	1.5	⌒ a. ●° p.
5	21.5	11.2	89	85	2	7	------	
6	20	11.5	96	77	2	5	------	
7	19.8	9.5	88	85	4	8	------	
8	20	10.8	86	91	2	10	------	
9	22.5	10.6	91	53	3	5	------	
10	21.5	12	87	45	6	4	------	
11	23.1	12.5	85	83	3	7	------	
12	24.5	11	80	39	2	2	------	
13	23.2	12	94	96	3	10	14	● p.
14	23	13.6	90	77	2	6	------	
15	22	12.3	98	80	3	6	------	
16	22	10.2	92	77	2	5	------	
17	22	11.8	83	83	2	6	------	
18	22.5	12.3	97	82	3	7	------	
19	23.5	12.8	84	91	2	10	------	
20	22.5	13	94	78	1	6	------	
21	23	13.7	98	89	6	7	------	
22	23.5	12.9	82	80	6	7	------	
23	21.6	11.7	91	90	6	10	.5	●° ≡ p.
24	22.8	13.3	81	87	3	10	------	≡ p.
25	23.5	11.3	85	94	7	6	44.7	● p.
26	23	10.8	97	89	10	9	------	
27	23	10.8	98	89	3	6	------	
28	24.3	10.8	99	56	2	5	------	≡ a.
29	20	10.7	90	88	10	10	------	
30	24	10.4	76	71	6	5	------	
31	22.4	10.5	97	87	7	8	------	≡ a.
Mean	22.3	11.8	90.4	80.2	4.4	7.1	------	
Total	------	------	------	------	------	------	73.4	

SAN FERNANDO UNION.
[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	------	------	------	------	------	------	
2	------	------	------	------	------	------	------	
3	------	------	------	------	------	------	------	
4	------	------	------	------	------	------	------	
5	------	------	------	------	------	------	------	
6	------	------	------	------	------	------	------	
7	------	------	------	------	------	------	------	
8	------	------	------	------	------	------	------	
9	29.6	17.6	88	63	3	4	------	Ω ≡ a.
10	29.8	18	92	62	6	4	------	Ω ≡ a. ⌣ p.
11	30.7	18	91	59	3	3	------	Ω a.
12	29.6	18.4	88	66	2	2	------	Ω ≡ a.
13	30.9	19	85	67	6	8	7.6	Ω a. ●° p.
14	30.5	19	87	69	3	2	------	Ω a.
15	30.4	20	95	69	6	2	------	Ω a.
16	30.4	19.2	93	58	2	2	------	Ω a. ⌣ p.
17	30.2	19	91	66	2	2	------	Φ Ω a.
18	30.6	19.4	95	62	2	2	------	Ω a. Φ p.
19	32.8	20	95	56	2	2	------	Ω a.
20	30.6	20.6	94	66	2	2	------	Ω a.
21	32.6	21	91	66	6	2	------	Ω a.
22	29.8	20	90	51	2	6	------	Ω a.
23	30.6	20.1	86	76	4	6	9.1	Ω a. d ●° p.
24	29.5	20.2	96	73	4	6	------	Ω a.
25	30	19.2	95	75	4	2	10.2	Ω a. ↙° d ● p.
26	30.2	21.8	95	79	8	4	------	Ω a.
27	30.9	23	93	76	4	2	------	Ω a. ↙° p.
28	30	21.8	88	77	6	5	------	Ω a. Γ↯ p.
29	29.8	21.5	95	81	10	6	------	Ω a. d p.
30	30.4	20	93	72	4	2	3.8	Ω a. d ●° p.
31	32.2	23	90	78	8	4	------	Ω a.
Mean	30.5	20	91.6	68.1	4.3	3.5	------	
Total	------	------	------	------	------	------	30.7	

ECHAGÜE.
[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	20.8	99	73	10	3	------	Γ↯ a.
2	------	20.3	97	83	9	8	7.4	≡ Γ↯ a. ●° a. p.
3	------	18.6	98	88	10	10	.5	≡ a. Γ↯ ●° a. p.
4	------	18.4	99	74	10	10	.8	Γ↯ a. p. ↙ ●° p.
5	------	18.3	99	84	10	10	------	≡ a. Γ↯ a. p.
6	------	18.9	100	61	10	3	.3	≡ Γ↯ ●° a.
7	------	16.1	97	76	1	4	------	Ω ≡ a.
8	------	16	97	82	10	10	.3	≡ Γ↯ a. Γ↯ ●° p.
9	------	18.4	98	86	10	10	1.5	≡ ●° Γ↯ ↙° Φ²
10	------	17.8	99	82	10	8	1.3	●° Γ↯ ○² ⌣²
11	------	17.7	99	81	10	9	1	●° a. ○° d° Φ²
12	------	17.5	100	82	7	7	.5	Ω° ≡° ●° a. Φ²
13	------	17.4	99	95	10	9	9.9	≡° d² a. Γ↯ ●² p.
14	------	19.9	100	74	8	3	------	≡ a. Φ² p.
15	------	18.4	98	76	10	6	------	d° a. ○ ⌣ p.
16	------	17.3	99	80	4	6	------	≡ d° a. ○ Γ↯ p.
17	------	19.3	98	82	10	7	------	≡ Γ↯ a. Γ↯ Φ² p.
18	------	21.1	98	67	10	3	------	≡ Γ↯ a. Γ↯ Φ² p.
19	------	21.4	99	78	10	6	------	≡² d a. ⊕° Φ° p.
20	------	18	99	60	1	2	------	Ω° ≡ a. Φ² p.
21	------	20.2	99	97	10	10	3.3	≡ d a. Γ↯ ●° ⊕°
22	------	19.2	100	82	10	10	------	≡ a. ↙° Φ² p.
23	------	19.4	99	92	10	10	9.4	Ω° ≡ Γ↯ d² ●²
24	------	18.5	100	80	10	6	3.6	● ≡ a. Γ↯ Φ° p.
25	------	17.7	99	83	8	10	10.4	Ω² ≡ Γ↯ ↙ ●° Φ²
26	------	18.7	100	81	3	5	3	p ≡² a. Φ² p.
27	------	21	99	78	10	9	1.3	≡ a. Γ↯ ●° a. p. ⊕
28	------	20.2	100	83	10	7	4.1	↙ ●° ⊕ a. Γ↯ d°
29	------	19.3	97	80	10	9	2	≡ a. Γ↯ ●° a. p.
30	------	18.9	100	82	10	8	------	≡ ⊕² a. Γ↯ a. p.
31	------	19.7	100	64	9	4	------	⊕° a. ↙° p.
Mean	------	18.9	98.9	79.5	8.7	7.2	------	
Total	------	------	------	------	------	------	60.6	

CANDON.
[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	23.4	91	71	4	3	------	Ω ≡ a. ⌒ p.
2	29.8	23	87	72	1	3	------	Ω ≡ a.
3	29	22.5	79	69	1	7	1.3	Ω² ≡ a. ●° p.
4	27.1	22.5	87	73	10	10	4.6	●° a.
5	28.5	21.2	87	69	0	0	------	Ω ≡ a.
6	28.7	21.2	86	67	0	0	------	Ω² ≡² a.
7	28	21	86	76	0	4	------	Ω² ≡° a.
8	28.5	20.6	80	67	0	1	------	Ω² ≡ a.
9	28.8	20.2	83	63	1	4	------	Ω ≡ a. Φ² p.
10	29	20.9	79	68	3	9	------	≡ a. Φ² p.
11	28.8	20	78	71	4	2	------	≡ a.
12	29	20.2	87	66	0	0	------	
13	28.5	21.4	87	74	0	9	------	Ω² ≡ a. d p.
14	29.2	22.1	91	76	7	2	------	Ω² ≡ a.
15	29.2	23.5	88	72	9	0	------	↙° d p.
16	28.8	22.4	90	77	2	0	------	Ω² ≡ a.
17	29.1	21.7	87	74	1	0	------	Ω² ≡ a.
18	29.4	20.6	91	70	4	0	------	Ω ≡ a.
19	29.5	22.5	88	78	0	0	------	Ω² ≡² a.
20	29.4	24.5	85	75	9	4	------	
21	30.2	24.9	88	73	9	7	5.3	Γ↯ ● p.
22	28.2	23.8	86	74	6	10	------	
23	28	23.5	88	70	6	9	------	Ω² ≡ a. d p.
24	28.5	21.2	82	68	6	9	------	Ω² ≡ a.
25	29.6	21.5	85	64	7	4	------	Ω ≡ a. ↙° a. p.
26	29.6	24.9	80	65	9	4	------	↙° p.
27	29.7	24.2	83	68	0	1	------	Ω² ≡ a.
28	29.4	23.1	83	73	2	8	8.6	Ω ≡ a. T° ● p.
29	27.8	22.5	79	77	9	9	------	d p.
30	28.7	22.4	85	67	9	4	------	d p.
31	29.6	24	86	64	10	4	------	≤ p.
Mean	28.9	22.3	85.2	70.7	4.2	4.1	------	
Total	------	------	------	------	------	------	19.8	

METEOROLOGICAL DATA, ETC.—Continued.

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	26	22.4	86	86	10	10	13.5	d ● a.
2	21.1	18.7	77	79	10	10	4.7	●° a. ↙° p.
3	22.1	18.4	89	75	10	10	2.5	●° d° a.
4	22.3	19.2	86	89	10	10	25.1	d ● a. p.
5	24.8	19.1	75	72	9	9	.8	●° ↙° p.
6	24.5	20.9	78	84	9	9	28.2	●^{2} a. ↙ ●° p.
7	25	20.9	78	83	1	8	4.8	● p.
8	21.5	18	90	83	10	9	17.8	● ↙ ●° a.
9	23.4	19	74	68	10	10	3	●° a. ↙° a. p.
10	24.6	20.4	71	68	9	7	------	○ a.
11	26.1	20.6	69	77	10	10	1	p p.
12	25.9	21.2	82	73	8	6	1.3	●° a. ≡ p p.
13	26.8	22.6	83	76	8	9	------	p° p.
14	27	22.4	88	75	10	8	.8	●° a.
15	27.3	20.2	85	75	1	1	------	v a. ≡° Ω p.
16	27.4	19	93	83	1	1	------	Ω^2 a. p. ≡ p.
17	27.3	18.1	91	72	1	1	------	≡ Ω^2 p.
18	26	19.5	86	82	1	9	------	Ω^2 a. p° ↙° p.
19	27.2	22.2	93	88	10	10	------	p° p.
20	27.4	23.9	91	83	7	7	------	≡° p.
21	22.3	20.9	91	91	10	10	11.9	●° d a.
22	22.3	19.9	83	89	10	10	30.2	● d a. p.
23	23	20	76	83	10	10	3.5	↙ ●° a.
24	24.4	21.2	82	86	10	10	41.1	● ↙° a. ●^{2} p.
25	25.8	21	86	85	10	3	15.2	● a. ≡ p.
26	26	21.5	89	77	5	4	------	
27	26.3	21.3	87	70	9	3	3	⌒ ●° a. ≡ p.
28	26.1	21.9	80	74	9	10	.5	●° ⌒^{2} a.
29	25	21.2	72	87	4	10	1	●° a. p. ↙° p.
30	25.5	22.4	80	93	10	10	1.7	●° p.
31	27.3	22.5	86	82	10	4	6.1	● a.
Mean	25.1	20.7	83.1	80.3	7.8	7.7	------	
Total	------	------	------	------	------	------	217.7	

SEISMOLOGICAL BULLETIN FOR JANUARY, 1908.

By Rev. Miguel Saderra Masó, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

3, 5^h 50^m. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction W–E; intensity III; duration short.

5, 7^h 2^m. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction WSW–ENE; intensity III; duration 20^s.

5, 10^h 7^m 28^s.* **Legaspi** (SE of Luzon). Oscillatory quake. Direction NNE–SSW; intensity III; duration 10^s.

6, 15^h 58^m. **Surigao** (NE of Mindanao). Oscillatory quake. Direction SE–NW; intensity II; duration 6^s. This disturbance was felt likewise at Butuan as trepidatory movements.

8, 7^h 12^m. **Butuan** (N of Mindanao). Earthquake of force II.

11, 4^h 15^m. **Baganga** (E of Mindanao). Quake of force III and short duration.

11, 11^h 40^m. **Surigao** (NE of Mindanao). Earthquake of intensity III.

12, 7^h 21^m 3^s.* **Legaspi** (SE of Luzon). Oscillatory quake. Direction NNE–SSW; duration 6^s.

12, 22^h 4^m. **Surigao** (NE of Mindanao). Oscillatory quake. Direction SW–NE; duration 10^s.

13, 15^h 50^m. **Surigao** (NE of Mindanao). Earthquake of intensity II.

14, 3^h 32^m 56^s.* **Butuan** (N of Mindanao). Oscillatory quake. Force IV; direction ESE–WNW; duration 20^s.

16, 18^h 10^m. **Northeastern Mindanao.** Earthquake of intensity II, felt throughout the northeastern part of the island. Its epicenter appears to have been between Surigao and Butuan.

18, 23^h 45^m. **Northeastern Mindanao.** Earthquake of force V at Surigao and III at Butuan. The directions of the seismic waves observed at the two stations seem to indicate that its origin was not far from the center of the quake which had occurred on the 16th.

21, 4^h 5^m. **Western Leyte.** Quake of force II; duration 15^s. This slight disturbance marked the beginning of a series of seismic movements of a purely local character, which were probably due to subterranean settlements. Between 4^h 5^m and 10^h 16^m five different shocks occurred which were perceptible along the western coast of Leyte Island for a distance of more than 60 kilometers, and probably also on the neighboring Camote Islands. Of these five shocks three were of very feeble intensity, while the remaining two reached force VI. The times of their occurrence were the following: 4^h 30^m 0^s*, 7^h 21^m, 7^h 57^m 8^s*, 8^h 29^m, and 10^h 16^m. The two stronger shocks, registered by the microseismographs of the Observatory, were perceptible throughout the northern part of the island. At the station of Ormoc the SW–NE direction of the oscillations was very pronounced, which leads to the belief that the center of the disturbance lay beneath the waters of Ormoc Bay.

23, 21^h 30^m. **Ormoc** (W of Leyte). Earthquake of intensity II and short duration.

26, 16^h 35^m. **Legaspi** (SE of Luzon). Oscillatory quake. Direction NNE–SSW; intensity II; duration 4^s.

29, 22^h 29^m. **Aparri** (N of Luzon). Oscillatory quake. Direction E–W; intensity III.

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight $=0^h$.]

No.	Date.	Component.	Beginning. First preliminary tremors.	Beginning. Second preliminary tremors.	Beginning. Principal portion.	Maximum range of motion. Hour.	Maximum range of motion. Amplitude (2a.).	Maximum range of motion. Period.	End.	Instrument.	Remarks.
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
1	2	WSW-ENE	19 35 59	------	------	------	------	------	19 40	V. M.	
		NNW-SSE	19 36 01	------	------	------	------	------	19 40	V. M.	
2	5	WSW-ENE	10 07 27	------	10 08 14	10 09 17	1.60	2.4	11 13	V. M.	V. C. 0.18 mm. Earthquake, III at Legaspi (SE of Luzon).
		WSW-ENE	10 07 28	------	10 08 18	10 12 49	2.77	8.1	11 17	H. P.	
		NNW-SSE	10 07 25	------	10 08 12	10 09 14	1.84	2.4	11 12	V. M.	
		NNW-SSE	10 07 26	------	10 08 14	10 10 05	4.93	9	11 10	H. P.	
3	5	WSW-ENE	20 29 49	------	------	20 30 12	.29	2.4	20 35	V. M.	V. C. 0.12 mm.
		WSW-ENE	20 30 04	------	------	20 31 10	.08	6.6	20 37	H. P.	
		NNW-SSE	20 29 47	------	------	20 30 09	.23	2.4	20 37	V. M.	
		NNW-SSE	20 30 02	------	------	20 31 14	.08	6	20 38	H. P.	
4	11	WSW-ENE	11 36 59	11 38 43	11 40 52	11 41 13	.44	2.4	13 16	V. M.	Earthquake, in Formosa.
		WSW-ENE	11 37 05	11 39 04	11 41 00	11 44 20	3.33	10.2	13 18	H. P.	
		NNW-SSE	11 36 57	11 38 45	11 40 55	11 41 21	.52	2.4	13 16	V. M.	
		NNW-SSE	11 37 03	11 38 55	11 40 55	11 44 56	5.87	11.4	13 12	H. P.	
5	11	WSW-ENE	------	------	22 23 12	------	------	------	22 36	V. M.	
		NNW-SSE	------	------	22 33 12	------	------	------	22 36	V. M.	
6	12	WSW-ENE	7 21 03	------	7 22 02	7 23 26	.03	3	7 29	V. M.	Earthquake, III at Legaspi (SE of Luzon).
		NNW-SSE	7 20 57	------	7 22 00	7 23 12	.03	2.8	7 29	V. M.	
7	13	WSW-ENE	17 41 57	------	17 45 01	------	------	------	18 00	V. M.	
		WSW-ENE	17 42 05	------	17 45 10	17 46 49	.13	8.4	18 05	H. P.	
		NNW-SSE	17 41 47	------	17 44 47	17 47 15	.02	3.2	18 03	V. M.	
		NNW-SSE	17 41 58	------	17 44 52	------	------	------	18 00	H. P.	
8	14	WSW-ENE	3 32 56	3 35 33	3 38 00	3 38 55	.11	9	3 58	H. P.	Earthquake, III at Butuan (N of Mindanao).
9	15	WSW-ENE	21 03 18	------	------	------	------	------	21 35	V. M.	
		NNW-SSE	21 03 19	------	------	------	------	------	21 35	V. M.	
10	16	WSW-ENE	17 03 17	17 06 33	17 09 00	17 11 15	.02	11.2	17 38	V. M.	
		WSW-ENE	17 03 23	17 07 14	17 09 44	17 11 33	.11	12.6	17 57	H. P.	
11	18	NNW-SSE	1 48 46	------	------	------	------	------	2 00	V. M.	
12	21	WSW-ENE	1 07 09	------	------	------	------	------	1 10	V. M.	
13	21	WSW-ENE	4 30 00	------	------	------	------	------	4 33	V. M.	Earthquake, IV at Ormoc and vicinity (W of Leyte).
14	21	WSW-ENE	7 57 08	7 59 09	8 00 58	8 01 23	.01	7.2	8 10	V. M.	Earthquake, VI in Leyte.
		WSW-ENE	7 57 14	7 59 09	8 00 56	8 01 38	.12	8.4	8 15	H. P.	
15	22	WSW-ENE	13 45 50	------	13 49 02	13 49 36	.10	2.8	14 08	V. M.	V. C. 0.04 mm.
		WSW-ENE	13 45 59	------	13 49 27	13 49 33	.12	8.4	14 06	H. P.	
		NNW-SSE	13 45 44	------	13 49 13	13 50 49	.04	3.2	14 09	V. M.	
		NNW-SSE	13 45 56	------	13 49 26	13 50 55	.15	7.2	14 04	H. P.	
16	27	WSW-ENE	23 47 13	23 54 12	24 02 13	24 03 16	.04	9.2	24 55	V. M.	
		WSW-ENE	23 47 33	23 54 23	24 02 17	24 04 05	.99	7.5	24 58	H. P.	
		NNW-SSE	23 47 14	23 54 06	24 02 02	24 06 52	.02	8	24 52	V. M.	
		NNW-SSE	23 47 28	23 54 15	24 02 13	24 08 14	.21	8.4	24 49	H. P.	

Instrumental constants.—Vicentini microseismograph (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=10.5 seconds; WSW–ENE pendulum, T=10 seconds. Magnification of the record: NNW–SSE, 15 times; WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters, which extends many kilometers toward north and south and only 4 to the east, where volcanic tuff outcrops. To the west there lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

3, 5^h 50^m. **Butúan** (N de Mindanao). Temblor oscilatorio. Dirección W–E; intensidad III; duración corta.

5, 7^h 2^m. **Butúan** (N de Mindanao). Temblor oscilatorio. Dirección WSW–ENE; intensidad III; duración 20^s.

5, 10^h 7^m 28^s.* **Legaspi** (SE de Luzón). Temblor oscilatorio. Dirección NNE–SSW; intensidad III; duración 10^s.

6, 15^h 58^m. **Surigao** (NE de Mindanao). Temblor oscilatorio. Dirección SE–NW; intensidad II; duración 6^s. Fué también perceptible en Butúan con movimientos susultorios.

8, 7^h 12^m. **Butúan** (N de Mindanao). Temblor de tierra de intensidad II.

11, 4^h 15^m. **Baganga** (E de Mindanao). Temblor de intensidad III y de duración corta.

11, 11^h 40^m. **Surigao** (NE de Mindanao). Temblor de tierra de intensidad III.

12, 7^h 21^m 3^s.* **Legaspi** (SE de Luzón). Temblor oscilatorio. Dirección NNE–SSW; duración 6^s.

12, 22^h 4^m. **Surigao** (NE de Mindanao). Temblor oscilatorio. Dirección SW–NE; duración 10^s.

13, 15^h 50^m. **Surigao** (NE de Mindanao). Temblor de tierra de intensidad II.

14, 3^h 32^m 56^s.* **Butúan** (N de Mindanao). Temblor de tierra de intensidad IV. Dirección ESE–WNW; duración 20^s.

16, 18^h 10^m. **NE de Mindanao.** Temblor de tierra de intensidad II, sentido en toda la parte NE de la Isla de Mindanao. Su origen parece estaba entre Surigao y Butúan.

18, 23^h 45^m. **NE de Mindanao.** Temblor de tierra de intensidad V en Surigao y III en Butúan. Las direcciones de las ondas séismicas observadas en ambas estaciones parecen indicar que su origen se hallaba no lejos del centro del temblor ocurrido el 16.

21, 4^h 5^m. **W de Leyte.** Temblor de intensidad II; duración 15^s. Con este temblorcito comenzó una serie de movimientos séismicos de carácter muy local, debidos probablemente á hundimientos subterráneos. Desde 4^h 5^m hasta 10^h 16^m se sintieron cinco diferentes choques perceptibles á lo largo de la costa occidental de la Isla de Leyte, en una extensión de más de 60 kilómetros, y probablemente también en las vecinas Islas Camotes. De los cinco tres fueron de muy poca intensidad y dos tuvieron fuerza VI. Las horas en que tuvieron lugar son las siguientes: 4^h 30^m 0^s*, 7^h 21^m, 7^h 57^m 8^s*, 8^h 29^m y 10^h 16^m. Los dos más fuertes, registrados por los microseismógrafos del Observatorio, fueron perceptibles en toda la parte norte de la isla. En la estación de Ormoc se distinguieron bien oscilaciones en la dirección SW–NE, las cuales parecen indicar que el centro se hallaba en la ensenada ó bahía que está en frente de esta estación.

23, 21^h 30^m. **Ormoc** (W de Leyte). Temblor de tierra de intensidad II; duración corta.

26, 16^h 35^m. **Legaspi** (SE de Luzón). Temblor oscilatorio. Dirección NNE–SSW; intensidad II; duración 4^s.

29, 22^h 29^m. **Aparri** (N de Luzón). Temblor oscilatorio. Dirección E–W; intensidad III.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla que contiene una lista completa de estos registros.

[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120 E de Greenwich.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1890–1907.

INTRODUCTION.

This catalogue of earthquakes felt in the Philippine Archipelago is the result of an endeavor to facilitate the study of these earthquakes and also to coöperate in the work undertaken by the International Earthquake Commission. The latter is publishing annual catalogues of seismic disturbances which are being made as complete and general as possible; that is, including all the earthquakes which have occurred anywhere on the globe during the year in question. With the above-stated objects in view, we have gathered and catalogued all the information obtainable referring to earthquakes which have been felt in the Philippines from 1890 to 1907, both years included. The reason for limiting our work to the last eighteen years lies in the fact that the earthquakes prior to 1890 have already been published in a very concise list contained in "La Seismología en Filipinas." [1]

In the present catalogue the seismic disturbances have been grouped not according to years, but according to months. Each of the twelve parts thus formed will be published in the MONTHLY BULLETIN for the corresponding month of 1908, and thus the entire catalogue will be contained in one volume of the said publication. In this way the same months of the different years can be compared directly, nor will it be difficult to compare the different months of the same year.

Those portions of the list which cover the period of hostilities, 1897 to 1902, are frequently very incomplete, for reasons which are easily understood.

We have endeavored to present the data in a form as concise as compatible with completeness, following, in general, the manner adopted in the publications of the aforementioned Commission and in those of Professor Omori.

All time indications, even those concerning earthquakes which occurred prior to the adoption of the present official time of the Islands in 1900, are given in the time of the one hundred and twentieth meridian east of Greenwich. The intensities are noted according to the scale of De Rossi-Forel.

Beginning with February, 1902, the column "Remarks" shows whether the various disturbances have been registered by the microseismographs of Manila and foreign Observatories, or not.

CATÁLOGO DE TEMBLORES DE TIERRA DE FILIPINAS, 1890–1907.

INTRODUCCIÓN.

Á fin de facilitar el estudio de los temblores de tierra del Archipiélago Filipino y cooperar al trabajo ya comenzado por la Comisión Internacional de Seismología, de formar catálogos anuales completos y generales de los terremotos experimentados en las diferentes partes del Globo, hemos reunido y ordenado los temblores sentidos en estas Islas desde el año 1890 hasta 1907, ambos inclusive. La razón de tomar solo este último período de 18 años es por haber ya publicado en forma breve y clara la lista de los terremotos de los años precedentes en "La Seismología en Filipinas" (Manila 1895, P. Miguel Saderra Masó, S. J.)

En el presente catálogo se han distribuído los temblores de tierra no por años sino por meses. Cada una de las doce partes así formadas será publicada en el MONTHLY BULLETIN de 1908 y en

[1] "La Seismología en Filipinas;" Manila, 1895; Miguel Saderra Masó.

su mes correspondiente; de manera que el catálogo completo estará contenido en un tomo de dicha publicación. De este modo los mismos meses de los diferentes años pueden ser directamente comparados, sin que por otra parte sea difícil la comparación de los diferentes meses de un mismo año.

Las partes del catálogo correspondientes al período de hostilidades, 1897–1902, son con frecuencia del todo incompletas por razones fáciles de comprender.

En la disposición de los datos hemos procurado la mayor brevedad posible, acomodándonos á los catálogos publicados por la Comisión arriba citada y por el Prof. Omori.

Todas las horas, aun las de los terremotos anteriores á 1900, corresponden al meridiano 120° E de Greenwich. Las intensidades están indicadas según la escala De Rossi-Forel.

Á partir del mes de Febrero de 1902 se expresa en los "Remarks" si los diferentes terremotos han sido registrados por los microseismógrafos de Manila y de otros Observatorios de fuera del Archipiélago.

EARTHQUAKE CATALOGUE, 1890–1907, MONTH OF JANUARY.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1890	*h. m.*			*Km.*	*Km.*		
3	7 42	City of Manila		30	20	II	
14	5 11	SW provinces of Luzon	Zambales mountain range	200	150	V	
18		Samar and Leyte				VI	
1891							
7	6 4	Camarines Norte	Northern part of Camarines			V	
7	7 24	Northeastern Mindanao	Lake Mainit	100	40	V	
30	20 10	Northeastern Luzon	About φ=18° 10′; λ=121° 30′	40	30	II	
1892							
23	14 56	Ilocos Sur	Off the W coast of Luzon	50	20	IV	
25	13 45	Northern part of Luzon	Central mountain range	250	180	V	
29	11 25	Laguna and Tayabas provinces	About φ=14° 10′; λ=121° 50′	140	30	IV	
1893							
3	19 2	Surigao	NE Mindanao			III	
9	6 6	City of Manila		30	20	III	
9	8 18	do				II	
14	20 23	Surigao	NE Mindanao				
24	0 49	La Carlota	W coast of Negros	50	20	IV	
25	20 25	Northern part of Luzon	Central mountain range	440	200	V	
1894							
1	23 21	Albay Province	Vicinity of Mayon Volcano	30	15	V	
8	18 53	Taganaan	Off the E coast of Mindanao			III	
22	12 39	Davao	Apo Volcano	120	100	V	
1895							
2	11 7	Zamboanga, W Mindanao	SE Sulu Sea	130	50	IV	Repeated at 12h 17m.
3	15 5	Ilocos Sur and Abra	Central mountain range	140	90	IV	
17	10 56	City of Manila		30	20	II	
18	15 50	Dapitan, NW Mindanao	About φ=8° 15′; λ=123° 30′			III	
21	19 42	do	do			IV	2m later a second shock was felt.
22	20 10	Panay Island	SE part of the island	100	90	V	
1896							
10	15 24	Butuan, N Mindanao	Butuan Bay	80	70	III	
14	1 16	SW part of Luzon	S. of Taal Volcano	140	50	IV	20m later a second shock was felt in the vicinity of the volcano.
14	2 24	do	do	140	50	III	
21	7 53	Butuan, N Mindanao	Butuan Bay	80	70	IV	Repeated at 8h 50m.
22	7 20	City of Manila		20	15	III	
27	8 24	Butuan, N Mindanao	Butuan Bay	100	80	V	
27	15 53	SW part of Luzon	S of Taal Volcano	140	110	IV	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF JANUARY—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1897	*h. m.*			*Km.*	*Km.*		
3	3 48	Ilocos Sur and Abra	Central mountain range	140	90	III	
4	7 8	City of Manila		10	8	II	
4	10 37	Ilocos Sur and Abra	Central mountain range	140	90	III	
6	21 21	Tandag, NE Mindanao	Off NE coast of Mindanao	200	50	III	
7	15 36	do	do	200	50	III	
10	22 58	Ilocos provinces	Off the NW coast of Luzon	150	50	IV	
18	2 35	Northern provinces of Luzon	Central mountain range	450	200	VI	On the E side of the range this earthquake was preceded and followed by numerous feeble shocks during the early morning.
19	21 26	Ilocos Norte	Off the NW coast of Luzon	100	70	IV	
23	5 25	Tandag, NE Mindanao	Off the NE coast of Mindanao	200	50	IV	
1898							
2	10 15	do	do	200	50	III	
2	21	Jolo and Zamboanga	Sulu Sea			III	
5	17 0	Tandag, NE Mindanao	Off the NE coast of Mindanao	200	50	V	
5	21 15	Sigaboy, SE Mindanao	Gulf of Davao			III	
6	5	Zamboanga, W Mindanao	Eastern part of Sulu Sea			II	
10	10 22	do	do			V	
12	4 56	Ilocos Norte	Off the NW coast of Luzon	130	40	III	
14	11 56	Albay	Vicinity of Mayon Volcano	40	30	IV	
15	22 0	Zamboanga, W Mindanao	Off the west coast of Mindanao			II	
16	5 45	Albay	Vicinity of Mayon Volcano	40	30	IV	
17	1 20	Sigaboy, SE Mindanao	Gulf of Davao			III	
17	5	Zamboanga, W Mindanao	Off the W coast of Mindanao			II	
18	22 6	Albay	Off the E coast of SE Luzon	30	10	III	
19	5 40	Mati, SE Mindanao	Off the SE coast of Mindanao	60	20	V	
23	3 43	Tandag, NE Mindanao	Off the NE coast of Mindanao	200	60	III	
23	17 13	Zamboanga, W Mindanao	Off the W coast of Mindanao			II	
26	9 35	do	do			III	
28	10 50	Dapitan, NW Mindanao	About $\varphi=8° 15'$; $\lambda=123° 30'$	150	60	III	
29	11 56	Southwestern Mindanao	SE part of Sulu Sea	300	50	V	This earthquake was followed by many lighter shocks.
30	18 10	Jolo and SW of Mindanao	do	500	60	VI	
30	19 15	do	do	500	60	VII	A few minutes later a third, strong shock was felt, followed by many lighter ones.
1899							
8	5 20	Zamboanga, W Mindanao	SE part of Sulu Sea	200	40	III	
16	21 8	do	do	200	40	II	
30	15 40	Mamburao, W Mindoro	Off the W coast of Mindoro			III	
1900							
15	21 45	Butuan, N Mindanao				III	
21	0 25	City of Manila		50	30	III	
1901							
1	19 40	Northeastern Mindanao	Off the NE coast of Mindanao	300	160	V	
9	3 12	Surigao, NE Mindanao	do	100	70	III	
1902							
2	5 20	Panay	SE of Panay Island	70	50	III	
4	14 12	Northeastern Luzon	Off the NE coast of Luzon	60	40	III	
31	20 6	Panay and Negros	SE of Panay	300	210	V	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF JANUARY—Continued.

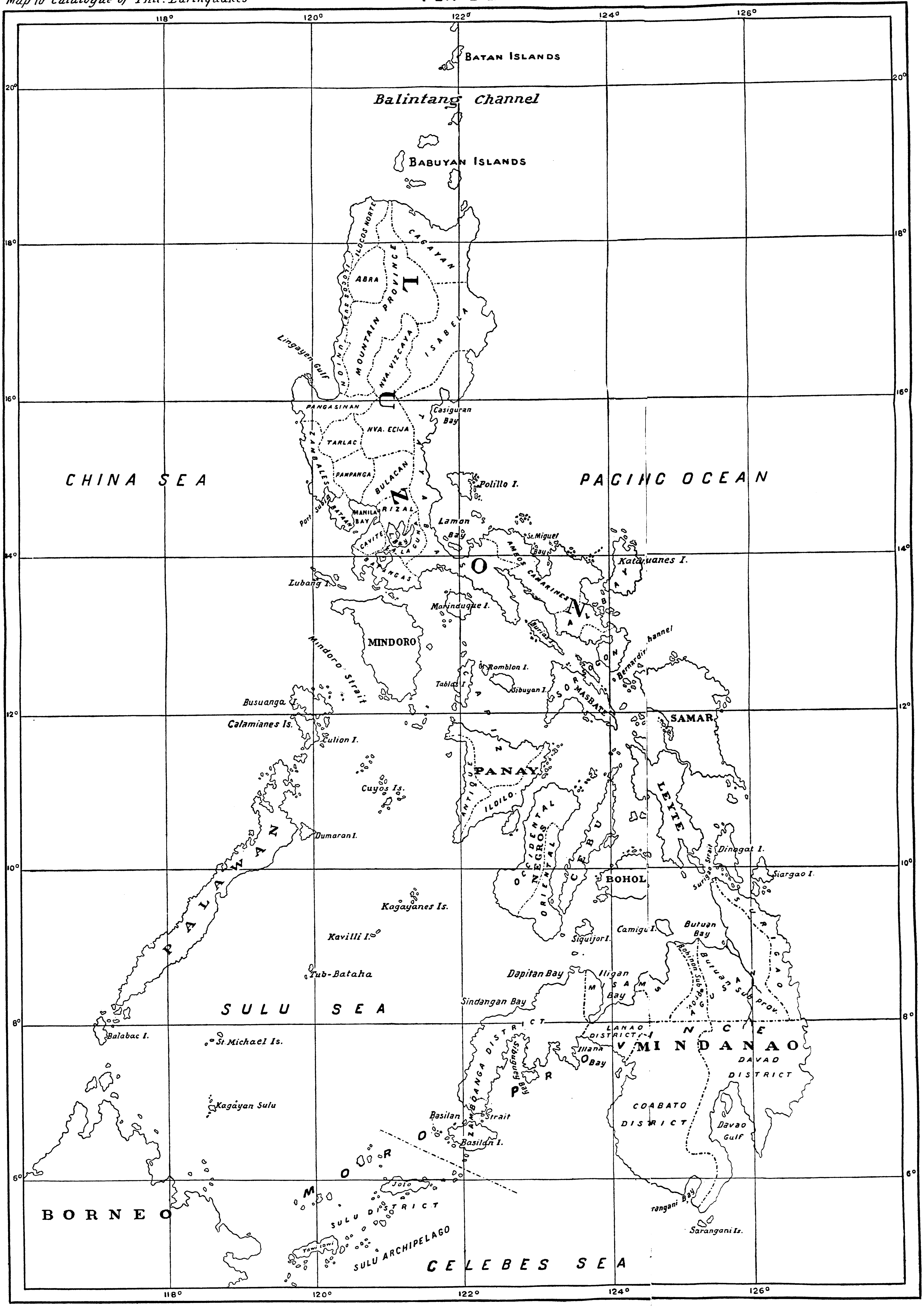
Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1903	*h. m.*			*Km.*	*Km.*		
1	2 14	Ilocos provinces	Off the NW coast of Luzon	200	60	III	
7	2 0	Calinog, Panay Island	Southeastern Panay	50	40	III	
12	9 27	Leyte and NE Mindanao	Off the NNE coast of Mindanao	300	100	IV	Registered at Manila.
14	16 45	Camarines	About φ=13° 30′; λ=123° 15′	30	20	III	
16	13 54	Legaspi, SE of Luzon	Vicinity of Mayon Volcano	40	30	III	Do.
18	17 10	Davao, SE Mindanao	Vicinity of Apo Volcano	60	45	II	
21	12 30	Cuyo, Mindoro Sea				III	
21	16 55	Davao, SE Mindanao	Vicinity of Apo Volcano	60	45	III	
23	5 23	Zamboanga, W Mindanao	Off the W coast of Mindanao	100	50	III	
25	9 45	Surigao	Off the NE coast of Mindanao	200	100	III	Repetition 15m later. Registered at Manila.
29	2 35	Northeastern Luzon	Off the NE coast of Luzon	50	40	III	
29	8 3	City of Manila		8	7	II	
1904							
1	12 15	Gubat, SE Luzon	N of San Bernardino Strait	50	30	III	
2	2 44	Caraga, SE Mindanao	Off the SE coast of Mindanao	70	20	II	
2	23 56	Ilocos Sur and Abra	Central range of Luzon	60	30	II	
3	6 19	Caraga, SE Mindanao	Off the SE coast of Mindanao	70	20	III	
4	5 12	Surigao, NE Mindanao	do	80	50	III	
4	7 19	Eastern Mindanao	Off the E coast of Mindanao	100	50	III	
7	2 0	Batanes Islands				III	
11	13 9	do				II	Felt at Tainan, Formosa, as a very weak shock.
13	1 48	Caraga, SE Mindanao	Off the SE coast of Mindanao	50	20	II	
13	10 10	Butuan, N Mindanao	Agusan River Valley	200	100	III	
13	12 31	Northeastern Mindanao	Near Mainit Lake	80	20	III	
14	13 47	Caraga, SE Mindanao	Off the SE coast of Mindanao	40	20	II	
15	23 7	Southeastern Luzon	Off the SE coast of Luzon	200	100	IV	Registered at Manila.
16	22 50	Romblon Island				III	Do.
21	11 58	Caraga, SE Mindanao	Off SE coast of Mindanao	50	20	II	
23	3 8	Northeastern Mindanao	Near Lake Mainit	150	80	IV	
23	6 45	Caraga, SE Mindanao	Off SE coast of Mindanao	40	30	II	
24	4 30	Northern Mindanao	W of Agusan River Valley	150	80	IV	
26	19 26	Baler, E Luzon	Casiguran Bay	100	60	II	
27	12 30	Borongan, E coast of Samar	Off eastern coast of Samar	100	50	III	
28	4 23	City of Manila		30	10	III	
29	15 45	Caraga, SE Mindanao	Off SE coast of Mindanao	40	30	II	
1905							
3	0 48	Northeastern Mindanao	Off NE coast of Mindanao	160	90	IV	Do.
4	6 7	Romblon Island				III	Do.
4	23 55	Camarines Province	About φ=13° 30′; λ=123° 15′	40	20	III	
5	0 16	Laguna Province	Off the eastern coast of Luzon	100	30	III	Do.
5	17 0	Butuan, N Mindanao	Agusan River Valley	100	50	III	
6	4 14	Camarines Province	About φ=13° 30′; λ=123° 15′	60	50	IV	Do.
6	19 8	Zamboanga, W Mindanao	Off W coast of Mindanao	100	40	III	
10	15 43	Caraga, SE Mindanao	Off SE coast of Mindanao	90	40	III	
11	19 26	do	do	90	40	III	Do.
19	8 50	do	do	150	70	II	
22	10 44	Jolo and western Mindanao	Western part of Celebes Sea			III	Registered by the seismographs of Manila and Perth, West Australia.
27	20 53	Central Luzon	Zambales Range	400	150	V	
27	23 47	Butuan, N Mindanao	Agusan River Valley	60	40	III	
30	0 18	Laguna, Bulacan, and Nueva Ecija	Off the eastern coast of Luzon	150	60	III	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF JANUARY—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance.		Intensity (Rossi-Forel).	Remarks.
				Longer axis.	Shorter axis.		
1906	*h. m.*			*Km.*	*Km.*		
3	19 52	Eastern Mindanao	Off eastern coast of Mindanao	420	80	IV	Registered at Manila
4	14 48	Tuburan, NW Cebu Island	Off southern coast of Masbate Island.	50	20	III	
4	22 45	Cotabato, S Mindanao	Illana Bay			IV	
5	2 30	Tuburan, NW Cebu Island	Off southern coast of Masbate Island.	50	20	III	
11	2 25	Borongan, E Samar	Off eastern coast of Samar	150	60	IV	
11	7 2	do	do	150	60	IV	
11	14 3	Tacloban, NE Leyte Island	Near south of Samar	80	40	IV	
11	20 43	Northeastern Mindanao	Off NE coast of Mindanao	90	70	III	
12	10 25	Borongan, E Samar	Off E coast of Samar	140	50	II	
17	12 33	Tacloban, NE Leyte	Near south of Samar	80	40	IV	
24	10 35	Caraga, SE Mindanao	Off SE coast of Mindanao	90	50	III	Registered at Manila and Perth, West Australia.
26	5 2	Ormoc, W Leyte	Off western coast of Leyte	40	30	II	
80	18 21	Southern Mindanao	Moluccas Sea	170	160	IV	Registered at Manila.
1907							
12	4 45	Northeastern Luzon	Central mountain range	100	80	III	
13	2 0	Maasin, S Leyte	SE Leyte	70	50	II	
13	23 0	Zamboanga, W Mindanao	SE part of Sulu Sea	150	80	II	
14	0 39	Samar, Leyte, and NE Mindanao	E of Dinagat Island	400	200	V	Do.
18	13 56	Ormoc, W Leyte	Ormoc Bay	150	60		
18	20 12	Northeastern Mindanao	E of Dinagat Island	60	40	III	
19	3 48	do	do	60	40	III	
20	1 17	Batanes Islands				II	
21	8 35	Zamboanga, W Mindanao	SE part of Sulu Sea	140	50	II	
23	10 40	Romblon Island				III	Repetition at $10^h 59^m$.
24	0 49	do				IV	During about 2 hours seven different shocks were felt in Romblon and neighboring islands. Some of these were also perceptible in the northern part of Panay, 120 Km. to the south.
25	17 55	Caraga, SE Mindanao	Off SE coast of Mindanao	100	70	II	
27	3 28	Northeastern Luzon	Off northern coast of Luzon	80	70	II	

○

Map to Catalogue of Phil. Earthquakes PLATE I. *Weather Bureau, Monthly Bulletin, 1908.*



BULLETIN FOR FEBRUARY, 1908.

METEOROLOGICAL BULLETIN FOR FEBRUARY, 1908.

By Rev. José Coronas, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—Despite the fact that during the whole month our Archipelago has never been influenced by anything more serious than a few unimportant depressions, the monthly mean of atmospheric pressure remained, throughout the Philippines, considerably below that for February of the preceding year and likewise below the normal value for the month. At Manila the said mean differed from the normal mean by —1.59 millimeters and from the mean of the corresponding month of 1907 by —0.94 millimeter. The highest pressures were observed nearly everywhere on the 7th; the lowest on the 2d and 3d at several stations on Luzon, while the others registered them on the 22d.

The mean temperatures were generally a trifle higher than those of February, 1907. Thus at Manila, for instance, the mean temperature of the month exceeded the corresponding value for February, 1907, by 0.3° C.; but it nevertheless remained 0.3° C. below the normal, deduced from the observations made during many years.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, FEBRUARY, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from February, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from February, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	758.16	—0.87	760.64	7	755.71	22	26.3	+0.5	32.3	2	21	1
Surigao	58.43	— .91	60.89	7	56.24	22	25.3	— .2	30.2	22	19	10
Cebu	58.42	— .67	60.88	7	56.14	22	26	— .1	31	3,6	20.1	1
Iloilo	58.64	— .93	61.45	7	56.48	22	26.2	+ .8	33.1	17	21.5	1,2
Ormoc	58.81	— .61	61.50	7	56.76	22	25.2	+ .4	31.9	24	17.9	1
Tacloban	59.05	—1.02	62.20	7	56.82	22	25.4	+ .3	32.5	16,24	21	10
Capiz	59.50	— .71	62.63	7	57.37	22	25.9	+ .2	29.7	15	19.2	2
Calbayog	59.53		62.62	7	57.55	22	24.9		31.7	19	19.3	10
Legaspi	59.68	—1.22	63.19	7	57.66	22	25.6	+ .2	31.1	2	19.5	10
Atimonan	60.12	—1.04	63.24	7	58.07	2	25.5	— .2	31.8	27	20.4	5
Olongapo	59.44	— .96	62.29	7	57.73	3	26.2	+ .7	35	29	18.1	9
San Isidro	60.03	—1.20	63.18	7	57.92	3	25.2	+ .3	35.5	17	17	9
Dagupan	59.51	—1.13	62.24	8?	57.72	3						
Vigan	59.79	— .96	62.52	7	57.85	22	25.7	+ .9	34.9	25	18.2	6
Tuguegarao							23.8		33.7	16	17.2	6
Aparri	61.92	— .56	66.27	7	58.58	2	23.1	— .2	29.6	1,16,29	17.8	20

Precipitation.—Nearly all the stations of Luzon report a total rainfall in excess of the amount which fell during February, 1907, while those of the Visayas recorded a somewhat smaller quantity. The amount collected by the pluviometers of the Central Observatory surpassed that for February of the preceding year and the normal for the month by 28.1 and 19.2 millimeters, respectively.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF FEBRUARY, 1908.

Station.	Total.	Departure from February, 1907.	Rainy days.	Departure from February, 1907.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from February, 1907.	Rainy days.	Departure from February, 1907.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	170.7		15		46.7	21	Legaspi	436.1	+161.9	19	+ 2	182.1	22
Isabela, Basilan	148.5	+ 25.6	16	+ 3	34	8	Virac	439.3		19		175.3	22
Davao	230.5	+ 35.6	7	+ 1	87.1	26	Batangas	54.8		7		27.9	15
Cotabato	146.1		17		33	21	Atimouan	375.6	+250.8	15	+ 7	84.4	24
Butuan	262.4		22		74.2	15	Silang	11.2	— 4.5	3	+ 2	4.8	15
Dapitan	165.5		10?		78.5	8?	San Antonio, Laguna	221.2	+178.4	15	+11	49.5	15
Yap, W. Carolines	60.2	—277.4	9	—14	18.8	18	Corregidor	0	0	0	0	0	0
Tagbilaran	106	— 36.9	17	— 5	23.5	24	Manila	29.6	+ 28.1	5	+ 3	24.2	15
Surigao	830.7	+159.1	27	+ 5	124.2	9	Balanga	3.3	+ 3.3	2	+ 2	2.8	26
Cebu	151.6	+ 37.6	18	+ 3	40.9	11	Olongapo	0	0	0	0	0	0
Bacolod	37.3	—114.3	6	—10	18.5	11	San Isidro	5.4	+ 5.4	4	+ 4	2.5	15
Iloilo	25.7	— 38.8	8	— 3	10.9	11	Tarlac	10.8	+ 10.8	3	+ 3	9.7	18
San Jose, Buenavista	19.9	— 56.6	6	— 1	14.5	26	Dagupan	4.4	+ 4.4	2	+ 2	4.1	19
Tuburan	78.8	+ 15.1	11	— 1	37.3	23	Bolinao	19.6		4		14.2	18
Cuyo	1.5	— 9.5	1	— 1	1.5	29	Baguio, Benguet	10.4	+ 10.4	3	+ 3	6.6	17
Ormoc	174.9	— 48.6	20	+ 3	23.4	15	San Fernando, Union	7.6	+ 7.6	2	+ 2	5.1	17
Tacloban	299.1	— 11	23	0	30.8	29	Candon	35.8	+ 35.8	3	+ 3	21.1	17
Capiz	104.5	— 68.9	12	— 1	59	11	Echague	48.4		13		21.1	26
Borongan	640.1	+101.8	22	— 3	78.7	22	Vigan	23.8	+ 23.8	5	+ 5	20.3	17
Calbayog	185.7	— 27.1	19	— 1	35.3	10	Tuguegarao	55.3	+ 55.3	8	+ 8	15.2	27
Palanoc, Masbate	76.7	—397.3	14	— 3	17.3	27	Aparri	159.7	+ 52.5	15	+ 7	31.5	19
Gubat	367.5	—119.5	16	— 1	47	22	Santo Domingo	255.5	— 10.8	17	— 5	109.2	3

DEPRESSIONS AND TYPHOONS.

Throughout the Far East not a single depression has been observed during this month which would merit being designated as a typhoon. Even the depressions which are mentioned in the following remarks were, without an exception, of small importance, especially as far as the Philippines are concerned.

On the 2d a simultaneous and marked falling of the barometers was noted on the Loochoos Islands, Formosa, and the Philippines, where it was especially clear in the northeast of Luzon. Examining the weather maps for the said day, we find a center of depression southeast of Formosa at 6 a. m., in the vicinity of the Loochoos group at 2 p. m., and west of the Bonin Islands at 10 p. m., the latter moving toward east or east-southeast. With the few data which are in our possession it is a hopeless task to identify these three centers: we merely beg to remark, that if it is assumed that one and the same depression occupied successively the three positions, it must have moved with a most extraordinary velocity. It must further be remarked, that although the depression to the southeast of Formosa had either moved off, or filled up in the evening of the 2d, there seemed to remain a low-pressure area over the Pacific, east of central Luzon, and another over or near southern Mindanao. In the morning of the 3d low pressures were still prevalent in the southern part of the Archipelago. The presence of depressions southeast of Formosa and east of Luzon was, no doubt, responsible for the fact that the 2d was one of the only two days during the month on which winds from the SW. quadrant prevailed at Manila.

February 17 was the other of these two days remarkable for west-southwest winds at Manila, due likewise to a depression south of the Loochoos Islands. According to Tokio Observatory, the center of this depression passed close to the Bonin group during the night of February 17–18, moving in an east-southeasterly direction.

Another depression of little importance appears to have crossed Mindanao on the 22d, following a westerly or west-northwesterly course. This depression is probably identical with the one which appears on our weather maps of the 27th and 28th in the China Sea, west of Luzon. In this case, the center must have recurved toward north or north-northeast after having traversed the southernmost part of our Archipelago, as was stated in the daily weather note of this Observatory for February 27.

The observations of Yap, western Carolines, show signs of a depression south of the said island during the afternoon of the 23d, when the barometer was 1.5 millimeters lower than at the same hour of the preceding day, with fresh northeast winds prevailing. In confirmation of this conclusion we may state the fact that in the afternoon of the 24th the low clouds came from the east, while during the rest of the month their direction was, without a single exception, from northeast. But as no indication whatever of a depression manifested itself in the Philippines during the days immediately following, we must suppose that the said center filled up very soon while in the neighborhood of the Pelew Islands.

On the 29th low pressures reigned again over the southernmost regions of the Archipelago and the China Sea, but nothing is known of the development of a real depression.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Aunque durante todo el mes no han influído en nuestro Archipiélago más que algunas depresiones de muy poca importancia, con todo, la media mensual resulta en todas las estaciones de Filipinas bastante inferior á la de Febrero del año pasado, así como también á la normal de este mes. La media de Manila se diferencia en —1.59 milímetros de la normal y en —0.94 milímetros de la media de Febrero de 1907. Las máximas presiones se observaron casi en todas partes el día 7; y las mínimas los días 2 y 3 en varias estaciones de Luzón, y el 22 en todas las restantes.

Las temperaturas medias son en general muy poco superiores á las de Febrero del año pasado. La de Manila, por ejemplo, difiere de la media de Febrero, 1907, en +0.3 °C.; sin embargo, es inferior á la normal deducida de muchos años de observación en 0.3 °C.

Precipitación acuosa.—Casi todas las estaciones de la Isla de Luzón dan una cantidad total de lluvia superior á la de Febrero del año pasado, al paso que las estaciones de Visayas arrojan en general una suma inferior. La cantidad de agua recogida en los pluviómetros de Manila supera á la de Febrero, 1907, y á la normal de este mes en 28.1 milímetros y 19.2 milímetros respectivamente.

DEPRESIONES Y TIFONES.

En todo el mes no se ha observado en el Extremo Oriente ninguna depresión que merezca el nombre de verdadero tifón, y aún las depresiones de que vamos á hacer mención fueron todas de poca importancia, sobre todo para Filipinas.

El día 2 se notó una bajada regular de los barómetros simultáneamente en las Islas Liukiu, en Formosa y en Filipinas, especialmente en el NE de Luzón. Examinando los mapas del tiempo de dicho día, hallamos un centro de depresión hacia el SE de Formosa á 6 a. m., en los alrededores de las Islas Liukiu á 2 p. m., y al W de las Islas Bonín moviéndose al E ó ESE á 10 p. m. Difícil es con los pocos datos que poseemos identificar estos tres centros de baja presión: solo diremos que si fué uno mismo se hubo de mover con una velocidad sumamente extraordinaria. Es de notar que la tarde del 2, á pesar de haberse alejado ó haber desaparecido la depresión del SE de Formosa, todavía parecía quedar un área de baja presión en el Pacífico al E del centro de Luzón y otra en el, ó cerca del, S de Mindanao. El día 3 por la mañana reinaban aún bajas presiones en el S del Archipiélago. Efecto, sin duda, de la baja presión al SE de Formosa y E de Luzón, el día 2 es uno de los dos únicos días de todo el mes en que predominaron en Manila vientos del tercer cuadrante.

El otro día en que prevalecieron en Manila vientos del WSW fué el 17, cuando otra depresión demoraba al S de las Islas Liukiu. Según el Observatorio de Tokio, el centro de esta depresión pasó la noche del mismo día 17 no lejos de las Islas Bonín dirigiéndose el ESE.

Otra depresión de poca importancia parece haber atravesado el 22 la Isla de Mindanao en dirección al W ó WNW. Tal vez sea la misma que en nuestros mapas del tiempo del 27 y 28 aparece en el Mar de China al W de Luzon: en tal caso habría recurvado al N y NNE después de atravesar la región más meridional de nuestro Archipiélago, según se indicaba en la nota ordinaria de este Observatorio el día 27.

Las observaciones de Yap, Carolinas Occidentales, dan indicios de una depresión al S de aquella estación la tarde del día 23, cuando los barómetros se hallaron 1.5 milímetros más bajos que el día anterior, dominando vientos frescos del NE. Es de notar, en confirmación de esto, que las nubes bajas corrían del E la tarde del 24, siendo así que en todo lo restante del mes se las había visto venir sin excepción alguna del NE. Con todo, como en los días siguientes no aparecieron en Filipinas señales de depresión, suponemos se desharía pronto en los alrededores de las Islas Palaos.

El día 29 prevalecieron de nuevo bajas presiones en la región más meridional de Filipinas y del Mar de China, aunque no tenemos noticia de que se llegase á desarrollar ninguna depresión.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Temperature. Open air.[2] Mean.	Temperature. Open air.[2] Maximum.	Temperature. Open air.[2] Minimum.	Underground. 0.25 meter. 8 a. m.	Underground. 0.25 meter. 2 p. m.	Underground. 0.50 meter. 8 a. m.	Underground. 0.50 meter. 2 p. m.	Underground. 1.50 meters. 8 a. m.	Underground. 2.50 meters. 8 a. m.	Relative humidity, mean.	Vapor pressure, mean.	Evaporation. Free exposure, total.	Evaporation. Shelter, total.
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	*Per ct.*	*mm.*	*mm.*	*mm.*
1	759	24.6	31.5	18.4	26	28.1	27	27.4	27.3	27.8	76.3	17.2	7.5	3.1
2	58.05	24.7	30.8	18.3	25.8	28.3	27	27.3	27.3	27.9	76.5	17.7	6.8	2.7
3	57.89	25.4	31.6	19.7	26.5	28.9	27.2	27.9	27.3	27.9	80.1	19.1	4.9	2.2
4	58.75	25.5	31.8	20.1	26.6	29	27 3	27.9	27.3	27.8	78.5	18.8	6.4	2.7
5	60.38	25.4	31	21	26.9	29.2	27.5	28	29.3	27.9	76.5	18.3	6.1	2.7
6	62.13	24.3	31.5	19.3	26.6	28.9	27.5	28	27.3	27.7	72.6	16.1	6.8	3.1
7	62.86	23	28.5	18.5	26.3	27.4	27.4	27.8	27.2	27.8	76.9	15.9	6	2.8
8	62.70	23	28.7	18.5	25.8	27.2	27	27.2	27.3	27.8	77.7	16.1	5.6	2.7
9	62.12	22.4	28.6	17	25	26.6	26.6	27	27.3	27.8	81.3	16.2	6	2.6
10	61.47	23	30.2	16.5	25	26.9	26.4	26.9	27.3	27.8	75.5	15.4	5.4	2.4
11	61.39	24	28.8	19.9	25.3	26.8	26.4	26.9	27.3	27.8	78.3	17.2	5.9	3
12	61.60	25.1	32.7	19.7	25.6	27.5	26.5	26.9	27.3	27.8	69.8	16	8.1	3.3
13	60.87	24.4	29.8	18.7	25.6	27	26.5	26.9	27.3	27.8	76.8	17.2	8.7	3.5
14	59.68	26.2	32.6	21.5	26	27.5	26.6	27	27.3	27.9	75.6	18.9	6.9	2.7
15	59.89	24.5	29.9	22.6	26.1	27.3	26.7	27	27.3	27.8	88.4	20.1	3.9	1.7
16	59.07	25.9	32.6	21.5	26.1	27.3	26.9	27	27.3	27.9	79.6	19.5	5.4	1.6
17	58.71	26.3	32.2	20.8	26.3	28	26.8	27.3	27.3	27.8	77.7	19.6	6.1	2.4
18	59.34	25	29.2	20.6	27.1	27.9	27.3	27.4	27.3	27.8	74.8	17.5	8	3.1
19	59.52	24.4	30.4	19.1	26.1	27.7	27	27.3	27.3	27.8	76.5	17.2	9.2	2.7
20	59.17	25.2	30.4	21.2	26.4	27.8	27	27.2	27.3	27.8	75	17.8	7.6	3.5
21	58.56	25.4	29.9	20.6	26.3	27.1	26.9	27.1	27.3	27.8	74.9	17.9	6.3	2.3
22	58.08	25.2	30	21.3	26	27.1	26.9	27	27.3	27.8	76.3	18	6.7	3
23	58.23	25.1	30	20.6	25.9	27	26.7	27	27.3	27.8	77.4	18.2	7.3	3.2
24	59.01	25.3	28.8	22.3	26	26.9	26.7	27	27.3	27.8	78.6	18.7	7.4	2.2
25	59.14	26	32.2	21.7	26	27.9	26.7	27	27.3	27.8	76.8	19	8.1	2.6
26	59.44	26	32.2	22.1	26.7	27.9	27	27.4	27.3	22.8	74.6	18.4	8.5	2.9
27	59.50	26.6	33.4	20.2	26.3	28	27	27.4	27.3	27.8	70.3	17.6	14.8	4.1
28	59.27	26.1	33.1	20.9	26.6	28.5	27.2	27.5	27.3	27.8	68.6	16.8	10.2	3.7
29	58.45	25.7	32.3	19.6	26.4	28	27.2	27.5	27.3	27.8	69.5	16.8	11.9	3.7
Mean	759.80	25	30.9	20.1	26.1	27.7	26.9	27.3	27.3	27.8	76.3	17.7	7.3	2.8
Total													212.5	82.2
Departure from normal	—1.59	—0.3	+0.3	—0.2							+2.5	+0.1	+12.2	

Date.	Wind. Prevailing direction.	Wind. Total movement.	Wind. Maximum hourly velocity.	Wind. Direction at the time of the maximum velocity.	Clouds. Amount, mean.	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Sunshine.	Rainfall.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h. m.*	*mm.*	
1	E, SE	198	22	E	2.4	Ci.	Cu. ENE	8 50		Ω ≡° a. ↯° p.
2	WSW, SSW	211	17	WSW	1.8	Ci.	Cu.	10 05		≡° a.
3	SE	163.5	16	W	1.9	Ci.	Cu. E by N	10 10		Ω^{2} ≡° a.
4	NE, S	154.5	15.5	WSW	1.8		Cu. ENE	10 00		Ω ≡° a.
5	S	209	17	WSW	2.6	A.-Cu.	Cu. NE	10 25		≡° a.
6	ENE	137	13.5	E	6.6	A.-Cu. ENE	Cu. NE	6 05		≡° a.
7	SE	156.5	16.5	ESE	7.5	A.-Cu.	Cu. ENE	3 50		≡° a.
8	SE	168	17	ESE	8.8	Ci.-S.	S.-Cu. E by N	3 45		≡ a.
9	ESE	196.5	18.5	E by S	8.1	A.-Cu. ENE	S.-Cu. E	4 25		≡ d° a.
10	Variable	175	23	E by N	7.1	Ci.-S. SW	Cu. E	8 55		Ω ≡° a.
11	E, NNE	178	21.5	E	9	A.-Cu. E, SE	S.-Cu. E	1 55	1.1	≡° d ⌒ a. ∞ p.
12	E	196.5	19	E	4.3	Ci. SE, SW	Cu. E	9 00		≡° a. ↯° p.
13	ESE	177	17	WNW	6	A.-Cu. Variable	Cu. E	7 30		≡° a. ∞ p.
14	NE	158	13.5	NE	6.1	A.-Cu.	Cu. E	6 30		≡ a. ∞° p.
15	NE	145	23.5	ENE	9.4	A.-Cu.	N. E	1 35	24.2	● ⌒° a. ↯ ● p.
16	NE, SE	177.5	21	ESE	5.4	A.-Cu. SE by S	Cu. E	7 30		≡ a.
17	WSW	170	14.5	NW by N	4.9	Ci. S, SW by W	Cu. E by N	10 05		≡ ○ ⊕ a.
18	Variable	163.5	23	NW	7.8	A.-Cu.	S.-Cu. ENE	3 45		≡° a.
19	ENE	163	16	W by N	6.8	A.-Cu. E	Cu. E by N	6 15		≡° a.
20	ESE	177	15	E	6.4	A.-Cu. SE by E	Cu. ENE	7 20		≡° a.
21	NE	150	15.5	NE	8.3	A.-Cu. SE	S.-Cu. ENE	4 15		≡° a.
22	NE, ESE	150.5	15.5	ESE	8.1	Ci.-S.	Cu. ENE	3 35		∞° a. d° p.
23	ESE	139	13.5	W	8.5	Ci.-S. W by S	S.-Cu. E by N	4 50		≡° a.
24	Variable	132	10.5	N	9.7	Ci.-S.	S.-Cu. E by N	0 35		≡° a. d p.
25	E, ENE	133	15.5	E	8.4	Ci.-S.	N.-cf. E	7 15	.8	●° ≡° a.
26	ENE, ESE	220.5	24.5	E by S	6.7	A.-Cu. ESE	Cu. E by N	7 05	2.5	● ≡° a.
27	ENE, E	278.5	31.5	SE	2.7	Ci.	Cu. E	11 05	1	Ω ≡° a. ↯° ●° p.
28	NE, E	238	21	E	3.2	A.-Cu.	Cu. E by N	10 10		≡° a.
29	ESE	225	21.5	SE by E	3.8	Ci.	Cu. E	9 55		≡ a.
Mean		177.3	18.2		6			6 47		
Total								196 40	29.6	
Departure from normal		—16.3			+1.4			—8 39	+19.2	

[1] All the mean values given in this table are deduced from hourly observations.
[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	757.91	26.1	30.7	21	75.9	NNE, SE	1.3	6.2	Ci.-S.	Cu. NE, E	------	
2	57.16	27.2	32.3	23.2	78.3	NNE, SE	1	7.5	Ci.-S.	S.-Cu., Cu. E	------	⊤ p.
3	57.04	26.6	29.5	24.3	82.9	NNE	1	10	------------------	S.-Cu. E	0.5	☈° p.
4	57.68	27.1	31	23.5	80.7	NNE, SE	1.3	8.5	------------------	S.-Cu. E	------	⌒° d° p.
5	58.74	27.4	32	23.6	77.8	NNE, SE	1.5	7.8	A.-S.	Cu.-N. E	------	d° ⊤° p.
6	60.13	26.6	30	22.9	74.1	NNW, NNE	2	9.5	Ci.-S.	N NNE, E	1.5	d° a. ●° p.
7	60.64	25.9	28.6	22.2	72.4	N	2.2	9.8	A.-S.	Cu.-N, NE	------	
8	60.52	26	29.1	23.2	76.8	NNE	2	10	A.-S.	N NE	------	d° p.
9	60.31	25.1	26.8	22.9	85	N quad.	1	10	------------------	N NE	17.7	● a. d p.
10	59.46	25.4	29.2	21.6	81	NNE	1.3	9.5	A.-S.	Cu.-N. NE, E	.3	d p.
11	59.92	25.2	28.2	22.4	82.8	NNE, SE	1.3	10	------------------	N E	14.1	● a. p.
12	59.48	25.9	30	22.2	79.5	NNE, SE	1.2	8.2	Ci.-S.	S.-Cu., Cu. E	.5	d p.
13	59	26.1	30.4	22.9	81.4	N	1.2	9.5	A.-S.	S.-Cu.	1.1	d ⌣° p.
14	58.11	26.8	31.5	23	78.7	N quad.	1.3	8	------------------	Cu.-N. E	------	
15	58.42	26	27.8	23.5	82.2	NNE	1.7	9	Ci.-S.	N E	8.4	● a. p.
16	58.22	26	29.8	22.3	83.2	N, NNE	1.3	10	A.-S.	S.-Cu. NE	------	◯°
17	57.88	26.5	32	22.5	80.3	NW, NNW	1.2	9	Ci.-S. E	Cu.-N. E	.3	⌒ ●° p.
18	58.04	26.5	30.5	23.5	81.3	NNE, SE	1.2	10	A.-S.	N E	1.3	● p.
19	57.99	26.7	30	23.5	80.2	NNE, SE	.8	9.8	A.-S.	Cu. E, NE	------	d° p.
20	57.52	26.4	30.8	23.4	82.5	N, SE	1	9.2	A.-S.	N E	7.6	● p.
21	56.70	27	31.4	23.4	84.9	NNE, NW	1.3	8.8	A.-Cu.	S.-Cu. E	7.9	● a. p. ↯
22	55.71	27	31.1	23.9	83.5	NNE, SE	1.3	9	Ci.-S. N	Cu.-N. E	------	↯ p.
23	56.36	26.4	30.1	23	81.8	NNE	1.5	9.5	A.-S.	Cu.-N. E	6.4	● ↙° a.
24	57.36	26	29.5	23	82.5	SE	1	8.8	A.-S.	S.-Cu. E	23.5	● p.
25	57.47	26.3	30.6	22.1	78.8	NNE	1.2	8.5	------------------	S.-Cu. E	------	
26	57.31	26.2	28.4	23.1	81.8	NNE	1.3	10	Ci.-S.	S.-Cu. E	8.6	● a. ↙° p.
27	57.62	25.8	29.2	23.5	83.7	NNE	1.2	10	------------------	N E	5.8	● a. p.
28	57.13	26.6	31.3	22	73.3	NNE	1.3	9.8	A.-S. N	Cu. NE, E	------	
29	56.68	25.6	30.2	22	79.8	N	1.3	10	A.-S.	Cu.-N. E, NE	.5	d a.
Mean	758.16	26.3	30.1	22.9	80.2	------------	1.3	9.2	------------------	------------------	------	
Total	--------	------	------	------	------	------------	----------	----------	------------------	------------------	106	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	757.98	24.9	28.8	19.4	88.7	NW	1.4	7.2	Ci., A.-Cu.	Cu. NE, N	0.2	Ω a. d p.
2	57.31	25.7	28.8	21.6	90.1	NW, ENE	1.1	5.2	A.-Cu.	Cu. NNW	------	Ω a. p.
3	57.36	25.7	29.3	22.7	90.4	N	1.7	9	Variable	N.-cf. NE, N	4.8	Ω a. ●° p.
4	58.07	25.4	27.2	23	92.7	NNW	1.6	10	Ci.-S.	N.-cf. N, NE	4.3	●° p.
5	59.26	25.6	29	22.2	92.5	NNE	1.2	7.5	Ci.	Cu. ENE	3	d a. ⌒ Ω p.
6	60.62	24.8	27.2	21.9	89.3	N	2.2	9.8	Ci.-S.	N.-cf. N, NW	4.1	d a. p.
7	60.89	24.8	26.3	20.1	87.8	NNE	3.9	10	Ci.-S.	N. ENE, NNE	49.5	● a. p.
8	60.68	25	27.8	21.8	92.2	ENE	4.4	10	Ci.-S.	N. ENE	96.8	● ↙ a. p.
9	60.62	22.8	23.8	20	96	ENE	1.8	10	------------------	N.	124.2	●² a. p.
10	59.48	24.4	25.8	19	94.2	ENE	2.8	9.8	Ci., A.-Cu.	N.	35	● a. p. Ω
11	59.86	24.9	28.3	21.6	89.5	E	3	10	A.-Cu.	N.-cf. NE, E	74.2	● ↙ a. p.
12	59.72	25.5	29.5	22	88.2	E	1.9	8	Ci.	Cu. NNE, E	14.5	● a.
13	59.18	25.8	28.4	23.2	90.7	E	1.8	9.8	Ci.-S.	Fr.-N. NE	18.8	● a. p.
14	58.48	25.7	29.8	22.4	90.3	E	1.2	9.8	A.-Cu.	Cu. ENE	5.8	Ω a. ●°
15	59	24.7	26.8	22.4	92.8	E	1.3	10	Ci.-S.	N.-cf. NE	109.7	●² a. p.
16	58.52	26	29.5	22.7	90.4	ESE	1.2	9.2	Ci.	Cu. ESE, NE	9.1	● a. Ω p.
17	57.98	25.4	29.4	22.4	91	ENE	1.2	8.5	Variable	Cu. E, NE	11.4	Ω a. ● p.
18	58.37	25	26.7	22.2	93	E	1.2	8.5	Ci.-S.	S.-Cu. N	42.7	● a. p.
19	58.35	24.5	26.8	21	95	E	1.3	10	A.-Cu., Ci.-S.	Fr.-N. NE, E	15.7	●° a. p.
20	57.84	24.4	26.4	23.4	94.7	E	.6	9.8	Ci.	N.	44.9	● a. p.
21	56.94	25.5	28.7	22.8	92.5	E	1	8.5	Variable	Cu. E, NE	26.2	● a. p.
22	56.24	26.4	30.2	22.9	87.2	ENE	1.8	7.2	Ci., Ci.-S.	Cu. SE, NE	43.2	● a. p.
23	56.87	25.7	29	22.9	92	E, NE	2.1	8.8	Ci.-S.	N.-cf. ENE, NE	24.4	● a. d p.
24	57.58	25.8	28.8	22.9	87.7	NE	1.8	9	Ci.	N.-cf. NE	12.4	● ↙° a. Ω p.
25	57.75	25.5	29.7	22.4	90.2	E, ENE	2.1	7.8	Ci.-S.	Cu. E	5.8	Ω a. ●° p.
26	57.46	26.3	29.1	23.3	89.8	ENE	2.6	9.8	Ci.-S.	Variable	21.6	● a. Ω p.
27	57.69	26.2	28.4	23.7	86.5	ENE	2.7	8.8	Ci.-S.	Cu. E	20.3	● a. p.
28	57.52	25.4	29.7	22.4	86.8	NE, E	3.1	7.8	Variable	Cu. NE	8.1	↙° ● p.
29	56.88	26.1	29.7	21.2	84.5	NE quad.	1.3	9.5	Ci.	Cu. ENE	------	Ω d°
Mean	758.43	25.3	28.2	22.1	90.6	------------	1.9	8.9	------------------	------------------	------	
Total	--------	------	------	------	------	------------	----------	----------	------------------	------------------	830.7	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	757.92	25.3	29.8	20.1	81.2	E	8.4	2.8	Ci.	Cu. ENE	------	Ω² ≡° a.
2	57.32	26.6	30.1	22.8	82.5	SSE, E	6.5	5.5	Ci.	Cu. NE	------	Ω ≡° a. ∞ p.
3	57.04	26.4	31	22.9	80.2	E	7.7	6	Variable	Cu., S.-Cu. NE	------	Ω ≡° a.
4	57.81	26.6	29.5	23.3	82	E, NE	9.3	5	A.-Cu. E	Cu. NE	------	Ω ≡° a.
5	58.97	26.6	30	23.8	83.3	E	11.3	3.8	Ci.	Cu. NE	0.5	Ω ≡° a. d ⟨ p.
6	60.28	26.8	31	23	79.2	NE	11.5	7	A.-Cu., Ci.-S.	S.-Cu. ENE	.8	Ω ≡° a. p p.
7	60.88	26.2	29	24.4	74	NE	15.7	6.5	Ci.-S.	S.-Cu. NE, NNE	------	≡° a.
8	60.68	26.4	29.9	24.1	76.7	NE	13.4	7.2	Variable	S.-Cu. ENE	------	Ω ≡° ↙°
9	60.20	25.7	29	22.3	82.2	NE	8.2	7.8	Ci.-S.	S.-Cu. ENE	------	Ω ≡° d°
10	59.60	25.6	30	22.2	78.8	NE	9.3	7.8	Ci.-S.	S.-Cu. NE	6.9	● ≡° a. ↙° p.
11	59.94	25.3	29	21.3	83.9	E	10.1	6.5	Ci.	Variable	40.9	● ≡° a.
12	59.73	25.8	29.6	23.4	82.7	ENE	10.7	5.5	Ci.	Variable	.5	Ω ≡° d a.
13	59.40	25.7	29.5	22.7	82.2	NE	8	6.8	Ci.-S.	Cu. E	2.8	● ≡° a.
14	58.51	26.7	29.5	24.3	85.7	NE quad.	9.6	5	A.-Cu.	Cu. E	------	Ω ≡° a. ∞ p.
15	58.99	25.6	26.9	23.2	86.5	NE, ENE	6.1	8.5	Ci., Ci.-S.	Cu.-N. E	29	Ω ≡° ● ↙°
16	58.49	25.8	28.6	22.5	85.9	E	7.9	7.2	Ci.-S.	Cu. ENE	1.3	● ≡° a. ⊎ p.
17	58.17	25.9	30	23.2	82.4	ENE, NE	8.9	6	Ci.-S.	Cu. ENE	7.6	Ω ⊎° ≡° a. ● p.
18	58.21	25.6	29.4	23.3	81.8	NE, ENE	10	7.8	Ci.-S.	Cu. NNE	------	Ω ≡° a.
19	58.17	26	29	23.8	80.7	E, ENE	9.8	5.2	A.-Cu.	Cu. NE	------	Ω ≡° a.
20	57.89	25.4	29.8	22.9	87.2	ENE	9.5	5.8	Ci., Ci.-S.	Cu. NE	.5	Ω Φ ≡° a. d p.
21	56.99	26.4	29.6	23.2	85	ENE, E	8.2	5.2	A.-Cu. E	Cu. NE	1	Ω d ≡° a. ⟨ p.
22	56.14	26.9	29.6	24.3	85	NE	10.8	6.2	Ci.	Cu. E	2.8	Ω ● ≡° a. ⟨ p.
23	56.67	25.5	28.2	22.6	86.5	ENE	8.6	7.2	Ci.-S.	Variable	26.2	Ω ↙ ● ≡° a.
24	57.54	25.9	28.8	22.6	82.8	E	9.1	4.8	Ci.	Cu. ENE	------	Ω ≡° a.
25	57.75	26	29.5	21.9	80.2	NE	10.6	5.2	Ci.-S.	Cu. NE	.8	Ω ≡° a. ●° p.
56	57.92	25.2	27.5	23.2	89.3	NE	7.6	8.5	Ci.-S.	Cu.-N. NE	9.7	● ≡° a.
27	58.08	25.5	28.7	23	83.5	NE	9.2	7.8	Ci.-S.	Cu.-N. NE	13.2	≡° ● ↙°
28	57.75	26.4	29.5	23	79.3	ENE	10.6	7.5	Ci.-S.	S.-Cu. ENE	2.8	Ω ≡° a. ○ ● ↙° p.
29	57.17	25.8	28.6	21.5	83.8	ENE	6.5	7.8	Ci.-S.	Fr.-Cu. ENE	4.3	● ≡° a.
Mean	758.42	26	29.3	22.9	82.6	------------	9.4	6.3	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	151.6	

ILOILO.

[ϕ=10° 42′ N; λ=123° 54′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	758.40	25.8	30.5	21.5	72.6	NE quad.	14.2	1.8	Ci.	Cu. NE	------	Ω a.
2	57.58	26.4	31.9	21.5	76.7	NE	7.6	4.2	Ci.	Cu.	0.5	Ω a. ● p.
3	57.52	26.3	30.4	24	80	NE	11.7	10	A.-Cu. NE	S.-Cu.	------	
4	57.96	27.3	31.5	24.3	74.7	NE	15.2	7.5	A.-Cu. S	Cu.	------	
5	59.42	26.9	32	24	74.8	N, NE	15.3	2.8	Ci.	Cu.	------	
6	60.86	25.9	30.4	23.6	74.2	NE	18.8	8	A.-Cu.	S.-Cu. NE	------	d a. p. ⌒°
7	61.45	25.5	29.4	22.5	72.5	NE	19.5	8.8	Ci.-S.	S.-Cu.	------	Φ p.
8	61.44	25.4	29.5	22.4	75.5	NE	20.4	8.5	A.-Cu.	S.-Cu. NE	------	
9	60.68	24.9	28.3	22.5	77.9	NE quad.	17.4	9.2	A.-S.	S.-Cu.	------	d° a. p.
10	59.91	25.6	30.6	22.4	72.2	NNE, NE	20	7.2	A.-Cu.	S.-Cu. NE	------	Φ p.
11	60.01	25.2	29.9	22.3	79	NE	15.8	7.8	Variable	Fr.-N.	10.9	● a.
12	60.22	24.9	30.1	22.4	81.7	N	18.9	9	Ci.	Variable	.5	d a.
13	59.55	26	31.4	22.5	78.5	NE	17.4	8.5	Ci.-S.	Fr.-N. NE	------	d° a.
14	58.50	26.9	32	23.6	76.9	N, NE	15.6	6.5	A.-Cu.	Fr.-N. NE	------	
15	58.72	26.2	32	23.8	82.3	NE	13.2	9.5	A.-Cu. ENE	S.-Cu. ENE	------	Ω a. d° p.
16	58.43	26.8	31.6	23.5	77.2	NE	13.8	5.8	Ci.	S.-Cu., Cu.	------	d° a. Φ ⊎° p.
17	58.11	27.1	33.1	23.5	73.7	NE	11.9	5.2	Ci.-S., Ci.	Cu.	------	d° a.
18	58.32	26.3	30.7	23.4	76.5	NE	16.7	7	A.-Cu.	S.-Cu.	------	
19	58.46	26.2	30.5	23	77.5	NE	16.9	3.2	Ci.	Cu.	------	Ω a.
20	58.08	26.6	30.8	22.7	74.4	NE	16.6	5.5	Ci.	N.-cf. NE	------	Ω a. d° p.
21	57.12	27.2	32.7	23.5	78.3	N, NE	15.5	6	A.-Cu.	S.-Cu. NE	------	d° p.
22	56.48	26.9	32.5	24	81.2	N	15.2	7	Ci.-S.	Variable	------	Ω a.
23	56.80	26.4	31.5	23.8	80.7	N, NE	14.7	9	A.-Cu.	Cu.	7.6	● a.
24	57.61	26.8	31.4	23.7	73.2	N, NE	14.6	4.5	Ci.	Cu.	------	p° a.
25	57.85	26.5	31.9	22.5	75	N, NE	16.2	7.2	Ci.-S.	Cu.	------	Ω a.
26	57.94	26.5	31	23.9	78.5	N, NE	18	9.2	A.-Cu. E	Fr.-N.	.8	d a.
27	58.06	26.1	30.1	22.8	79.1	NNE	18.2	9.5	Ci.-S.	Fr.-N. NE	.8	●° a. ⊕ p.
28	57.82	26.9	32	24	71.8	N, NE	16.7	9.5	Ci.-S.	Cu.	.8	●° p.
29	57.33	24.9	27.5	23.5	88.8	N	13.2	10	A.-S.	N.	3.8	d a. ● ⊕ p.
Mean	758.64	26.2	30.9	23.1	77.1	------------	15.8	7.2	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	25.7	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	758.39	23.8	30.5	17.9	85	W, SW	4.9	5.5	Ci. SSE	Cu. ENE	16.5	Ω ≡° a. ● p.
2	57.70	25	29.2	20.8	86.3	S	5	6.2	Ci. SE	Cu.	------	Ω a.
3	57.45	25.7	29.7	23.3	83.2	NW, N	3.3	9.2	Ci.-S.	Cu.	------	
4	58.06	25.4	30.8	21.4	84.8	Variable	4.8	6.8	Ci.-S.	Cu., Cu.-N. ENE	4.8	Ω ≡° a. ● p.
5	59.44	25.6	30.5	22.7	84.8	S	4.4	6.8	A.-Cu. ESE	Cu.-N.	15.7	⊤ ● p.
6	60.81	25	30.2	22.2	79.2	N	4.8	9.2	Ci.-S.	Cu.	------	d p.
7	61.50	25.3	29.1	22.8	68.3	N	8.6	7.8	Ci.	Cu. NE	------	
8	61.28	24.9	28.2	22.9	79.8	NW, WNW	6	8.8	Variable	Cu. NE	1	d a. ●° p.
9	60.56	25	28.7	21.8	78.2	Variable	5.4	9.2	Ci.-S.	Cu. ENE	------	
10	60.03	24.4	29	21.7	82.7	N quad.	5.1	9.2	Ci.-S.	Cu. NE	------	ϖ p.
11	60.24	26	31.3	21.9	71.9	ENE	7.6	5	Ci.	Cu. ESE, ENE	23.1	● a.
12	60.33	25.2	27.8	23.2	83.3	NE	5.3	9.2	Ci.-S.	Cu. ENE	15.2	d a. ● p.
13	59.61	25.4	28.8	21.2	83.8	Variable	5.1	9.5	Ci.	Cu. ENE	1	● p.
14	58.85	25.6	30.7	22.2	81.7	Variable	5.8	7.5	A.-Cu. SE	Cu. ESE, ENE	.8	● a.
15	59.14	24.2	27.7	22.2	93	S, SE	5.6	9.5	Ci.-S.	Cu.	23.4	Ω ● a. ⌈☇ p.
16	58.75	25.1	28.9	21.8	86.8	S, SE	6.5	8.2	Ci.-S.	Cu. E	6.1	● a. ○ ⊍ p.
17	58.54	24.1	29.1	21.4	91.2	N	3.7	9	Ci.-S.	Cu. E	12.2	● a. p. Ω
18	58.57	24.8	29	22.2	85.2	Variable	3.2	9.8	Ci.-S.	Cu. NE	1	≡° a. ⌒ ● p.
19	58.53	25.2	30.5	20.2	81	SW quad.	5.2	4.2	A.-Cu. ESE	Cu. ENE	------	Ω a.
20	58.36	24.7	29.7	21.2	86.3	SSW	4.2	8.5	Ci.-S.	Cu. ENE	1	Ω a. ●° p.
21	57.47	25.8	30.4	22.6	87	Variable	4·1	7.8	A.-Cu. E	Cu. ENE	4.3	⌈☇ p.
22	56.76	25.5	30.7	23.2	89.8	Variable	3.8	7.5	Ci.-S.	Cu.-N., Cu.	8.4	● a. ⊤ d p.
23	57.25	25.4	30.7	22.3	83.2	NNW, SE	5.1	7.8	Ci.-S. SE	Cu. NE	9.7	● a.
24	57.93	25	31.9	19.5	76.2	Variable	6.6	4	Ci. E	Cu. NE	------	≡° a. v p.
25	58.19	25.8	31.1	20.7	74.2	NE	6.2	.8.2	Ci. SE	Cu. ENE, E	------	○° d° p.
26	58.07	26	30	23	77.8	NE	6.3	8.8	Ci.-S. SSE	Cu.	7.4	● a.
27	58.11	26.4	30	22.8	73.3	ENE	6.9	9.2	Ci.-S.	Cu. E	7.1	● a.
28	58.11	25.9	31.8	21.5	74	Variable	5.9	9.2	Ci.-S.	Cu. ENE	10.9	● p.
29	57.50	24.4	28.2	21.2	88.5	NNE, SSW	3.7	9.2	Ci.-S.	Cu. E	5.3	● a.
Mean	758.81	25.2	29.8	21.8	82.1	------	5.3	8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	174.9	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometre above sea, 4.5 meters; gravity correction not applied, —1.82 mm.]

	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	758.40	25.1	30.7	22.5	85.5	NW	0.7	8.2	Ci.-S.	Cu.-N. E, NE	8.9	⌒ a. ● p.
2	57.58	26	30.5	23	85	NW, NNW	.8	6.8	Ci.-S. SE	Cu. N	.5	≡° a. d p.
3	57.86	25.2	29	23.6	89.2	NE	1	9	Ci.-S.	Cu.-N. NE	------	↯° p.
4	58.47	25	30.1	23.6	90.2	NW	.7	8.8	Ci.-S.	Cu.-N. NE, ENE	2.8	● p.
5	59.70	25.6	30.6	23.7	87.7	NW	1	7.5	Ci.-S.	N. NE	18.5	● p.
6	61.16	25.6	29.9	23.5	80.9	NW	1.2	8.2	Ci.-Cu.	Cu., Cu.-N. NE	------	↯° d° p.
7	62.20	24.7	29	23.6	77.2	NE	1.3	9	Ci.-S.	Cu.-N. ENE	------	d° a. ↯° p.
8	61.89	24.7	29	22.3	84.3	N	1.2	7.2	Ci.-S.	Cu.-N. ENE	.3	● a.d p
9	60.84	24.5	29.8	22	84.5	N	1.7	6.5	Ci. SW	Cu. ENE	1.3	● ⊍² ϖ° p.
10	60.25	24.4	27.7	21	87.2	NW	1	9.2	Ci.-S.	N. NE	22	● p.
11	60.64	25.8	30.7	22	78.3	ENE	.8	3.8	Ci. SSW	S.-Cu. E	3.8	● a. ⊍° ϖ² p.
12	60.63	24.3	28.1	22.3	91.7	ENE, N	.8	9.2	Ci.-S.	N. ENE	24.6	● a. p. ⌒
13	60	25.3	30.6	22.8	86.8	NW	1	7.8	Ci., Ci.-S.	Cu.-N. E	7.7	● a. p. ϖ°
14	59.07	25.7	30	23.5	85.2	NNW, SE	1	8.2	Ci.-S., Ci.-Cu. sw	N.-cf. E	6.9	d a. ● ⊍° ϖ° p.
15	59.28	25	28.7	23.7	90.8	S	.8	9.5	Ci.-S.	Cu.-N., N. ESE	20.8	● a. p. ⊍°
16	59.10	24.9	30.2	22.5	88.9	Variable	.7	8.2	Ci. W	Cu.-N. ESE	8.9	● a. p. ϖ°
17	58.45	25	31.1	23	88.3	NW	1	7.2	------	Cu.-N. ESE	12.2	ϖ² a. ● p.
18	58.76	25.7	29.6	22.8	84.2	NW	.8	8.5	Ci.-Cu.	Cu.-N. E	3	● p.
19	58.67	26.1	32.5	23.5	81.3	NW	.7	2.8	Ci., Ci.-S.	Cu. ENE	------	
20	58.42	25	29	23.2	89.3	NNW	.8	9.8	------	Cu.-N. NE, ENE	20.3	● a. p.
21	57.45	25.7	30.1	23.6	89.3	NW	.8	8.8	Ci.	Cu.-N. ENE	6.6	●° a. p. ϖ°
22	56.82	25.8	29.5	23.7	88.5	SE, NW	.7	9	------	N. ESE	21.1	● a. p.
23	57.34	25.8	31	22.4	84.5	NW	.7	8	Ci.-S.	Variable	11.5	● a. ϖ° ⊍° p.
24	58.09	25.9	32.5	22.3	77.3	NW, NNE	1	3.8	Ci.-S. SW, WSW	Cu. E	------	ϖ° Ω° a.
25	58.48	26.2	31.5	22.4	79.7	SE	.7	5.8	Ci.-S.	Variable	------	○° p.
26	58.38	25.9	30.6	23.8	82.2	N	1	8.5	Ci.-Cu., Ci.	N. E, ENE	20.2	● a. p.
27	58.48	26.1	30.9	23.3	78.5	NE	1.7	8	Ci.-S. WSW	Variable	29.3	● a. ↯° p.
28	58.38	26.9	31	22.5	80.4	NE	.7	8	Ci.-Cu. W	Cu. ESE	14.4	● p. ○² ⊕°
29	57.63	25.5	30.5	22	85.8	Variable	.7	8.5	Ci. WSW	N. E	30.8	● a. ○°
Mean	759.05	25.4	30.2	22.9	84.9	------	.9	7.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	299.1	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	758.76	25	28.5	19.4	86.8	NE	0.5	4	Ci.	Cu. NE	------	Ω a.
2	58.04	25.5	27.8	19.2	85.7	NNE	.3	8	Ci.-S.	Cu.-N. NE	------	Ω° ≡° a.
3	58.05	26.3	28.5	21.9	87.3	NE	.5	9	Ci.-S.	Cu.-N. NE	------	
4	58.77	26.2	29.3	22.8	88.9	NE	.3	5	Ci.-S.	Cu.-N. NE	------	
5	59.98	26.4	28.7	21.6	84	NNE	.8	5	Ci.	Cu.-N. NE	------	
6	61.70	26.4	28.5	22.9	82	NE	1.8	8	Ci.	Cu.-N. E	------	
7	62.63	25.9	27.9	21.3	81.4	NE	1	9.8	Ci.	N. E	4.1	● p.
8	62.58	25.1	28	22	86.2	NE	1	9.5	Ci.-S.	Cu.-N. NE	------	d° p.
9	61.95	25.4	28	21.7	82.2	NE	1	8.8	Ci.-S.	Cu.-N. NE	------	d° p.
10	61.10	25.8	28.4	22.2	79.8	NE	1.2	8.5	Ci.-S.	Cu.-N. NE, E	------	d° p.
11	60.75	25.6	29.4	20.5	86.7	SE, ENE	1.7	8.5	Ci.-Cu., Ci.-S.	Cu.-N. E	59	●² ↙° a.
12	61.22	25	27.8	21.2	89.7	NE	.8	10	Ci.-S.	N. NE	15.5	● a. p.
13	60.70	25	27.6	22.1	93	NE	.8	8.8	Ci.-S.	N. NE	2	● Ɵ
14	59.48	26	28.9	21.6	89.2	NE	.5	5.2	Ci.	N. NE	------	
15	59.43	26.3	29.7	22.6	90.7	ENE	.8	7.8	Ci., Ci.-S.	Cu.-N. E	.8	d a. p.
16	59.50	26.4	29.5	22.2	87.2	E	.5	7.8	Ci.-S.	N. E	5.8	● a.
17	58.83	25.9	28.5	22	88.6	NE	.3	6.2	Ci.	Cu.-N. NE	1.3	d a.
18	59.23	25.8	29.6	21.5	86.2	NE quad.	.8	6.2	Ci.-Cu.	Cu. E	------	Ω° a. d° p.
19	59.38	25.7	28.7	22.2	87.6	NE	1	7.5	Ci.	Cu.-N. NE, E	------	d° p.
20	59.08	26	28.4	22.3	86.3	NE	.8	6.8	Ci.	Cu.-N. NE, E	------	
21	58.24	26.6	28.6	22.9	86.5	NE	1	6.2	Ci.-S.	N. NE	------	d° a.
22	57.37	26.3	28.3	23.1	89.5	NE quad.	1.5	9.2	Ci.-S.	Cu.-N. NE	1.3	d a.
23	57.92	26.4	28.2	23.2	86.7	ENE, NE	1.3	9.5	Ci.-S.	N. NE	------	d° p.
24	58.53	26.4	28.4	22.2	85.4	NNE	1.2	5.2	Ci.	Cu.-N. NE, E	------	
25	58.52	26.1	29.3	22.4	87.3	ENE, NE	.7	8.8	Ci.-S.	N., Cu.-N. E	2	d p.
26	58.44	26.6	29.6	22.9	82.1	NE, ENE	1.5	9.8	Ci.-S.	N. E	------	d° p.
27	58.81	26.2	29.4	21.9	86.7	ENE	1	9.8	Ci.-S.	N. NE, E	8.9	● a. d° p.
28	58.50	26.2	29.4	21.4	84.3	ENE	.7	8.2	Ci.-S.	N., Cu.-N. E	1.5	●° a.
29	57.95	25.4	28	21.8	89.7	ENE	1	10	Ci.-S.	N. NE, E	2.8	● a d° p.
Mean	759.50	25.9	28.7	21.9	86.5	------	.9	7.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	104.5	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	758.95	24	29.5	19.5	88.2	N	1	6.5	A.-Cu. NE	S.-Cu. NE	0.3	p a.
2	58.09	25.2	30.5	21.8	90.5	N	1.2	7.2	Ci.-S.	Cu.-N. NE	1.5	d ⚡ p.
3	58.13	24.9	28.5	23.1	88.8	N	1.2	8.2	Ci.-S.	S.-Cu. NE	.5	p a. ⚡ p.
4	58.93	25.3	30.4	22.2	89.2	N	1	7.8	A.-Cu. NE	S.-Cu. NE	.8	p ⚡ p.
5	60.04	25.5	30.2	22	84.2	N	1.2	6.5	Ci.-S., A.-Cu.	S.-Cu. NE	------	⚡ p.
6	61.76	25.1	28.9	22.3	80.5	N	1.7	7.5	A.-Cu. N	S.-Cu. NE	------	⚡ p.
7	62.62	24.8	28.4	22.4	74.5	N, NNE	1.7	6.8	Ci. NE	S.-Cu. NE	------	⚡ p.
8	62.39	24	28	21.5	83	N	1.5	7.2	A.-Cu. NE	S.-Cu. NE	------	d° ⚡ p.
9	61.56	24.4	29	21.4	81.3	N	1.3	6.5	Ci. N	S.-Cu. NE	------	ᴗ° ⚡ p.
10	60.97	23.3	28.9	19.3	88	N	1.3	8	A.-Cu. NE	Cu.-N. NE	35.3	● p.
11	61.29	24.9	30	20.8	79.8	N	1.3	6.2	Ci. NE	S.-Cu. NE	------	⚡ p.
12	61.15	24.1	28	20.1	88	N	1.2	7	Ci.-S.	S.-Cu. NE	2.8	d ⚡ p.
13	60.65	24.3	27	22	93	N	1	7.2	Ci.-S.	Cu.-N. NE	16.5	● a. p. ᴗ² ⚡
14	59.42	24.8	29	22.5	93	N	1	6.5	A.-Cu. NE	S.-Cu. NE	18.5	● a. d Ɵ° ⚡ p.
15	59.55	24.6	28.5	22.2	94.8	N	1	8.2	Ci.-S.	S.-Cu. E	14	d° a. ● ⚡ p.
16	59.36	25.5	30	22.8	90.8	N	1	7.2	A.-Cu. NE	S.-Cu. NE	4.1	d° a. ●° ⚡ p.
17	58.87	25.6	31.2	21	86.2	N	1	6	Ci. NE	S.-Cu. NE	------	⚡ p.
18	59.19	25.1	30.5	20.4	84	N	1	6	A.-Cu. N	S.-Cu. N	------	⚡ p.
19	59.28	25.1	31.7	20.2	84.3	N	1	5.2	A.-Cu. NE	S.-Cu. NE	------	⚡ p.
20	58.90	24.8	29.2	22	88.3	N	1	6.2	Ci.-S.	S.-Cu. NE	4.1	p a. d ⚡ p.
21	58	25.6	30.5	22.6	90.8	N	1	6	A.-Cu. NE	S.-Cu. NE	8.6	● ⌒² ⚡ p.
22	57.55	24.8	30	23.2	92.7	N	1	7.2	A.-Cu. NE, SE	S.-Cu. NE, E	5.8	●° ⚡ p.
23	57.78	25	30.4	22	88.8	N	1	6.2	Ci.	S.-Cu. E	5.6	● ⚡ p.
24	58.58	24.3	30.7	20	89.7	N	1	7	Ci.-S.	S.-Cu., Cu.-N. E	8.4	● p.
25	58.76	25	29.6	21.6	89	N	1	6.8	Ci., Ci.-S.	S.-Cu. E	------	p° ⚡ p.
26	58.87	24.9	29.6	22.8	86.2	N	1	7.2	Ci.-S.	Cu.-N., S.-Cu. E	21.6	● a. ⚡ p.
27	58.96	25.5	30.4	22.8	86.2	N	1.3	6.8	Ci.-S. NE	S.-Cu. NE	7.6	● a. ⚡ p.
28	58.75	26.2	31	22.6	82.7	N, NE	1.3	7	A.-Cu. NE	S.-Cu. NE, E	2.3	●° a. ⚡ p.
29	58	24.5	27.1	22.8	93.8	N	1	8.5	Ci.-S.	Cu.-N. E	27.4	● a. p. ⚡
Mean	759.53	24.9	29.5	21.7	87.3	------	1.1	6.9	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	185.7	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 4 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	758.95	26.2	30.5	20	74.8	NNE	9.9	4.5	Ci. SSE	Cu. NE	------	≡°
2	57.94	25.4	31.1	20.4	80.7	ENE, NE	6.2	3.5	Ci. SSE	Cu.	------	Ω ≡ a. <° p.
3	58.03	26.3	30	24.5	78.2	NE quad.	12.6	7	A.-Cu. SW	Cu. NE	------	≡° a.
4	58.85	26.7	30.2	24.5	74	NE quad.	11.5	2	A.-Cu. ESE, S	Cu. ENE	------	≡° a.
5	60.30	26	30.4	21.5	75.2	N	11.2	.8	------	Cu.	------	≡° a.
6	62.04	26.4	29.7	24	69.5	. N NE	19.1	3.2	Ci. S	Cu. NNE	2	≡° p a. ● p.
7	63.19	24.9	27	23.5	71	NE quad.	20.7	6.8	A.-Cu.	Cu.-N. NE, N	------	p a.
8	62.95	25.2	29.3	23.1	72.2	NNE	15.8	7.5	A.-Cu. E, ENE	Cu.-N. NE	------	≡° a.
9	61.84	25.5	29.6	23.6	65.5	N	14.3	4.5	A.-Cu. NE	Cu. NE	------	≡° a.
10	60.93	25.1	30	19.5	74.5	NNE, N	12	4.8	Ci. W	Cu. NE	4.8	≡° a. ● p.
11	61.13	25.9	28.5	22.5	78.4	NE	20.3	5	------	Cu.-N. E	22.1	● a. d² p.
12	61.32	26.1	29.6	24.6	73.4	NE, N	16.6	6.2	A.-Cu.	Cu.-N. ESE, NE	------	d° a.
13	60.84	25.2	27.1	23.4	85.1	N, NE	14.7	9.5	------	Fr.-N. NE	7.4	● a. d p.
14	59.78	24.5	26.6	23.1	91.7	N	11.8	10	------	N. ENE, E	71.1	● a. p.
15	59.79	25.4	26.7	22.1	90.7	NE quad.	11.3	8.8	A.-Cu.	N. ESE, E	29	● a.
16	59.40	26.5	29.9	24.9	83	NE	11.4	4.8	A.-Cu. S	Cu. NE, ENE	------	d° a. p.
17	58.93	26.6	29.9	24	80.5	N	8	4.2	Ci. SW	Cu. E	2.3	● ≡ a.
18	59.28	24.5	29	20.9	85.1	NE	10.4	7	A.-Cu. S	Cu. NE	2.5	d° a. ⌒ ● p.
19	59.40	23.6	26.5	22.5	91.1	N	14.9	9.8	------	N.	25.1	● a. p.
20	59.08	24.8	27.7	22.5	87.1	N	------	8	------	Cu.-N. NE	8.4	d ⌒ a. ● p.
21	58.15	25.4	29.5	23.1	88.8	N	10.4	9.2	A.-Cu. E	N.	30	● a. p.
22	57.66	23.6	25.1	22.5	96	N	13.6	10	------	N.	182.1	●² a. p.
23	57.89	25.2	29.3	23.4	86.3	N	11.8	5	A.-Cu.	Cu.-N. E	8.4	● a. p.
24	58.57	25.6	29	23.5	83.9	NE quad.	10.9	6.5	A.-Cu. ENE	Cu.-N. ENE	12.4	● a. p.
25	58.84	25.2	28.6	23.6	89.7	NE, N	14.2	6.5	Ci.	Fr.-N. E, NE	10.9	d a. ● p.
26	59.18	26.8	29.4	24.1	77.3	NE	19.8	7.8	Ci.-S. SSE, S	Cu. E	1.8	d a. ◯
27	59.30	26.8	30	23.9	78.7	NE	19.8	7.2	Variable	Cu.-N. ENE	1.8	d a.
28	59	26.4	29.2	23.5	79.7	NE	17.1	4.5	Ci., A.-Cu.	Cu.-N. NE	2.3	d a.
29	58.25	25.7	29.5	23.5	82.2	N	11.3	9.2	A.-Cu. E, ENE	N. ENE	11.7	● p.
Mean	759.68	25.6	28.9	23	80.8	------	13.6	6.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	436.1	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 7.8 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	759.41	26.2	31	21.1	82.8	NE	10.7	6.2	Ci. SE	Cu. NE	------	Ω° a.
2	58.07	25.7	30.6	22.4	89	NE	4.6	3.8	Ci.	Cu. N	------	d° a.
3	58.30	26.1	30.9	21.5	85.5	NE	7.8	3.5	Ci.	Cu. NE	------	Ω° a.
4	58.91	25.2	31	20.6	------	NNE	7.5	1.2	Ci.	Cu. NE	------	Ω° ≡° a.
5	60.58	25.5	30	20.4	85.3	N	13.3	3	Ci.	Cu. N	------	Ω° ≡° a.
6	62.56	25.2	29.5	22.6	82.5	NE	25.7	6.5	Ci.	Cu. NE	15.7	d° a. ●° p. ↙°
7	63.24	25	29	22.5	79.2	ENE	25.9	6.2	Ci.	Cu. NE	------	d° a.
8	63.03	25.4	30.1	22	78	ENE	24.2	6.2	Ci. E	Cu.	------	Ω° a.
9	62.23	25.3	29.4	22	75.2	NE	25.3	5.8	Ci.	Cu. NE	------	Ω° a. ϖ° p.
10	61.58	25.7	30.7	22	83.2	NE	18.6	6.5	Ci.	S.-Cu. NE	------	d° a. ϖ° p.
11	61.49	24.9	29.3	22.5	88.8	NE quad.	12.7	8	Ci.-S.	Cu. E	16.8	● a d ϖ² p.
12	62.03	26	30.8	23.6	82.5	NE	20.2	5	Ci.	S.-Cu. E	------	ϖ² d° p.
13	61.35	25.5	29.1	24.3	89.9	NE, NNE	18.2	9.8	Ci., Ci.-S.	S.-Cu. NE	4.6	d° a. ●° p.
14	60.01	25.9	28	24.3	88.3	NE quad.	15.6	9	Ci.	S.-Cu. E, NE	4.5	●° a. p. ϖ°
15	60.09	25.3	29.5	23.7	92	NNW	10	10	A.-Cu. E	S.-Cu. NE	64	● ϖ° p.
16	59.41	26.8	30.5	23.7	87.3	N, NE	------	9.2	A.-Cu. SE	S.-Cu. NE	------	d° ϖ° p.
17	58.92	27	31.2	24.8	88	NNW	------	7.8	Ci. S	Cu. NE	------	ϖ° a. d° p.
18	59.88	24.5	26.3	23.2	89.1	NNE	------	10	Ci.-S.	S.-Cu. NNE	7.6	●° a. p.
19	60.16	24.3	26.8	22.3	90.8	NE	------	9.8	Ci.-S.	S.-Cu. NE	12.7	● a. d° p.
20	59.84	25.3	29.5	23	85.7	NE	22.5	9.2	A.-Cu. ENE	S.-Cu. NE	------	d° a. p.
21	59.02	25	26.7	23.4	90.7	NNE	15.5	10	Ci.-S.	S.-Cu. NE	16.7	● a. p.
22	58.66	24.6	26.2	22.5	89	NE	27.1	10	Ci.-S.	N. NE	51.9	● a. d p.
23	58.76	24.2	25.3	22.9	92.2	NNE	17.9	10	Ci.-S.	N. NE	80.5	● a. p.
24	59.36	24	25.7	22.2	91.4	N	11.8	10	Ci.-S.	N. NE	84.4	● a. p.
25	59.30	25.4	28.2	22.7	90.7	NE	14.7	8.8	Ci.-S. E	S.-Cu. NE	7.9	d a. ● p.
26	59.44	26.3	31.4	23.4	87.2	NE	12	6	Ci.-S. SE	S.-Cu. E	2.3	●° ⊕ a.
27	59.70	26.8	31.8	23.5	85.7	NE	18.2	4.2	Ci.	Cu. E	3	●° p.
28	59.52	26.4	30.7	23.2	85.7	NE	22.7	7.5	A.-Cu. E	Cu. NE	3	d a. p.
29	58.68	26.8	31.7	23.9	82.7	NE	------	5	Ci.	Cu. NE	------	
Mean	760.12	25.5	29.3	22.8	86.4	------	16.8	7.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	375.6	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[ϕ=14° 49′ N; λ=120° 16′ E; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean)	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	758.62	26.3	32.7	21.2	87.7	Variable	0.5	2.5	Ci.-S.	Cu.	------	∞ a. p.
2	57.88	24.6	30	19.4	90.2	NE	.4	2.5	Ci.-S.	Cu.	------	∞ a. p.
3	57.73	------	31.3	21.9	------	NE	.5	2.5	A.-Cu.	Cu.	------	∞ a. p.
4	58.56	------	30.9	20.7	------	NE	.3	2.2	Ci.-S.	Cu.	------	∞ a. p.
5	60.02	25.8	33.5	20.6	83.2	NE, ENE	.4	2.5	Ci.-S.	Cu.	------	∞ a. p.
6	61.63	25.5	32.9	20	82.2	NE	.6	2.8	Ci.-S.	Cu.	------	∞ a. p.
7	62.29	25.5	31.4	22	80.7	NE	1.2	3	Ci.-S.	Cu. E	------	∞ a. p.
8	62.22	24.9	30.4	20.3	82	NE	.7	7	Ci.-S.	Cu. E	--•---	∞ ○° ⊍
9	61.72	23.3	29.6	18.1	86.2	NE	.8	7.5	Ci.-S., A.-Cu.	Cu. E	------	∞ a. p.
10	61.02	24.4	31.9	18.7	83.5	NE	.6	6.2	Ci.-S.	Cu. E	------	∞ a. p. ○°
11	60.95	25.1	31.1	20.9	87.3	NE, ENE	.7	9.5	Ci.-S.	Cu.-N. ESE	------	d° a. ⊍ p.
12	61.24	26.9	33.4	22.8	80.2	NE	.7	5.5	Ci.-S.	Cu. E	------	∞ p.
13	60.46	26.6	34	20.5	80.5	NE, ENE	.5	4.2	Ci.-S.	Cu.	------	∞ a. p.
14	59.30	27.4	34.6	22.4	83	ENE	.6	7.8	Ci.-S., A.-Cu.	Cu. E	------	∞ p.
15	59.31	26.7	32.4	23.8	86.3	ENE	.7	8.8	A.-Cu.	Cu.-N. E	------	d° p.
16	58.68	28	33.5	23.2	83.7	ENE	.7	6.5	Ci.-S.	Cu. E	------	
17	58.56	26.9	32.4	23.1	87.3	NE	.4	7	Ci.-S.	Cu.	------	∞ a. p. ᗜ
18	59.16	26.2	31.8	23.5	85.1	ENE, NE	.5	8.8	A.-Cu. NNW	Cu.-N.	------	∞ a. p.
19	59.15	25.8	33.4	22.6	85	NE	.8	8	A.-Cu. SSE	Cu.-N. ESE	------	
20	58.89	26.7	33.4	22.2	82.8	NE	.8	6	A.-Cu. SE	Cu.	------	
21	58.40	26.8	33.4	21.2	85.8	NE	.7	7.5	A.-Cu.	Cu., Cu.-N. E	------	∞ a. p.
22	57.78	26.4	34.4	21.4	85.8	ENE	.9	6.8	A.-Cu. SE, ESE	Cu. E, ENE	------	∞ a. p.
23	58.08	26.3	33.4	20.8	85.8	ENE, NE	.8	7.8	A.-Cu. E	Cu., Cu.-N.	------	∞ a.
24	58.57	26.6	32.4	22.2	81	NE	.8	9.5	Ci.-S.	Cu., Cu.-N. E	------	∞ p° ⌒ p.
25	58.93	26.3	32.3	23.1	83.2	ENE	.8	8.2	A.-Cu.	Cu.-N. E	------	d ∞ p.
26	58.92	26.8	32.6	23.6	82.2	NE, SE	.8	7.2	A.-Cu. ESE	Cu.-N. E	------	d° a. ∞ p.
27	58.89	28.2	34.5	23.8	76.7	ENE	1.2	4	Ci.-S., A.-Cu.	Cu. E, NE	------	∞ a. p. d°
28	58.79	27.4	34.5	22.5	79.3	NE, E	.8	3.8	Ci.-S.	Cu. E	------	∞ a.
29	58.15	26.2	35	19.5	84.2	ENE	.8	4.5	Ci.-S.	Cu. ENE	------	∞ Ω a.
Mean	759.44	26.2	32.7	21.6	83.7	------------	.7	5.9	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	------	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean)	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	759.08	25.4	33	19.8	71.8	E	0.3	3	Ci.	Cu. E, ESE	------	Ω² a.
2	58.03	25.6	34.1	17.7	70.7	NW	.1	3.5	Ci.	Cu. SE	------	Ω ≡° a.
3	57.92	26.3	33.8	21	71	Variable	.1	3.5	Variable	Cu. SE	------	Ω a.
4	58.69	26.6	35.1	20.6	68	WSW	.2	3.8	A.-Cu. E	Cu. NE, S	------	Ω ≡° a.
5	60.41	25.4	34.7	19.5	69.7	Variable	.6	3.5	Variable	Cu. ENE, E	------	Ω² ≡° a.
6	62.35	24.6	32	20.4	69	NNW, E	1.1	4.2	Ci.	Cu. ESE, NE	------	Ω a. ↙° p.
7	63.18	23.4	29.5	17.5	69.4	NW, ESE	1.1	3.8	Ci.	Cu. E, ESE	------	Ω a. ↙° p.
8	62.94	22.9	29.5	17.1	71.3	E	.6	6	Ci., Ci.-S. S	Cu. NE	------	Ω² a. ○ ᗜ² p.
9	62.20	22.8	30.2	17	73	NE	1.2	5.2	Ci. S	Cu.-N. E	------	Ω² a. ↙° p.
10	61.79	23.2	29.9	17.5	72.6	Variable	.9	6	Ci. SSW	S.-Cu.	------	Ω ≡° a. ↙° p.
11	61.62	23.1	28.7	19.5	79.1	E, N	.4	9.2	Variable	N. E	0.8	d° a. p.
12	61.88	24.7	32.4	19.5	69.1	Variable	1.1	4	Ci.	Cu. E	------	Ω² a. ↙° p.
13	61.04	25.1	32.7	18.3	68.2	E	1	2.8	Ci.	S.-Cu., Cu.	------	Ω² a. ↙° ᗜ p.
14	59.93	26.1	33	21.4	69.7	Variable	.8	5.8	A.-Cu. S, SE	S.-Cu. E	------	ᗜ° Ω a.
15	60.10	24.9	28.4	23.2	80.2	E	.2	9.5	A.-S.	N. NE	2.5	d p.
16	59.36	26.6	32.6	22.2	72.3	E	1	5.8	A.-Cu. SE	Cu. E	------	↙° ᗜ° p.
17	58.91	26.5	35.5	20.8	71.5	NNW	1	6.5	Ci. S	Cu. E	------	Ω ᗜ² ≡° a.
18	59.86	24.6	28.9	22.5	72.3	N	.9	9	A.-S.	Cu.-N. E	------	ᗜ° p.
19	59.78	24.6	31.6	20.5	69	NE	1.2	4.5	Ci.	S.-Cu. E	------	
20	59.52	25.1	32.5	19.8	69.4	E	1	5	A.-Cu. SE	Cu. NE	------	ᗜ² a.
21	58.87	26.1	32.9	20.7	68.4	NNE, E	.7	6.2	A.-Cu. SE	S.-Cu. E	------	
22	58.41	25.8	31.8	21.1	67.6	N, E	.8	6	A.-Cu. SE, E	Cu. NNE	------	ᗜ° a.
23	58.60	25.4	33.4	19.9	68.3	Variable	.8	7.2	Ci. SE	Variable	------	ᗜ° a. ↙° p.
24	59.06	26.6	34	22	65.8	E	.8	7.8	Ci. SE	Variable	------	d° p.
25	59.40	26.3	32.1	22	68.8	NNW, E	1.2	7	Ci. S	N. NE	------	↙°
26	59.76	25.8	31.4	22.3	73.4	Variable	1.2	7.5	A.-Cu. SE	Cu. NE, ENE	1.3	d a. p ↙° p.
27	59.91	25.5	32.4	20.5	76.3	ENE	1	6.5	A.-Cu. E	N. E	.8	d a. p.
28	59.47	25.9	33	21.5	68.5	NNE, E	.8	5	A.-Cu. E	Variable	------	↙°
29	58.70	25.9	33.6	19.3	67.7	NNE	.8	2.8	Ci.	Cu. E	------	Ω a.
Mean	760.03	25.2	32.2	20.2	70.8	------------	.8	5.5	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	5.4	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.[1] Mean.	Maximum.	Minimum.	Relative humidity (mean).[1]	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	758.41	------	------	------	------	SE	10.3	1.8	Ci.	Cu.	------	
2	58.10	------	------	------	------	NW	12.9	3.5	A.-Cu., Ci.	S.-Cu., Cu.	------	
3	57.72	------	------	------	------	NW	11.4	4	------------	Cu.	------	
4	58.65	------	------	------	------	NW	9.1	2.5	------------	S.-Cu.	------	≡° a.
5	60.25	------	------	------	------	SE, NNW	11.1	1	------------	Cu.	------	≡° a. v p.
6	61.85	------	------	------	------	NW	9.1	2	A.-Cu.	S.-Cu., Cu.	------	v p.
7	62.22	------	------	------	------	SSE	15.9	2.8	------------	Cu., S.-Cu.	------	
8	62.24	------	------	------	------	S	13.2	4.8	Ci.	S.-Cu. E	------	ᗜ p.
9	61.49	------	------	------	------	S, SE	9.9	7.2	Ci.	S.-Cu. NNE, E	------	ᗜ p.
10	61.08	------	------	------	------	S, SE	9.6	7	Ci.-S.	S.-Cu. E	------	
11	60.82	------	------	------	------	SE	12.3	8.8	Ci.	S.-Cu. E	------	↯° p.
12	61.22	------	------	------	------	Variable	11.7	2.8	Ci.	S.-Cu., Cu.	------	↯° v p.
13	60.53	------	------	------	------	Variable	10.4	1.5	Ci.	Cu.	------	v p.
14	59.38	------	------	------	------	Variable	8.5	4	Ci.	S.-Cu.	------	∞ p.
15	59.27	------	------	------	------	SE	9.2	7.2	A.-Cu.	S.-Cu. E	------	d° p.
16	58.73	------	------	------	------	S, NW	9.8	4.8	A.-Cu.	S.-Cu. SE	------	
17	58.88	------	------	------	------	NW	13.7	6.8	A.-Cu, Ci.	S.-Cu.	------	↯° p.
18	59.53	------	------	------	------	Variable	7.2	10	------------	S.-Cu NW	0.3	d° a.
19	59.18	------	------	------	------	NW	7.7	7.5	A.-Cu.	S.-Cu.	4.1	p p.
20	59.11	------	------	------	------	SE, NNW	9.8	6.2	------------	S.-Cu.	------	
21	58.54	------	------	------	------	NW	8.9	4.5	A.-Cu.	S.-Cu.	------	≡° a.
22	57.77	------	------	------	------	S	9.9	7.8	Ci.-S.	S.-Cu.	------	ᗜ a.
23	58.24	------	------	------	------	S	11.5	3	Ci.	Cu., S.-Cu.	------	ᗜ a. ↯° p.
24	58.57	------	------	------	------	Variable	9.8	5.2	Ci.-S., Ci.	Cu., S.-Cu.	------	
25	58.82	------	------	------	------	NW	7.6	8.2	Ci.	S.-Cu. E, SE	------	v p.
26	58.93	------	------	------	------	SE	11.5	8.5	A.-Cu.	S.-Cu. SE	------	d° a.
27	59.10	------	------	------	------	S, SE	12.5	3.5	A.-Cu.	S.-Cu. SE	------	
28	58.84	------	------	------	------	SE, NNW	9.9	1.8	Ci.	S.-Cu., Cu.	------	
29	58.22	------	------	------	------	SE, NNW	11.7	2	Ci.	Cu.	------	
Mean	759.51	------	------	------	------	------------	10.6	4.9	------------	------------	------	
Total	--------	------	------	------	------	------------	------------	------------	------------	------------	4.4	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C	P. ct.		0-12.	0-10.			mm.	
1	758.61	26.9	31.2	22.8	74.5	S	0.8	0	Ci.	S.-Cu., Cu.	------	
2	58.47	25.6	29	23.2	79	NNW, NW	1.7	3.5	Ci.	Cu. NNW	------	d° a. ↯° p.
3	58.11	25.2	29.9	20.4	73.3	Variable	.8	0	Ci., A.-Cu.	Cu.	------	Ω a.
4	59.16	24.6	29.9	20.1	72.3	SE, WNW	1.2	0	A.-Cu.	Cu.	------	Ω a. ∞ p.
5	60.56	24	29.1	18.7	75.1	NNW	2	0	Ci., A.-Cu.	Cu.	------	Ω a. ↯° p.
6	62.21	24.4	28.6	18.2	71.1	NW	2	0	A.-Cu.	Cu.	------	Ω a. ↯° p.
7	62.52	25.6	30	23	59.5	NE	1.3	.2	A.-Cu.	S.-Cu., Cu.	------	
8	62.46	25.4	30	21	64.8	SE, NW	1.2	0	Ci.	Cu.	------	
9	61.65	25.2	29.5	21	69.3	Variable	1.7	2.5	Ci.	Cu.	------	Ω a. d° p.
10	61.20	25.5	31.2	22.2	62.1	Variable	1.2	2.2	A.-Cu.	Cu.	------	◯° ᗜ
11	61.15	25.4	31	20.4	71.1	WSW	.7	.2	A.-Cu. SSW	S.-Cu.	------	
12	61.57	26	30.4	21.9	74.8	W	1	.8	A.-Cu.	S.-Cu., Cu.	------	
13	60.82	25.5	30.8	21.3	73.8	Variable	.7	0	Ci.	Cu.	------	Ω a.
14	59.64	26.2	31.4	22.4	76.1	W	1	0	Ci. WSW	S.-Cu., Cu.	------	Ω a. ∞ p.
15	59.53	26.6	30	22.4	78.8	NW	1	2.2	A.-Cu.	S.-Cu., Cu.	------	Ω a. d° ᗜ p.
16	59.01	27.1	30.7	24.2	77	WNW	.8	1.2	Ci.-S. SSW	S.-Cu., Cu.	------	
17	59.72	22.8	26.2	18.5	85	N	2.2	9	A.-Cu. W by S	N.	20.3	↯ ● a. d p.
18	59.64	23.4	27.1	20	75	N	2.7	7.5	A.-Cu.	S.-Cu., Cu.	1.3	ᗜ a. ↯° d^2 p.
19	59.56	24.2	29	20.8	70.6	ENE, NW	.3	9.2	A.-Cu. S	S.-Cu. W	.2	d a. p. ⊕
20	59.51	24.8	29.8	22.1	71.8	Variable	.8	2.2	A.-Cu. SW	S.-Cu., Cu.	1.5	● a.
21	58.89	25.4	32	21	70.1	NW	.7	.2	A.-Cu. SW	Cu.	------	
22	57.85	26.2	29.8	22.5	71.8	WNW, NW	1.2	1.5	A.-Cu. SW	Cu.	------	Ω° a.
23	58.41	26.2	29.5	24	73.6	NW	1.3	1.5	A.-Cu.	Cu. NE	------	
24	58.72	26	30.8	21.2	70.4	NNW	2	0	Ci.-S. SW by W	S.-Cu., Cu.	------	Ω a. ↯° p.
25	58.94	27.8	34.9	23.8	62	NE	2.8	3.5	A.-Cu.	Cu. ENE	------	↯° a. p.
26	59.21	27.2	33.6	23.7	73.8	WSW	1	5	Ci.-S. S	S.-Cu., Cu.	.5	●° p.
27	59.29	27.1	33	24.6	78.5	WSW	1	1.8	A.-Cu.	Cu. W	------	Ω° a. ⊕ p.
28	59.04	27.4	32.8	24	73.1	S	.8	.2	Ci.	Cu.	------	
29	58.56	26.6	32.6	23.7	76.8	WNW	.8	1.5	Ci., A.-Cu.	Cu. N, W	------	Ω° a.
Mean	759.79	25.7	30.5	21.8	72.6	------------	1.3	1.9	------------	------------	------	
Total	--------	------	------	------	------	------------	------------	------------	------------	------------	23.8	

[1] From the 1st of February to the 15th of March the thermometer shelter of this station was being repaired and the instruments were placed within the office room: hence the observations of temperature and relative humidity for the said period are omitted in this Bulletin.

METEOROLOGICAL DATA, ETC.—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 33 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1		26.5	32.7	22.9	79.5	SE	0.5	5		S.-Cu.		d° a. p.
2		24.8	31.7	19.5	81.5	N	.5	3.2		Fr.-Cu.		Ω² ≡° a.
3		25.2	33.4	20.5	80.2	S, N	.3	4.8		Cu.		Ω² a.
4		25	32.6	19.3	80.2	SE, NW	.5	4		S.		Ω² ≡° a.
5		24	30.5	20.3	83.2	N	.8	5		Cu. N		Ω a. p. ∞
6		22.2	29	17.2	81.2	NE	.5	6.2		S.-Cu. N, NE		Ω² a.
7		21.8	27.7	18.5	78	NE	1.2	6.5		S.-Cu.		Ω a.
8		22.7	30.4	18.3	81.8	NE	.5	7.5		Cu. N		Ω ≡° a.
9		22.8	29.6	18.3	79.1	NE	.5	7.2	Ci.	S.-Cu., Cu. NE		Ω a p.
10		22.6	30.4	17.9	83.8	NE	.3	8	Ci.	S.-Cu.		⊍ p.
11		22.1	26	19	90.5	NW	.2	9		Cu.-N.	11.4	● a. d p.
12		24.6	32.4	19.2	78.4	Calm		6		Cu. S		Ω² ≡° a.
13		24.4	29.6	18.3	77.4	N	.2	9		S.-Cu.		Ω ≡° a.
14		25.9	33	21.3	78.3	NE	.2	5.2	Ci.	Cu.		Ω a.
15		25.3	31.3	21.1	80.3	SE	.3	6.5		S.-Cu. S	2.3	Ω a. ● p.
16		26.6	33.7	21.9	76.2	S	.5	4.2	Ci. NE	Cu. S		Ω ≡° a.
17		21.4	27.6	18.5	90.3	N	1.5	8.8	Ci.-Cu.	Cu.-N. N	5.6	Ω² d a. p.
18		21.3	24.8	19.2	87.7	NE	1.2	9.5	A.-S.	N. N	2	d a.
19		20.7	26.4	18.3	84.9	NW	1.3	10		Cu.-N. NW	2.8	d a. ↙° p.
20		21.3	27.7	18	86	NW	.7	9.5		S.-Cu. NW, N		d° a.
21		23.4	30.3	19.2	79.8	N	.7	7.5		Cu. SSE		Ω a.
22		24.2	30.4	20.5	77.2	N	.7	8.2	Ci.-Cu.	Cu. N		Ω a.
23		24.8	31	21.1	79.2	N	.5	8.8		S.-Cu.		Ω a.
24		24	30.6	21.2	83	N	1.5	8	A.-S.	Cu. N, NE		Ω a. d° p.
25		23.1	27.5	21	90.4	NE, N	1.7	10		S.-Cu. NE	6.1	d a. ● ↙° p.
26		23.8	28.6	21.2	90.2	N	.2	8.8		N.	9.9	●° a. p.
27		24.2	28.4	21.7	91.5	NW	.2	9		N.	15.2	● a. d p.
28		25.9	33.4	21.7	77.6	N, SE	.3	4.5	Ci.	Variable		≡° a. Ω p.
29		25.4	33.5	18.2	74.2	S	.2	.8	Ci.	Cu., S.		Ω² ≡° a.
Mean		23.8	30.1	19.8	82.1		.6	6.9				
Total											55.3	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	759.52	25.2	29.6	22.5	86.3	E	9.7	3.5		Cu.-N. SE, SSW		
2	58.58	24.6	28.3	21.1	86.7	N	9.7	2.8		Cu.-N. W		
3	58.66	24	27	21.6	86.5	NE	15.3	5.8		S.-Cu. SW	0.8	d ⌒ p.
4	59.74	24.1	28	20.5	87.6	S, NE	9.4	.5		Cu.-N. S		Ω a.
5	62.37	24.5	28	22	81.2	NE	13.5	3.8		S.-Cu. N, NE	.3	d° p.
6	65.14	21.4	23.8	19.5	88.7	NE	21.2	9.2		N. NE	10.7	●° a. p. ⌒
7	66.27	20.2	22.2	18.5	86.8	ENE, NE	21.7	9.5	A.-Cu. S	N., S.-Cu. NE	4.1	●° a.
8	64.79	21	25.8	18.1	87.8	S	5.7	5.5		S.-Cu. S	1	d p.
9	63.88	22.4	26.4	18.5	82.2	E	12.2	4	A.-Cu.	S.-Cu. E		⊍ ↙°
10	63.27	22.8	27.5	19.5	85.5	Variable	8.2	5	Ci. S, SSW	S.-Cu.		Ω ○ ⊍
11	63.74	22.4	25.5	19.1	91.7	S	7.6	9.8	A.-Cu. SW	N., S.-Cu. E	15.7	● a.
12	63.52	23.6	27.9	19.2	85.7	SE	11.6	1.2	A.-Cu. SW	S.-Cu. E		
13	63	23.9	27.6	20.1	84.5	SW, SE	7.7	5		S.-Cu. SE		Ω a.
14	61.68	24.8	28.9	21.4	84.8	SW, E		8.5	A.-Cu. S, SW	S.-Cu. S		
15	61.24	24.6	28.5	21.2	88.2	Variable		7	A.-Cu. SE	Cu.-N. SE		
16	59.83	25.5	29.6	22	84	E, S	8.2	3.5	A.-Cu. SW	S.-Cu., Cu.-N.		Ω a. ∞ ⚡ T p.
17	60.62	21.7	25.1	18.8	91.3	SW, NNW	13	10		N. NNW, N	24.6	● ↙° a. d p.
18	62.52	20.5	23.6	18.5	87.8	NE	13.3	10		N. NE	25.4	● a. p.
19	63.09	20.2	22.5	18	84.2	NE	19.1	10		N. NE	31.5	● ↙° a. d p.
20	62.49	20.5	23.3	17.8	90	NE	17.9	9.8	A.-Cu. SW	N. NE	19.3	● ↙° a. p.
21	61.69	22.6	27	19	82.7	NE	15.2	5.5	A.-Cu. SW	Cu.-N.	4.8	●° a.
22	60.97	23.4	25.9	21.4	83.7	NE, ENE	14.9	10	Ci.-S. W	S.-Cu. ENE		
23	60.78	23.6	26.1	20.5	86.5	E	9.1	10	A.-Cu. S	S.-Cu. SE, E		
24	61.94	23.4	26.4	21.9	89.6	NE	13.7	10		S.-Cu. E	3.8	p a.
25	62.72	22.2	25.4	20.6	91.3	NE	24	10		N. NE	5.8	● ↙° a.
26	62.24	23	25	21	92.2	NE	22.3	10		N. NE	5.3	● ↙° a.
27	61.63	23.6	26.4	21.5	91.5	E	8.3	9.8		N., S.-Cu. E	6.6	●° ⌒ a.
28	60.52	24.4	28.8	20.6	85.8	S, E	9.2	0				Ω a.
29	59.18	24.7	29.6	21	85.5	S	9.4	0				Ω a.
Mean	761.92	23.1	26.5	20.2	86.9		13	6.5				
Total											159.7	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.2	22.1	96	73	6	9	------	Ω ≡ a.
2	31.5	21.8	95	77	4	8	------	Ω ≡ a. ⌈ϟ p.
3	31	22.8	97	75	7	5	------	Ω ≡ a.
4	31.9	22.6	97	84	4	8	------	Ω ≡ a. d p.
5	32	23.5	97	74	6	4	0.3	●° p.
6	32	23.3	97	71	4	8	------	
7	31.4	23	96	67	7	8	1	●° ≡ a. ⊕ p.
8	27.3	23.3	97	94	10	10	6.1	● a. p. ⊕ p.
9	31.3	22.1	96	71	10	9	------	⊕ p.
10	32	21.4	97	73	8	7	.5	●° ≡ a. ⊕ p.
11	31.8	23.7	92	72	7	6	------	d ⊕ p.
12	31.3	21.7	99	71	8	8	------	Ω ≡ a. ⊕ p.
13	31.2	24.4	87	76	10	9	------	
14	31.3	22.4	97	85	6	8	11.4	d a. ● ⌣ p.
15	31.6	23.2	98	83	10	9	36.1	⌈ϟ ● p.
16	31.6	22.4	97	91	9	10	17	● ⊕ p.
17	32.2	21.7	98	76	5	10	2	●° ⊕ p.
18	31.9	22.4	96	72	9	8	------	d p.
19	32.8	22.3	97	79	6	10	.8	⌈ϟ ● p.
20	32.4	23.6	97	72	5	7	------	Ω ≡ d a. ⌈ϟ p.
21	29	24.4	96	86	10	9	46.7	● a. p.
22	30.9	22.2	97	86	8	9	5.6	●° a. p.
23	28.5	23.7	96	88	8	9	3.3	d° ● a. d ϟ p.
24	29.8	22.2	99	91	8	10	9.9	● d p.
25	30.8	22.9	95	95	8	10	28.2	●² p.
26	31	23.4	97	73	9	8	------	
27	32.3	23	97	71	8	9	------	Ω ≡ a. d p.
28	29	24.3	96	73	9	10	1.8	●° p.
29	31.9	24.2	93	70	8	6	------	≡ a.
Mean	31.1	22.9	96.2	78.2	7.5	8.3	------	
Total	------	------	------	------	------	------	170.7	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.2	21	96	73	------	------	------	Ω ≡ a.
2	31.5	21.5	96	88	------	------	------	Ω a. p° p.
3	32	23	91	77	------	------	1	Ω a. ⊤ d ⌒ p.
4	33	22.5	97	75	------	------	1.5	Ω a. p p.
5	33.1	21.2	93	74	------	------	------	Ω a.
6	32.5	23.5	96	60	------	------	8.6	Ω a. ● p.
7	31.2	23.2	92	61	------	------	------	Ω a.
8	29.6	23	83	74	------	------	34	↙° d a. ● p° p.
9	31.6	22.5	93	70	------	------	2	d a.
10	31.4	21.4	96	64	------	------	------	Ω a.
11	30	21.5	91	68	------	------	------	Ω a.
12	32.4	22.1	91	70	------	------	------	Ω a.
13	31.4	22	96	61	------	------	------	Ω a.
14	32	23	96	90	------	------	20.8	● d ⌒ a. ⌈ϟ p.
15	31.2	22.5	96	68	------	------	------	Ω a. ⊤ p.
16	30.2	23	96	63	------	------	3.6	⌈ϟ ● d a.
17	31	22	96	81	------	------	3.8	Ω a. ● p.
18	30	22	91	68	------	------	------	Ω a.
19	31.4	23	95	67	------	------	.8	Ω p° a. ⊤ d p.
20	30.5	22	96	80	------	------	------	Ω ≡ a. ↙ p° ⌈ϟ p.
21	29.8	23.5	92	88	------	------	4.1	● a. d a. p.
22	31.5	23	97	77	------	------	------	Ω a. d ⌒ p.
23	32	22.8	96	92	------	------	24.4	d a. p. ↙° ● ⊤ p.
24	31.4	22.2	97	92	------	------	27.9	Ω a. ● d p.
25	32	23	96	74	------	------	4.1	Ω a. p° a. p. p p.
26	30	22.5	96	72	------	------	3	≡ d a. ⊤ ● p.
27	30.2	22.7	96	76	------	------	7.1	Ω a. ● p.
28	31.2	23	95	76	------	------	1.8	d a.
29	31.5	22.6	91	67	------	------	------	Ω a.
Mean	31.3	22.5	94.2	74	------	------	------	
Total	------	------	------	------	------	------	148.5	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.2	21.5	85	72	2	4	------	
2	30.4	22	86	79	2	2	------	
3	29.6	23.5	88	80	9	6	1.5	● p.
4	30.9	23	89	79	4	3	------	
5	30.8	23	91	78	7	7	------	
6	32.5	23.2	90	75	5	4	1	● a.
7	30.5	22.5	82	73	9	3	------	
8	29.1	24	88	65	8	9	------	
9	28.6	22	90	71	10	9	------	
10	29.8	21.9	90	75	5	7	------	
11	31.5	22	84	63	3	5	------	
12	33	22	79	52	3	5	------	
13	32.9	22	87	77	4	8	------	
14	32	23.5	87	65	7	3	------	
15	32.1	23	91	74	7	8	------	
16	29	23.9	88	82	9	9	------	
17	29	22.5	87	83	9	9	------	
18	29	23.4	91	77	9	9	------	
19	30.1	23.5	90	80	8	7	------	
20	29.1	23	88	76	5	4	------	
21	28.3	23.5	87	81	10	10	?	● a.
22	29.3	23.6	88	82	9	9	------	
23	29.9	23.9	93	74	10	9	------	
24	29.5	23.4	88	73	9	7	------	
25	30.3	22.4	84	72	4	6	------	
26	28.7	22.1	88	79	3	3	------	
27	28.6	23	90	77	10	9	------	
28	28.1	22.8	85	75	10	9	?	● a.
29	29.4	22.9	86	73	5	8	------	
Mean	30.1	22.9	87.6	74.6	6.7	6.6	------	
Total	------	------	------	------	------	------	2.5[1]	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	22.6	97	70	6	7	25.7	≡ a. ● p.
2	32.8	21.6	96	68	5	8	------	⊤ p.
3	32.7	22	96	69	7	6	------	⌈ϟ p.
4	33.3	22.1	96	72	5	7	21.8	● p.
5	33.1	22.1	97	66	6	5	41.1	↙ ● p.
6	32.9	22.2	97	64	5	7	------	
7	32.3	22	97	65	8	6	------	ϟ p.
8	33.1	22.1	94	69	7	5	------	
9	31.7	21.9	95	75	5	6	------	
10	31.8	21	99	74	5	6	34.5	● ⊤ a.
11	31.7	20.6	95	75	6	7	------	
12	32.2	20.8	95	75	5	6	------	
13	32.6	20.9	97	73	7	5	------	
14	31.9	21.2	98	72	6	6	------	
15	32	22.1	97	70	5	7	------	
16	32.7	21.9	97	74	6	7	------	
17	31.2	21	98	72	5	6	------	
18	32.7	22.6	98	67	7	5	------	
19	32.5	22.2	94	67	7	5	------	
20	33.7	22.3	94	74	6	7	18.5	● ϟ p.
21	33.2	22.3	93	62	5	5	------	
22	31.7	22.1	97	75	5	7	------	≡ a.
23	32.9	22	98	69	6	5	------	
24	32.6	22.4	93	76	6	5	------	
25	31.7	21.3	95	70	7	8	------	
26	29.2	22.5	96	97	9	10	87.1	● a. p.
27	27.2	21.3	97	91	8	7	------	
28	30.7	21.9	100	79	8	7	1.8	●° a.
29	31.4	21	95	72	6	5	------	
Mean	32	21.8	96.2	72.5	6.2	6.3	------	
Total	------	------	------	------	------	------	230.5	

[1] 27 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34	19.4	95	64	1	3	------	≡ a.
2	33.7	19.3	97	64	5	9	------	≡ a.
3	35.8	22.9	96	71	9	2	------	
4	34.7	22.1	96	61	0	4	1.3	d ⊤ p.
5	35.1	22.4	97	64	0	4	.3	d ↯ p.
6	34.6	21	95	63	4	8	17.5	d p.
7	31.8	18.8	97	80	4	7	24.6	d ● p.
8	33	21.6	97	62	5	9	7.6	● p.
9	34.5	21	95	57	9	10	------	≡ a.
10	33.9	21.2	91	70	7	10	------	≡ a. d p.
11	33.2	19.4	94	68	6	5	------	≡ a.
12	31.5	22.4	85	67	10	10	------	≡ a.
13	32.6	21.1	92	66	10	10	------	≡ a.
14	34.4	21	96	61	1	7	18.5	≡ a. ● $↯^2$ p.
15	33.7	22.1	97	73	8	10	6.4	≡ a. d ↯ ● p.
16	32.5	21.4	99	64	10	10	------	
17	33.2	20	95	62	10	10	2.8	≡ a. d p.
18	32.8	22.3	97	70	10	9	1.8	≡ a. ⊤ p.
19	33.5	21.9	98	65	10	4	------	
20	33.5	22.2	97	70	1	10	1	$\equiv^2$ a. ↯ d p.
21	33.7	21.9	99	73	1	5	33	$\equiv^2$ a. ● ↯ p.
22	33.7	21.9	89	70	1	3	5.3	d° a. ● p.
23	33.7	22.8	97	63	10	9	7.6	$\equiv^2$ a. ● p.
24	30.9	21.5	98	71	10	10	1	$\equiv^2$ a. d p.
25	32.1	21.8	98	67	10	10	------	
26	30.7	21.9	96	82	10	10	6.4	d p.
27	29.5	21.6	97	84	10	10	9.7	d a. p.
28	31.1	21.2	96	76	10	7	1.3	d a.
29	33.4	20.5	96	63	10	10	------	Ω ≡ a.
Mean	33.1	21.3	95.6	68	6.6	7.8	------	
Total	------	------	------	------	------	------	146.1	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	------	24.3	85	------	9	4	------	≡ a.
2	------	23.7	90	------	6	5	------	≡ a.
3	------	24.4	97	------	8	4	------	≡ a.
4	------	24.6	88	------	9	6	31	● a. p.
5	------	24.8	88	------	10	6	7.1	≡ a. ● a. p. ⊤ p.
6	------	23.8	84	------	8	8	4.8	↙ ● p.
7	------	23.3	89	91	10	10	?	↙ ● a. p.
8	------	22.8	92	89	10	9	78.5	● a. p. ↙ p.
9	------	22.3	91	83	10	10	3.6	●° a. p. ↙ p.
10	------	22	97	91	10	10	------	●° a. ↙ a. p.
11	------	21.7	91	87	9	10	------	
12	------	22	85	------	9	4	------	
13	------	21.9	85	91	10	10	------	d° ●° a. ⊕ p.
14	------	22.1	85	------	10	5	------	
15	------	24.8	84	86	10	10	?	● a.
16	------	23.5	95	90	8	10	------	⌒ a. ⊍ p.
17	------	22.7	93	90	9	5	------	⌒ a.
18	------	23.3	92	95	10	8	------	d° a.
19	------	22.4	93	88	10	7	------	
20	------	23.1	94	------	10	6	3.6	● a. ●° p.
21	------	23.3	87	------	10	8	2.8	● ⊤ p.
22	------	22.1	90	------	6	9	32.3	$●^2$ a. d° ●° ⪇ p.
23	------	23	88	73	10	10	1	● a.
24	------	23.3	83	------	8	7	------	
25	------	24.3	82	------	9	8	------	
26	------	24.5	81	------	10	10	.8	● a.
27	------	23.7	85	76	10	10	------	d° a. p.
28	------	24.2	85	------	10	10	------	●° a.
29	------	23.2	91	81	9	7	------	
Mean	------	23.3	88.6	86.5	9.2	7.8	------	
Total	------	------	------	------	------	------	165.5[1]	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.5	21.8	97	74	5	5	------	$Ω^2$ ≡ a.
2	30.9	22.6	97	68	10	8	------	∞ a.
3	29.3	24	96	74	8	5	------	Ω ∞ a.
4	29.7	22.9	96	70	8	9	2.8	≡ a. ⌒ ● p,
5	30.2	23	97	72	2	7	.8	Ω ≡ ∞ a. ⌒ ● p.
6	24.7	22.5	97	96	9	10	40.6	d a. ● a. p.
7	26.6	22.5	99	92	10	10	28.2	∞ a. d p. ● a. p.
8	26.8	22.5	98	88	10	10	10.2	d a. p. ● p.
9	24.2	22.1	96	94	10	10	18.3	d a. p. ● p.
10	28.1	22.2	97	88	9	9	1.3	↙ ● p.
11	28.6	22	92	73	8	7	5.1	● a. d p.
12	30.1	22	90	69	6	9	1.3	● ≡ d a.
13	28.2	22.6	96	76	8	10	1.3	≡ a. p p.
14	30.1	23.4	91	76	8	9	1.5	↯ p ⊍ p.
15	24.6	22.2	92	97	9	10	74.2	● a. p.
16	29.5	21.9	96	75	9	9	------	≡ a.
17	27.5	22.4	92	88	5	10	.5	≡ a. d a. p.
18	26.3	22.7	97	91	10	10	6.1	● a. p.
19	28.3	23	98	77	5	9	------	d p.
20	27.8	22.6	95	84	9	9	.5	Ω ∞ a. d a. p.
21	29.5	22.5	99	75	6	7	3	Ω ≡ a. d ● p.
22	31	23.3	92	90	4	9	8.4	∞ a. ↙ ● p.
23	29.7	21.2	96	74	6	9	10.2	↙ ● a.
24	27.1	21.3	97	76	6	7	.3	$Ω^2$ ≡ ∞ d a.
25	29.5	22.4	98	70	8	8	------	≡ ∞ a.
26	26.7	22.8	96	85	8	10	13	∞ a. ● a. p.
27	26.7	22.3	97	84	10	10	32.5	↙ ● a.
28	28.3	20.5	98	88	10	10	2.3	≡ ∞ a. p p.
29	30.2	20.5	97	67	3	7	------	$Ω^2$ a.
Mean	28.2	22.3	95.8	80.4	7.6	8.7	------	
Total	------	------	------	------	------	------	262.4	

YAP (Western Carolines).

[ϕ=9° 29′ N; λ=138° 08′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.9	23.2	97	94	10	8	1.5	
2	29.4	22.8	78	77	4	4	------	
3	28.9	22.5	86	88	1	5	------	
4	30.3	21.8	89	90	4	9	2.3	
5	30.1	22.3	95	89	6	5	------	
6	28.2	23	91	74	7	5	------	
7	29.3	22.3	80	88	3	3	------	
8	29.4	23.7	93	92	2	5	------	
9	29	23.6	75	94	3	6	------	
10	28.9	23.7	76	76	5	8	1.8	
11	28.7	22.7	79	77	9	6	------	
12	29.2	22.5	78	75	6	6	------	
13	30.1	22.8	76	72	5	6	------	
14	29.2	24	82	77	6	9	------	
15	29.3	24.4	87	84	7	8	9.1	
16	30.1	23.1	86	79	7	6	1.8	
17	29.3	22.8	83	72	8	7	------	
18	28.5	23.5	83	85	6	8	18.8	
19	28.4	22.3	83	82	7	4	------	
20	29.1	22.1	75	80	8	7	11.4	
21	29.2	23.4	89	82	5	9	------	
22	28.7	23.4	82	85	8	7	------	
23	28.7	22.2	81	76	7	8	------	
24	28.3	22	84	81	7	8	6.9	
25	28.5	22.9	92	79	8	8	6.6	
26	29	23.1	88	87	8	8	------	
27	29.3	23	92	75	5	7	------	
28	------	22.9	85	------	8	------	------	
29	29.4	23	81	85	5	7	------	
Mean	29.1	22.9	84.3	82	6	6.7	------	
Total	------	------	------	------	------	------	60.2	

[1] 27 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

BACOLOD.

[ϕ=10° 41′ N; λ=122° 56′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.9	21	95	71	4	5	------	↙° p.
2	29.6	21.2	95	74	7	5	------	
3	28.9	23.1	92	72	9	10	------	
4	29.5	24	89	77	6	6	------	
5	30.4	24.1	90	69	2	7	------	
6	29.1	24.4	87	68	9	8	------	↙° ⊕ p.
7	28.8	23.3	87	66	7	9	------	↙° ⊕ p.
8	28.3	23	83	79	9	9	------	⌒ a. d° ↙ p.
9	27.5	23.2	86	71	9	9	------	↙° d° ⊕ p.
10	27.7	22.5	89	75	7	9	------	⌒ a. ↙ ⊍ p.
11	28.6	22.2	97	79	10	6	18.5	p² ●° a. ⊕ p.
12	28.6	22.1	91	83	8	9	------	↙° ⊕ p.
13	28.9	23	93	80	8	7	------	↙° ⊕ p.
14	29.6	23.6	93	81	7	7	------	↙° ⊕ p.
15	29.2	24.1	96	80	6	9	------	d ⊕ p.
16	29.9	22.6	92	73	9	6	.3	d° a. ↙° ⊕ p.
17	29.2	22.8	91	77	8	8	------	⊕ p.
18	29.7	24	92	63	7	8	------	↙° ⊕ p.
19	29.2	23	89	68	4	6	------	⊍ p.
20	28.9	23.6	91	74	6	8	------	d p.
21	29.6	24	95	76	7	7	5.3	⊤° ↙ ● p.
22	29	24	97	78	7	7	------	⊤ d° p.
23	30.2	23.8	95	84	10	8	5.6	●° a.
24	29.2	22.8	92	72	6	2	------	↙° p.
25	29.6	23.5	87	75	8	7	------	↙° p.
26	29.1	23.6	94	72	8	9	------	⌒ d a. ↙° p.
27	28.2	23.1	95	87	9	10	2.5	↙ ●° a. d p.
28	29.7	23.2	91	70	9	8	5.1	↙ ● p.
29	28.3	22.9	92	86	8	8	------	⌒ d° a.
Mean	29.1	23.2	91.6	75.2	7.4	7.5	------	
Total	------	------	------	------	------	------	37.3	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	18.4	80	60	0	2	------	Ω a.
2	31.6	20.5	88	67	7	10	------	
3	30.3	23.5	91	74	10	10	------	
4	32.4	24.5	87	65	10	8	------	
5	32.4	22.1	91	69	1	10	------	d° p.
6	32.6	22.4	88	55	10	3	------	Ω a.
7	32.4	20.5	85	59	10	10	------	↙ p.
8	32.5	20.4	87	56	10	3	------	
9	32.8	21.5	86	63	10	10	------	d° a. p.
10	33	18.5	82	56	8	4	0.3	p° p.
11	32.7	21.5	88	48	4	8	1.3	d° ●° ↙° a.
12	32.6	18.6	91	59	5	9	------	Ω a. d° p° p.
13	32.6	21.4	88	61	7	8	------	Ω a.
14	33.1	21.7	92	64	3	4	------	
15	31.6	21.5	90	85	2	10	2	● ⊤ p.
16	31.7	23.8	96	71	10	10	------	Ω a. d° p.
17	32.6	22.4	93	64	10	4	------	
18	32.4	22.3	86	69	1	10	------	
19	33.4	22.1	97	58	1	8	------	Ω a.
20	32.8	20.4	93	54	2	7	------	
21	32.6	22.5	91	67	2	6	------	Ω a. d° p.
22	33.5	22.8	94	86	10	10	1.3	Ω a. ●° ⌈↘ p.
23	32	22.5	91	68	10	10	.5	●° a. d° p.
24	32.9	22.6	87	62	10	4	------	Ω a.
25	32.1	20.1	89	66	4	10	------	Ω a.
26	31.1	21.7	90	86	8	10	14.5	● a. p.
27	31.2	21.3	87	67	10	10	------	
28	32.9	23	83	50	10	10	------	d° p.
29	30	21.7	89	71	10	10	------	d° p.
Mean	32.3	21.6	89	64.8	6.7	7.9	------	
Total	------	------	------	------	------	------	19.9	

TUBURAN.

[ϕ=10° 45′ N; λ=123° 50′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	20.1	95	80	2	10	------	Ω² ≡² a. d p.
2	29.4	23	94	75	9	10	------	Ω° a.
3	27.6	22.6	93	89	10	10	2	●° a. p.
4	30.2	22	96	74	9	6	------	Ω² a. d° p.
5	30.1	23.1	95	75	8	5	------	d a. p.
6	29.2	23.9	83	78	9	10	------	↙° ⌒² p.
7	29	23.3	87	64	10	10	------	⌒° a. ⊕² p.
8	27.7	21.3	91	80	10	10	1	↙° ●° p.
9	28.5	22.4	93	78	10	10	------	d° a. ⊕² p.
10	27.4	23.1	83	77	10	10	------	d ⊍ p.
11	29.1	21.9	95	77	10	8	8.6	● ⌒ a. ⊍° p.
12	29.1	20.3	95	83	4	9	4.6	↙° ●° p.
13	28.5	22.2	96	84	10	9	------	d ⊍² p.
14	30.6	22.2	97	84	9	9	------	Ω² a. d ⊍² p.
15	28.9	22.1	96	81	9	10	5.3	●° ⊤° a. d ● p.
16	28.7	23.3	97	81	10	10	------	Ω² a. d ⊍² p.
17	28.4	21.6	96	81	10	9	------	Ω² ≡² a. d p.
18	29.7	23.2	97	75	9	9	------	Ω° a. ⊕² p.
19	29.5	22.4	94	68	9	5	------	d p.
20	27.7	22.8	94	87	7	10	3	●° d p.
21	29.6	23.1	96	82	9	8	1	d a. ⌈↘² ●° p.
22	30	23.8	96	80	9	8	------	d ⋖² p.
23	28.6	23.1	95	81	10	8	37.3	●² d a. Ω² p.
24	29.6	21.5	96	71	10	8	------	⊍² a. Ω² p.
25	31.8	21.1	95	73	9	8	------	○² a.
26	27.4	23.7	95	85	10	10	2	d° a. ●° a. p.
27	27.8	23	97	83	10	10	10.7	●° d a. ●² p.
28	30.6	21.6	96	76	10	10	------	○² a. d p.
29	28.4	21.8	95	84	10	10	3.3	●° a.
Mean	29.1	22.4	94.1	78.8	9	8.9	------	
Total	------	------	------	------	------	------	78.8	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.4	20.3	98	78	4	9	4.6	Ω² ≡ a. ↙ p.
2	30.7	21.4	98	75	6	9	24.1	Ω ≡ a. ⌈↘ ● p.
3	26.8	22.9	96	93	10	10	21.6	● a. p.
4	27.7	23.1	98	92	10	10	------	≡ a. ↙ a. p.
5	30.3	22.4	98	78	9	8	------	≡ a. ↙ a. p.
6	29.3	22.9	97	74	10	10	10.7	● a. ↙ a. p.
7	26.8	22.4	70	86	10	10	5.3	↙² ● a. p.
8	27.9	21.9	86	89	10	10	11.4	≡ ● a. ●² p.
9	28.4	22.2	94	72	10	8	------	↙² a. p.
10	27.8	21.8	96	96	10	10	64.5	≡ ● a. ●² p.
11	28.5	22.2	77	76	6	8	------	↙² a. p.
12	27.7	23.3	94	91	10	10	60.5	↙ ● a. ↙ ●² p.
13	28.9	22.8	96	83	10	9	14	↙ ● a. p.
14	29.9	22.7	98	76	10	5	11.4	≡ ● a. ↙ ● ⌒ p.
15	28.6	23.7	95	86	9	8	29.2	↙ ● a. ↙ ●² p.
16	28.7	22.4	96	81	10	8	8.4	● a. ●° ⊍ p.
17	29.9	22.3	98	70	6	5	1.8	≡ a. ●° p.
18	28.3	22.7	96	71	10	10	------	Ω a. ↙ p.
19	29.8	21.2	98	70	5	6	------	Ω ≡ a. ↙ p.
20	28.3	22.6	97	92	10	10	55.9	● ↙ a. ↙ ●² p.
21	29.8	22.9	97	79	10	6	29.2	● a. ↙ p.
22	28.5	23.8	98	93	10	10	78.7	● a. ●² p.
23	30.1	22.6	97	75	8	5	12.2	≡ ● a. ↙ p.
24	30.3	21.8	98	66	8	6	------	Ω² a.
25	30.1	22	97	74	10	8	27.9	↙ ● a. p.
26	29.3	22.7	91	70	10	5	31.7	↙² ●² a. ↙² ● p.
27	30.2	23.6	93	69	9	7	19.1	● a. ↙ a. p.
28	30.1	26.1	77	75	8	9	69.6	○ a. ●² p. ↙ a. p.
29	28.7	22.7	93	77	10	8	48.3	●² a. ○ ↙ p.
Mean	29	22.6	93.7	79.6	8.9	8.2	------	
Total	------	------	------	------	------	------	640.1	

METEOROLOGICAL DATA, ETC.—Continued.

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.2	21.4	94	71	6	5	------	Ω a.
2	30.6	21.4	98	69	8	8	------	Ω a.
3	28.5	21.9	94	76	4	6	------	Ω a.
4	30.2	24.1	84	66	10	5	------	
5	30.2	20.2	98	71	5	5	------	d p.
6	30.4	21.9	90	84	6	8	------	↙° d a.
7	27.4	22.1	76	89	10	10	5.3	d a. p. ● p.
8	27.3	22	96	74	8	10	------	
9	27.9	22.4	80	71	10	10	------	d a. p. ●° p.
10	28.7	20.9	88	62	10	8	26.7	↙ ● a.
11	29.6	22.3	88	71	8	6	16	↙ ● a.
12	27.8	23.7	83	74	8	10	10.2	↙ ● a.
13	27.2	22.4	95	95	10	10	45.7	↙ ● a.
14	29.5	23.1	97	94	10	10	21.1	↙ ● a.
15	28.6	23.2	98	85	10	10	26.7	↙ ● a. d p.
16	30	24.6	87	80	10	10	10.2	d a. p. ● p.
17	31.6	23.2	92	74	8	6	------	d ⌒ a.
18	30.6	20.5	98	72	6	8	3	Ω a. d p p.
19	28.5	21.8	97	86	8	10	15.2	Ω a. ● a. p.
20	29.8	21.7	88	83	5	10	41.9	d ●² p.
21	29.2	23	98	91	10	10	20.3	● a. p.
22	26.5	23.6	98	97	10	10	47	● a. p.
23	30.5	22.5	93	71	8	8	------	
24	31	23.6	85	75	6	8	------	
25	31	23	88	84	8	10	17.8	p a. ●² p.
26	29	24.1	85	80	10	8	------	↙ p.
27	30.2	24.5	98	76	10	8	------	↙ p.
28	29.5	23	90	76	10	5	16.5	↙ ● ⌒ a.
29	28	23.5	84	95	10	10	43.9	● a. p.
Mean	29.3	22.6	91	79	8.3	8.3	------	
Total	------	------	------	------	------	------	367.5	

SUMAY, GUAM (Ladrones Islands).

[ϕ=13° 24′ N; λ=144° 38′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.4	23.8	85	80	3	6	------	
2	29.4	24.8	88	69	2	8	------	
3	29.8	23.8	83	58	7	0	------	● p.
4	29.6	20.6	88	62	2	2	------	
5	29.6	22.6	87	65	1	6	------	
6	30.6	21.2	91	77	5	6	------	
7	28	24.2	82	73	6	3	------	
8	28.4	24.2	83	70	2	1	------	
9	27.6	23	79	74	6	5	------	
10	27.6	23.4	87	80	10	10	------	● p.
11	27.6	24.2	87	77	10	10	------	● a.
12	27	23.4	91	87	10	10	------	d a.
13	26.2	23.2	88	78	10	9	------	d a. ● a. p.
14	27	24	79	75	8	10	------	
15	29	23.8	87	65	10	7	------	
16	28.6	24.8	69	63	1	2	------	
17	29	23.6	79	61	4	0	------	
18	27.6	24.6	87	87	8	9	------	
19	28.4	24.8	88	71	10	7	------	
20	30	24.2	76	56	2	6	------	
21	29.4	24.6	83	69	5	3	------	
22	29.4	25.2	84	64	2	2	------	
23	29.4	24.2	92	65	6	4	------	
24	29.4	23.6	87	60	3	3	------	
25	30	23.8	92	80	2	10	------	
26	28.4	24	87	62	8	10	------	
27	28.6	24.6	83	74	10	10	------	↙ a.
28	27	23.7	83	74	10	10	------	↙ ● p.
29	28	22.4	77	70	10	10	------	↙ ● a.
Mean	28.6	23.7	84.6	70.6	6	6.2	------	
Total	------	------	------	------	------	------	------	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	19.4	98	79	7	5	------	d° p.
2	30.7	21	95	76	7	8	------	
3	29.2	20.6	92	81	2	9	------	d° p.
4	30.3	19.9	94	68	1	2	------	
5	30.9	18.8	93	72	1	4	------	d° p.
6	31	20.9	86	81	6	5	------	↙° p.
7	27.5	22.1	79	69	10	10	------	d° a.
8	29.5	22.2	79	65	10	9	------	
9	30	22.4	77	62	8	7	------	⊕ ⊎ p.
10	31.5	19.6	89	74	7	8	18.8	↙ ● p.
11	30	19.3	88	69	9	7	1.3	↙ ● a. d² p.
12	30.1	23.5	82	63	3	3	------	d a.
13	30.4	23	91	75	9	8	25.9	d a. p. ↙ ● p.
14	29	23.4	93	89	9	10	60.2	d ● a. p.
15	29.6	23.1	97	84	10	9	7.9	● a. d ⊕ p.
16	31.8	21.3	96	82	9	8	.3	d a. ⊕ p.
17	30.6	23.1	97	76	8	7	1.5	● a.
18	28	19.8	95	86	9	10	2	● a. d° a. p.
19	25.5	21.5	97	92	10	10	11.9	● d° a. p.
20	29.9	20.7	96	87	8	8	2.8	⌒ d a. p. ↙ ● p.
21	29.8	22.5	96	93	10	9	24.9	↙ ● a. d a. p.
22	25.8	22.8	97	95	10	10	175.3	●² a. ↙ ● a. p.
23	29.8	22.5	96	88	10	9	55.4	↙ ● a. d a. p.
24	29.6	21.6	96	90	9	10	5.3	● a. d p.
25	30.7	22	96	75	9	8	6.9	● d a. ↙ ● p.
26	30.4	21.7	93	90	8	9	27.9	● a. d° ↙° p.
27	30.8	24.6	91	72	9	8	10.2	d ↙° a. ↙ ●° ⌒² p.
28	30.9	23.5	92	77	3	8	.5	● ⌒ a. d a. p.
29	30.8	21.8	82	76	8	10	.3	●° p.
Mean	29.8	21.7	91.5	78.8	7.6	7.9	------	
Total	------	------	------	------	------	------	439.3	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	17.6	96	59	3	5	------	
2	30.9	17.2	97	66	4	4	------	
3	32.9	18.7	97	67	2	4	------	
4	32	19.2	92	57	2	4	------	
5	32.5	18.6	96	61	2	6	------	
6	31.7	18.2	95	59	1	6	------	
7	29.9	20.2	89	56	9	7	------	
8	30.6	18.2	95	55	3	6	------	
9	30.8	19	88	46	4	7	------	
10	30.7	17	95	55	3	8	------	○ p.
11	29.3	21	97	76	9	9	3	d a. p.
12	31.8	20.5	96	51	4	5	------	
13	31.3	18.5	92	61	4	8	------	
14	31.6	23	87	69	5	9	------	
15	33.5	21.7	97	61	5	8	27.9	☈ ● p.
16	31.3	21.7	96	61	8	5	------	
17	32.3	21.4	95	67	5	6	3.3	● p.
18	29.1	20.7	96	88	9	9	.5	●° p.
19	30.3	20.2	96	69	9	7	------	
20	30.2	21.2	89	67	7	7	------	
21	31.5	20.8	98	70	3	7	------	
22	28.6	21.5	96	87	9	9	------	
23	31.1	21.2	89	64	9	8	.3	●° a.
24	27.4	21.5	97	82	10	9	4.3	↙ ● a. d a. p.
25	31.8	20.8	97	70	5	9	------	
26	31.3	21.6	97	59	9	6	15.5	● a.
27	32.9	21.5	90	54	5	5	------	
28	32.4	21.4	95	54	3	5	------	
29	33.5	20.9	91	48	4	6	------	
Mean	31.2	20.2	94.2	63.4	5.3	6.7	------	
Total	------	------	------	------	------	------	54.8	

METEOROLOGICAL DATA, ETC.—Continued.

SILANG.

[ϕ=14° 14′ N ; λ=120° 58′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.8	20	97	73	5	7	------	
2	29.2	20.2	98	75	3	2	------	⌓ ≡ a.
3	29.4	20	95	73	4	8	------	d p.
4	29	19.7	97	73	2	2	------	
5	29.5	20	98	71	7	7	------	⌓ ≡ a.
6	30	19.2	97	69	8	2	------	
7	28.8	19.3	98	72	2	2	------	
8	28.9	19.2	98	73	3	7	------	p p.
9	29.2	20.4	96	72	2	7	------	≡ d a.
10	28.8	20.6	98	72	2	5	------	
11	28.6	20.2	98	72	8	9	------	d a. p p.
12	28	19.3	97	70	2	2	------	⌓ ≡ a. ↯° p.
13	29.2	20.1	98	70	7	2	------	
14	29.9	20.1	98	69	4	5	------	
15	30.5	19.5	97	68	5	9	4.8	≡ a. ●° p.
16	29.5	19.8	96	69	3	7	------	
17	29.9	20.2	97	67	7	2	------	≡ a.
18	29.8	20.8	97	68	7	7	------	⌓ ≡ a.
19	29.9	20	96	68	5	2	------	
20	30.6	20.3	97	68	8	4	------	d a.
21	30.8	20.4	97	67	2	2	------	⌓ ≡ a.
22	31	20.1	97	67	4	8	2.3	⌒ ●° p.
23	31.5	20.6	97	69	8	7	------	d a. ↯° p.
24	31.8	20.2	97	69	9	5	4.1	●° a. p.
25	32.3	20.8	98	66	2	8	------	↯ p.
26	32	20.7	97	66	2	4	------	
27	32.2	20.8	97	66	3	5	------	≡ a.
28	32.3	20.5	97	67	7	5	------	⌓ ≡ a.
29	32.1	20.5	97	66	2	7	------	≡ a.
Mean	30.2	20.1	97.1	69.5	4.6	5.1	------	
Total	------	------	------	------	------	------	11.2	

SAN ANTONIO.

[ϕ=14° 22′ N ; λ=121° 32′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.6	19.4	95	68	1	4	------	
2	30.5	17.1	99	71	3	1	------	
3	29.9	19.8	98	65	1	2	------	
4	29.6	16.8	82	79	1	3	------	
5	30.5	17.3	98	69	2	2	------	
6	26.5	17.4	82	80	3	6	------	
7	26	18.3	92	74	7	4	------	
8	26	18.8	82	69	6	6	------	
9	26.8	18.2	89	71	3	8	------	
10	29	18.6	91	74	3	8	2.5	
11	27.2	19.8	95	91	10	8	20.3	
12	28.8	18.9	92	81	4	3	------	
13	27.9	20.4	87	77	5	8	2.8	
14	26	20.6	92	94	9	9	43.2	
15	29	20.6	86	96	7	10	49.5	
16	28.6	21	92	83	7	2	------	
17	32.8	20	100	67	7	2	------	
18	26	20	93	79	9	8	------	
19	25.5	19.4	93	83	7	7	2.3	
20	26.6	19.4	97	81	10	8	2.3	
21	26.5	19.9	96	91	8	7	2.8	
22	25.6	20.5	95	93	7	10	5.8	
23	27.8	19.6	95	74	7	9	3.6	
24	24	20.2	91	90	10	10	12.7	
25	27.6	20.6	87	82	7	6	41.9	
26	28.1	20.6	99	80	10	7	20.3	
27	28.6	20.5	91	69	7	6	9.9	
28	27.5	21	88	87	5	6	1.3	
29	24	20.8	93	73	4	5	------	
Mean	27.6	19.5	92.1	79	5.9	6	------	
Total	------	------	------	------	------	------	221.2	

CORREGIDOR.

[ϕ=14° 23′ N ; λ=120° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.5	21.5	------	------	8	2	------	
2	30.7	21.2	------	------	1	2	------	
3	30.8	22.5	------	------	10	3	------	
4	30.8	22.8	------	------	10	2	------	
5	30.5	22	------	------	4	3	------	
6	29.5	20.5	------	------	10	2	------	
7	28.1	19.8	------	------	10	10	------	
8	28.2	20.2	------	------	10	10	------	
9	27.8	20.8	------	------	4	10	------	
10	28.7	20.2	------	------	10	2	------	
11	28.8	22	------	------	10	10	------	
12	30.8	20.6	------	------	10	2	------	
13	30	21.3	------	------	10	2	------	
14	30.3	22.7	------	------	8	2	------	
15	28.7	22.7	------	------	10	10	------	d p.
16	31.3	22.5	------	------	10	3	------	
17	30.3	21.3	------	------	10	4	------	
18	28.7	22.5	------	------	10	3	------	
19	29	20.7	------	------	10	3	------	
20	30.1	19.9	------	------	8	4	------	
21	29	21.2	------	------	10	10	------	
22	30.3	22.3	------	------	10	10	------	
23	29.1	21.2	------	------	10	10	------	
24	28.5	21	------	------	10	10	------	
25	29.7	21.1	------	------	10	4	------	
26	30.7	21.2	------	------	10	10	------	d a.
27	31.7	22.7	------	------	10	1	------	
28	31	22.1	------	------	3	3	------	
29	30.4	21.2	------	------	3	3	------	
Mean	29.8	21.4	------	------	8.6	5.2	------	
Total	------	------	------	------	------	------	------	

BALANGA.

[ϕ=14° 41′ N ; λ=120° 32′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.5	20.5	90	56	1	1	------	
2	32	18.4	89	57	10	1	------	
3	32	21.9	90	53	10	1	------	
4	32	21.3	91	54	1	1	------	
5	32.3	20.9	90	55	2	1	------	
6	31.4	19.1	91	55	9	2	------	
7	28.5	20	85	62	2	9	------	
8	29.5	19.5	82	61	10	10	------	☈ p.
9	29	17.7	91	63	2	9	------	
10	30.6	17.6	90	59	2	4	------	
11	29.5	20.8	85	73	10	10	------	
12	32.3	21.5	83	51	6	2	------	
13	32.9	18.9	88	54	1	2	------	⌓° a. ☈ p.
14	33.2	21.9	85	56	10	7	------	
15	30.7	23.1	88	71	10	10	------	d° a. p.
16	32.5	22.3	91	60	9	2	------	
17	33.5	21.4	92	56	2	3	------	
18	30.5	23.3	87	68	10	4	------	
19	32	21	86	54	10	2	------	
20	32.4	20.9	82	56	10	6	------	
21	32.9	21.6	84	63	10	10	------	
22	32.8	22.1	86	58	8	7	------	
23	31.8	21	83	60	8	9	------	↯ p.
24	31.7	23	84	60	10	10	------	d° p.
25	32	22.4	90	65	10	4	------	d° a.
26	31.4	22.1	96	68	10	10	2.8	●° a. p.
27	33.4	20.5	92	57	3	2	.5	↯ ●° p.
28	33	21.6	91	56	4	7	------	
29	33.6	19	92	52	2	2	------	
Mean	31.8	20.9	88.1	59.1	6.6	5.1	------	
Total	------	------	------	------	------	------	3.3	

METEOROLOGICAL DATA, ETC.—Continued.

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.7	19.3	95	46	2	4		Ω ≡² a. ∞² p.
2	34.2	17.4	95	57	0	5		Ω² ≡² a. ∞ p.
3	34.5	20.2	95	46	8	4		Ω ≡ a. ∞ p.
4	34.7	19.4	95	42	0	5		Ω² ≡ a. ∞ p.
5	34.7	17.3	95	42	4	2		Ω² ≡² a. ∞° ⊕ p.
6	34	18.1	95	43	3	5		Ω ≡ ²a. ∞² ⊕ p.
7	31.3	16.5	96	61	0	6		Ω² ≡° a.
8	31.7	15.9	94	56	0	4		Ω² ≡ a. ⊎ p.
9	32.7	15.5	96	52	0	5		Ω² ≡ a.
10	32.3	16.5	90	44	10	5		Ω ≡° a.
11	29.5	18.5	82	67	10	10	0.8	d° ●° a.
12	34.7	19.5	88	38	10	2		∞² p.
13	35.4	17.7	93	37	0	1		Ω² ≡ a. ∞² ⊖ p.
14	34.1	21.5	91	46	8	4		Ω a.
15	32.5	22	92	65	10	9		d° a. p.
16	34.7	22.1	97	47	8	6		∞ p.
17	34.1	20.7	96	67	7	4		Ω ≡° a. ↙ ∞² p.
18	25.2	20.8	97	81	10	10	9.7	● d° a.
19	32.3	20.5	94	54	10	10		
20	33	19	91	42	10	8		Ω ≡° a.
21	33.9	20.3	92	47	9	10		Ω ≡ a.
22	34.6	20.4	91	42	8	6		Ω ≡° a.
23	35.8	18	91	42	3	7		Ω ≡ a.
24	34.1	21	91	44	10	7		Ω a. d° p.
25	33.3	21.3	90	53	10	4		d° ↙° a.
26	32.8	21.5	92	64	10	10	.3	d° a. p. ↙° p.
27	34.6	19.9	96	54	2	8		≡ a. ↙° p.
28	36.1	20.3	87	39	2	5		Ω² ≡° a.
29	36	18	94	39	3	4		Ω² ≡° a.
Mean	33.5	19.3	92.8	50.2	5.8	5.9		
Total							10.8	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.6	20.4			6	2		
2	28.8	18			0	1		
3	27.9	20.4			10	8		
4	28.3	21			7	4		
5	29.9	20.6			1	1		
6	27.4	20.4			1	10		↙° p.
7	26.4	21.5			10	10	2	↙° a. p.
8	24	20.5			10	10	8.6	
9	25.9	20.2			10	10		
10	27	19.9			10	5	37.8	
11	26.6	20.2			10	10	20.3	
12	28	21.4			10	10		↙ p.
13	27.5	20.2			2	10	64.5	⌒ p.
14	28.1	22.7			10	10	2.5	
15	27.1	22.5			10	10	20.6	
16	27.5	22.5			10	6		
17	29	21.5			5	10		
18	26.4	21.5			10	10		
19	26	21.2			10	10		
20	26.5	21			10	10		
21	28.4	21.4			10	10		
22	27.8	22			10	10		↙° p.
23	28.6	21.6			10	10	8.9	
24	28.7	22.7			10	10	75.9	
25	25.5	22.5			10	10	62.5	↙ p.
26	26.6	21.7			10	8	15.2	↙° a.
27	26.6	22.1			10	10	6.4	
28	27.9	22.7			10	4	?	
29	27.7	20			2	1		
Mean	27.4	21.2			8.1	7.9		
Total							325.2	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. c	P. ct.	0–10.	0–10.	mm.	
1	32.8	24	92	68	4	2		Ω ≡ a. ↙ p.
2	33	21.5	94	60	5	6		Ω² ≡² a.
3	32.3	20.4	90	69	1	1		Ω² ≡² a.
4	31.5	20.3	83	67	7	1		Ω ≡ a.
5	32	22.5	87	58	10	1		↙ a.
6	31.4	24.1	88	63	6	3	2.8	
7	31.4	19.7	89	57	7	1	.3	
8	30.8	21.3	82	58	6	4		
9	31.4	22.4	82	55	10	6		
10	29.8	20.4	80	54	10	9		
11	30.7	19.1	80	68	10	8		Ω ≡ a.
12	31	21.7	86	57	4	0		Ω ≡ a.
13	31.9	20.5	88	60	2	0		Ω² ≡² a.
14	33.8	20.5	88	63	3	1		Ω ≡ a.
15	35.3	21.5	90	51	0	3		Ω° ≡° a. ⊤° p.
16	34	22.8	90	58	3	3		Ω° ≡° a. ↙° p.
17	28.9	22	92	70	10	10	2.3	Ω ≡ d° a. ↙ ⌒°
18	28	24	91	69	10	10	14.2	↙° a. p. d p.
19	30.6	21.1	93	74	10	4		●° a. ↙° p.
20	31.9	22	96	65	10	0		↙° p.
21	31	20.1	89	70	2	4		Ω² ≡² a.
22	31.2	21.8	90	67	10	1		Ω ≡ a.
23	32.4	20.2	89	62	6	1		Ω° ≡° a.
24	31.6	21.8	88	70	7	0		
25	32.5	22.3	88	65	10	9		Ω ≡ a.
26	33.8	22.4	89	55	1	8		
27	34.4	22.7	84	47	7	6		d° p.
28	34.8	23.2	86	49	2	1		
29	35	21.9	86	52	3	5		Ω ≡° a.
Mean	32	21.7	87.9	61.4	6.1	3.7		
Total							19.6	

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	22.5	13.5	99	72	2	7		
2	21.2	13	98	82	6	4		≡ p.
3	21.4	11.5	98	67	4	3		
4	21.2	10	99	62	2	2		
5	20.2	10	84	85	1	7		
6	19.7	10.1	90	75	2	6		
7	21.5	10.3	95	82	2	7		
8	20.4	10	87	77	2	8		
9	20.4	11.3	93	89	2	8		
10	22.5	9.5	94	49	3	6		
11	24.5	11.7	86	67	7	6		
12	22.6	12.9	76	91	3	9		
13	24.2	10.2	76	68	2	3		
14	22.5	13.8	89	92	2	7		
15	24	12.7	97	94	1	10	2.3	
16	24.4	14.8	89	84	10	6		d a.
17	22.1	12.3	95	89	5	10	6.6	d p.
18	19.3	14.5	98	97	10	6	1.5	d p.
19	22.4	12.7	94	67	10	6		
20	21.6	12.1	84	81	10	9		
21	21.7	12.3	85	87	5	10		
22	22.2	13	94	72	6	5		
23	22.1	11.7	98	78	2	5		
24	22.5	12.7	94	77	2	3		≡ a.
25	24.7	11.7	93	53	4	6		
26	23.1	13.1	93	65	6	6		
27	24.6	13.5	77	78	4	4		
28	24	11.8	98	73	2	5		
29	22	13.6	98	76	4	6		
Mean	22.3	12.1	91.4	76.9	4.2	6.2		
Total							10.4	

METEOROLOGICAL DATA, ETC.—Continued.

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.9	20	96	87	8	2	-----	Ω a.
2	30	20.8	84	77	2	2	-----	Ω a.
3	31.6	19	74	65	4	2	-----	Ω a.
4	31.5	17.2	86	62	2	2	-----	Ω a.
5	30.2	15.2	93	59	2	2	-----	Ω a.
6	29.8	19	91	63	4	3	-----	Ω a. ↙ p.
7	29.4	17	92	66	2	3	-----	Ω ≡ a.
8	29.4	17	90	64	2	2	-----	Ω ≡ a.
9	30.2	17.4	93	71	4	8	-----	Ω a.
10	29.6	17.4	92	62	4	4	-----	Ω a.
11	32	18	92	50	4	4	-----	Ω a.
12	31	17.4	89	54	2	2	-----	Ω a.
13	30.2	17.4	89	59	2	2	-----	Ω a.
14	31.4	19.5	89	59	6	2	-----	Ω a. ψ p.
15	30.8	20.5	88	70	6	4	-----	Ω a.
16	31.8	20	92	66	6	6	-----	ψ d p.
17	28.8	22	80	74	4	6	5.1	⚡ ●° a.
18	28.5	19.2	79	63	8	8	2.5	d° p.
19	29.4	20	91	64	8	4	-----	
20	29.6	20.2	96	64	8	4	-----	ψ p.
21	31	20	96	61	3	2	-----	
22	32.4	20.6	89	62	6	2	-----	↙ d p.
23	30.4	20	91	70	3	2	-----	
24	31.2	21.2	95	60	6	2	-----	d p.
25	30.6	20	83	73	6	6	-----	
26	31.5	21.2	93	70	6	8	-----	d p.
27	32.6	21	93	53	6	2	-----	
28	32	21	95	63	2	2	-----	Ω a.
29	31.2	19	89	61	3	3	-----	Ω a.
Mean	30.7	19.2	89.7	64.6	4.4	3.5	-----	
Total	-----	-----	-----	-----	-----	-----	7.6	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	-----	19.9	100	64	10	2	-----	≡° ⚡ a.
2	-----	17.2	97	58	2	3	-----	Ω° a.
3	-----	20.7	100	61	10	2	-----	
4	-----	19.9	99	64	10	2	-----	d° a.
5	-----	19.8	98	72	9	6	-----	⚡ a. ↙° p.
6	-----	17	99	77	3	6	-----	⚡ ↙° p.
7	-----	17.4	97	83	10	9	-----	d° ↙° a.p. ⚡ ϖ°
8	-----	15.9	99	81	10	8	-----	Ω° ⊕° a. ⚡ ϖ² p.
9	-----	17.7	99	85	8	10	-----	d° p.
10	-----	15.7	98	84	10	9	-----	d° ◯° a. ◯² ϖ° p.
11	-----	18.7	99	97	10	10	1.5	Ω° ●° a. ϖ² p.
12	-----	18.7	99	70	10	8	-----	Ω° a. ⚡ ϖ° p.
13	-----	16.7	99	66	1	9	.5	Ω² ⊕² ⚡ ↙ ●° ϖ²
14	-----	20.2	98	56	10	7	-----	⚡ a. p. ϖ² p.
15	-----	20.7	99	90	8	10	.3	⊕° a. ⚡ ●° ↙° ϖ°
16	-----	20.7	100	59	10	8	-----	∞° ⊕° a. ⚡ ϖ° p.
17	-----	18.5	100	87	9	10	.3	Ω a. ↙ ●° ⚡ p.
18	-----	17.5	99	87	10	10	6.4	d a. p. ● p.
19	-----	16.8	100	88	10	10	2	●° d° a. ⚡ p.
20	-----	17.1	99	86	10	10	3.3	d° ∞° ⊕° ⚡ ↙° ●°
21	-----	18.3	99	84	10	9	-----	↙° ⚡ ⊕° p.
22	-----	19.2	99	86	10	9	1.3	●° ⊕° a. ⚡ ϖ° d°
23	-----	19.7	99	79	10	10	-----	⚡ ⊕° a. p. ϖ² p.
24	-----	18.8	100	94	10	10	2.8	⚡ ●° ↙° a.p. ⊕°
25	-----	19.4	100	88	10	10	3	●° ↙° a. p.
26	-----	19.7	100	88	10	9	21.1	●° ⊕° a. ⚡ ●² p.
27	-----	18.7	100	84	8	9	4.1	●° ⚡ a. ⚡ ⊕² ϖ°
28	-----	18.8	100	64	9	3	1.8	●° ≡² ⊕° ↙° a.
29	-----	17.5	100	60	2	3	-----	Ω² ∞° a.
Mean	-----	18.5	99.1	77.3	8.6	7.6	-----	
Total	-----	-----	-----	-----	-----	-----	48.4	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.4	22.7	86	60	2	0	-----	Ω ≡ ↙° a.
2	29	23.4	86	65	0	0	-----	Ω ≡ a. ↙° p.
3	28.7	20.2	86	68	0	4	-----	Ω² ≡² a. ↙° p.
4	28.5	19.7	89	68	1	0	-----	Ω² ≡² a. ↙° p.
5	28.7	19.7	81	60	0	0	-----	Ω² ≡² a. ↙° p.
6	28.7	20.5	79	62	1	0	-----	Ω° ≡² ↙° a.
7	29.2	23	69	55	7	0	-----	↙° p.
8	29.2	21	77	60	1	1	-----	≡² ↙° a.
9	28.2	22.1	82	70	2	3	-----	Ω° ≡ a.
10	28	21	78	63	0	9	-----	Ω° ≡ a. ψ p.
11	28.4	18	85	97	0	9	-----	Ω² ≡² ↙° a.
12	29	20.1	83	67	1	1	-----	Ω² ≡² a.
13	29.3	21.5	84	70	0	0	-----	Ω ≡ ↙° a.
14	29.7	21.1	86	77	1	1	-----	Ω² ≡² a.
15	29.9	22.9	87	73	5	1	-----	Ω ≡ a. ⊤° p.
16	30.7	24.5	86	71	5	4	-----	↙° a.
17	26	23	84	80	10	9	21.1	● a. ↙° a. p.
18	27.2	21.7	88	76	9	9	-----	d ↙° a.
19	27.6	21	91	73	10	5	3	●° a. p.
20	28.5	21.8	87	70	9	0	-----	
21	30.7	21.7	82	62	0	1	-----	Ω ≡ a. ↙° p.
22	29.6	22.5	87	76	9	1	-----	≡ a.
23	29.5	23.6	85	76	7	1	-----	↙° p.
24	30.8	23	89	75	4	1	-----	Ω ≡ a.
25	30.5	24.5	81	72	5	7	-----	↙° a.
26	29.4	24.5	85	89	5	10	11.7	≡° a. ● p.
27	28.5	23.2	95	83	5	8	-----	≡ a. ↙° p.
28	30	23.1	91	85	0	1	-----	Ω² ≡² a.
29	30	23.1	91	66	0	1	-----	Ω² ≡² a.
Mean	29.1	22	84.8	70.3	3.4	3	-----	
Total	-----	-----	-----	-----	-----	-----	35.8	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	-----	-----	-----	-----	-----	-----	-----	
2	-----	-----	-----	-----	-----	-----	-----	
3	-----	-----	-----	-----	-----	-----	-----	
4	-----	-----	-----	-----	-----	-----	-----	
5	-----	-----	-----	-----	-----	-----	-----	
6	-----	-----	-----	-----	-----	-----	-----	
7	-----	-----	-----	-----	-----	-----	-----	
8	-----	-----	-----	-----	-----	-----	-----	
9	-----	-----	-----	-----	-----	-----	-----	
10	-----	-----	-----	-----	-----	-----	-----	
11	-----	-----	-----	-----	-----	-----	-----	
12	-----	-----	-----	-----	-----	-----	-----	
13	-----	-----	-----	-----	-----	-----	-----	
14	-----	-----	-----	-----	-----	-----	-----	
15	32.5	20	88	51	0	1	-----	≡ a. ϖ p.
16	30.4	21.4	86	64	1	2	-----	≡ a.
17	25.4	19.5	96	65	10	10	42.7	● a. d p.
18	28.7	19.6	75	57	9	6	-----	↙° a. p.
19	31.3	18.8	78	40	7	7	-----	
20	29.8	19	91	61	10	5	5.6	● a.
21	33	18.5	92	47	4	1	-----	≡ a.
22	33.1	20.4	80	47	1	1	-----	≡ a.
23	31.4	20.1	84	53	0	1	-----	≡ a.
24	31.5	20.2	80	49	0	1	-----	≡ a. ↙ a. p.
25	34.3	23	76	41	5	3	-----	↙ p.
26	34.6	23.3	79	41	0	3	-----	↙ a. p.
27	32	24	82	58	2	2	-----	≡ a.
28	32.1	23.1	92	66	0	1	-----	≡ a.
29	31	22	91	68	0	1	-----	≡ a.
Mean	31.4	20.9	84.7	53.9	3.3	3	-----	
Total	-----	-----	-----	-----	-----	-----	48.3	

METEOROLOGICAL DATA, ETC.—Continued.

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	25.6	22	84	92	10	8	3.2	↙ ● a. d p.
2	26.2	22.7	89	76	2	1	------	≡ ↙° p.
3	22.2	19.9	86	96	10	10	109.2	d ●² a. ● p.
4	25.1	19.2	91	75	10	2	4.1	●° ⌒ a. ≡ ↙° p.
5	23.7	19.7	87	84	9	8	5.6	●° a. ↙° a. p.
6	20.7	17.4	81	80	10	9	6.6	↙ ● a. d° p.
7	19.6	15.5	80	80	10	10	6.1	● a. d a. p.
8	24	17.1	78	69	9	10	.8	●° ⌒ p.
9	25.3	18.4	84	67	8	3	------	↙° a. p. ≡ p.
10	24.3	21	80	95	8	10	3.2	●° a. p. ↙° p.
11	26.8	21.3	77	78	8	10	------	↙° a. p.
12	27	22.6	79	77	7	1	------	↙° a. p. ≡ Ω p.
13	27.7	19.9	82	65	8	1	------	d ⌒ a. ≡ p.
14	27.4	23.2	82	75	10	2	------	↙° a. p. ≡ p.
15	26.8	22.8	80	87	10	10	------	↙° a.
16	27.8	22.7	85	86	10	8	5.8	p° ↙ ● a. ↙° p.
17	22.9	18.1	92	77	10	9	28.4	d ↙ ●² a. ↙° ●°
18	22.7	16.9	88	77	7	8	5.8	⌒ a. ↙° ●° a. p.
19	19.2	16.5	86	85	10	10	2.5	↙° ●° a. p.
20	21.2	16.1	85	74	10	10	6.9	↙° ●° a. p.
21	25	18.9	85	80	9	7	------	↙° a. p.
22	24.7	19.1	78	69	1	2	------	p° Ω p.
23	26	19	87	71	2	6	------	p° p.
24	21.8	19.9	91	79	10	10	21.3	d ● a. ↙° a. p.
25	21.6	19	86	87	10	10	16.3	●° ↙° a. p.
26	22	18.5	91	92	10	10	25.9	● a. d ↙° a. p.
27	25.2	19.3	87	81	10	10	3.8	●° a. ↙° a. p.
28	26.6	22.9	83	76	3	2	------	↙° a. p. ≡ p.
29	28	23.2	87	80	2	2	------	↙° a. p. ≡ Ω p.
Mean	24.4	19.8	84.5	79.7	8	6.9	------	
Total	------	------	------	------	------	------	255.5	

SEISMOLOGICAL BULLETIN FOR FEBRUARY, 1908.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

3, 23^h 54^m 15^{s*}. **Legaspi** (SE of Luzon). Oscillatory earthquake. Direction NNW–SSE; intensity IV; duration 12^s.

10, 2^h 18^m 29^{s*}. **Southwestern Luzon.** Earthquake of force III, which was felt in the western provinces of the island, south of parallel 16°, over an area measuring 300 kilometers in the direction N–S and 80 kilometers in the direction E–W. The origin of this shock lay probably underneath the China Sea, about 300 kilometers west of Manila.

11, 4^h 15^m. **Baganga** (E of Mindanao). Earthquake of force II.

19, 20^h 26^m. **Ormoc** (W of Leyte). Earthquake of force III. At 21^h 24^m followed a repetition with intensity IV. This second shock was also perceptible in the northern part of Cebu Island, at a distance of about 60 kilometers, which fact indicates that the center of these movements was near the northwestern coast of the Island of Leyte.

21, 4^h 29^m 24^{s*}. **Northern Luzon.** Earthquake of intensity IV, felt throughout the part of Luzon lying north of parallel 17° 30′. At 10^h 41^m 36^{s*} the shocks were repeated with intensity III. Both quakes were registered by the microseismographs of the Central Observatory. From the duration of the preliminary movements we conclude that the epicenter of the disturbance must have lain in the direction of the Babuyanes Islands, some 500 kilometers north of Manila. This deduction as to the position of the center is confirmed by the N–S direction of the seismic waves observed at all the stations at which the earthquake was felt, even at those which are nearest to the northern coast of Luzon.

25, 22^h 33^m. **Surigao** (NE of Mindanao). Oscillatory earthquake. Direction SE–NW; intensity III; duration 10^s.

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight=0h.]

No.	Date.	Component.	Beginning.			Maximum range of motion.			End.	Instrument.	Remarks.
			First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2 a.).	Period.			
			h. m. s.	h. m. s.	h. m. s.	h. m. s.	mm.	s.	h. m.		
17	2	WSW–ENE	16 31 10	----------	----------	----------	------	------	16 34	V. M.	
18	3	WSW–ENE	23 54 13	----------	23 54 50	23 55 08	0.56	2.4	24 07	V. M.	Vertical component; amplitude 0.06 mm. Earthquake, intensity III at Legaspi (SE of Luzon).
		WSW–ENE	23 54 18	----------	23 54 53	23 56 00	.08	6.6	24 05	H. P.	
		NNW–SSE	23 54 15	----------	23 54 53	23 56 07	.24	2.4	24 07	V. M.	
		NNW–SSE	23 54 19	----------	23 54 56	23 56 33	.07	8.4	24 04	H. P.	
19	5	NNW–SSE	0 29 36	----------	----------	----------	------	------	0 33	V. M.	Vertical component; amplitude 0.06 mm.
20	5	NNW–SSE	6 21 29	----------	----------				6 24	V. M.	
21	6	WSW–ENE	9 35 03	----------	----------	9 39 40	.03	2.4	9 50	V. M.	
		WSW–ENE	9 35 16	----------	----------	9 41 28	.05	6.6	10 00	H. P.	
		NNW–SSE	9 35 05	----------	----------	9 39 51	.04	2.8	9 51	V. M.	
22	8	WSW–ENE	17 23 08	----------	----------	----------	------	------	17 27	V. M.	
23	9	WSW–ENE	7 18 38			----------	------	------	7 21	V. M.	
24	10	WSW–ENE	2 18 29	2 24 14	2 29 59	2 34 31	.02	12.8	3 25	V. M.	
		WSW–ENE	2 18 35	2 24 29	2 30 02	2 33 05	.87	8.7	3 56	H. P.	
		NNW–SSE	2 18 29	2 24 36	2 30 09	2 32 30	.03	11.6	3 16	V. M.	
25	10	WSW–ENE	10 02 54	----------	10 03 12	10 03 22	2.80	2	10 38	V. M.	Vertical component; amplitude 1.65 mm. Earthquake, intensity III in the southwestern part of Luzon.
		WSW–ENE	10 02 55	----------	10 03 11	10 03 16	4.67	1.8	10 45	H. P.	
		NNW–SSE	10 02 56	----------	10 03 13	10 03 24	3.02	2	10 47	V. M.	
26	14	WSW–ENE	17 37 39	----------	----------	17 38 30	.48	2.4	17 43	V. M.	Vertical component; amplitude 0.09 mm.
		NNW–SSE	17 37 38	----------	----------	17 38 32	.39	2.4	17 43	V. M.	
27	15	WSW–ENE	20 24 30	----------	----------	----------	------	------	20 28	V. M.	
28	20	WSW–ENE	2 01 49	----------	----------	----------	------	------	2 06	V. M.	
29	21	WSW–ENE	4 29 18	----------	4 30 51	4 31 08	1.40	2.4	4 46	V. M.	Vertical component; amplitude 0.21 mm. Earthquake, intensity III in the northern part of Luzon.
		WSW–ENE	4 29 24	4 30 27	4 32 14	4 32 44	.48	9.6	4 50	H. P.	
		NNW–SSE	4 29 18	----------	4 30 33	4 30 54	1.42	2.4	4 44	V. M.	
		NNW–SSE	4 29 19	4 30 31	4 31 56	4 34 08	.35	7.2	4 45	H. P.	
30	21	WSW–ENE	10 41 36	----------	----------	----------	------	------	10 46	V. M.	Earthquake intensity III at Aparri (NE of Luzon).

Instrumental constants.—Vicentini microseismograph (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=10.5 seconds; WSW–ENE pendulum, T=10 seconds. Magnification of the record: NNW–SSE, 15 times; WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters which extends many kilometers toward north and south and only four to the east, where volcanic tuff outcrops. To the west there lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

3, 23^h 54^m 15^s.* **Legaspi** (SE de Luzón). Temblor oscilatorio. Dirección NNW–SSE; intensidad IV; duración 12^s.

10, 2^h 18^m 29^s.* **SW de Luzón.** Temblor de intensidad III sentido en las provincias occidentales de Luzón situadas al Sur del paralelo 16°; en un área que se extiende 300 kilómetros en la dirección N–S y 80 kilómetros de E á W. El origen de este temblor de tierra se hallaba en el mar de China á unos 300 kilómetros al W de Manila.

11, 4^h 15^m. **Baganga** (E de Mindanao). Temblor de tierra de intensidad II.

19, 20^h 26^m.* **Ormoc** (W de Leyte). Temblor de tierra de intensidad III. Repitió á 21^h 24^m con intensidad IV. Este segundo temblor fué perceptible también en la parte norte de la Isla de Cebú distante unos 60 kilómetros, lo cual da á entender que el origen de estos movimientos se hallaba cerca de la costa noroeste de la Isla de Leyte.

21, 4^h 29^m 24^s.* **Norte de Luzón.** Temblor de tierra de intensidad IV sentido en toda la parte de la Isla de Luzón situada al norte del paralelo 17° 30′ lat. N. Á 10^h 41^m 36^s* se experimentó una repetición del fenómeno de intensidad III. Ambos temblores fueron registrados por los seismógrafos del Observatorio Central. De la duración de los movimientos preliminares se deduce que el origen debe situarse hacia el grupo de las Islas Babuyanes á unos 500 kilómetros al norte de Manila. Esta posición del origen se confirma con la dirección N–S de las ondas séismicas observada por todas las estaciones donde fué perceptible el temblor, aún por las situadas muy cerca de la costa norte de la Isla de Luzón.

25, 22^h 33^m. **Surigao** (NE de Mindanao). Temblor oscilatorio. Dirección SE–NW; intensidad III; duración 10^s.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

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[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120 E. de Greenwich.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1890–1907.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF FEBRUARY.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance.		Intensity (Rossi-Forel).	Remarks.
				Longer axis.	Shorter axis.		
1890	*h. m.*			*Km.*	*Km.*		
7	0 10	Leyte and Samar Islands	Strait between the islands	300	180	VIII	During the 24h following the quake were felt 3 strong and more than 20 light aftershocks.
9	5 6	Abra Province	North of the Central Range	80	50	IV	
18	16 43	City of Manila		10	6	III	
1891							
2	7 29	Northern Luzon	North of the Central Range	250	90	IV	
1892							
1	11 4	Cotabato, S Mindanao	Illana Bay	150	30	V	8m later was felt a second shock.
3	15 12	Albay Province	Vicinity of Mayon Volcano	20	15	IV	
5	10 56	do	do	20	15	IV	
11	8 0	Panay and Negros	Northern Negros	100	60	V	Some minor shocks were felt between the 7th and 14th.
15	19 21	Ilocos Norte	Off NW coast of Luzon	120	70	III	
23	17 38	Eastern provinces of central Luzon.	S Casiguran Bay	250	80	IV	
1893							
9	11 44	Tamontaca, S Mindanao	Rio Grande Valley	40	30	III	
23	5 58	Samar, Leyte, and NE Mindanao	Near S coast of Samar	400	30	V	
27	1 58	S Luzon and N Mindoro	Strait between Luzon and Mindoro.	200	150	V	A second, light shock at 18h 4m.
27	16 40	Guinayangan, SE Luzon	To NW of Burias Island	80	60	III	
1894							
3	9 36	Ilocos Sur	Off the Ilocos coast	70	30	IV	
8	13 8	Northeastern Mindanao	Off the NE coast	60	40	III	
10	0 42	Southeastern Mindanao	SE Davao Gulf	360	240	VII	During the 10th and 11th light shocks at intervals of about 5m.
10	8 16	Ilocos Norte	Off the NW coast of Luzon	100	40	III	
10	14 44	Albay Province	Near Mayon Volcano	100	60	V	
11	8 42	Northern part of Luzon	Off the N coast	180	80	V	
11	21 23	Southeastern Mindanao	SE Davao Gulf	300	200	V	
11	22 38	do	do	240	180	V	Frequent light shocks from this date until the 22d.
14	13 48	Eastern Mindanao	Agusan River Valley	180	120	IV	
16	11 49	Southeastern Mindanao	SE Davao Gulf	240	180	V	
18	5 23	Eastern Mindanao	Agusan River Valley	260	200	VI	
19	2 58	do	do	180	120	V	
19	9 53	do	do	180	120	V	
19	23 58	do	do	260	200	VI	
20	0 59	do	do	180	120	V	
21		Southeastern Mindanao	SE Davao Gulf				Several shocks.
22		do	do				Several shocks. From this date to the end of the month the shocks were less frequent and strong.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF FEBRUARY—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Total land area of disturbance. Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1895	*h. m.*			*Km.*	*Km.*		
8	8 50	City of Manila		10	9	II	
11	14 43	do		10	9	II	
16	4 5	Dapitan, NW Mindanao				IV	
20	8 38	Camarines	About φ=13° 25′; λ=123° 20′	40	40	III	
21	11 20	S Mindanao and Jolo	Celebes			II	Felt at Manila by the Bertelli tromometer.
23	2 7	Albay Province	Near Mayon Volcano	30	20	IV	
25	16 45	Negros Island	Near Canlaon Volcano	200	80	V	
27	11 52	Union and Benguet	Central Range	80	70	IV	
1896							
3		Tandag, NE Mindanao	Off the east coast	90	40	IV	
4		do	do	90	40	III	
11	13 15	Albay Province	Near Mayon Volcano	20	15	III	
24	6 56	Eastern Mindanao	Agusan River Valley	50	30	III	
25	1 58	Aparri, NE Luzon	NE end of Luzon	100	30	IV	
29	20 8	Eastern Mindanao	Agusan River Valley	110	80	IV	
1897							
2	0 14	Cotabato, S Mindanao	Illana Bay	200	40	III	
4	6 15	Ilocos Norte	Off the NW coast	100	50	III	
4	22 22	do	do	140	80	IV	
6	16 10	Gigaquit, NE Mindanao	Off the NE coast	40	20	III	Repetition some 30ᵐ later.
16	5 4	Mindanao	Agusan River Valley	450	400	VIII	Registered at some European observatories.
21	11 5	Ilocos Norte	Off the NW coast	80	60	III	
21	22 40	Eastern Mindanao	Agusan River Valley	50	40	III	
22	0 45	do	do	80	50	IV	Repeated at 19ʰ.
23	16 45	do	do	40	40	III	
26	12 20	Tandag, NE Mindanao	Off the NE coast	150	80	III	
26	14 0	Cotabato, S Mindanao	Illana Bay	80	20	III	
27	3 50	Northeastern Mindanao	Off the NE coast	120	30	IV	
28	8 39	Eastern Mindanao	Agusan River Valley	80	50	IV	Slight shocks at 16ʰ 29ᵐ and 17ʰ 45ᵐ.
1898							
1	9 32	Western Mindanao	SE Sulu Sea	80	40	III	Repeated at 20ʰ 52ᵐ.
4	14 10	do	do	80	40	III	
5	8 10	Ilocos Norte	Off the NW coast	120	60	IV	
5	13 17	Western Mindanao	SE Sulu Sea	80	40	III	
6	12 9	do	do	80	40	III	
9	12 28	do	do	80	40	III	
10	2 45	Tandag, NE Mindanao	Off the NE coast	100	60	III	
12	15 0	Davao, SE Mindanao	Davao Gulf	120	90	IV	Repeated at 22ʰ 30ᵐ.
12	23 24	W Mindanao and Jolo	SE Sulu Sea	130	60	V	On the 13th, 14th, and 15th were felt several shocks of less force.
19	15 38	do	do	100	40	III	
19	18 10	Tandag, NE Mindanao	Off the NE coast	80	50	III	
19	21 12	Southeastern Mindanao	Davao Gulf	150	90	IV	
20	7 11	Western Mindanao	SE Sulu Sea	100	80	III	At 7ʰ 21ᵐ, earthquake in the Gulf of Davao.
21	16 11	Southeastern Mindanao	Davao Gulf	200	150	V	
25	2 55	Ilocos Provinces	Off the WNW coast	200	50	IV	
1899							
8	22 7	Zamboanga, W Mindanao				III	
10	2 22	do				III	
17	20 10	do				III	
20	8 42	do				III	
1900							
16	13 54	Butuan, N Mindanao	Agusan River Valley (?)			V	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF FEBRUARY—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1901	*h. m.*			*Km.*	*Km.*		
9		Northeastern Mindanao				III	
10	21 10	do				III	
1902							
8	1 50	Northeastern Mindanao	Near the NE coast	80	70	III	
9	18 51	Northeastern Luzon	NE end of Luzon	100	60	III	
12	5 11	Southern Leyte	SE end of Leyte	70	40	III	
13	18 11	Northeastern Mindanao	Near the NE coast	100	60	V	
14	11 2	Western Mindanao	SE Sulu Sea	150	50	IV	
19	2 30	Southeastern Panay	About φ=10° 50′; λ=122° 20′	60	50	IV	
21	18 5	Western Mindanao	SE Sulu Sea	160	50	IV	Registered at Manila.
23	3 12	Southern Leyte	SE end of Leyte	80	60	III	
24	7 5	Northeastern Leyte	Near SW coast of Samar	70	40	IV	Do.
1903							
3	20 15	Batanes Islands	South of the group			III	Do.
11	7 20	Western Luzon	Zambales Range	180	70	V	
12	12 9	Southeastern Mindanao	Off the SE coast	150	70	IV	Do.
20	20 7	do	do	130	60	III	
28	8 30	do	do	130	60	III	
1904							
1	21 20	Western Mindanao	SE Sulu Sea	150	50	III	Do.
9	22 1	Panay and Negros	Near NW coast of Negros	100	90	III	
10	7 35	Southeastern Mindanao	Near the SE coast	80	40	III	
13	12 27	Southeastern Luzon	Near N Masbate	300	100	IV	Do.
13	14 0	Southeastern Mindanao	Near the SE coast	80	40	III	
18	11 50	do	do	90	60	IV	
21	19 30	Ormoc, W Leyte	NW end of Leyte	60	40	III	
22	4 2	Camarines	Vicinity of Lake Bato	230	90	IV	Repeated at 4^h 14^m and 4^h 54^m; registered at Manila.
22	9 36	do	do	500	150	V	Registered at Manila.
28	9 30	Southeastern Mindanao	Off the SE coast	80	40	III	
1905							
5	8 17	Northeastern Luzon	Near the NE coast	100	70	III	Do.
6	2 55	do	do	100	70	IV	Do.
11	4 35	Davao, SE Mindanao	Near Apo Volcano	80	60	IV	
12	13 33	Batanes Islands	S of Batanes group			III	
16	5 45	do	do			III	
20	8 15	Basilan Island	Celebes Sea	70	40	III	
21	5 31	Northeastern Luzon	Near the NE coast	100	70	IV	Do.
21	15 41	Southeastern Mindanao	Off the SE coast	200	120	IV	Do.
1906							
1	23 25	Cebu	Near the E coast	80	20	III	
4	21 46	Masinloc, W Luzon	Near the Zambales coast	90	40	IV	Do.
9	16 38	Ormoc, W Leyte	NW end of Leyte	70	50	III	
10	5 18	Northeastern Mindanao	Off the NE coast	80	40	II	
10	6 39	Western Mindanao	SE Sulu Sea	100	40	III	
18	22 41	Laguna Province	NE of Lake Bay	80	70	IV	Do.
1907							
4	3 42	Ilocos Sur	Off the Ilocos coast	60	30	III	Do.
5	17 18	Northeastern Luzon	NE end of Luzon	80	70	II	
6	7 15	Ormoc, W Leyte	NW end of Leyte	60	40	III	
6	12 4	Ilocos Sur	Off the Ilocos coast	60	40	IV	
20	5 46	Northeastern Luzon	Off the NE coast	180	50	IV	Do.
23	15 23	Panay and Negros	Near the NW coast of Negros	150	130	III	Do.
23	22 17	Southeastern Mindanao	SE end of Mindanao	100	80	III	

BULLETIN FOR MARCH, 1908.

METEOROLOGICAL BULLETIN FOR MARCH, 1908.

By Rev. José Coronas, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The monthly mean of atmospheric pressure resulted slightly smaller than the corresponding value for March of the preceding year for all the stations within the Archipelago. As to Manila, it was 0.20 millimeters below the normal value for March. The highest pressures occurred throughout the Philippines from the 20th to the 22d, and the lowest on the 5th and 6th, except at some of the more southern stations, like Surigao and Tagbilaran, which recorded the minima on different days.

The mean temperature differed only very slightly from last year's, being some tenths of a degree higher in some stations, and by the same amount lower in others. At Manila it varied from the normal by —0.9° C. The Central Observatory registered 34.2° C. as the maximum, and 17.3° C. as the minimum of the month.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, MARCH, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from March, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from March, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	758.95	—0.59	760.97	22	756.73	27	26.6	+0.8	32.8	8	20.4	16
Surigao	59.41	— .45	61.67	22	57.22	1	25.8	+ .2	31.3	29	19.1	16
Cebu	59.34	— .31	61.53	22	57.08	5						
Iloilo	59.43	— .51	61.75	21	57.08	5	26.5	+ .4	33	28	21	28
Ormoc	59.60	— .28	61.68	22	57.37	6	25.5	+ .2	32.5	24	18	6
Tacloban	59.99	— .41	62.32	22	57.79	6	25.8	— .2	33	9	21	16
Capiz	59.98	— .63	62.35	21	57.63	6	26.3	+ .4	31.5	30	19.8	5,7
Calbayog	60.32	— .18	62.61	21	58.01	6	25.1	— .1	32.5	8	18.3	16
Legaspi	60.50	— .34	62.93	21	57.87	6	25.7	— .7	31	8	18.5	5
Atimonan	60.81	— .36	63.49	21	57.86	6	25.7	— .8	32.2	7	19.6	6
Olongapo	59.98	— .39	62.53	21	56.93	5,6	26.7	0	35.4	23,31	19.5	18
San Isidro	60.49	— .69	63.09	21	57.07	6	26.5	— .3	36.7	7	17.7	19
Dagupan	59.95	— .50	62.68	20	56.51	6						
Vigan	60.16	— .38	62.64	21	56.53	6	27.1	+ .4	33.9	24	20.6	11
Aparri	61.94	— .15	65.60	21	56.76	6	24.3	— .4	32.8	6	17.6	18

Precipitation.—The rainfall during the month has been nearly everywhere more abundant than during March, 1907. At Manila the total amount of water collected in the pluviometers exceeded the normal by 46.6 millimeters and that of the corresponding month of the preceding year by 57.5 millimeters. The greater part of the rainfall observed at Manila was caused by the thunderstorm which occurred in the evening of the 29th.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF MARCH, 1908.

Station.	Total.	Departure from March, 1907.	Rainy days.	Departure from March, 1907.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from March, 1907.	Rainy days.	Departure from March, 1907.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	17.7	------	8	------	5.3	29	Batangas	6.7	+ 5.4	3	+ 1	3.6	11
Isabela, Basilan	165.3	+ 78.1	15	+ 3	44.2	29	Atimonan	168.3	+119.7	14	+ 6	32.5	10
Davao	481.6	+351.9	17	+11	42.4	4, 14, 25	Silang	33.3	+ 24.4	3	+ 1	28.7	29
Butuan	301	+ 29.7	21	− 1	67.3	26	San Antonio, Laguna	164.3	+ 84.9	16	+ 6	38.1	29
Yap, W. Carolines	231.4	− 45	11	−13	60.5	17	Corregidor	0	0	0	0	0	0
Tagbilaran	81.9	−115.4	13	+ 1	19.5	27	Manila	64.7	+ 57.5	3	+ 1	58	29
Surigao	446.3	−154.2	21	0	77.5	18	Balanga	0	0	0	0	0	0
Maasin[1]	107.2	------	6	------	39.9	25	Olongapo	7.4	+ 7.4	1	+ 1	7.4	10
Cebu	59.7	− 16.2	10	− 2	18.5	14	San Isidro	9.1	+ 9.1	5	+ 5	4.3	29
Bacolod	36.9	+ 24.1	9	+ 2	14.7	26	Tarlac	3	− 3.9	1	0	3	30
Iloilo	112.5	+ 99.5	10	+ 5	79.3	28	Baler	223.7	+168.3	17	+12	58.9	28
San Jose Buenavista	34.3	+ 34.3	6	+ 6	26.4	30	Dagupan	51.4	+ 44.3	7	+ 6	23.9	11
Tuburan	66.1	− 1.1	10	0	24.4	28	Bolinao	45.7	------	2	------	40.1	22
Ormoc	100.2	+ 17.3	16	+ 5	32	29	Baguio, Benguet	24.6	− 37.2	3	− 4	14.2	29
Tacloban	209.4	+ 62.5	19	0	40.1	25	San Fernando, Union	21.3	+ 2.7	3	+ 1	18.5	30
Capiz	30.9	− 25.5	10	+ 4	7.1	18	Echague	34.6	------	9	------	23.1	29
Borongan	521.2	+246.5	21	− 2	102.4	13	Candon	56.3	+ 54.3	2	+ 1	53.8	30
Calbayog	98	+ 49.6	17	+ 6	23.4	13	Vigan	0	0	0	0	0	0
Gubat	307	+219.4	16	+ 9	61	12	Laoag	17	------	2	------	12.2	7
Legaspi	345.5	+252.5	21	+12	71.9	13	Aparri	91.7	+ 17.6	13	+ 3	32	8
Virac	139.1	------	19	------	23.6	12	Santo Domingo	75	+ 12.9	11	− 2	21.1	20

[1] 26 days only.

DEPRESSIONS AND TYPHOONS.

We shall mention only the two depressions which affected the Philippines to some extent. Even these were of but little importance while they were being felt in the Archipelago; but the first of the two acquired afterwards such development that it showed all the characteristics of a real typhoon while passing to the east of Nippon and Yezo Islands.

The weather map corresponding to 6 a. m. of the 6th showed the existence of a depression to the southeast of Formosa, whence the same moved toward northeast, appearing to the south of, and not far from, Shikoku Island on the map for 2 p. m. of the 7th. During the afternoon and night of the 7th and the whole of the 8th the depression ran along the southern and eastern coasts of Japan, until it finally passed out into the Pacific Ocean in the morning of the 9th. An idea of the force which the disturbance gathered in its northeastward course may be derived from the fact that, while east of northern Japan, it caused a barometric minimum as low as 734 millimeters.

As far as the Philippines are concerned, the station which naturally had to feel the depression most, was Santo Domingo, Batanes Islands, where the barometer fell moderately from the 5th to the 6th, with winds and clouds from the SW quadrant.

Manila Observatory announced the existence and movements of this disturbance by the following notices:

March 6, 12.05 p. m.: Pressure is lowest over the Pacific SE of Formosa * * *.

March 7, 12.20 p. m.: A depression was lying this early morning over the Eastern Sea about NW of the northern part of the Loochoos Islands.

March 8, 4.30 p. m.: The depression situated yesterday near the northern Loochoos Islands has moved northeastward and appeared this early morning in the neighborhood of the southeastern end of Nippon Island. It seems to be a well-developed cyclone.

The other depression to be mentioned appears to have been in the neighborhood of southeastern Mindanao in the afternoon of the 26th. In the weather map of the 27th it appeared over or near the western part of the said Island, and on the following day, the 28th, it seems to have been in the vicinity of Palawan. On the 29th there were still some indications of its presence in the China Sea, to the southwest of Manila. The daily weather notes of this Observatory for the period March 27–29 contained all the foregoing information concerning this depression or low-pressure area, which throughout its course was of very little importance.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La media mensual de la presión atmosférica resulta para todas las estaciones de Filipinas un poco inferior á la media de Marzo del año pasado. La correspondiente á Manila difiere de la normal de este mes deducida de muchos años de observación en —0.20 mm. Las máximas presiones tuvieron lugar en todo el Archipiélago del 20 al 22 y las mínimas el 5 ó el 6. Sólo algunas estaciones más meridionales, como Surigao y Tagbilaran, nos dan las mínimas en otros días.

La temperatura media difiere muy poco de la del año pasado, siendo en unas estaciones superior y en otras inferior en algunas décimas de grado. La de Manila se separa de la normal en —0.9° C. La máxima y mínima absolutas registradas en el Observatorio Central fueron 34.2° C y 17.3° C.

Precipitación acuosa.—La lluvia caída este mes ha sido casi en todas partes superior á la de Marzo 1907. El total de agua recogida en Manila supera á la normal de este mes en 46.6 mm. y á la del año pasado en 57.5 mm. La mayor parte de esta lluvia observada en Manila fué debida á una turbonada que ocurrió la tarde del 29.

DEPRESIONES Y TIFONES.

Solamente mencionaremos aquí dos depresiones, únicas que en este mes influyeron algo en Filipinas. Ambas eran de poca importancia mientras influían en el Archipiélago; pero la primera se fué desarrollando de suerte que al cruzar por el Este de las Islas Nippon y Yezo tenía todo el desarrollo de un verdadero tifón.

El mapa del tiempo de 6 a. m. del día 6 indicaba la existencia de una depresión al SE de Formosa; desde allí se movió hacia el NE, apareciendo al S y no lejos de la Isla Shikoku á 2 p. m. del día 7. Durante la tarde del 7 y todo el día 8 corrió esta depresión á lo largo de la costa meridional y oriental del Japón hasta internarse en el Pacífico la mañana del día 9. Fué tal el desarrollo que fué adquiriendo esta depresión en su movimiento de traslación hacia el NE que la mínima barométrica observada durante su paso por el Este del Norte de Japón llegó á 734 mm.

Por lo que toca á Filipinas, la estación que naturalmente sintió mejor la influencia de esta perturbación atmosférica fué la de Sto. Domingo, Islas Batanes, donde se observó del 5 al 6 un descenso regular de los barómetros con vientos y nubes del tercer cuadrante.

El Observatorio indicó la existencia y movimiento de esta depresión en la forma siguiente:

Día 6, 12.05 p. m.: La presión atmosférica está relativamente baja al SE de Formosa * * *.

Día 7, 12.20 p. m.: Una depresión se hallaba esta madrugada en el Mar del Este al NW de la parte septentrional de las Islas Liukiu.

Día 8, 4.30 p. m.: La depresión situada ayer cerca del N de las Islas Liukiu se ha movido hacia el NE y aparecía esta madrugada en los alrededores del extremo SE de la Isla Nippon. Parece ser un ciclón bien desarrollado.

La otra depresión parece se hallaba la tarde del 26 en los alrededores de la parte SE de Mindanao; en el mapa del tiempo del 27 se la situó en el, ó cerca del, W de dicha isla, y el día siguiente 28 demoraba aparentemente en los alrededores de Palawan. El 29 todavía había indicios de dicha depresión en el Mar de China hacia el SW de Manila. Las notas del tiempo de este Observatorio correspondientes á los días 27–29 contienen cuanto acabamos de decir sobre esta depresión ó área de baja presión, la cual fué á la verdad de bien poca importancia.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Temperature. Open air.[2] Mean.	Maximum.	Minimum.	Underground. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity, mean.	Vapor pressure, mean.	Evaporation. Free exposure, total.	Shelter, total.
	mm.	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	*Per ct.*	*mm.*	*mm.*	*mm.*
1	758.30	26	33	19.3	26.3	28.2	27.3	27.8	27.3	27.8	69.5	17.3	8.3	3.1
2	58.81	26.3	32	20.4	26.7	28.3	27.4	27.7	27.3	27.8	70.2	17.7	9	3.9
3	58.61	26.2	33	19.5	26.3	28.4	27.3	27.7	27.3	27.8	71.3	17.6	10.8	4.2
4	58.28	26.5	34.2	19.4	26.4	28.9	27.4	27.9	27.3	27.8	67.1	16.5	10.6	4.2
5	57.30	25.8	33.2	19.5	26.7	28.9	27.5	27.9	27.3	27.8	69.5	16.7	9.3	3.8
6	57.15	25.6	33.3	18.2	26.4	29	27.6	28	27.3	27.8	68.8	16.4	10.2	4
7	58.06	26.3	32.4	20.1	27	29.2	27.7	28	27.3	27.8	73.6	18.5	7.9	3.4
8	58.96	27.3	33.4	23.4	27.7	29	28	28.6	27.5	27.9	70.2	18.6	8	3.4
9	59.73	26.2	31.3	22.8	27.8	29.4	28.4	28.9	27.4	27.8	67.3	16.9	11.3	3.4
10	59.61	25.9	30.4	22	27.5	28.9	28.3	28.7	27.4	27.8	71.1	17.5	11.8	3.7
11	61.06	25.1	29.3	20.9	27.3	28.3	28.2	28.3	27.4	27.8	75.1	17.7	6.2	2.6
12	61.87	25.6	32	21.2	26.8	28.9	27.9	28.3	27 4	27.8	73	17.6	8.3	3.1
13	61.44	24.9	29.3	21.9	27	27.9	27.8	28	27.4	27.8	73.1	17	7.5	2.8
14	60.82	25.2	31	20.3	26.6	27.9	27.7	27.9	27.6	27.8	70.8	16.7	6.5	2.9
15	61.77	24.7	29.5	20.7	26.5	27.9	27.7	27.9	27.8	27.9	71	16.3	8	3.6
16	62.21	24.9	32.6	18.1	25.8	28.7	27.3	27.9	27.5	27.8	64.4	14.6	9.5	4
17	62.28	24.6	32.7	17.3	25.7	28.8	27.4	27.8	27.6	27.8	65.6	14.8	11.2	5.1
18	62.30	24.9	32.3	18.9	26.1	28.3	27.5	27.9	27.6	27.8	67.7	15.5	9.1	3.9
19	62.70	25.4	33.6	18.4	26	28.9	27.5	28	27.6	27.9	65.2	15.1	11.7	5.5
20	62.79	25.4	33.2	18.4	26.2	29.2	27.6	28.2	27.6	27.9	67.1	15.9	8.6	4.2
21	62.97	25.6	31.5	19.5	27	28.6	28	28.3	27.7	27.9	67.8	16.3	10.6	4.6
22	62.82	25.9	31	22	27.2	28.9	28	28.4	27.5	27.8	70.6	17.4	9.8	4.4
23	62.13	26.9	33.9	20.8	27.1	29.9	28	28.8	27.6	27.8	68.9	17.7	9.8	4.8
24	61.82	25	29.5	19.9	27.4	28.9	28.2	28.6	27.6	27.9	81.5	19	9.8	3.6
25	60.91	26.3	31.6	22.4	27.4	29	28.2	28.5	27.6	27.8	74.4	18.6	8.4	2.3
26	59.79	25.9	33.2	18.5	26.5	29.4	27.8	28.8	27.6	27.8	68.4	16.5	12.6	4.2
27	59.54	25.8	30.6	21	27.3	28.9	28	28.4	27.6	27.8	75.3	18.5	9.2	3.7
28	59.28	26.9	32.8	21.9	27.2	29	27.9	28.5	27.6	27.9	75.2	19.6	7.4	3.4
29	59.43	26.1	31.4	23.3	27.6	29	28.1	28.4	27.7	27.8	85	21.4	3.9	2.2
30	60.06	25.2	27.5	22.5	27	27.5	27.8	28	27.7	27.8	85.9	20.5	2.9	1.3
31	59.68	27	33.2	20.5	26.5	28.8	27.6	28	27.7	27.9	69.5	17.8	7.5	3
Mean	760.40	25.8	31.9	20.4	26.8	28.7	27.8	28.2	27.5	27.8	71.4	17.4	8.9	3.6
Total													275.7	112.3
Departure from normal	—0.20	—0.9	—0.4	—1.1							—0.4	—0.9	+8.6	

Date.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount, mean.	Prevailing form and its direction. Upper.		Lower.		Sunshine.		Rainfall.	Miscellaneous.
		Km.	*Km.*		*0–10.*					*h.*	*m.*	*mm.*	
1	NE, SE	216.5	20.5	SE by E	6.8	Ci.	SE	Cu.	E	10	25		≡° a. p. ◯° a.
2	SE	221.5	23	SE	7	Ci.-S.	SE	Cu.	E	8	40		≡° a.
3	SE	328	28	SE by S	5.9	Ci.-S.	S	Cu.		10	30		≡ a. ◯ ↙° p.
4	ENE, SSE	176	18.5	SSE	2.5	Ci.-S.		Cu.		10	35		≡° a.
5	SE	244.5	27	SE	1.8	Ci.		Cu.	E	10	35		≡ a. ↙° p.
6	ENE, SE	198.5	15.5	WSW	1.4	Ci.		Cu.		10	35		≡° a.
7	SW	215	19.5	SW	1.7	A.-Cu.		Cu.		10	45		≡ a.
8	Variable	193.5	21	ESE	2.8	A.-Cu.		Cu.	E by N	10	00		≡ a.
9	ENE	203.5	20	NE	7.7	A.-Cu.	E	N.-cf.	ENE	2	00		≡° a.
10	ENE	216.5	24.5	NE by N	9.5	Ci.-S.		Cu.-N.	NE by E	0	05		d° a.
11	Variable	119	14.5	NE by E	9.2	A.-Cu.		N.-cf.	ENE	0	50		≡° a. ⌒ p.
12	NE	163.5	17.5	ESE	8.8	Ci.-S.		N.-cf.	E	2	00		≡ d° a.
13	SE	191.5	15	E	9.3	A.-Cu.		N.-cf.	E	0	20		≡° a.
14	SE	260	24.5	E	7.9	Ci.-S.		N.-cf.	ENE	3	10		≡ a. ↙° p.
15	E	309	29.5	SE	9.3	Ci.-S.	NE by E	Fr.-N.	E	0	25		≡ d° a. ↙° p.
16	E, SE	227.5	25	E	5.2	A.-Cu.	NE	Cu.	E	5	25		≡ a.
17	E	222	18	W	2.6	Ci.		Cu.	E by N	9	20		≡° a.
18	ESE	226.5	22.5	E by S	5.5	Ci.		Cu.	NE by E	6	00		≡° a.
19	SE	216	20.5	ESE	5.3	Ci.-S.	S	Cu.	E	5	55		≡° ◯° a.
20	Variable	250	22.5	SE	4.9	Ci.	SE	Cu.	E	8	10		≡° a.
21	E	199.5	18	E by S	7.5	A.-Cu.	ESE	N.-cf.	E	3	30		≡° a.
22	ESE	206	23.5	E	9.6	Ci.-S.		N.-cf.	E by N	0	50		≡° a. d° p.
23	ESE	264	27	E	5	Ci.-S.		Cu.	E by N	8	20		≡° a. ↙° p.
24	ESE	153.5	12	SE	9.3	Ci.-S.	WNW	N.-cf.	E by N	1	10	6.6	≡° ◯° a. d ●° p.
25	ESE	212	19.5	E	8	Ci.-S.	SSW	Cu.	ENE	4	40		≡° a.
26	ESE	216.5	18	SE	6	Ci.-S.	W by S	Cu.	E by N	9	10		≡ Ω° ◯ a.
27	NE	122	18	NE by N	8.8	Ci.-S.		N.-cf.	E by N	1	10		≡° a. d° p.
28	Variable	132.5	19.5	E	8.3	A.-Cu.		N.-cf.	E	3	05	.1	≡ a. d ●° p.
29	Variable	126.5	17	NNE	8.8	Ci.-S.		S.-Cu.	E	0	30	58	≡°◯°a. ↙ ●²p. ⊤
30	ESE	135	13.5	ESE	9.6	A.-Cu.	NW	Cu.-N.	NW	0	00		d a. d° ⌒ p.
31	ESE	259.5	21	ESE	4.1	Ci.-S.	W	Cu.	E	9	50		≡ Ω a.
Mean		207.3	20.5		6.5					5	25		
Total										168	00	64.7	
Departure from normal		—21.6			+2.2					—75	26	+46.6	

[1] All the mean values given in this table are deduced from hourly observations.
[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	756.90	26.9	31.6	23.6	78.9	NNE	1.3	8.5	Ci.-S. NE	Cu. E	------	
2	57.18	26.1	30.4	22.6	82.3	N	1.3	9	------	N. NE, E	9.7	● p.
3	57.68	27.2	32.2	22.9	72.9	N	1.3	8.5	A.-S.	S.-Cu. E	------	
4	57.58	26.6	31.8	23	75.3	N, NW	1.5	7.5	A.-S.	S.-Cu.	------	
5	56.83	26.8	30.9	22.7	75.7	N, SE	1.5	6.8	A.-Cu., A.-S.	S.-Cu. NE	------	
6	56.94	26.5	31.7	21.1	73	Variable	1	3.5	------	S.-Cu., Cu.	------	
7	57.54	26.7	31.6	21.4	75.8	NNE, SE	1.3	6.8	Ci.-S. SE, E	S.-Cu. E	------	↯° p.
8	58.08	26.4	32.8	22	78.5	NNE	1.3	6.5	Ci.-S. E	Cu. NE, N	------	◯° ᴗ°
9	58.66	26.6	32	23.1	72.6	W	1.3	6.2	Ci.-S.	Cu. N	------	
10	58.41	26.3	32.5	20.9	71.5	NNE, NW	1.3	6.8	Ci.-S. NE	Cu. NE, E	------	
11	59.52	26	32.4	20.9	69.3	NNE, SE	1.2	4.5	Ci.-S.	Cu. NE	------	ᴗ°
12	59.90	26.4	31.4	21.3	73.7	NNE, W	1.2	9.2	Ci.-S. E	Cu. E	------	d° p.
13	59.55	26.6	30.7	23.4	76.3	NNE, NW	1.2	9.8	Ci.-S., A.-S.	Cu.-N. E	.5	d p.
14	59.76	25.8	28.5	23.3	73.8	NNE	1.2	10	Ci.-S., A.-S.	N. E	------	d° a.
15	60.49	26.3	31.1	23	71.2	N, NNE	1.2	10	A.-S.	S.-Cu. E	.4	≡° a. d p.
16	60.82	25.5	31.7	20.4	71.2	NNE	1.5	6.5	------	Cu. NE, E	.3	d p.
17	60.40	26	29.9	22.3	77.7	NNE	1	8.2	Ci.-S.	N. E	7.4	d° a. ● p.
18	60.64	26.7	30.9	22.3	77.1	NNE	1.3	10	A.-S.	Cu.-N. E	------	d° a.
19	60.80	26.8	32.3	22.7	73.7	NNE	1.2	7.8	A.-S.	Cu. NE, E	2	⌒ ● p.
20	60.96	27	30.4	23	77.5	NNE, SE	1.2	7.5	A.-S.	Cu. E	.3	d a.
21	60.75	26.9	31.4	23.9	77.5	NNE	1	9	------	Cu.-N. E	1.5	● a.
22	60.97	26.8	31	23.1	72.8	N, SE	1.8	5.8	------	Cu. E	------	⇙° p.
23	60.51	27.1	31.3	22.5	73.3	Variable	1.2	6.5	Ci.-S.	Cu.-N. E	------	
24	60.02	27.4	31.7	23.1	73.6	NNE, SE	1.2	6.8	Ci.-S. NE	Cu. E	------	
25	59.04	26.7	31	23.4	85.3	N, NNE	1.3	10	A.-S.	Cu.-N. E, NE	7.4	● p.
26	57.47	26.5	30.6	23.4	80.6	N	1	9	A.-S.	Cu.-N. E	7.1	● p.
27	56.73	27.5	31.3	23.6	80.8	NNE, N	1.5	9	A.-S.	Cu.-N. E	19.5	● a. ⌈↯ p.
28	57.99	27.6	30.2	23.6	82	SE	1.3	8	A.-S. N	Cu.-N. E	------	⊤ p.
29	58.44	26.8	29.6	23.7	82.3	SE	1.2	8.8	Ci.-S., A.-S.	Cu. E	19	⌈↯ p.
30	58.59	26.2	30	23.4	82.3	N, NNE	1	8.2	------	N. E	6.8	● p.
31	58.42	26.9	31.5	23.5	76	NNE	1.2	6.8	Ci.-S.	Cu. E	------	
Mean	758.95	26.6	31.2	22.7	76.3	------	1.3	7.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	81.9	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	757.22	26	30.4	22.6	87.3	NE	1.5	7.5	A.-Cu.	Cu. NE	13.2	● p. Ω
2	57.76	26.1	30	23.2	89.2	NNE	2.4	8.8	Ci.	Cu. E, NE	23.4	● Ω ≡° a. ⇙° p.
3	58.16	27.1	29.7	23.2	84.4	NE quad.	3.6	6.8	Ci.	Cu. NE	------	⇙° a.
4	58.15	26.5	30.4	23.2	82.7	ENE	1.9	5.8	Ci.	Cu. E	------	Ω ⇙°
5	57.61	25.7	29.7	21.9	84.3	E	1.7	5.8	A.-Cu.	Cu. NE	------	Ω ⇙°
6	57.52	25.6	29.8	20.1	80.3	SE	1.4	3	Ci.	Cu. NE	------	Ω
7	58.13	26.3	29.7	21	84.2	E	1.8	3.8	Ci.	Cu. NE, E	------	Ω ≡°
8	58.84	25.6	29.2	22.2	85.2	SSE, E	1.6	7	Ci.	Cu. Variable	------	Ω .
9	59.24	25.5	30.4	20.4	81.8	Variable	2	2.5	Ci.	Cu. NE	------	Ω ᴗ
10	58.81	26	30.7	21.4	84.1	Variable	2.7	5	Ci.	Cu. E, NE	7.1	● a. ⇙° p. Ω
11	59.96	25.1	30.3	20.2	82.5	SSE, NNE	1.9	3.8	Ci.	Cu. NE	------	Ω
12	60.44	25.6	29.4	21.8	86.1	SSE, E	1.4	8.5	Ci.-S.	Cu. E, NE	4.3	● a. Ω
13	60.13	25	30.4	22.2	89.7	NE	2.4	9.2	Ci., Ci.-S.	N.-cf. E, NE	13	● a. p.
14	60.35	25.1	27.5	22.1	83.7	NE, E	4.7	10	Ci.-S.	N.-cf. NE	19.3	● a. p.
15	60.94	25.6	29.7	21.9	82.8	ENE	2.8	9	Variable	S.-Cu. N, NE	15.7	● ⇙° a. Ω
16	61.05	24	27.9	19.1	88.8	Variable	1.2	7.5	Ci.-S.	Cu. N	8.4	● p. Ω
17	60.53	24.3	25.1	22	94	NE	1.5	10	Ci.-S.	N. NE	76.7	● a. p.
18	61.15	25.6	28.8	22.5	87.5	E, NE	2.1	9.2	Ci.-S.	N.-cf. ENE, NNE	77.5	● a. p.
19	61.25	25.2	29.8	22.5	89	N	2	10	A.-Cu., Ci.-S.	Cu. NE, E	42.4	● a. p.
20	61.39	25.7	28.9	21.9	88.7	S, NE	1.5	8	Ci.	Cu. NE, E	1.8	d a. p. Ω
21	61.41	25.8	27.3	22.4	89.6	ENE	2.2	10	A.-Cu., Ci.-S.	Cu. NE, E	24.4	● a. p. Ω
22	61.67	26.5	30.2	23.1	86.7	ENE	1.9	4	Ci.	Cu. E, NE	2.3	●° p. Ω
23	60.92	26.3	30.6	23.4	89.2	NE, SE	1.8	7.5	Ci.	Cu. E	4.8	d a. ● p. Ω
24	60.38	26.3	30.2	22.9	88.3	NNE	1.7	8.5	Ci.	Cu. NE, E	5.8	● a. p. Ω
25	59.04	25.6	29.3	22.9	91	N, NE	1.7	9.8	Ci.-S.	N.-cf. NNE	31	● a. p.
26	57.27	26.4	28.8	23.3	88.8	NE	2.5	9.8	Ci.-S.	N. N	33.8	● a. p.
27	57.26	27.2	30.3	24.1	89.2	E	2.6	6.5	Ci.	Cu. E	3.6	●° a. ∞ d° p.
28	58.54	26.2	30.1	23.8	91.1	SE quad.	1.8	9.2	Ci.-S.	Cu. SE, E	6.1	●° a. p. Ω
29	58.86	26.9	31.3	24.2	90.6	E	1.2	5	Ci.	Cu. E	------	Ω
30	58.93	25.4	27.1	23.1	93.2	Variable	1.8	9.5	Ci.-S.	N.-cf. N, E	31.7	● a. p. Ω
31	58.89	26.4	29.8	22.7	88.1	NE, ESE	2.8	5.8	A.-Cu.	Cu. NE	------	⇙° Ω ∞
Mean	759.41	25.8	29.4	22.6	87.2	------	2.1	7.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	446.3	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[$\phi=10°\ 18'$ N; $\lambda=123°\ 54'$ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	757.34	------	------	------	------	ENE	7.9	5.2	Ci.-S.	Cu. E	------	Ω ≡°
2	57.65	------	------	------	------	ENE	11.4	6	Ci.-S.	S.-Cu. ENE	11.7	≡° ● ↙° p.
3	58.09	------	------	------	------	ENE	10.7	6	Ci.	Cu. ENE	10.4	≡° ● a.
4	58.02	------	------	------	------	E	8.4	4.2	Ci. S	S.-Cu. ENE	------	Ω ∞
5	57.08	------	------	------	------	E	8.2	3.5	Ci.	Cu. E	------	Ω ≡°
6	57.09	------	------	------	------	E	7.3	3.8	Ci.	Cu. E	------	Ω ∞
7	57.91	------	------	------	------	ENE, E	7.4	5.2	Ci.	Cu. NE	------	Ω ≡°
8	58.41	------	------	------	------	ENE	9.6	5.8	Ci.	Cu. NE	------	Ω ≡°
9	58.89	------	------	------	------	ENE	9	4	Ci.	Cu. ENE	------	Ω ≡°
10	58.69	------	------	------	------	NE, E	8.3	3.8	Ci. E	Cu. E	------	Ω ∞
11	59.63	------	------	------	------	E by N	7.9	3.5	Ci.	Cu. NNE	------	Ω ∞
12	60.16	------	------	------	------	NE	9.6	6.8	Ci.-S.	Cu. NE	------	Ω ≡° a. d° p.
13	59.99	------	------	------	------	NE	12.2	7.5	Ci.-S.	Cu. NE	.5	Ω ≡° a. d p.
14	60.16	------	------	------	------	NE quad.	13.2	8.8	Ci.-S.	Variable	18.5	● ≡° a. ⌓
15	60.94	------	------	------	------	E	14.5	7.8	A.-Cu. E	S.-Cu., Cu. NE	------	Ω ≡°
16	61.15	------	------	------	------	E, NNE	11.3	5	Ci.	Cu. NE	------	Ω ≡° a. ⌒ p.
17	60.89	24.6	29	22.9	85	NE quad.	10.1	7.2	A.-Cu., Ci.	Cu.-N. NE	1.8	Ω ≡° a. d p.
18	61.13	26.3	29	22.9	75.5	ENE	10.7	7.2	Ci.-S. E	Cu. NE	------	Ω ≡°
19	61.32	26.1	30	23	78.2	NE	10.3	4.8	Ci.-S. E	Cu. NNE	2.5	Ω ≡° a. p ⚡ p.
20	61.43	26.4	30	22.9	81.3	E	10.8	3.8	Ci.	Cu. NE	------	Ω ≡
21	61.32	26.3	29.2	24.1	82.2	NE	10.1	6	A.-Cu., Ci.-S.	Cu. NE	2.8	Ω ≡° a. ● p.
22	61.53	26.7	29.9	24.1	77.2	NE	11.7	4	Ci.	Cu. ENE	------	Ω ∞
23	61	26.2	29.5	23.8	81	ENE, NE	10.8	6	Ci.	Cu. ENE	------	Ω ≡° a. d° p.
24	60.49	26.5	29.7	23.3	78.8	E	9.8	3.2	Ci.	Cu. ENE	.3	Ω ≡° d° a. ◯°
25	59.46	26.5	30.4	23.3	76.8	NE, N	9.4	7.2	Ci.-S.	Cu.-N. NE	------	Ω ≡°
26	57.78	27	31.9	24	73.7	NE quad.	12.3	6.2	Ci.-S. E	Cu. NE	.5	Ω ≡° a. p ↙° p.
27	57.13	27.5	31	24.9	78.8	NE	11.3	6.8	Ci.-S.	S.-Cu. NE	------	Ω ≡° d a. ⊤ ⚡ p.
28	58.38	27.4	30	25.5	82.2	E	9.5	7.5	Ci.-S.	Cu.-N. SE	10.7	Ω ≡° ↙° ● a. ⚡ p.
29	58.67	27.7	30.5	25.3	77.8	E	9.1	4.8	Ci.	Cu. ESE	------	≡° a. ⌒ p.
30	58.92	26.1	29.5	23.7	82.3	NE	9.7	7.8	Ci.	S.-Cu. E	------	≡° a. d° p.
31	58.82	26.9	30.1	24.8	73.5	N, E	14.7	2.8	Ci.	Cu. NE	------	Ω ≡°
Mean	759.34	26.5	30	23.9	79	------	10.2	5.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	59.7	

ILOILO.

[$\phi=10°\ 42'$ N; $\lambda=122°\ 34'$ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	757.40	26.5	31.5	23	78.3	NNE, ENE	14.3	7.8	A.-Cu. E	Fr.-Cu.	------	
2	57.90	26.5	31.8	23.5	78.8	NE quad.	15.9	8.8	A.-Cu. E	S.-Cu. NE	0.5	● p.
3	58.16	26.8	32.1	23.5	73.7	NE	17	6.5	A.-Cu. E	Cu.	------	⊕
4	57.96	27	31.9	23.2	69.7	NE quad.	13.4	6.8	Ci., Ci.-S	Cu.	------	◯ ⊕
5	57.08	26.4	31.5	22.2	73	N, NE	12.1	3.2	Ci.	Cu.	------	
6	57.11	26.9	31.1	23	73	NE, E	7.2	6	A.-Cu.	Cu.	------	⊤ d p.
7	57.83	26.9	32.6	22.6	76.2	NE	6.4	7.5	Ci.-S, Ci.	Cu.	------	p° p.
8	58.40	26.9	32.8	23.5	73.3	NE	13.2	4.5	Ci.	Cu.	------	
9	58.80	26.8	31.9	22.6	72	N, ENE	14.6	3	Ci.	Cu.	------	
10	58.65	26.7	32.1	22.2	72.4	NE	12.6	6.8	A.-Cu., Ci.	Cu. NE	------	
11	59.90	26.4	32.4	22.1	73.3	N, ENE	13.9	3.5	Ci.	Cu.	------	Ω
12	60.45	26.2	30.9	22.9	78.5	N, NE	13.9	8.2	Ci.-S.	Cu. NE	------	d° p.
13	60.25	25	30.5	23	88.4	N	12.5	9.2	A.-Cu. ENE	N. NE	7.9	● a. d p.
14	60.17	25	29.5	22.2	82.5	NNE, NE	16.4	9 8	A.-S., A.-Cu.	S.-Cu.	6.4	● a.
15	60.75	26.4	31.5	23	71.8	N, NE	15.8	7.8	A.-Cu.	Cu. NE	------	
16	61.23	25.9	30.2	22	70	N, NE	19.3	3.8	Ci.	S.-Cu. ENE	------	
17	61.07	25.5	31.5	22.6	75.7	N, NE	17.9	6.2	A.-S.	S.-Cu.	.3	d p. ⌓²
18	61.18	26.2	31.5	23.3	74.8	NNE	20	6.8	A.-Cu.	Fr.-N. NE	------	⌓
19	61.42	26.8	31.8	23.2	70.3	NE	19.9	5.2	Ci.-S., Ci.	S.-Cu.	------	⌓
20	61.57	26.9	31.5	23.5	74.3	N, ENE	18.8	4	Ci. SE	S.-Cu.	------	
21	61.75	25.6	30.8	23.5	83.2	NE	15.8	9	Ci -S.	S.-Cu. NNE	9.4	d a. ● ⚡ p.
22	61.34	26.8	31.5	22.3	78.2	NNE, NE	17.3	5	A.-Cu. NE	Variable	------	
23	60.96	27.2	32.1	23.5	75.2	NE	17.8	2.5	A.-Cu.	Cu.	1.3	●° p.
24	60.44	27.4	32.9	23.6	73	NE	17.2	4.2	Ci.	Cu.	------	
25	59.86	26.4	31.7	22.3	75.1	NE	17.2	9	Ci.-S., A.-S.	S.-Cu. NE	.5	● p. ⌓
26	58.40	26.2	32.4	22.5	80.7	NE	16.5	8.8	Ci.-S.	N.-cf. NE	2	d a. ● p.
27	57.54	26.1	30	24.6	85.8	NNE	17.7	9.2	Ci.-S.	N. NE	4.9	●° a. p.
28	58.29	25.7	33	21	87.5	NE	7.4	9	Ci.-S.	N.	79.3	● a. ⊤⚡² p. ◯² ⊕
29	58.75	27.3	32.9	22.5	81.8	N	8.5	8.2	Ci., Ci.-S.	Cu.	------	d° p.
30	58.88	27	32.5	23.4	80.1	N, NE	14.3	6.5	Ci.	Cu.	------	d° p.
31	58.70	27.4	32.1	24.1	71.7	N, NE	16.4	4.5	Ci.	Cu. NE	------	
Mean	759.43	26.5	31.7	22.9	76.5	------	14.9	6.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	112.5	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.			
									Upper.	Lower.		
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	757.59	25.8	31.5	21.1	78.2	Variable	4.8	7	Ci. SE, ESE	Cu. ENE	------	d° a.
2	58.09	25.3	31.1	22	84.8	NE	4.7	8.2	Ci., Ci.-S.	Cu. ENE	1.3	● p.
3	58.43	26.5	30.7	22	72.9	NE	5.6	8.2	Ci. SE	Cu. E, ENE	------	
4	58.34	24.8	30.3	19.6	77.5	Variable	5.9	5.8	Ci.	Cu. E	------	Ω
5	57.61	24.6	30.5	19.4	74.6	SSW	5.3	4.5	Ci.	Cu. ESE, N	------	Ω °
6	57.37	24.4	30.2	18	74.8	Variable	6.5	3.5	Ci.	Cu. ENE	------	Ω d p.
7	58.01	24.9	30	18.9	79	SSE	4.9	3.5	Ci. ESE	Cu. N	------	Ω
8	58.61	25	30.4	20.2	79.8	Variable	6	5	Ci. SE	Cu. NE	------	Ω
9	59.04	26.2	30.1	21.3	74.7	Variable	7.6	5.5	Ci.	Cu. ESE, NE	------	
10	58.85	25.4	30.4	19.3	74.8	Variable	5.7	6	Ci. SSE, ESE	Cu. E, NE	------	Ω
11	60	25.5	30.5	20.2	75	Variable	5.5	3.5	Ci.	Cu. NE	------	Ω
12	60.51	25.9	30.5	21	77.2	Variable	6.2	8.2	Ci.-S.	Cu. E, NE	------	d p.
13	60.56	23.9	27.4	22.4	91.8	NW, S	5.4	9.8	Ci.-S.	Cu. ENE, SE	11.4	● a. p.
14	60.35	25.5	30.1	22	72.7	NE	7.8	9.2	Ci.-S. SE	Cu. ENE	2.5	● a.
15	61.03	25.7	30.7	21.4	64.4	E	8.7	7.2	Ci.	Cu. NE	------	
16	61.30	24.1	29.4	18.7	75.7	N	4.3	6	Ci. SSE	Cu. E	.5	● p.
17	60.92	25	29.7	22	80.2	W, SSW	4.4	8	Ci.-S.	Cu. ENE, NE	.5	d p.
18	61.15	26.9	31.5	22.9	68.6	E	5.8	7.2	A.-Cu. SE	Cu. NE	------	d ϟ p.
19	61.49	25.6	31	22.2	79.1	Variable	4.8	8	Ci., Ci.-S.	Cu. NE, ENE	------	d p.
20	61.61	25.1	30.2	21	84.3	SW	4.5	4.5	Ci.	Cu. NE, ENE	3.6	Ω° a. ● ⊤ p.
21	61.66	25.7	30.5	23	83.3	Variable	4.4	8.5	Ci. SE	Cu. ENE, E	3	● a.
22	61.68	26.7	31.6	23	72	SE, NE	7	6	Ci.	Cu. E, ENE	.5	●° a. d° p.
23	61.27	25.5	29.8	21.9	82.4	SSE	4.9	8	Ci.-S.	Cu. ENE, NE	2.3	Ω° ●° a. p.
24	60.68	26.2	32.5	22.2	76	Variable	5.9	5.2	Ci. SW	Cu. ENE, NE	1.5	●° a.
25	59.69	24.4	28.4	21.6	90.4	Variable	4	9.8	Ci.-S.	Cu. ENE	25.9	● a. p.
26	58.10	26.6	30.5	22.2	79.2	NE	5.5	9	Ci.-S.	Cu. ENE, NE	.5	d ϟ° p.
27	57.63	26.8	30.7	23.8	79	SE	5.8	8	Ci. SSE	Cu. E	2.3	●° a. ϟ p.
28	58.58	26.4	31	23.5	82.2	SE	5.8	7.8	Ci.-S.	Cu.-N. SE	9.1	● a. ϟ p.
29	59.02	25.4	30.4	21.2	85	S	5	7.2	Ci. SSE	Cu. ENE	32	Ω d a. ┌ϟ p.
30	59.24	25.5	29.9	22.5	83.8	Variable	3.6	9	Ci.-S.	Cu., Cu.-N. E	3.3	●° a. p.
31	59.11	25.7	32.3	21.5	73.3	Variable	5.4	3.8	Ci. E	Cu. E	------	Ω°
Mean	759.60	25.5	30.4	21.4	78.3	------	5.5	6.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	100.2	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature: Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind: Prevailing direction.	Force (mean).	Clouds: Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	757.80	26.5	31.3	23.3	78.2	NW	0.8	6	Ci.-S. W	Cu. E	11.7	● a.
2	58.32	25.7	31	23.3	83.3	N	1.3	8.5	Ci.-S.	N. E, NE	2.3	d° a. ●° p.
3	58.82	26.8	31.2	23.5	78.7	ENE	.8	7	Ci. WSW	Cu. E	------	Ω² ◯°
4	58.59	25.3	30.7	22	82	Variable	.8	4	Ci. NW	Cu. E	1.8	Ω² ●° p.
5	57.84	25.4	31.5	21.2	78.7	Variable	.5	2.5	Ci.-S.	Cu. ENE	------	Ω²
6	57.79	25.6	31.5	21.5	77	S	.7	3.8	Ci.-S.	Cu. ENE	------	Ω°
7	58.30	26.1	30.7	22.3	78.8	S	.7	3.8	Ci.-S. W	Cu.	------	Ω²
8	58.97	26.6	31	22	77.8	S, SSE	.7	5.5	Ci.-S. NW, W	Cu. NE	1	Ω ◯² ●° p.
9	59.48	26.2	33	22.8	76.8	SSE	.8	3.8	Ci.	Cu. E	------	Ω
10	59.21	25.5	31.1	22.3	80.8	NW, W	1	5.8	Ci.-S. SW	Cu. E	9.7	●² p.
11	60.29	25.9	32.5	22	80.5	W	1	4.2	Ci. SW	Cu. E	------	⊖°
12	60.92	25.1	31	22.2	84.6	NW	.8	8	Ci.-S. SW	Cu.-N. E	6.6	● ⋓° p.
13	60.74	24	27.5	22.7	91.3	NW, SE	.7	10	------	N. NE, E	35.2	● a. p.
14	60.95	25.2	29.6	22.2	79.7	E, NNE	.7	9	------	Cu.-N. E	9.4	● a. ⊖°
15	61.68	25.7	31.5	21.9	73.2	ESE	.5	6.8	A.-Cu. SSW	Variable	------	
16	61.75	24.1	29.5	21	80.5	NW, NE	.8	6.8	Ci.-S.	Cu.-N. E	2.8	Ω² a. ●° p.
17	61.36	24.6	28.7	22.2	85.6	NW	1	9.2	Ci.-Cu.	N. NE	14.8	● a. p. ⌒°
18	61.77	25.9	30.7	22.6	77.7	NW	1	7	Ci.-Cu. SSW	Cu.-N. E	------	↙° ⋓² ⊖°
19	61.94	25.9	30.5	23.3	81.7	NNW	.8	7.8	Ci.-S. SW	Cu. E, ENE	.5	d p.
20	62.09	25.8	30.1	23.3	85.4	NW, N	1	7	Ci.-S., A.-Cu.	Cu.-N. ENE	6.3	● p.
21	62.08	25.2	29.2	22.9	86.8	NNE	1	10	------	N. ENE, NE	20.8	● ⌒² a. d p.
22	62.32	25.8	31.4	22.5	82.6	NE, E	1	4.8	Ci.-Cu., A.-S.	Cu. ENE, E	8.8	● a.
23	61.58	25.8	31.5	22.8	84.8	W, ENE	1	5.8	Ci.-S. SW	Cu. E by N	9.2	d a. ● p.
24	61.09	26.6	31.7	23.2	80.7	W, E	1	4.5	Ci. W	Cu. E, ENE	------	↙° p.
25	59.92	25.2	28.5	23.2	90.2	NNW, N	1	9.8	Ci.-S.	N. NE, ENE	40.1	● a. p.
26	58.52	26.9	31.7	23.9	79.8	N, E	1.3	8.8	A.-Cu., Ci.	Cu.-N. NE, ENE	3	d ⌒° a. ◯° ● p.
27	58.06	26.3	30	23.3	84.7	N, SE	1.2	9.2	------	N. ENE, ESE	12.7	● a. d ↙° p.
28	58.78	27.7	31.5	24.5	79.8	SE	1.7	6	Ci.-S. W by S	Cu. SE	------	ϟ a. p.
29	59.47	26.1	31.6	23.2	87	Variable	.8	5.8	Ci.-S. W	Cu.-N. E	12.7	●° p. Ω ⊕
30	59.69	26.5	30.2	24	82.2	E, ENE	.3	8.5	Ci.-Cu., Ci.-S.	Cu.-N. E, ESE	------	d ⌒² a.
31	59.53	27.1	32.5	22.2	71.6	SSE	.8	3.8	Ci.-S. SE	Cu. SE	------	
Mean	759.99	25.8	30.8	22.7	81.4	------	.9	6.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	209.4	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.12	26.6	29.7	22.5	86	ENE	0.7	8.2	Ci. E	Cu.-N. E	1.8	d a. p.
2	58.78	26.4	28.8	22.2	87.6	NE	.7	6.8	Ci. NE, E	Cu. NE, E	2.8	● p.
3	58.74	26.2	29.2	22.1	85.8	NE	.5	8	Ci.-S. NE, E	Cu.-N. NE	------	
4	58.39	25.6	29.9	21.1	86	ESE, ENE	.3	5.5	Ci., Ci.-S. E	S.-Cu. E	------	Ω° ≡°
5	57.69	24.9	29.5	19.8	85.2	ENE	.3	5	Ci.-S. E	Cu.-N. E	------	Ω ≡°
6	57.63	25.3	29	20	85.3	ENE, E	.3	4	Ci.-S.	S.-Cu.	------	Ω
7	58.33	25.4	29.2	19.8	88.5	NE, E	.3	4.8	Ci. S, E	Cu. E	------	
8	59.15	25.5	29.4	19.9	86.2	NE	.3	4.5	Ci. NE	S.-Cu., Cu. NE	------	
9	59.34	26.6	29.7	20.9	84.2	NE	.5	4.8	Ci. E	Cu.-N. E	------	Ω°
10	58.85	25.7	29.7	20	87.2	ENE	.3	3.8	Ci. E	Cu.	------	Ω°
11	59.96	26.5	29.6	22.2	81.5	NE	.5	3.2	Ci. E	Fr.-Cu. E	------	
12	60.59	26.4	28.1	23.2	85.3	NE	1.3	7.8	Ci. E, NE	Variable	1.5	● p.
13	60.83	26	29.7	21.6	85.3	NE	1.2	8.5	Ci. E	Cu.-N. E, NE	4.3	d° a. ● p.
14	60.92	25.7	29	21	84.1	ENE	1.2	9.2	Ci.-S. E	N. E	5.8	● a.
15	61.34	26.8	30	22.9	78.5	E	1	8.2	Ci. E	N. E	------	
16	61.94	25.8	28.7	21.2	77.2	NE quad.	.8	4.5	Ci. E	Cu.-N. E	------	Ω° a. d° p.
17	61.45	25.6	28.5	22	83.8	NE	.7	9.2	Ci.-S. E	Cu.-N., N. E	2.5	d p.
18	61.89	25.9	27.9	21.5	83.8	NE	.8	8.8	Ci.-S., Ci. NE	Cu.-N. NE	7.1	● a.
19	62.15	26.4	28.8	22.9	82.3	NE	.8	6	Ci.-S., Ci. NE	Cu.-N. NE	------	
20	62.01	26.8	29.4	23.5	83.7	NE	.5	6.5	Ci.-S. NE	Cu.-N. E, NE	------	
21	62.35	25.8	28	22.1	87.2	NE	1.2	9.5	Ci.-S. NE	N. E, NE	2.6	●° a. d° p.
22	62.17	26.8	30.6	22	84.3	E, NE	.7	5.5	Ci.-S. NE	Cu.-N. NE	------	d° a.
23	61.77	27	29.5	22.5	83.8	ENE	.7	6	Ci. NE, E	S.-Cu. NE	------	
24	61.12	27.7	31	22.3	81.2	E quad.	.8	5.5	Ci.-S., Ci. E	Cu.-N., Cu. E	------	
25	60.42	25.9	28.7	22.2	83.2	NNE	1	8	Ci. NE, E	Variable	------	d° p.
26	59.13	26.4	28.9	22.9	85.5	NNE	1.5	9	Ci.-S. NE	N. NE	------	d° a.
27	58.29	26.9	28.9	23.5	83.8	NE	1	10	Ci.-S. NE	N. NE	------	d° p.
28	58.26	27.1	29.9	22.9	86.8	NE	.7	9	Ci.-S. NE, E	Cu.-N. NE, E	1	d a. ⊤° ϟ p.
29	59.04	27.2	31.4	22.1	86.8	ENE	.3	7.2	Ci. E	Cu.-N. NE, E	1.5	d° a. ⌐ʓ° p.
30	59.40	27.6	31.5	22.6	85.2	ENE	.7	6.8	Ci.-S. NE, E	Cu.-N. NE, E	------	
31	59.18	27.4	31.2	22.5	81.7	ENE	.5	4	Ci.-S.	S.-Cu. E	------	
Mean	759.98	26.3	29.5	21.9	84.4	------	.7	6.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	30.9	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 4.1 meter; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.11	25.5	30.5	22.5	88.3	N	1	7.5	Ci. E	S.-Cu. E	7.6	● a. ϟ p.
2	58.61	25.4	29.4	21.4	84.5	N	1.3	6.2	Ci. E	S.-Cu. E	------	ϟ p.
3	59.03	25.5	30.6	22.4	86.3	N	1	6.2	------	S.-Cu. E	------	ϟ p.
4	58.96	24.8	31	20.1	85.2	N, W	1	6	Ci. E, NE	S.-Cu. E, NE	------	ϟ p.
5	58.18	24.8	32.4	19.6	82.3	N	1	5.2	A.-Cu. NE	S.-Cu. NE	------	ϟ p.
6	58.01	25.1	31.4	19.1	80	N	1	5.5	A.-Cu. NE	S.-Cu. NE	------	ϟ p.
7	58.55	25.1	32.4	19	82	N, W	1	4.8	Ci.	S.-Cu. NE	------	ϟ p.
8	59.07	25.8	32.5	20.3	83.3	N	1	5.8	Ci. NE	S.-Cu. NE	------	d° ϟ p.
9	59.60	25.2	32	21	85.3	N	1	5.2	Ci. NE	S.-Cu. NE	5.3	●° ϟ p.
10	59.52	25.6	31.9	20.2	80.3	N	1	5.5	Ci. NE	S.-Cu. NE	------	d ϟ p.
11	60.67	24.7	31.8	19.8	84.8	N	1	5.8	Ci. NE	S.-Cu. NE	------	d p.
12	61.49	24.8	30.5	22.4	89	N	1	6.8	Ci. NE	Cu.-N. NE	5.6	●° a. d ϟ p.
13	61.09	23.9	29	22.3	91	N	1	8.8	Ci.-S.	Cu.-N. NE	23.4	● a. d ϟ p.
14	61.19	24.3	29	21.7	83.3	N	1	8.5	Ci.-S.	S.-Cu. NE	.3	d ϟ p.
15	61.89	24.6	30.5	21.4	78.3	N	1	6.2	Ci. N	S.-Cu. N	------	ϟ p.
16	62.18	23.2	29.8	18.3	81.5	N	1.5	6.2	Ci. NE	S.-Cu. NE	------	d ϟ p.
17	61.89	24	28.9	21.6	87.5	N	1	7	A.-Cu. NE	S.-Cu. NE	2.5	●° ϟ p.
18	62.20	25.6	30.6	21.6	80.2	N	1.3	6.5	A.-Cu. NE	S.-Cu. NE	------	p ϟ p.
19	62.25	25.2	30.2	21	81.7	N	1.2	7	Ci. NE	S.-Cu. NE	------	p ϟ p.
20	62.38	25.2	30.6	21	83.8	N	1.3	6.2	Ci., A.-Cu. NE	S.-Cu. NE	2.8	p ϟ p.
21	62.61	24.3	27.5	22.2	90.5	N	1	7.5	Ci.-S.	Cu.-N. NE	7.1	●° a. p. ϟ
22	62.48	25.4	30.9	22	88	N	1.2	5.8	A.-Cu. NE	S.-Cu. NE	2.8	p a. p. ϟ
23	61.94	25.6	31.5	21.8	85.3	N, NE	1.3	6.5	A.-Cu. NE	S.-Cu. NE	------	d a. ϟ p.
24	61.51	25.7	31	21.8	80.8	N	1.3	6.8	A.-Cu. NE	Cu.-N. NE	1	d ϟ p.
25	60.35	24.8	28.5	20.9	88.5	N	1.3	7.5	A.-Cu. NE	Cu.-N. NE	5.1	d p ϟ p.
26	59.05	26.3	31.4	22	82.8	N	1	7	Ci. NE	S.-Cu. NE	1	⌒° d a. ϟ p.
27	58.64	25.3	28	23.6	92.2	N	1	8.2	Ci.-S.	S.-Cu. NE	3.6	d a. p. ⊤° ϟ
28	59.02	25.8	30.5	23.6	90.7	N	1	7	A.-Cu. NE	S.-Cu. E	6.9	●° a. p. ϟ
29	59.63	24.7	30.5	22	92	N	1	7.5	Ci.	S.-Cu. NE	6.3	⌐ʓ p.
30	59.89	25.1	31.5	22.4	88.7	N	1	7.2	A.-Cu. W	S.-Cu. NE	8.6	p a. p. ϟ
31	59.79	25.9	32.4	22.2	81.5	N	1.2	5.8	Ci. W	S.-Cu. NE	8.1	p a. ϟ p.
Mean	760.32	25.1	30.6	21.3	85.1	------	1.1	6.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	98	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 4 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	758.48	25.7	29	23.1	87.4	N, NE	9.9	7.8	Ci.	Cu. ENE	34.5	● a. d° p.
2	58.98	26.7	30.4	24.4	75.7	N, NE	12.8	3.8	Ci. NW	Cu. E	------	
3	59.11	26.6	30.5	24	77.2	NE	10.7	6.8	Ci.-S. SE	Cu. E	------	◯°
4	58.73	24.8	29	20.9	80.8	NE	6	7.2	Ci.-S.	Cu.	------	
5	58.10	24.7	29.5	18.5	75.8	NE	7.4	.5	Ci.	Cu. E	------	Ω
6	57.87	25.5	30	20.1	75.3	NNE, ENE	7.4	.5	------	Cu.	------	
7	58.43	25.4	30.9	20	76.3	ENE	5.4	.5	A.-Cu.	Cu.	------	
8	59.34	26.7	31	22.4	75.3	NE	8.6	.5	------	Cu. E	------	
9	59.64	25.8	30.2	22.5	78.1	NE	8.1	6.2	A.-Cu. WNW	Cu.	3	d a.
10	59.46	26.2	29.7	23	77.5	ENE	10.4	6	A.-Cu.	Cu.-N. NE	20.3	● a. p.
11	60.73	26	30.7	23.4	78.5	N	11.9	5.2	Ci.	Cu. NE	2.8	⌒ ● p.
12	61.72	24.4	27	22.5	86.3	N, ENE	14	9.5	------	Cu.-N. NE	16.3	● a. p.
13	61.36	23.4	25	21.4	90.5	N, ENE	13.5	9.8	------	Cu.-N. NE	71.9	● a. p.
14	61.38	24.7	29.8	21.8	78	NE	16.1	10	Ci.-S.	Cu.-N. E	4.6	●° a. p.
15	62.02	26	28.6	23	68.2	NE	20.2	4.8	A.-Cu. NW	Cu. ENE	.3	d p.
16	62.38	25.9	29.1	23	65.9	N, NE	15.2	2	------	Cu. ENE, NE	------	d° p.
17	61.88	24.9	29.4	23.5	78.7	N	12.8	8.5	Ci.-S.	Fr.-N. NE	1.8	d² p.
18	62.45	24.4	30	21.8	82.7	N, NNE	14.7	8.5	A.-Cu.	Cu.-N. NE	19	● a. p.
19	62.46	25.6	29.5	23.2	77.3	NNE	13	6.5	Ci. W	Cu. E	3.3	●° a.
20	62.76	26	30.2	22.9	78	ENE, NNE	13.8	7	------	Cu.-N. NE	.8	d a. p.
21	62.93	25.3	27.4	22.8	82.6	NNE	12.5	10	A.-Cu. S	Fr.-N. ENE	40.6	● a. p.
22	62.83	25.9	28.9	22.9	81.8	NE	16.4	5.8	------	Cu. ENE	7.1	● a. d p.
23	62.30	25.8	29.1	23.2	84	NE quad.	14.4	8	Ci., A.-Cu.	Variable	14	● a. p.
24	61.72	26.4	29.1	23.4	85.3	ENE	12.1	6.2	Ci., A.-Cu.	Cu.-N. E	21.8	● a.
25	60.75	26.1	29.8	24	76.3	N	15.2	7	Ci.-S. SW	Cu., Cu.-N. ENE	.3	p p.
26	59.58	26.3	29.5	24.3	82	NNE	12	9.2	Ci.-S.	Cu.-N. NE	.3	d° a. p p.
27	59.26	26.3	29.1	24.1	83.8	NNE, NE	18.9	9.8	Ci.-S.	Fr.-N. NE	13.2	d a. ● p.
28	59.32	25.6	29	23.3	92.7	NE	11.2	10	------	Fr.-N. ESE, E	59.4	● a. p.
29	59.63	26.2	29.7	23.8	88	NE	11.2	7.5	Ci.	Cu.-N. ENE	10.2	p a. ● p.
30	60.05	26.7	29.1	24.9	83.9	NE	13.2	8.5	Ci.-S.	Fr.-N. E, ENE	------	d° p.
31	59.96	27.2	30.5	24.5	78.8	ENE	10.2	2.5	------	Cu. E	------	d° a.
Mean	760.50	25.7	29.4	22.8	80.1	------	12.2	6.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	345.5	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 7.8 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	758.67	25.8	27.9	24.6	87.5	NNE	10.9	9.5	Ci.-S.	Cu. NE	2.5	d a. p. ⌒°
2	59.35	26.5	30.4	24.1	85.8	NE	15	6.2	Ci. S	Cu. ENE, NE	------	
3	59.24	26.4	31	23.9	84.7	NE	9	6.5	Ci. SSE	S.-Cu, Cu. E	------	d° a.
4	58.64	25.2	32.1	21.4	86.2	SW	7.4	5	Ci. SSE	Cu.	------	Ω²
5	57.87	24.8	31.3	20	87.2	SW	8.6	1.5	Ci.	Cu. E	------	Ω°
6	57.86	24.7	31.8	19.6	83.3	SW, ENE	7.9	1.2	A.-Cu. ESE	Cu. S	------	Ω² ≡°
7	58.27	25.1	32.2	20	87.8	SW	7.9	.5	Ci.-S.	Cu.	------	Ω°
8	59.40	26.2	32.1	21.6	86.8	NE, SW	12.4	5.5	Ci.	Cu. N	------	Ω° d° a.
9	60.14	24.7	25.9	22.6	88.1	NNW	16.6	10	Ci.-S.	N. NNW	4.1	●° a. p. ↯°
10	59.88	24	26.5	22.5	91.7	N	15	10	Ci.-S.	N. NE	32.5	● ↯° a. p.
11	61.32	24.6	28.7	22.1	89.8	ENE, NNE	16.8	10	Ci.-S.	S.-Cu. NE	3.8	d a. p.
12	62.10	24.6	27	23	89.2	NE	20.4	9.5	Ci.	S.-Cu. NE, E	7.7	●° a. p. ϖ°
13	61.91	23.8	26.5	22.4	91.5	ENE	15.1	10	Ci.-S.	N. NE	31.5	● a. p.
14	61.46	24	26.9	21.8	88.3	E	9.6	10	Ci., Ci.-S.	S.-Cu. NE, E	------	d° a.
15	62.03	25.3	29.8	22	82	ENE	10.4	9.5	Ci.	S.-Cu. NE, E	------	Ω° d° ϖ°
16	62.93	26.1	31.3	23.3	77.2	ENE	18.5	3.5	Ci. S	Cu. NE, E	------	ϖ°
17	62.48	26.8	31.4	23.5	77.1	NE	19	5.5	Ci., A.-Cu.	Cu. NE	------	d° a. ϖ²
18	62.82	26.2	30.7	22.6	82.2	NE	21.3	7.5	Ci.-S., Ci.	Cu. NE	11.9	● a. p. ϖ²
19	63.06	26.7	31.2	23.1	80.5	NE	19.3	6.5	Ci. SSW	S.-Cu. NE	1.5	d a. ϖ²
20	63.25	26.8	31.3	23.9	82.7	NNE	16.7	4.8	Ci.-Cu. S	Cu. NNE, NE	------	ϖ°
21	63.49	26	27.9	24.2	82.1	ENE	20.6	10	Ci.-S.	S.-Cu. NE	1.8	d a. p.
22	63.38	25.1	28.4	23	89.6	NE, ENE	14.3	10	Ci.-S.	S.-Cu. NE	------	d° a. p. ϖ°
23	62.75	27	31.4	24	85.3	NE	18.4	4	Ci.	S.-Cu. NE	------	ϖ² Ω° d°
24	61.94	26	30	23	89.7	NE, NNE	10.8	8.5	Ci.	S.-Cu. N, NE	19.3	● a. p.
25	61.36	26.2	30.8	21.5	82.3	NE	15.9	5.5	Ci. SSW	Cu. NE, N	------	ϖ² d° ◯° ⊕°
26	60.27	25.8	29	22.8	85	NNE	16.1	8	Ci.-S.	Cu. E, N	2.5	●° p. ϖ°
27	59.82	26.3	30.2	23.6	87.2	NE	23.6	9	Ci.-S., Ci.	S.-Cu. NE	19.6	● a. d p.
28	59.67	25.2	28	23.4	90.7	NE	13.7	9.8	Ci.-S.	S.-Cu., Fr.-N. NE	22.8	●° a. p. ⌒°
29	59.61	26.3	30.6	24.1	91.7	Calm	3.5	9	Ci.-S.	Cu. NE, N	6.8	d a. ⌈ʒ° p. ⌒²
30	60.15	26.3	28.3	24.1	89.5	N	7.9	9.5	Ci.-S.	S.-Cu. N	------	⌈ʒ° a.
31	59.87	27.4	31.9	24.3	82.8	NNE, N	8.6	5.2	Ci. S, SW	Cu. SE, E	------	Ω°
Mean	760.81	25.7	29.8	22.8	86	------	13.9	7.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	168.3	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[ϕ=14° 49′ N; λ=120° 16′ E; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	757.87	26.3	33.9	21.1	86	NNE, ENE	0.8	6.5	Ci.-S.	Cu.	------	∞ ○°
2	58.43	27	33.6	23.1	86.2	ENE	.7	7.2	Ci.-S SE, S	Cu. NE	------	∞ ○²
3	58.15	27.7	33.6	23.1	82.7	ENE	1	5.5	Ci.-S. SE	Cu.	------	∞
4	57.98	26	33.9	22.1	87.8	ENE	.8	3.5	Ci.-S.	Cu.	------	⌓ ∞
5	56.93	25.4	31.8	21.4	88.4	ENE, SSW	.5	1.8	Ci.-S.	Cu.	------	∞²
6	56.93	25	32.4	20.5	82	ENE, SSW	.8	2	Ci.-S.	Cu. ESE	------	⌓ ∞
7	57.94	25	29.1	20.2	78.2	ENE	.8	3.5	Ci.-S.	Cu. NW	------	⌓ ∞
8	58.70	26.9	34.1	22.6	76.3	ENE, SSW	.8	4.2	Ci.-S., A.-Cu.	Cu. NE	------	∞ d°
9	59.43	26.5	33.4	23.3	75.8	ENE	.4	6	Ci.-S.	Cu. ENE	------	∞
10	59.32	25.5	31.5	21.9	77	ENE	.8	7.8	A.-Cu. E, NE	Cu.-N. NE	7.4	● p. ∞
11	60.64	25.9	32.4	21.7	76	ENE	.3	9.5	A.-Cu.	Cu.-N. E, NE	------	∞
12	61.40	26.5	33.4	21.4	69.7	NE	.8	8	A.-Cu. E	Cu.-N. NE	------	∞
13	61.10	26.3	31.5	21.9	68.8	NE	.7	8	Ci.-S.	Cu. ENE	------	∞ ∪ ⊕
14	60.38	25.9	32.8	21.1	74.2	ENE	.8	8	A.-Cu.	Cu. E	------	∞ ○
15	61.25	25.9	31.7	23.1	73.5	ENE	1	8	A.-Cu.	Cu.-N. E	------	∞
16	61.71	26.2	33.2	21.2	76.5	NE quad.	.7	5.2	A.-Cu. N	Cu. E	------	∞
17	61.76	26.6	34.4	20	66.9	ENE, NE	1.2	3.2	Ci.-S.	Cu. E	------	⌓ ∞
18	61.71	26.2	34.1	19.5	63.2	NE, ENE	.9	5.5	Ci.-S.	Cu.	------	⌓ ∞
19	62.10	27.4	34.5	22.6	58.2	ENE	1.1	7.8	Ci.-S. W	Cu.	------	∞ ○
20	62.46	25.2	34	19.6	70.7	ENE	.8	3.8	Ci.-S.	Cu. NE	------	⌓ ∞
21	62.53	26.9	34.1	20.5	67.5	ENE, E	.9	7.8	A.-Cu. SE	Cu. SE	------	
22	62.32	27.3	31.7	24.6	68	ENE, NE	.8	8.8	A.-Cu. SE	Cu.-N. E	------	
23	61.78	28.4	35.4	23.4	65.5	ENE	.8	6	Ci.-S.	Cu. E	------	∞
24	61.38	27.3	34.9	21.1	72.1	ENE	.8	9.2	Ci.-S.	Cu.-N. E	------	∞ ○
25	60.58	27.6	34.6	22.9	72.4	NE	.8	7.8	Ci.-S.	Cu. E, NE	------	∞ ○
26	59.42	26.2	35	22.2	73.9	Variable	.8	7.8	Ci.-S. W	Cu. NE	------	∞ ○°
27	59.20	27.2	35	20.9	67.9	NE	.8	8.8	Ci.-S. S, SSW	Cu.	------	∞ ○°
28	58.82	28.1	34.9	24	70.2	ENE	1	8.2	Ci.-S.	Cu. ENE	------	∞ a. p° p.
29	58.92	27.8	32.3	24.4	76	ENE	.8	8.8	A.-Cu. SE	Cu. E	------	< p.
30	59.26	28.2	33.3	25.3	70.5	ENE	.9	8.8	A.-Cu. E	Cu. E	------	○ < p.
31	59.08	28.6	35.4	22.1	65.7	NE	.6	5.8	Ci.-S.	Cu.	------	⌓ ○° ∞
Mean	759.98	26.7	33.4	22	73.8	------------	.8	6.5	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	7.4	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.39	26.9	34.8	18.8	66	Variable	0.2	4.5	Ci. S, SW	Cu. ESE	------	⌓
2	58.87	26.7	34.1	20	66.4	E	.8	6.5	Ci. S	Cu. E	------	⌓
3	58.57	26.7	35.7	20.1	66	N, ENE	.3	4.2	Ci. SE, S	Cu. E	------	⌓
4	58.18	27.4	36	20	63	Variable	.4	4.2	Ci. S	Cu. ESE	------	∞
5	57.30	26.9	34.5	21	64.5	Variable	.3	2.8	Ci.	Cu. E	------	⌓
6	57.07	26.4	35.5	18.5	63.3	S	.9	1.5	Ci.	S.-Cu.	------	⌓ ≡° ↙°
7	57.96	27.7	36.7	20.2	63.6	NNE	.5	3.8	Ci.	Cu. N	------	⌓
8	58.96	27.6	35.7	21.5	68.8	NE quad.	.8	4.8	A.-Cu.	Cu. NNW	2.5	⌓ a. ●° p.
9	59.82	26.6	33.2	22.1	70.3	E	.7	7.2	A.-Cu. SE, ESE	Cu. E, NNE	------	⌓
10	59.70	26	33.2	20.4	68	NE quad.	.5	7.2	A.-Cu. SE	Cu. N, NE	------	⌓
11	61.09	26.2	32.2	22	66.8	Variable	.5	8.5	A.-Cu. ESE, SE	Cu. NE	------	↙° p.
12	61.94	25.6	33.5	19.9	67.5	Variable	.8	6.2	Ci. SE, SSE	Cu. NE, E	.8	↙° ●°
13	61.55	25.5	32.1	19.8	65.7	E	.7	8	Ci.-S. SE	Variable	------	⌓ ↙° ⊕²
14	60.99	25.2	30.8	20	66.2	Variable	.6	5.8	Ci. E	S.-Cu.	------	⌓ ↙° ⊕°
15	61.82	25	32	19.6	69.2	Variable	1.2	5.5	A.-Cu. ESE, SE	S.-Cu., Cu. NE	------	↙°
16	62.39	25.4	32	20	62.5	E	1.3	5.2	A.-Cu. SE	Cu. NNE	------	⌓ ↙°
17	62.51	25.9	33.2	18.5	56.8	NNE, ESE	1.1	2	Ci.	Cu. ENE	------	⌓ ↙°
18	62.46	25.5	32.7	18.5	60.7	NE, E	1.7	2.5	Ci. S	Cu. NE	------	⌓ ↙°
19	62.86	24.8	32.3	17.7	63	E	1.2	4	Ci. SE, S	S.-Cu., Cu.	------	∪° ↙° ⊕°
20	62.96	25.8	34.8	18.7	63.9	ENE	1.3	4.8	Ci. SE, S	S.-Cu. NE	------	⌓ ↙
21	63.09	26.6	33.4	21	62.5	E	1.2	7	Ci. S	Cu. ENE	------	↙°
22	63	27	32.2	23.4	61.5	E	1.2	8.8	A.-Cu. SE, E	Cu.-N. NE	------	↙°
23	62.39	27.3	33.5	22	62.9	ESE	1.3	5	Ci. S	Cu.-N. ENE	.5	≡° ↙°
24	61.91	26.8	34.5	20	65.2	Variable	.4	8.5	Ci.-S. SE	Cu. ENE, NE	------	∪² ○² ↙° d°
25	61.02	27.8	34	23.2	65.5	NW, E	.7	7.5	Ci. SE	Cu. ENE, N	------	↙°
26	59.87	27.4	35.5	20	59.5	NE	.5	5.5	Ci. SE, S	S.-Cu. NNE	------	⌓ ↙°
27	59.77	26.4	34	20.4	65.6	NE	.4	7.8	Ci. S	S.-Cu.	------	⌓ ○²
28	59.48	27.1	34.6	21.5	67.2	E	1.3	7.8	A.-Cu. E	Cu. NE	------	↙°
29	59.56	27.2	32.4	24.2	72.8	NW	.4	9.8	Ci.-S. E	N. ENE, E	4.3	d a. p. <
30	60.10	25.6	28.6	23.8	81.4	NE	.4	9.5	A.-S.	N. E, NE	1	d° a. ●° < p.
31	59.67	27	33.7	21	66.6	NE, ESE	1.2	4.5	Ci. SE	S.-Cu. NE	------	⌓ ∞ ↙°
Mean	760.49	26.5	33.6	20.6	65.6	------------	.8	5.8	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	9.1	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force. (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	758.08	—	—	—	—	NW	11.5	5.2	Ci.	S.-Cu.	—	∞
2	58.26	—	—	—	—	SE	8.7	6.8	Ci.-S.	Cu.	—	
3	58.07	—	—	—	—	S, SE	14.2	3.2	Ci.	Cu.	—	
4	57.90	—	—	—	—	NW	9.8	4.2	—	S.-Cu., Cu.	0.3	d a.
5	56.79	—	—	—	—	Variable	7.9	4.2	—	S.-Cu., Cu.	—	∞
6	56.51	—	—	—	—	SE	7.4	1	Ci.	Cu.	—	∞
7	58.04	—	—	—	—	NW	12.6	1.5	—	Cu.	—	∞
8	58.94	—	—	—	—	NNW, NW	15.3	3.8	—	Cu.	—	
9	59.28	—	—	—	—	SE, NW	8.2	2	Ci.-S.	S.-Cu.	—	v
10	59.26	—	—	—	—	S, NW	—	3.5	Ci.	S.-Cu., Cu.	—	
11	60.55	—	—	—	—	NW	9.5	6.8	—	S.-Cu.	23.9	● p.
12	61.36	—	—	—	—	S, NW	11.6	5.8	A.-Cu.	S.-Cu.	—	d° p.
13	60.96	—	—	—	—	S	9.8	8.2	Ci.	S.-Cu.	—	d° p.
14	60.16	—	—	—	—	S, NW	10.6	6	Variable	S.-Cu.	—	
15	60.94	—	—	—	—	SSE	12.6	5.5	Ci.-S.	Cu.	11.4	p² p.
16	61.64	26.6	33.1	22.4	64.2	S	9.6	5	—	S.-Cu., Cu.	—	
17	61.92	26.5	33.6	21.1	64.2	NNW	10.3	1.8	Ci.	S.-Cu., Cu.	—	v ∞
18	61.75	26.4	36.5	20	63.6	Variable	9	1.5	Ci.	S.-Cu.	—	∞ ⊕
19	62.23	27.2	35.5	20.5	56.6	S	9.5	6	Ci.	Cu., S.-Cu.	6.6	∞ ⊕ p p.
20	62.68	26.4	31.4	21	69.5	NW	8.8	3.2	Ci.	S.-Cu., Cu.	—	
21	62.46	26.8	32.7	21.9	68	Variable	12.3	7	Ci.	S.-Cu., Cu.	—	∞ d° p.
22	62.30	27.2	34.5	23.3	63.5	S, SSE	11.2	9	A.-Cu.	S.-Cu. SE	.5	
23	61.84	27.6	34.8	23.3	63.2	SSE	10.8	6	Ci.	S.-Cu. SE	—	
24	61.22	27.4	33	21.8	68.8	SE	7.5	9	Ci., Ci.-S.	S.-Cu.	—	
25	60.55	27.8	34.4	23	72	SE	10	6.2	Ci.	S.-Cu., Cu.	—	v p.
26	59.48	27.3	34.1	22.5	70.7	SE, NW	—	4.5	Ci.	S.-Cu.	—	v p.
27	59.23	27.3	31.8	22.9	68.8	SSE, S	3.8	8.5	Ci.-S.	S.-Cu.	—	
28	58.88	27.3	33.4	22.9	70.5	NNW	—	9	Ci., Ci.-S.	Cu., S.-Cu.	—	
29	58.80	27.8	36.7	24.3	72.2	Variable	—	9	Ci.-S.	S.-Cu. SSE, SE	7.4	☈² p.
30	59.30	27.9	33.8	23.6	69.2	SE	15.8	8.8	Ci., Ci.-S.	S.-Cu., Cu.	1.3	●° a.
31	59.06	29.2	37.5	23.4	66.2	SE, NW	11.5	6	Ci.	Cu.	—	
Mean	759.95	27.3	34.2	22.4	67	—	10.4	5.4	—	—	—	
Total	—	—	—	—	—	—	—	—	—	—	51.4	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force. (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.20	26.6	30.1	23	—	NNW	1.3	0.2	Ci.-S.	Cu.	—	Ω ↙°
2	58.34	26.9	32.7	22.9	—	SW	.5	1	Ci.-S.	Cu.	—	Ω² ○
3	58.14	26.6	31.1	23.4	—	SE	1.3	1.8	Ci.	Cu.	—	Ω
4	58.18	27.1	32.6	23	—	Variable	.7	.2	A.-Cu.	Cu. S by W	—	Ω
5	56.93	26.4	30.9	21.6	—	Variable	1.2	0	Ci., A.-Cu.	Cu.	—	Ω° ↙°
6	56.53	27.3	31.7	24	—	NE, SSW	1.3	.2	A.-Cu.	Cu. S	—	Ω° ↙°
7	58.43	26.7	31.7	23.9	—	N	1.7	1	A.-Cu.	Cu. SW	—	↙°
8	59.13	26.5	29.9	22.7	—	NE, NW	1.7	0	A.-Cu.	Cu.	—	Ω° ↙°
9	59.50	26.7	31.3	23.3	—	ESE	1.2	0	A.-Cu. SW by S	Cu.	—	
10	59.50	26.1	33.1	22.7	—	Variable	1.8	.2	Ci.	Cu.	—	↙°
11	60.72	25.9	30	20.6	—	N, NW	1.8	0	Ci.	Cu.	—	↙°
12	61.44	26.6	30.2	21.8	—	Variable	1.5	.8	A.-Cu.	S.-Cu., Cu.	—	↙°
13	61.09	27.2	31.5	24.6	—	E, WNW	1.3	4.2	A.-Cu. SSW	S.-Cu., Cu.	—	⊕
14	60.42	26.7	32.2	24.1	—	WNW	1.2	1.8	A.-Cu.	S.-Cu., Cu.	—	⊕
15	60.94	26.7	31.4	24	—	SSE	1.2	.2	A.-Cu.	Cu.	—	⊕
16	62.10	26.4	30.7	23.5	—	NE, NNW	1.3	2.8	A.-Cu.	Cu.	—	↙° ⊕
17	62.19	26.7	31.4	24	—	Variable	1.3	.5	A.-Cu.	Cu.	—	
18	61.97	26.6	33	22.5	—	SE	1.7	0	Ci.-S.	Cu.	—	↙°
19	62.43	26.7	31.6	23.9	—	NW	1.7	.8	Ci.-S.	Cu.	—	
20	62.53	26.6	32.6	23	—	ENE	2.2	0	Variable	Cu.	—	↙°
21	62.64	26.8	31	22.7	—	Variable	1.2	2.5	Ci., Ci.-S.	Cu.	—	
22	62.46	27.4	32.1	25	—	NE, NW	1.7	6	A.-Cu. SW by S	Cu.	—	d° p.
23	62.16	27.5	33	24.4	—	Variable	1	3.5	A.-Cu. SW by S	S.-Cu., Cu.	—	
24	61.54	27.7	33.9	24	—	WNW	1.3	3	Ci.-S. SW by W	Cu. NE by N	—	
25	60.84	28.2	33.5	24.2	—	Variable	1.3	.2	Ci.-S.	Cu.	—	
26	59.67	27.8	33.2	24.3	—	Variable	1.5	1.2	Ci.	S.-Cu., Cu.	—	Ω° ↙°
27	59.72	28.1	32	25.1	—	W	1.7	.5	Ci.-S.	Cu.	—	↙° ○
28	59.14	28.4	31.5	25.3	—	SE	1.3	2.5	Ci.-S. SW by W	Cu.	—	○
29	59.10	28.7	32.6	26	—	NW	1.3	1	Ci.-S.	Cu.	—	↙° ⚡ p.
30	59.49	28.6	32.7	25.5	—	NW	1.8	3.5	Ci.-S.	S.-Cu., Cu.	—	↙° ⚡ p.
31	59.35	28.6	33.7	25.9	—	WSW	1.2	1	A.-Cu.	Cu. WSW	—	⚡ p.
Mean	760.16	27.1	31.9	23.7	—	—	1.4	1.3	—	—	—	
Total	—	—	—	—	—	—	—	—	—	—	—	

METEOROLOGICAL DATA, ETC.—Continued.

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.					Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.		Lower.			
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.					mm.	
1	759.32	24.2	29.5	20.4	89.5	S, NE	6.1	0.2	------		Cu.-N.		------	Ω
2	60.12	24.6	28.9	21	86.8	NW, E	9.9	4.8	Ci.	S	Cu.-N.	E	------	Ω ↙°
3	58.86	25	31	20.5	85.6	S	10.9	.2	------		S.-Cu.		------	Ω ↙° ∞
4	58.47	25.7	30	22.5	85.2	NE	6.7	3.8	------		S.-Cu.	SW	------	
5	57.44	26.1	30.2	22.7	81.8	NE	6.8	.5	------		S.-Cu., Cu.-N.		------	
6	56.76	26	32.8	21.5	81.7	S, N	8.1	0	------		------		------	Ω ∞
7	58.78	25.4	29.2	22.3	86.5	W, NE	8.5	4.8	A.-Cu.	W	Cu.-N.	NE	1.3	Ω ∞ p p.
8	61.35	23	24.5	20.9	87.2	NE	22	10	------		N.	NE	32	● ↙° a.
9	62.72	22.3	23.3	20.2	82.8	E	23.2	10	------		N.	ENE	1	d ↙° a.
10	61.76	23.8	26.5	20.5	82.3	NE	12	5.5	A.-Cu	S	S.-Cu.	S	------	↙°
11	63.92	22.8	24.8	20.6	84	NE	23.3	10	------		S.-Cu.	E	1	d a.
12	65.16	22	24.6	19.8	81.2	NE	20.7	9	------		S.-Cu.	NE	3.8	●° a.
13	64.31	21.7	22.1	19.4	86	E	13	10	------		N.	NE	10.7	● a.
14	63.18	21.9	24.1	19.7	88.7	E	10.3	10	A.-Cu.	SE	S-.Cu.	N, S	2	d a.
15	62.80	23.7	28.5	20.4	80.7	SE	10.5	6.8	A.-Cu.	S, SW	S.-Cu.		------	
16	62.91	24.4	29.6	20.7	81.5	S	9.8	1.5	Ci.-S.	SW	S.-Cu., Cu.		------	
17	63.44	24.4	29.1	21	81.7	S	12.2	.2	Ci.-Cu.	SE	------		------	
18	64.47	23.5	28.3	17.6	82.8	SW, E	11.8	1.8	Ci.	E	Cu.-N.	S	------	Ω ↙°
19	64.33	23.5	28.5	19.5	85	E	10.4	9.8	Ci.	E	S.-Cu.	E	.3	d a.
20	64.77	23.5	28	19	86.6	SW, NE	11.9	6.5	A.-Cu.	SE	S.-Cu.		3	Ω p p.
21	65.60	22.9	25.4	20.5	89.2	NE	20.1	10	------		N.	ENE	26.2	● ↙°
22	64.92	24.4	27.8	21.5	86.2	E, NE	12.3	7.2	A.-Cu.	SW	S.-Cu.	E	1	d° a. p. ↙°
23	63.72	24.8	28.7	22	85.5	E	8.8	9	A.-Cu.	SW	S.-Cu.	S	------	
24	62.88	25	29.7	20.6	83.8	SE, NE	9.7	4.5	Ci.-S.	SW	Cu.-N.	S	------	
25	62.08	25.2	29.5	22.6	85.2	SW, NE	8.7	1.2	------		Cu.-N.	S	------	Ω
26	61.10	25.2	29.9	19.5	85	S, NE	10.8	.2	------		Cu.		------	Ω ∞
27	62.02	24.8	28	21.5	85.2	E, ENE	13.8	9.5	------		S.-Cu.	E	7.1	● a.
28	61.30	25.2	28.7	22.4	85.9	E	13.1	8	------		S.-Cu.	E, S	------	
29	60.96	25.3	29	22.5	87.7	SE	9.1	9.8	A.-Cu.	SE	S.-Cu.	SE	2.3	p p.
30	60.78	25.9	30.2	22.6	82.7	S	13	10	Ci.-S.	S, SW	S.-Cu.		------	↯ p.
31	60	26.6	31.8	22.4	83.2	SE, S	9.5	5.8	Ci.-S.	SW, W	Cu.-N.	SE	------	T° ↯ p.
Mean	761.94	24.3	28.1	20.9	84.7	------	12.2	5.8	------		------		------	
Total	------	------	------	------	------	------	------	------	------		------		91.7	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.2	22.8	99	65	8	8	------	Ω ≡ a.
2	31.4	24.1	97	70	10	10	------	d a. d° p.
3	27.1	23.5	96	90	10	10	2.3	● a. d p.
4	29.4	22.5	94	88	8	9	1	●° p.
5	31.3	22.1	96	74	6	5	------	⊤ p.
6	32.8	22.3	97	63	9	8	------	
7	31.4	22.1	94	73	7	8	------	
8	31.8	21.6	98	68	6	8	------	Ω ≡ a. ψ p.
9	32.3	22.1	96	74	8	7	------	
10	31.6	22.4	97	67	8	9	------	⊕ p.
11	31.9	21.4	97	64	8	7	------	Ω ≡ a.
12	31.6	21	97	71	8	9	------	Ω ≡ a. ϟ p.
13	32	21.4	93	69	7	8	------	Ω a. ⊕ p.
14	31.5	22.3	94	73	7	9	------	Ω a. ⊤ p.
15	31.7	22.8	91	68	8	8	------	Ω d a. ⊕ p.
16	32	21.8	91	67	6	6	------	Ω a.
17	31.9	22	82	66	6	8	------	d ϟ p.
18	32.7	22.6	97	72	6	8	------	⊕ p.
19	33	24	95	73	9	9	1.5	p ⊕ p.
20	31.5	23.8	95	73	10	10	------	d a. p.
21	32.5	22.7	97	73	8	8	------	Ω ≡ a.
22	31.2	24.1	95	92	10	10	3	d ● a.
23	32.1	22.4	97	75	9	7	2.8	Ω ≡ ● a.
24	32.4	22.9	98	71	8	6	------	Ω ≡ a. ⌈ϟ p.
25	32.5	23.2	96	67	8	6	------	Ω ≡ a.
26	32.1	26	87	76	8	10	1	●° p.
27	28.8	24.1	96	81	9	10	.8	Ω ≡ a. ϟ ●° p
28	32.8	23	96	63	4	8	------	Ω ≡ a. ϟ p.
29	31.9	22.3	96	75	4	9	5.3	● p.
30	32.2	24	96	78	7	9	------	
31	29.3	23	97	79	5	9	------	Ω ≡ a.
Mean	31.6	22.8	95.1	72.8	7.6	8.3	------	
Total	------	------	------	------	------	------	17.7	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	22	96	75	------	------	------	Ω ≡ a.
2	31.6	21.9	96	80	------	------	2.3	d a. p.
3	32	22	91	88	------	------	5.8	● a. d a. p.
4	30	22.5	96	85	------	------	2	d a. p.
5	29.9	21.8	96	78	------	------	------	Ω a.
6	31.6	21	95	77	------	------	------	Ω a.
7	32.5	20.7	95	68	------	------	------	Ω a.
8	30.5	21.5	96	71	------	------	------	Ω a. ψ p.
9	31.8	22	96	70	------	------	------	Ω a. ψ p.
10	32	21.7	96	69	------	------	------	Ω ≡ a.
11	29.5	21	100	70	------	------	------	Ω ≡ a. ⊤ p.
12	30	21	96	82	------	------	------	Ω ≡ a. ⊤ p.
13	30.2	21	98	74	------	------	------	Ω a.
14	30	21	96	81	------	------	------	Ω a. ⊤ p.
15	30.6	23.5	96	74	------	------	3.8	● d a.
16	31.5	23	96	59	------	------	.8	d a.
17	30	20	100	72	------	------	------	Ω a.
18	30.5	23	96	67	------	------	9.4	⌈ϟ ● p.
19	30	23.2	96	71	------	------	------	
20	29.8	23	96	79	------	------	5.3	d p a.
21	30.2	22.5	96	69	------	------	9.4	Ω a. ↙° ● ⊤ p.
22	31	22.5	96	78	------	------	34	● a. d p.
23	30.4	22.5	96	66	------	------	.5	d a.
24	30	21.9	96	67	------	------	------	Ω ≡ a.
25	29.5	21.5	89	68	------	------	------	Ω a.
26	30.1	23.5	100	84	------	------	4.6	Ω p° a. ↙° ⊤ ●
27	30	23	96	83	------	------	20.1	d ● a. ↙° p.
28	30.5	22	96	71	------	------	------	≡ a.
29	31.7	22.5	96	65	------	------	44.2	Ω a. ● p.
30	30.1	22	96	84	------	------	3	● p.
31	29.8	21.5	96	84	------	------	20.1	Ω a. d ● p.
Mean	30.6	22	96	74.5	------	------	------	
Total	------	------	------	------	------	------	165.3	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.6	22	87	77	3	10	------	
2	28.6	23.5	84	78	9	10	------	
3	26.3	22.5	86	91	10	10	------	d p.
4	29.9	23	87	72	9	9	------	
5	29	22	91	72	3	7	------	
6	29.6	22.1	89	76	2	4	------	
7	29.7	21.8	82	81	1	4	------	
8	29.1	22.1	81	80	2	4	------	
9	29.4	22.4	87	83	3	8	------	●° p.
10	31.9	22.4	88	66	3	3	------	
11	30.6	22.4	89	71	2	6	------	
12	30.1	22.4	81	72	4	10	------	
13	29.5	21.9	81	77	3	10	------	
14	29.6	22.9	90	73	3	10	------	
15	27.3	21.9	98	88	10	5	------	d a.
16	29.4	21.9	88	73	5	10	------	
17	30	20.2	90	74	1	2	------	
18	30.6	23	85	65	10	9	------	● p.
19	31.1	22.9	79	78	3	4	------	
20	30.5	23	79	73	10	9	------	
21	30.3	23	85	77	5	6	------	
22	29.7	23	85	85	10	5	------	
23	31.9	22.6	91	71	5	1	------	
24	31.1	22.5	82	75	4	3	------	d p.
25	31.2	22.4	84	65	4	5	------	
26	30.8	24	84	75	6	9	------	
27	28.1	23	97	84	10	6	------	d a.
28	30.6	23	88	68	4	8	------	
29	31.8	23.5	86	68	1	2	------	
30	30.4	23.6	86	73	5	9	------	● p.
31	30.8	22.5	81	74	2	3	------	
Mean	30	22.6	86.2	75.3	4.9	6.5	------	
Total	------	------	------	------	------	------	------	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.7	22.4	91	84	8	9	42.2	d a. ● p.
2	27.2	21.8	96	99	9	10	35.6	● p.
3	29.7	21.7	96	74	8	8	19.3	● a. d p.
4	32.2	21.7	96	72	6	7	42.4	● p.
5	29.1	22.5	95	81	8	7	------	
6	31.7	21.9	96	68	8	7	17.5	● p.
7	32.2	22	97	61	6	6	------	
8	32.8	22.3	98	65	5	7	------	
9	32.3	22.1	95	63	6	6	18.5	● p.
10	33.2	22	93	63	7	5	------	
11	33.7	21.5	96	66	6	7	------	
12	32.2	21	98	67	7	6	------	
13	33.2	21.7	92	70	7	5	21.3	● p.
14	31.6	22.6	96	89	8	10	42.4	● p.
15	31.1	21.5	96	66	8	8	------	
16	32.3	20	95	61	6	7	------	
17	31.6	22.1	96	64	6	7	------	⊤ p.
18	28.7	22.6	97	80	8	9	38.9	● p.
19	30.7	23.3	87	82	8	9	4.6	● a. d p.
20	33.7	21.5	98	58	6	5	------	
21	33.7	22.7	92	70	6	9	27.2	● p.
22	32.7	22.2	97	68	7	6	------	
23	33.2	21	95	57	5	6	------	
24	33	22	96	63	7	5	------	
25	27.8	22.4	93	86	9	7	42.4	● a. p.
26	30.6	20.9	93	92	9	10	41.9	● a. p.
27	30.6	22.7	98	76	6	7	------	
28	32.2	23.1	97	75	5	7	13.7	● a.
29	32.6	22.1	97	84	8	9	26.2	● ⊤ p.
30	32.2	23	98	72	7	7	38.1	● a. p.
31	31.3	23.1	96	91	6	10	9.4	● p.
Mean	31.5	22	95.4	73.1	7	7.4	------	
Total	------	------	------	------	------	------	481.6	

METEOROLOGICAL DATA, ETC.—Continued.

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.2	20.6	98	79	5	10	4.1	Ω ≡ a. d ● p.
2	28.1	22.8	95	88	6	9	3.6	Ω ∞ a. ● d p.
3	30.3	22.3	97	78	6	9	7.9	Ω ↙ ● a. d p.
4	30.8	22.4	96	75	4	7	.3	≡ a. d p.
5	29.9	23.2	92	69	6	9	15.2	Ω a. ●² ⌒² p.
6	30.5	22.2	91	64	9	5	------	⌒ p.
7	30.5	22.5	94	66	6	6	------	
8	30.2	21.5	98	64	3	7	------	Ω a.
9	29.3	19.9	91	50	6	2	------	Ω a. ⊍ p.
10	29.5	19.9	96	52	5	3	------	Ω a. ⊕ p.
11	29.2	20.4	96	60	5	3	------	∞ a. ⊍ p.
12	29	21.7	96	66	9	10	------	≡ a. ⊍ p.
13	29.6	21.9	96	83	3	9	.8	≡ a. p p.
14	26.5	21.9	97	90	10	10	25.9	● a. p.
15	28.2	20.8	95	84	9	9	.5	p p.
16	27.5	20.9	100	74	10	8	2.3	Ω² ∞ a. d p.
17	26.6	22.5	99	88	7	10	7.6	∞ ≡ a. ● p.
18	28.1	22.5	97	76	8	10	8.9	● ≡ a. ⛈ p.
19	27.6	22.5	99	77	10	9	3.8	∞° a. ● p.
20	29.5	23	98	77	6	9	------	∞ a.
21	28.3	22.5	97	81	10	9	2.8	∞ a. ● a. p.
22	30.1	22.6	96	78	5	5	.3	≡² d a. d ⌒ p.
23	31.6	22.9	92	64	4	5	------	≡ ↙° a.
24	30.3	23	97	62	7	6	.8	Ω ●° ∞ ⌒ a.
25	26.1	23.5	95	94	9	10	46.2	d ● a. p.
26	26	23.6	97	96	9	10	67.3	●² a. p. ⛈ p.
27	30.8	23.8	97	72	9	6	------	↙° a. p. ⚡ p.
28	31.3	23.6	96	98	5	8	49	⛈ a. p. ● p.
29	31.3	23	99	85	5	6	6.4	≡² a. ● ⛈ p.
30	23.8	22.9	98	98	10	10	39.4	∞ a. ● d a. p.
31	27.8	21.5	98	88	8	9	7.9	● a. p. d p.
Mean	28.9	22.2	96.2	76.6	6.9	7.7	------	
Total	------	------	------	------	------	------	301	

YAP (Western Carolines).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.5	22	88	77	6	5	------	
2	31.5	23.2	98	78	7	10	29.2	
3	29.8	22.5	93	69	8	9	------	
4	30	23.2	88	77	7	7	------	
5	28.8	21.9	88	62	4	5	------	
6	30	21.9	69	69	4	4	------	
7	30.1	22	88	72	4	3	6.4	
8	30	21.9	88	85	5	3	------	
9	29.5	24.9	86	80	4	7	5.8	
10	30.2	22.5	88	71	8	6	------	
11	31.9	24.8	87	78	4	2	------	
12	32	22.3	96	74	2	4	------	
13	31.6	------	93	85	3	4	------	
14	32	22.1	89	76	3	3	------	
15	32	23.5	84	76	8	5	------	
16	32	22.1	87	83	6	5	------	
17	32.1	21.7	92	81	9	4	60.5	
18	29.8	24	93	81	5	4	1.8	
19	29.5	23.1	88	83	4	8	16.5	
20	29.4	22.7	88	77	4	4	------	
21	28.8	22	87	84	3	3	.5	
22	29.2	22.7	92	81	3	5	------	
23	27.8	23	86	94	9	10	42.7	
24	27.7	22.7	86	97	10	10	24.4	
25	29	22.4	81	77	5	5	------	
26	28.8	24.3	89	78	5	8	------	
27	27.9	22.5	92	85	8	6	15.7	
28	27.7	22.5	88	92	3	10	27.9	
29	28.4	23.4	90	83	6	7	------	
30	30.2	23.2	93	85	5	4	------	
31	30	22.3	93	81	6	4	------	
Mean	29.9	22.8	88.6	79.7	5.4	5.6	------	
Total	------	------	------	------	------	------	231.4	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	------	------	------	------	------	------	
2	------	------	------	------	------	------	------	
3	------	------	------	------	------	------	------	
4	------	------	------	------	------	------	------	
5	------	------	------	------	------	------	------	
6	------	20.8	91	80	2	3	------	
7	30.8	21.6	87	79	6	4	------	⚡ p.
8	29	22.7	86	82	7	10	------	⚡ ⊍ p.
9	30.5	23	91	64	7	4	------	⊍ p.
10	30.6	20.7	91	69	8	6	------	
11	30.6	20.6	86	73	10	3	------	∞ ⊍ ⚡ p.
12	28.8	22.5	90	75	10	9	------	⊕ ⊍ p.
13	31	23.4	92	80	10	10	------	d ≡² a. ⊕ d ⊍
14	29.5	22.5	92	66	10	10	------	d a. ⊕ ⊍ p.
15	29.4	23.6	73	62	10	9	------	↙° ⊕ ⊍ ⚡ p.
16	30.5	20.1	90	79	3	10	29.2	d ⊍ p.
17	27.6	22.1	96	92	10	10	2.5	● a. d ≡² a. p.
18	29.2	22.7	95	67	10	9	------	d a. p. ⊍ p.
19	30.2	21.8	89	81	9	8	------	d a. p.
20	29	22.6	90	78	9	7	4.6	d ↙° p p.
21	29.2	23.1	94	82	8	10	------	≡ d ⌒ ↙° ⊍
22	29.4	23.5	91	70	6	5	------	⊍ p.
23	30.5	23.2	84	81	9	8	------	⊕ p.
24	31	22.5	95	63	10	8	------	⌒ ↙° a. d ⊍ p.
25	31.1	22.8	97	90	10	10	39.9	⌒ d ↙ a. ≡ ● d
26	28.3	22.6	95	94	10	10	14.2	● a. p.
27	30.4	23.4	92	70	10	7	------	d a. ⛈ ↙° p.
28	31	25.7	88	73	10	6	------	
29	31	23.1	93	82	8	7	16.8	p ⚡ d p.
30	30	23.3	91	87	9	10	------	≡² d a. p p.
31	29.8	25.1	84	54	8	4	------	↙ a.
Mean	29.9	22.7	90.1	75.9	8.4	7.6	------	
Total	------	------	------	------	------	------	107.2	

BACOLOD.

[ϕ=10° 41′ N; λ=122° 56′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.1	23.6	93	76	6	1	------	↙° p.
2	29.6	23.8	91	75	7	7	1.3	↙° ●° p.
3	29.2	23.7	89	78	6	7	------	↙° p.
4	29.7	22.9	89	73	7	6	------	↙° p.
5	30.3	21.7	94	78	2	6	------	↙° p.
6	30.2	21.4	90	71	7	3	------	
7	30.1	23.4	91	74	10	3	------	≡° p.
8	31	22.6	91	75	6	3	------	≡° a. p. ⊍ p.
9	31.7	21.1	91	57	2	6	------	⊍ p.
10	31.1	21.7	89	69	6	3	------	≡² a. ↙° ⊕ p.
11	30.5	21	91	64	1	2	------	≡° a. ↙° ⊍ p.
12	30.7	21.3	90	66	6	6	------	≡° a. ↙° ⊍ p.
13	29.6	23	90	75	7	8	1.8	Ω a. ⌒ d ↙ ●° p.
14	30.6	23	90	58	8	9	------	⊍ p.
15	30.5	23.1	83	59	8	7	------	≡² a. ⊕ p.
16	29.7	21	82	68	2	2	------	↙° ≡° d° ⊕ p.
17	29.9	23	86	66	5	8	5.1	≡° ↙ ●° d° ⊕ p.
18	30.1	23.1	87	68	6	8	------	↙° ⚡ ⊕ p.
19	29.9	23.8	88	66	7	6	------	↙° ⊕ p.
20	30.8	24	91	61	6	5	------	≡° a. ↙° ⊕ p.
21	28.6	23.8	92	93	3	9	4.1	d° a. ↙° ●° p.
22	31.1	23.6	91	74	6	6	------	↙° p.
23	30.2	23.5	91	73	5	3	------	↙° ⛈ d p.
24	31.3	23.4	91	76	4	6	------	≡° p.
25	29	23.2	88	71	4	8	1.8	↙° ●° p.
26	29.9	24	96	73	9	6	14.7	●° d° a. p p.
27	28	24.5	92	87	10	9	3.8	●° a. p. ↙° ⚡ p.
28	30.6	24	96	75	10	8	2.5	●° ⊤° a. d° ⛈ p.
29	30.7	24.1	95	77	7	7	------	⌒ ⚡ p.
30	30.6	23.1	94	82	4	9	1.8	↙° ●° ⊤ p.
31	31.2	24.1	88	69	2	1	------	↙° p.
Mean	30.2	23	90.3	71.8	5.8	5.7	------	
Total	------	------	------	------	------	------	36.9	

METEOROLOGICAL DATA, ETC.—Continued.

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31	21.4	91	67	10	10	------	⌓ a. d p.
2	33.1	21.4	83	64	10	10	------	
3	34.7	22.7	90	63	4	10	------	↙° a.
4	32.4	20.7	78	67	10	8	------	
5	32.5	21.8	82	63	1	10	------	
6	32.9	22.6	75	65	10	10	------	
7	32.9	22.2	89	60	2	4	------	
8	33.1	23.5	91	63	3	4	------	
9	33.4	21.5	84	59	2	3	------	⌓ a. ↙° p.
10	33.1	21.3	83	62	8	6	------	
11	33.1	21.4	75	57	3	2	------	
12	32	21	81	59	2	10	------	⊍ p.
13	32.2	23.7	83	65	10	10	3.8	d° ● p.
14	32	23	92	52	10	10	------	
15	33.9	28	80	49	3	10	------	
16	34.5	19.1	90	43	2	0	------	↙° a. p.
17	33.1	19.8	82	59	1	10	------	↙° p.
18	33.2	22.5	89	54	4	10	------	d p.
19	33.1	21.3	79	54	7	4	------	
20	33.4	22	79	59	10	6	------	
21	34	22	85	56	8	4	.5	●° p.
22	33.1	24.3	90	62	9	6	------	⌓ a.
23	34	20.9	90	53	2	7	------	ϟ° p.
24	33.1	22.2	85	62	4	7	.3	●° p.
25	33.9	21.5	79	59	7	10	------	↙° d p.
26	34.1	22.6	88	62	7	10	------	↙° p.
27	33.2	25.7	67	67	3	10	------	d° a. p. ϟ p.
28	32.6	24.8	89	69	10	10	1	● ⌒ ϟ p.
29	32.6	25	90	75	10	10	2.3	↙° d a. ● ⌈ϟ ⌒
30	32.8	23.2	91	68	5	7	26.4	d ● ⊤ p.
31	32.6	22.3	96	59	2	2	------	⌓ a.
Mean	33.1	22.3	84.7	60.5	5.8	7.4	------	
Total	------	------	------	------	------	------	34.3	

TUBURAN.

[ϕ=10° 45′ N; λ=123° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.8	21.8	96	80	10	8	------	
2	29.5	23.2	91	75	9	8	------	d a. p.
3	33.1	23.2	95	49	10	8	------	◯° p.
4	29.7	21.9	95	64	10	7	------	
5	31.4	21.5	93	71	2	3	------	≡^{2} a. ∞^{2} p.
6	29.9	21.2	93	74	2	9	------	∞ p.
7	30.9	22.6	89	71	10	4	------	
8	30.3	21.7	94	74	3	8	------	⌓° ≡^{2} a.
9	31.3	22.8	92	69	6	4	------	⌒° a. ∞ p.
10	30.4	21.5	93	66	9	3	------	◯^{2} a. ∞° p.
11	30.4	22	91	63	9	3	------	∞^{2} p.
12	30.8	21.2	94	75	10	10	------	d a. p. ◯° p.
13	28.5	22.4	94	88	9	10	14.2	d° a. ●^{2} d p.
14	30.7	22.4	91	58	10	10	1.8	●° a.
15	32.1	22.9	88	54	9	9	------	
16	29.3	19.8	91	68	1	9	2	≡^{2} a. d° ●° p.
17	28.9	22.1	90	93	9	10	6.6	● ⊤° d p.
18	30.2	22.8	95	77	9	9	------	⊍^{2} ϟ^2 ⊕^{2} p.
19	30.3	21.6	94	74	8	8	------	◯° a. d° p.
20	30.5	21.9	96	71	3	4	------	⌓ ≡^{2} a. d° ⊕^{2} p.
21	28.9	23.6	93	86	9	8	3	d a. ●° ϟ p.
22	33.6	22.8	96	53	9	7	------	⌒° a. ϟ^2 p.
23	33.6	22.2	92	77	9	8	------	d° p.
24	34.4	22.5	95	48	6	7	3.3	●° p.
25	28.6	21.9	94	81	10	10	3	↙° ●° p.
26	30.2	23.7	95	77	10	9	2.5	d a. ◯^{2} ●° ⊤° p.
27	28.9	24.1	93	93	10	10	------	d a. p. ⌈ϟ p.
28	32.5	24.3	96	62	10	8	24.4	⌒^{2} p a. ⌈ϟ ●^{2} p.
29	30.4	23	96	75	9	4	5.3	ϟ^2 p^2 p.
30	29.7	22.8	96	71	5	10	------	d p.
31	33.7	21.9	96	48	2	3	------	⌓^{2} ≡° a.
Mean	30.7	22.4	93.5	70.5	7.6	7.4	------	
Total	------	------	------	------	------	------	66.1	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.3	23.1	97	71	8	6	0.8	↙ ●° a. ◯ p.
2	27.5	23.1	96	90	10	10	9.9	↙° a. ● a. p.
3	29.8	24.4	87	72	9	10	.5	↙ ●° a.
4	29.7	20.7	95	65	5	4	------	⌓ a.
5	29.7	20.3	98	61	3	2	------	⌓^{2} ∞ a.
6	29.9	19.3	99	61	4	3	------	⌓^{2} ∞ a.
7	29.8	19.9	99	69	2	5	------	⌓^{2} ∞ a.
8	30.5	20.8	96	67	3	5	------	⌓ a.
9	30.3	22.6	97	65	4	5	------	⌓ a.
10	30.1	22.9	93	66	6	6	------	⌓ a. ⊍ p.
11	30.4	19.6	95	67	2	7	------	⌓ ≡ a. ⊍ p.
12	28.7	21.3	96	80	10	10	16.5	● a. ↙° p.
13	26.7	22.3	94	93	10	10	102.4	●^{2} ↙ a. p.
14	29.2	22.7	77	70	9	10	2	●° ↙ a. p.
15	29.3	21.4	96	60	8	6	------	↙° a. p.
16	27.4	19.3	99	79	9	8	12.7	⌓ ≡ ●° a. ↙ ● p.
17	28.2	21.5	84	85	10	10	23.6	↙ ● a. p.
18	28.6	22.5	90	70	6	10	1.3	≡ ↙° a. ↙° ●° p.
19	29.8	22.3	96	78	8	9	7.1	● ↙ a. p.
20	28.7	22.6	97	83	8	9	44.7	≡ ●° ↙° a. ↙° ●^{2}
21	28.4	23.1	97	81	10	10	91.9	●^{2} ↙ a. ● ↙ p.
22	30.3	22.1	97	79	8	7	14.5	↙ ● a. p.
23	29.5	23.2	97	75	10	9	15.7	↙ ● a. p.
24	29.8	23.4	84	72	8	6	2	↙° a. p. ●° p.
25	28.3	22.4	96	85	10	10	48.8	●^{2} ↙° a. ● ↙ p.
26	29.6	23.3	95	76	9	8	52.1	↙ ● ◯ a. ↙ ●^{2} ◯
27	28.4	23.8	92	93	10	10	54.6	↙ ●^{2} a. p. ⌈ϟ p.
28	30.2	24.2	89	76	7	6	2.8	●° ↙° a. ↙° ϟ p.
29	30.6	22.3	97	76	8	6	6.4	⌓ ≡ ●° a. ● p.
30	30.5	23.3	97	74	9	8	10.9	≡ ● a. ↙° ϟ p.
31	30.6	25	83	66	6	7	------	↙° a. ϟ p.
Mean	29.4	22.2	93.7	74.4	7.4	7.5	------	
Total	------	------	------	------	------	------	521.2	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.2	22.8	95	71	10	10	21.6	● a. d p.
2	29.7	23.6	96	76	8	10	------	d a.
3	30.4	22.6	88	74	10	8	------	
4	29.5	20.7	96	77	7	10	------	d p.
5	31.2	19.8	94	66	4	5	------	⌓ a.
6	31.4	20	96	68	6	5	------	⌓ a.
7	31.4	19.4	94	67	3	2	------	⌓ a.
8	31.9	23.6	88	64	6	5	6.4	● p.
9	31.6	22.4	86	65	8	6	------	
10	32	23.5	88	63	8	5	------	
11	31	22	95	65	4	5	26.7	d p a. ● p.
12	26.9	22.8	95	92	10	10	61	↙ ● a. ● a. p.
13	26	22.9	90	84	10	10	33	d a. ● a. p.
14	26.6	22	95	76	10	10	11.4	● a. d p.
15	29.9	22.9	75	76	10	5	------	
16	29.1	21.4	73	64	8	6	------	d p.
17	28.9	24	95	87	5	10	------	d a.
18	29.5	23	98	81	10	10	------	d a. p.
19	29.2	22.2	77	81	5	10	3.8	↙ ● p.
20	30.6	23.4	90	77	5	8	39.4	p a. ● p.
21	27.7	22	93	86	10	10	30.5	↙ ● a.
22	30.4	21.9	92	70	8	5	10.2	● d a.
23	30.6	23	94	71	10	8	3.8	↙ ● a.
24	30.5	22.8	91	73	10	6	6.4	● a. d p.
25	28.7	22.7	91	88	8	10	------	d p.
26	30.7	22.8	96	71	10	10	5.1	● d p.
27	30.4	24	90	85	10	10	40.6	↙ ● p.
28	31.2	23.1	97	77	10	10	4.6	● d a.
29	30	22.2	93	77	8	10	2.5	● d p.
30	29.4	24.3	92	84	10	10	------	d a.
31	31.6	24	87	65	8	5	------	d p.
Mean	29.9	22.5	91	74.9	8	7.9	------	
Total	------	------	------	------	------	------	307	

METEOROLOGICAL DATA, ETC.—Continued.

SUMAY, GUAM (Ladrones Islands).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	24.4	79	63	2	3	------	
2	30.4	24.4	83	64	2	4	------	
3	28.6	22	97	76	10	8	------	
4	28.6	22.8	84	70	2	3	------	
5	28.4	23	73	64	2	3	------	
6	27.4	23	76	74	4	5	------	
7	29.6	24.6	87	69	1	10	------	
8	29.8	24.4	84	67	2	5	------	
9	28	23.2	91	67	10	3	------	● a.
10	28.4	24.2	83	70	10	9	------	
11	28.2	24.3	78	74	9	4	------	
12	27.7	23.7	85	72	9	9	------	
13	28.2	23.6	74	74	7	7	------	● p.
14	27.7	23.7	85	91	3	2	------	● p.
15	27.2	23.4	83	83	8	8	------	
16	26.1	23.8	99	90	6	9	------	
17	26.7	23.7	87	91	9	8	------	
18	28.3	23.6	90	86	7	7	------	
19	27.4	24.2	83	94	4	6	------	
20	29	24.3	87	73	5	5	------	● p.
21	26.7	23.8	89	89	6	10	------	● a. p.
22	29.3	24.3	84	74	7	3	------	
23	28.7	25.3	81	81	7	7	------	
24	29.2	24.2	87	69	8	6	------	● a. p.
25	28.4	24.1	85	65	3	5	------	
26	28.9	24.9	87	68	9	6	------	
27	29.4	23.9	84	71	7	4	------	
28	29.4	24.1	81	71	5	7	------	
29	29	23.6	92	73	7	5	------	
30	28.6	24.6	85	70	7	9	------	
31	29.7	24.6	83	79	4	8	------	
Mean	28.5	23.9	84.7	74.9	5.9	6.1	------	
Total	------	------	------	------	------	------		

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.3	23	96	75	10	8	11.9	● a. d p.
2	31.5	20.8	95	68	8	8	.3	●° a.
3	31.7	21.5	92	68	7	8	------	⌒ p.
4	30.4	20.6	94	69	9	9	------	
5	31.1	18.6	96	65	2	2	------	
6	30.4	18.7	91	69	3	3	------	
7	30.2	20	89	68	6	5	------	
8	32	19.9	93	67	1	6	11.4	●° p.
9	31.1	23.3	91	70	9	7	------	d a.
10	31.2	22.9	82	72	9	9	------	d a. p.
11	31.7	22.1	91	77	10	9	7.4	●° a. p. ● p.
12	30.4	22.9	82	78	5	9	23.6	↙ ● a. d ● p.
13	29.5	22.5	87	76	9	10	2.3	↙° d a. p.
14	29	22.4	82	78	9	10	1.3	↙° a. d° a. p.
15	28.8	22	76	65	9	8	2.8	●° a.
16	30.2	18.8	86	56	4	2	------	
17	31.7	22.4	79	76	8	10	1	d p.
18	31	22.6	87	66	9	7	.3	d a. p.
19	31	22.4	80	70	8	10	------	d a. d° p.
20	31	22.4	83	68	9	10	5.6	● p.
21	27.8	23.1	84	82	9	10	14	d° ● ↙° a. d p.
22	30.2	22.4	89	69	3	6	3	●° p.
23	30.4	22.5	91	68	10	4	15.3	↙ ● d a. ●° p.
24	30.4	23.2	92	71	8	7	------	d a. ∞ p.
25	30.7	20.7	91	68	9	10	1.5	d ∞ p.
26	31.4	22.4	95	68	9	8	1.8	⌒ d a. ↙ ●° p.
27	31.3	24.7	82	76	9	9	10.5	●° ⊤° ⌒ ↙ ● p.
28	29.5	24	89	86	10	10	18.5	● a. p. < p.
29	30.5	24	91	85	9	9	6.6	⌒ ●° a. d ● p.
30	30.6	22.8	96	79	10	9	------	d° p.
31	31.1	22	88	70	1	9	------	d a.
Mean	30.6	22	88.4	71.7	7.5	7.8	------	
Total	------	------	------	------	------	------	139.1	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.9	20.4	88	60	7	7	------	
2	32.8	21.2	96	51	5	7	------	
3	32.7	19.1	97	51	4	7	------	○ p.
4	33.4	19.7	95	41	4	7	------	
5	33.3	18.2	98	54	2	4	------	
6	31.8	18.7	95	63	4	4	------	
7	32.8	19.5	98	59	1	3	------	
8	32.9	22.2	96	60	3	8	------	
9	32.8	21.3	96	66	7	7	------	
10	30.3	21.5	96	85	6	9	------	p° p.
11	31	21.8	91	81	7	9	3.6	d a. p.
12	28.4	21.5	94	89	7	9	2.8	d p.
13	29.7	21.4	96	65	9	9	------	
14	30.5	21.1	96	64	7	7	------	
15	31.8	20.3	91	56	6	7	------	
16	31.7	20	93	47	8	6	------	
17	32.7	17.8	92	43	6	4	------	
18	32.6	20.2	90	51	4	5	------	
19	33.1	19.2	91	43	5	6	------	
20	32.5	20.3	91	60	6	7	------	
21	32	22.5	86	58	7	7	------	
22	32.4	22.4	87	61	7	9	------	p° p.
23	33.4	22.1	95	56	2	8	------	↙° p.
24	33.5	21.3	89	57	8	9	------	d p.
25	33.1	21.9	91	54	5	7	------	
26	31.8	17.2	95	61	6	7	------	
27	33.5	22.3	88	52	7	6	.3	d ↙° a.
28	33.6	24.4	83	59	7	5	------	d° p.
29	34.6	23.9	92	59	8	7	------	
30	31.4	23.8	89	61	9	7	------	
31	34.1	22.6	90	61	6	7	------	
Mean	32.4	21	92.4	59	5.8	6.8	------	
Total	------	------	------	------	------	------	6.7	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	20	97	62	2	2	------	Ω ≡ a.
2	29.3	20	97	63	5	7	------	
3	30.6	20.1	97	64	8	8	------	Ω ≡ a. d p.
4	28.5	19.6	98	67	3	2	------	↙° p.
5	28.9	20.1	98	63	4	7	------	≡ a.
6	29.7	19.4	98	64	3	8	------	Ω ≡ d a.
7	28.8	20	98	66	2	4	------	
8	29.2	19.9	98	64	7	2	------	
9	30.9	19.5	98	63	2	5	------	Ω ≡ a.
10	30.5	19.8	98	63	8	2	------	d a.
11	29.3	20.2	97	68	5	7	------	d p.
12	29.5	20	98	65	2	5	------	
13	29	19.6	97	68	8	7	------	d a.
14	28.2	20.2	98	69	9	8	3.3	Ω d a. ●° p.
15	28	19.2	98	70	5	8	------	Ω ≡ a.
16	29.3	20	98	68	2	3	------	
17	29.8	19.6	98	68	7	4	------	Ω ≡ a. ↙° p.
18	29.4	19.4	97	68	2	8	------	≡ a. ↙° p.
19	30.2	19.6	98	64	5	5	------	
20	30.5	19.7	98	64	2	2	------	Ω ≡ a.
21	30	19.5	97	64	5	3	------	≡ a.
22	29.5	19.3	98	68	2	2	------	
23	29	18.9	97	69	4	8	------	Ω ≡ a. ↙° p.
24	30	18.9	98	65	8	2	1.3	●° a.
25	30.1	19.2	98	65	6	3	------	
26	29.2	18.8	98	67	8	8	------	Ω ≡ a. d p.
27	29	18.4	98	68	7	8	------	p a. ↙° p.
28	29.4	18.2	97	68	8	8	------	d a.
29	28.2	20	98	68	9	8	28.7	●² ⊤ a.
30	29.1	19.3	97	68	2	4	------	
31	29.8	19	98	69	7	7	------	Ω ≡ a.
Mean	29.4	19.5	97.7	66.1	5.1	5.3	------	
Total	------	------	------	------	------	------	33.3	

METEOROLOGICAL DATA, ETC.—Continued.

SAN ANTONIO.

[ϕ=14° 22′ N; λ=121° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.6	19.8	92	75	8	7		
2	28.6	20.6	92	77	3	9		
3	28.3	20.1	89	78	3	7		
4	30.6	18	99	70	7	6		
5	29.4	17	98	59	1	2		
6	30	17.9	99	61	1	4		
7	32	16	94	55	1	2		
8	29.5	19.6	97	67	8	3	6.6	
9	24.5	20.6	87	78	10	9	8.4	
10	24.5	19.8	94	86	7	9	.8	
11	25.6	19	94	92	7	9	3.8	
12	26.4	19.8	89	81	10	8	6.1	
13	24.5	19.5	93	81	9	9	3	
14	24.5	19.5	98	89	10	9	4.8	
15	26	19.2	93	81	8	10	2.3	
16	27.2	19.3	88	80	9	7		
17	27.5	19	90	77	8	4		
18	26.5	20	88	84	8	6	2.5	
19	27.6	19.9	87	67	4	5		
20	28.5	19.6	97	63	3	2		
21	26.6	19.6	93	62	7	6	3.8	
22	26.6	19.9	97	86	8	7	16.5	
23	28.4	20	95	71	4	5		
24	28	21.4	96	82	7	10	6.9	
25	27.8	20.6	96	76	6	9		
26	28.5	16.5	99	68	8	7		
27	27.5	17.8	96	80	9	8	8.4	
28	28.4	19.9	94	82	9	9	31.7	
29	29	21.1	97	89	10	10	38.1	
30	24.5	21.1	97	87	9	10	20.6	
31	29	20.6	92	66	6	3		
Mean	27.6	19.4	93.9	75.8	6.7	6.8		
Total							164.3	

CORREGIDOR.

[ϕ=14° 23′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.5	19.9			3	10		
2	30	23			10	10		
3	31	22.2			10	10		
4	30.7	22.8			10	3		
5	31.7	21.8			2	3		
6	30.8	20.7			2	2		
7	31.5	21			1	4		
8	32	22			10	2		
9	30.2	23			3	10		
10	30.2	22.7			10	10		
11	29.6	21.7			10	10		
12	29.8	22.2			10	10		
13	28.5	20.2			10	10		
14	30.2	21.8			10	10		
15	30.2	22.4			10	10		
16	31.2	21.8			10	2		
17	30.7	21.5			10	2		
18	31.5	22.5			10	2		
19	31	21.8			10	10		
20	31	21.8			10	3		
21	30.7	22.2			10	3		
22	30.4	22.8			4	10		
23	32	23.2			10	2		
24	29.6	22.2			4	10		
25	31.5	22.8			10	10		
26	31.8	22.2			2	8		
27	30	20.7			10	10		
28	31.5	24			10	10		
29	31.5	23.5			10	10		
30	29.7	23.3			10	10		
31	32.5	23.2			10	10		
Mean	30.8	22.2			8.1	7.3		
Total								

BALANGA.

[ϕ=14° 41′ N; λ=120° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.2	19.8	94	54	2	8		Ω² a.
2	34	19.9	88	52	10	6		
3	32.6	21	92	56	1	5		Ω² a.
4	33.5	20.8	94	52	4	2		Ω² a.
5	33.2	19.6	91	54	1	1		
6	32.4	20.1	91	55	3	1		
7	34.1	20.1	91	59	0	2		
8	35	22.1	92	55	1	2		d° a.
9	33.5	22.8	91	59	3	8		
10	33.5	21.6	90	61	5	9		
11	31.1	21.4	93	66	5	10		
12	32.6	21.5	85	60	10	8		↙° p.
13	32.5	22.1	83	57	10	8		
14	32.1	21	88	69	9	10		d° p.
15	30.5	21.6	90	65	9	10		
16	32.8	19.2	85	43	4	2		
17	33.6	17.8	85	39	1	2		
18	34	19.7	78	48	8	3		Ⴔ° p.
19	33.8	19.8	75	39	9	4		
20	34.6	18.5	85	40	0	4		
21	33.3	20.5	78	49	9	8		
22	32.6	22.9	78	64	9	10		d° p.
23	34.5	21.5	82	48	10	2		
24	33.1	21	82	54	8	10		d° ⌒ p.
25	33.1	23	88	52	10	9		
26	35	20.2	83	34	6	4		
27	34	21.3	76	56	10	10		
28	34.7	23.9	80	53	9	10		d° p.
29	33.3	23	87	58	10	10		T° ↯ p.
30	31.3	24.2	83	62	10	10		↯ p.
31	34.4	21.4	88	47	1	2		
Mean	33.3	21.1	86	53.5	6	6.1		
Total								

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	36.7	18.1	95	42	4	5		Ω ≡² a. ↙° a. p.
2	36.9	21.1	98	39	10	4		Ω² ≡² a.
3	37	18.4	93	38	1	1		Ω² ≡ a. ∞² p.
4	36.6	18.5	93	42	2	5		Ω ≡² a. ∞ p.
5	35.9	20.1	94	37	6	3		Ω ≡ a. ∞² p.
6	36.1	17	93	41	1	2		Ω ≡² a. ∞ p.
7	36.5	18.3	94	45	0	7		Ω ≡² a. d° p.
8	37.1	22.1	90	37	1	4		≡ a. ∞² p.
9	36.8	20.5	92	39	1	6		Ω ≡² a. ∞² p.
10	36.2	20	87	40	10	9		Ω a. ∞ d° p.
11	33.7	21.4	90	63	7	10		≡° a.
12	35.7	19.4	83	37	1	7		Ω ≡ a. ↙° p.
13	33.5	19	86	46	5	10		Ω ≡ ○ a.
14	32.1	20.5	86	55	3	10		Ω ≡° a. Ψ² p.
15	33	18.1	94	48	2	6		Ω ≡² a. ↯° p.
16	33.8	19.5	90	41	7	4		Ω° ≡° a.
17	35.6	17.5	91	30	1	4		Ω ≡² a. ∞ p.
18	36.5	16.9	89	40	2	6		Ω ≡ a.
19	36.5	17	90	40	7	5		Ω ≡² a. ∞ p.
20	36.9	18.3	91	32	0	6		Ω ≡² a.
21	34.5	20	84	46	8	9		Ω ≡ a.
22	33.6	21	81	54	7	10		Ω a.
23	36	20	87	46	5	8		Ω° ≡° a. d° p.
24	36.4	19.5	88	44	10	7		Ω ≡° ○² a.
25	37.2	21.9	94	41	8	6		d° p.
26	37.7	19.4	92	36	6	3		Ω ≡² a. ∞² ⊕ p.
27	35.7	19.4	86	47	10	10		Ω ≡° a.
28	36.2	21	98	48	4	10		Ω ≡° a.
29	36.1	23.3	80	50	10	7		≡° d° ⌒² a.
30	31	23.5	96	65	10	10	3	●° ○ a. ↯° p.
31	35.2	20.4	96	50	3	6		Ω ≡ a. ↙° p.
Mean	35.6	19.7	90.4	43.8	4.9	6.5		
Total							3	

METEOROLOGICAL DATA, ETC.—Continued.

BALER.
[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28	20			8	8		
2	28.4	20.5			10	3	2.3	p a.
3	28.8	22			10	1		
4	29.5	19.7			3	2		
5	30.2	20.8			4	4		
6	30.5	19.2			2	1		
7	29.5	19.4			0	6		
8	29.5	22.2			4	5		
9	28.4	22.6			8	10	8.4	
10	28	21.5			10	10	1.8	●° p.
11	27.1	22.2			10	10		
12	27.3	21.7			10	10	3	
13	26.8	21.6			10	10	25.4	p a.
14	26	21			10	10	12.2	p a. p. ↙° p.
15	25.8	21.4			10	10	11.9	p a. p. ↙° p.
16	27.5	20.4			10	5		p° a.
17	28	21			10	1		
18	27.8	19.7			3	9		
19	28.4	19.6			4	4	5.8	
20	28.4	21			3	8	28.2	p p.
21	28.3	21.6			10	10	11.4	p p.
22	27.6	21			10	10		d ↙° a. p.
23	28	21.9			10	10	18	p a.
24	28	21.4			4	10	2.8	p p.
25	27.8	22.4			10	10	1.3	p a.
26	28.5	22.4			10	3		
27	28.6	21.2			3	9	1	
28	29.5	23.2			10	10	58.9	● a.
29	26.7	23.5			10	10	30.5	● a. p.
30	26.3	22.5			10	10	.8	p a.
31	28.6	21.6			4	3		
Mean	28.1	21.3			7.4	7.2		
Total							223.7	

BOLINAO.
[ϕ=16° 24′ N; λ=119° 53′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10	0-10.	mm.	
1	31.9	23.8	90	67	1	5		Ω° ≡° a.
2	31.3	24.7	92	70	6	5		
3	30.9	21.2	90	69	1	3		↙° p.
4	32.2	22.9	92	61	5	1		Ω ≡ a. ∞ p.
5	34	21.6	91	65	3	0		Ω ≡° a.
6	33.5	20.5	91	52	0	1		
7	32.9	22.5	90	59	5	1		
8	32.2	25.4	92	69	8	6		↙° a. p.
9	33	21.4	92	62	10	7		Ω ≡ a. ∞² p.
10	31.4	20.4	91	60	0	6		Ω² ≡² a.
11	31.8	23	91	62	6	4		
12	32.3	20.3	91	60	0	2		
13	33.4	21.7	90	56	10	8		
14	34	22.4	82	48	4	7		
15	33.8	23	75	49	4	4		
16	33.7	23	77	57	7	2		
17	34.2	22.5	69	47	10	1		
18	34.6	21.8	78	51	4	3		
19	35.2	22.5	71	45	1	1		
20	32.6	24.5	76	56	10	6		
21	32.8	21.6	79	59	1	9		
22	33.4	22.8	76	59	6	7	40.1	≡° a. d ●² p.
23	33	21	95	65	8	6		⌒° a.
24	33	23.4	80	55	10	6		
25	32.7	22.3	93	58	9	3		
26	31	24.3	86	66	10	2		∞ p.
27	32.9	20.6	88	62	0	9		
28	33.6	22.2	92	56	6	6		
29	33.8	25.5	87	60	10	6	5.6	↙°d ⪡ p.
30	34.3	24.2	89	52	10	6		↙° a. ⪡ ⊤ p.
31	34.4	25.3	82	44	4	9		
Mean	33	22.7	85.7	58.1	5.5	4.6		
Total							45.7	

BAGUIO.
[ϕ=16° 25′ N; λ=120° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	22.5	13	98	89	5	7		≡ p.
2	23.1	13.4	75	75	4	8		
3	24.6	13.2	83	65	4	4		
4	22.3	11.2	99	83	2	5	6.6	≡ a. ● p.
5	23.5	11.8	98	94	2	7		
6	24.7	13.7	62	57	2	2		
7	22.5	11.7	90	83	3	7		
8	22.7	12.8	99	77	4	5		
9	21.6	12.7	83	75	2	5		
10	22.6	11.5	86	83	2	10		
11	20	11.7	98	89	1	10	3.8	≡ a. ● p.
12	21.6	13.1	89	90	2	6		
13	21.5	12.2	88	88	4	9		
14	21.6	12.7	89	79	5	5		
15	22.2	13	89	85	3	9		
16	20.5	12	88	83	5	10		
17	21.3	11.5	80	76	3	6		
18	23.6	10.4	82	62	4	4		
19	24.3	9.2	89	58	9	3		
20	22	10.7	89	69	4	7		
21	22.6	11.7	71	70	3	7		
22	24	11.6	92	86	6	7		
23	23.4	14.1	90	98	5	5		≡ p.
24	23.4	12.2	90	80	5	9		
25	22.5	13.5	94	76	3	4		
26	22.8	14	95	80	4	4		
27	23.4	11.6	92	88	7	5		
28	23	12.8	88	72	5	9		
29	23.8	15.3	85	92	10	9	14.2	d a. ● p.
30	24.7	16	91	76	9	9		
31	24.7	14.1	88	76	3	7		
Mean	22.8	12.5	88.1	79.2	4.2	6.6		
Total							24.6	

SAN FERNANDO UNION.
[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.2	19.2	96	70	2	3		
2	34	19.6	96	54	2	2		
3	32.6	19.6	91	56	3	2		
4	31.5	20	89	67	6	3		
5	31.6	20.3	91	70	6	6		Ω a.
6	33.6	20.6	91	47	6	2		Ω a.
7	31.8	21	93	67	2	2		Ω a.
8	30.6	21.6	91	66	2	3		
9	32	21	91	65	3	2		
10	32	20	91	60	2	2		↙ p.
11	32.2	21.2	82	62	6	2		
12	31.2	20	88	56	6	2		
13	31.8	20.2	85	55	6	3		
14	31	18	84	58	2	3	0.5	●° p.
15	32.2	19.8	85	49	6	2		d p.
16	32	18	89	61	6	6		
17	31.6	19	78	50	6	6		⌣ p.
18	31.8	17.8	82	62	6	4		⊕ p.
19	31.6	18.4	89	53	3	4		
20	31.8	19	90	59	3	2		
21	31.4	18	89	62	2	3		
22	31.8	20.2	89	67	6	6		
23	32.6	21.2	90	66	4	6		
24	32.4	20	89	66	4	4		
25	32.6	20.2	90	64	3	3		
26	33	21.2	91	63	3	3		
27	31.5	21.4	91	63	2	6		
28	32.6	22	93	64	6	2		Ω a.
29	33.5	23	84	65	6	6	2.3	Ω a. d ⪡ ⊤ ●°
30	32.6	21.2	97	65	6	6	18.5	Ω a. ⌈⪡ ● p.
31	33.4	22	97	64	2	6		
Mean	32.1	20.2	89.4	61.2	4.1	3.6		
Total							21.3	

METEOROLOGICAL DATA, ETC.—Continued.

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	18.1	100	68	10	6	------	Ω° ≡^{2} a. ○ p.
2	------	19.7	99	72	10	5	------	Ω° ⊕° a.
3	------	18.9	100	55	3	2	------	Ω^{2} a. ↙° a. p.
4	------	17.1	99	61	2	2	------	Ω° a.
5	------	20.7	98	62	10	4	------	☈ a. ↙° p.
6	------	16.9	100	62	2	1	------	≡^{2} a. ↙° a. p.
7	------	15.9	100	63	2	1	------	Ω° ≡° ∞° a.
8	------	21.4	94	69	10	6	------	☈ a. p. ↙° p.
9	------	19.6	97	65	10	7	0.3	d^{2} ↙° a. ↙° ⊕°p.
10	------	18.4	95	68	10	8	------	⊕ a. p. ☈ p.
11	------	18.7	95	83	10	9	4.6	↙° ● a. ⊕° ☈ d°
12	------	18.4	97	80	10	10	.3	d° a. p. ☈ ⌓° p.
13	------	18.2	96	75	10	10	------	d° a. p. ☈ ⌓^{2} p.
14	------	18.9	97	63	10	6	.3	d° a. p. ☈ ⊕° p.
15	------	19.4	97	65	10	8	------	d° a. ☈ ⌓^{2} p.
16	------	17.8	97	53	9	4	------	↙° a. ☈ ◡° p.
17	------	15.7	100	49	2	5	------	Ω^{2} ≡^{2} a.
18	------	15.1	99	56	2	5	------	Ω^{2} ≡^{2} a. ↙° ⌓^{2}p.
19	------	15.3	99	52	6	4	------	Ω^{2} a.
20	------	16.8	99	56	4	10	------	Ω° a. ↙° a. p.
21	------	19.4	99	80	10	10	.3	↙° a. d° a. p.
22	------	19.7	99	90	10	10	4.6	p a. ● ○ ⌓° p.
23	------	20.1	99	64	10	8	------	d°∞° ⊕°a. ☈p.
24	------	18.3	100	55	9	10	------	Ω^{2}⊕○a. ↙°⌓^{2} p.
25	------	21.1	97	51	10	4	------	d° ⌒° ⊕°a. ↙° p.
26	------	17.8	100	48	4	5	------	Ω^{2} ≡° a. ↙° a. p.
27	------	18.5	98	73	10	10	------	⊕° a. d° p.
28	------	20.2	99	78	10	10	.3	⌒° p° a. ⊕° p.
29	------	21.2	99	74	10	10	23.1	≡^{2}∞°d°a. ☈●^{2}
30	------	20.6	100	79	10	10	.8	d^{2} a. ☇ p.
31	------	20.7	99	53	5	8	------	Ω° ↙°a. ⊕° ↙° p.
Mean	------	18.7	98.3	65.2	7.7	6.7	------	
Total	------	------	------	------	------	------	34.6	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	22.7	83	63	1	2	------	Ω^{2} ≡^{2} a.
2	29.9	22.6	82	72	1	8	------	Ω^{2} ≡^{2} a. ↙° p.
3	30.2	22.7	84	67	7	0	------	Ω^{2} ≡^{2} a.
4	30.6	23	83	62	0	0	------	Ω^{2} ≡^{2} a.
5	30.7	20.5	79	59	0	0	------	Ω^{2} ∞ ↙° a.
6	30.5	24.1	78	55	3	0	------	Ω^{2} ≡^{2} a. ↙° p.
7	30.4	24	80	63	9	1	------	d ⌒ a.
8	29.5	23	83	60	2	0	------	Ω^{2} ≡ ↙° a.
9	29.8	23	76	62	4	1	------	≡ a.
10	30	22.2	78	62	1	1	------	≡ ↙° a.
11	29.6	22	79	62	0	1	------	Ω^{2} ≡ a.
12	29.6	22.8	71	58	2	5	------	≡ a.
13	29.8	24.2	66	62	9	4	------	↙° p.
14	30.5	23.2	75	61	4	3	------	≡ a. ↙° p.
15	29.9	24	78	63	4	0	------	≡ ↙° a. d p.
16	29.9	24.5	80	68	9	3	------	≡ a.
17	29.7	23	81	64	4	0	------	≡ a. ↙° p.
18	29.9	22.2	84	61	0	2	------	Ω^{2} ≡ a. ⌓ p.
19	29.9	21.5	59	55	4	2	------	≡^{2} a.
20	29.8	22.2	81	68	5	3	------	Ω° ≡ a.
21	30.1	22.6	83	64	1	5	------	≡ a. ○ ↙° p.
22	30.4	23.8	70	64	9	9	------	≡ a. d p.
23	30.4	23.6	83	71	9	2	------	≡ a. ↙° ⊤° p.
24	30.6	23.7	87	71	9	5	------	≡ a. ↙° p.
25	31.2	24.1	82	62	1	2	------	Ω^{2} ≡^{2} a.
26	31	24	80	67	9	2	------	↙° a.
27	30.6	24.8	76	64	5	6	------	≡ a.
28	31	25	80	65	9	8	------	≡ a.
29	31.7	24.9	84	66	7	6	2.5	≡ ↙° a. ☈ d ●°
30	30.5	26	87	72	7	6	53.8	≡ a. d ☈^{2} ●^{2} p
31	30	24.8	88	78	1	2	------	≡ a. ⊤° p.
Mean	30.2	23.4	79.4	64.2	4.4	2.9	------	
Total	------	------	------	------	------	------	56.3	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	20	92	58	0	1	------	≡ a.
2	31.9	21.5	90	57	0	3	------	≡ a.
3	31.7	20.3	86	70	1	4	------	≡ a. ↙° p.
4	32.3	22.9	92	55	2	1	------	≡ a.
5	32.2	20.4	90	52	0	1	------	≡ a.
6	32.4	22	83	46	0	0	------	≡ a. ↙° p.
7	30.7	21.9	82	68	10	5	12.2	● a.
8	31.6	21.5	93	50	4	2	4.8	● a.
9	34	20.8	84	40	0	0	------	≡ a.
10	31.8	19.4	84	50	0	0	------	≡ a. ↙° p.
11	33.1	21	80	41	0	0	------	≡ a. ↙° p.
12	33.2	20.4	79	40	0	1	------	≡ a.
13	33.5	20.3	78	42	1	5	------	≡ a.
14	32.3	21	77	48	6	1	------	≡ a.
15	33.2	21.5	82	66	0	6	------	≡ a.
16	31.1	21.3	87	60	0	3	------	≡ a.
17	31	20.4	84	58	0	2	------	≡ a.
18	34.5	19	91	37	0	0	------	≡ a. ⌓ p.
19	32.2	18	75	49	0	3	------	≡ a.
20	32.6	19.4	86	42	0	1	------	≡ a. ↙° p.
21	35	20.5	78	36	0	5	------	≡ a. ↙° p.
22	34.2	20.9	81	44	3	6	------	≡ a. d p.
23	32	23.1	81	60	6	7	------	
24	32.2	21.9	91	70	2	4	------	≡ a.
25	32.4	22	94	68	0	2	------	≡ a. ↙° p.
26	35	21.4	88	44	0	1	------	≡ a.
27	35.5	21.2	75	43	0	3	------	≡ a.
28	34.6	21.3	83	48	0	5	------	≡ a.
29	33.7	21.6	88	------	0	------	------	≡ a.
30	32.8	20	87	62	0	6	------	≡ a. ⊤ ☇ p.
31	33	23.7	84	70	0	3	------	≡ a.
Mean	32.8	21	84.7	52.5	1.1	2.7	------	
Total	------	------	------	------	------	------	17	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	21.4	91	81	8	1	------	Ω ↙° a. ≡ ↙° p.
2	27.3	21.7	85	71	2	3	------	↙° a. p. ≡ p.
3	26.6	22.3	82	77	2	8	------	↙° a. ≡ ↙° Ω p°
4	27.6	22.6	93	78	0	1	------	Ω ↙° a. ≡ p.
5	27.1	20.9	89	75	10	8	------	d° a. ↙° a. p.
6	28.7	23.4	88	81	2	6	------	↙° a.
7	26.1	22.5	87	80	8	9	6.9	d° ↙° a. ↙° ● p.
8	21	19	79	77	10	10	12.7	↙° p° a. d p.
9	23	18	80	72	10	8	7.6	d ● a.
10	26.6	20	84	70	10	2	6.6	≡ ↙° a. p. ● d p.
11	21	18.2	78	83	10	10	3.6	↙° d° a. d ↙° p.
12	22.4	18	77	73	5	10	1	↙° a. d p.
13	24.2	18.9	70	70	10	9	------	↙° a. p.
14	22.3	19.5	68	72	10	10	1.2	p° a. ↙° a. p.
15	26	21.2	72	70	9	8	------	↙° a. p. ≡ p.
16	26.4	22.5	77	76	7	5	------	↙° a. p. ≡ p.
17	27	22.6	80	74	1	1	------	↙° a. p. ≡ Ω p.
18	26.9	21.6	83	62	2	0	------	↙° a. p. ≡ p.
19	27.2	21.8	81	74	2	4	------	↙° a. p. ≡ ◡° p.
20	23.3	20.2	83	88	3	10	21.1	● a. d ↙° a. p.
21	22.1	19	86	84	10	10	10.6	● a. d a. p.
22	25.5	19.8	83	81	9	8	3	⌒ ●° a. ↙° d a. p.
23	27.2	22.3	91	84	9	4	------	d a. ≡ p.
24	27.1	22.3	90	78	8	2	------	↙° a. p. ≡ Ω p.
25	27.4	22.4	90	75	2	2	------	≡ a. p. ↙° Ω p.
26	27.8	21.7	90	75	0	7	------	↙° a. p. p° p.
27	26.9	22.2	82	80	8	3	.7	↙° d° a. ≡ d p.
28	27.8	22.2	89	69	5	7	------	≡ a. ↙° a. p.
29	28.1	22.8	84	74	9	5	------	↙° a. p. ≡ p.
30	28.3	23.5	89	78	9	10	------	↙° a. p. ≡ p.
31	28	23.7	93	82	10	9	------	↙° a. p. ≡ p.
Mean	26	21.2	83.7	76.3	6.5	6.1	------	
Total	------	------	------	------	------	------	75	

SEISMOLOGICAL BULLETIN FOR MARCH, 1908.

By Rev. Miguel Saderra Masó, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, 22^h 8^m 31^s.* **Aparri** (NE of Luzon). Oscillatory earthquake. Direction SE–NW; intensity III; duration 15^s.

5, 9^h 41^m. **Jolo.** Oscillatory earthquake. Direction SE–NW; intensity II; duration 8^s.

5, 10^h 19^m 46^s.* **Central Mindanao.** Earthquake of intensity VI, whose center must have been within the island, probably in the region of the Agusan River.[2] This earthquake was of more than force VI at Butuan, in the northern part of the Agusan Valley, while at Davao, in the south, the intensity was VI, and at Cotabato, about south-southwest of the said valley, only IV. Whence it is inferred that the origin must be sought between the two former stations, somewhat nearer to the first than to the second. Hence there is no doubt that the disturbance was caused by the old and well-known focus which is situated near the middle of the Agusan Valley, on the west side of the river. Since the three stations mentioned, although nearest to the said seismic focus, are still at considerable distances therefrom (Butuan 90 kilometers, Davao 105 kilometers, and Cotabato 170 kilometers), it is impossible to say what force the phenomenon developed in the epicentral region. It seems, however, very probable that it was violent. Beyond the limits of the Archipelago, the seismic waves traveled as far as Europe. The following table shows the times (Greenwich mean time) at which the principal phases of the disturbance were registered at various stations.

Station.	Beginning.			Second preliminary movements.			Principal movements.			End.	
	h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*
Manila	2	19	46				2	22	—	4	30
Zikawei	2	23	14				2	27	43	4	—
Graz	2	31	3	2	41	40	3	6	50	4	40
Goettingen	2	31	4	2	41	36	3	5	—	5	14
Strassburg	2	31	12	2	43	5	3	1	—	5	24

8, 11^h 1^m 15^s.* **Capiz** (N of Panay). Oscillatory earthquake. Direction E–W; intensity IV.

9, 23^h 29^m. **Aparri** (NE of Luzon). Oscillatory earthquake. Direction NE–SW; intensity III; duration 10^s.

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.

[2] In the compendious Seismological Bulletin, which is being sent to the principal seismic stations shortly after the close of each month, this earthquake was considered as independent of the perturbation No. 35, registered by the seismographs of the Observatory at 10^h 19^m of March 5, the epicenter of which was believed to have been outside of the Archipelago. The error was due to the fact that the reports from the remotest stations in Mindanao were not yet on hand when the said bulletin was prepared, while those already received were rather discrepant as to the time indications.

18, 5^h 8^m. **Surigao** (NE of Mindanao). Oscillatory quake. Direction SE–NW; intensity III; duration 4^s.

21, 0^h 42^m 39^s.* **Butuan** (N of Mindanao). Oscillatory earthquake. Direction SE–NW; intensity III. At 2^h occurred a repetition of less intensity.

21, 4^h 33^m 43^s.* **Leyte, Samar, and NE of Mindanao.** Earthquake of force IV. The center of this shock, which was felt in northeastern Mindanao, eastern Leyte, and southern Samar, lay probably in the Pacific in the neighborhood of parallel 10° 30′ N latitude and at a distance of more than 1,000 kilometers from Manila.

24, 4^h 55^m. **Borongan** (E of Samar). Earthquake of intensity II.

28, 2^h 40^m. **Borongan** (E of Samar). Oscillatory earthquake of force III. It was repeated at 2^h 45^m with intensity II.

28, 3^h 15^m. **Butuan** (N of Mindanao). Oscillatory quake. Direction NNW–SSE; intensity IV; duration 34^s.

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight=0^h.]

No.	Date.	Component.	Beginning. First preliminary tremors.	Beginning. Second preliminary tremors.	Beginning. Principal portion.	Maximum range of motion. Hour.	Maximum range of motion. Amplitude (2 a.).	Maximum range of motion. Period.	End.	Instrument.	Remarks.
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
31	1	WSW-ENE	22 07 53			22 08 31	0.04	2.4	22 13	V. M.	Earthquake, IV at Aparri (NE of Luzon).
		NNW-SSE	22 07 53			22 08 41	.03	2.2	22 13	V. M.	
32	2	WSW-ENE	2 25 56			2 26 32	.32	2.4	2 31	V. M.	V. C. 0.06 mm.
		NNW-SSE	2 25 57			2 26 43	.19	2.6	2 31	V. M.	
		WSW-ENE	2 26 03						2 31	H. P.	
33	2	WSW-ENE	23 36 37						24 06	V. M.	
		WSW-ENE	23 36 43						24 08	H. P.	
34	3	WSW-ENE	4 27 34						4 50	V. M.	
		WSW-ENE	4 27 49						4 56	H. P.	
35	5	NNW-SSE	10 19 46	10 23 38	10 26 23	10 29 32	.18	11.2	12 06	V. M.	V. C. 0.06 mm.
		WSW-ENE	10 19 44	10 23 19	10 26 16	10 28 18	.20	12	12 06	V. M.	
		WSW-ENE	10 19 46	10 23 17	10 26 34	10 28 24	8.33	9	12 30	H. P.	
36	6	WSW-ENE	4 33 58			4 34 18	.14	2.4	4 37	V. M.	V. C. 0.09 mm.
37	8	NNW-SSE	11 01 15		11 01 55	11 02 31	.19	2.6	11 15	V. M.	V. C. 0.04 mm. Earthquake, IV at Capiz (N of Panay).
		WSW-ENE	11 01 11		11 01 49	11 03 00	.20	2.4	11 15	V. M.	
		WSW-ENE	11 01 27		11 02 21	11 03 43	.10	9.6	11 18	H. P.	
38	13	WSW-ENE	3 34 56						3 48	V. M.	
		WSW-ENE	3 35 15						3 50	H. P.	
39	13	NNW-SSE	14 25 18						15 00	V. M.	
		WSW-ENE	14 24 22						15 05	H. P.	
40	15	NNW-SSE	17 20 03			17 30 38	.02	2.4	17 59	V. M.	
		WSW-ENE	17 20 01			17 30 20	.02	2.8	17 57	V. M.	
		WSW-ENE	17 20 03			17 30 24	.08	8.1	18 02	H. P.	
41	15	WSW-ENE	19 11 02			19 11 53	.03	2.6	19 36	V. M.	
		NNW-SSE	19 11 04			19 11 42	.05	2.4	19 36	V. M.	
42	18	WSW-ENE	9 36 00		9 36 18	9 36 49	.14	2.4	9 41	V. M.	V. C. 0.08 mm.
		NNW-SSE	9 36 00		9 36 18	9 36 52	.17	2.4	9 42	V. M.	
43	19	WSW-ENE	5 04 36						5 10	H. P.	
44	19	WSW-ENE	11 10 30						11 18	V. M.	
45	20	WSW-ENE	17 25 30						17 40	H. P.	
		NNW-SSE	17 25 36						17 38	V. M.	
46	21	NNW-SSE	0 42 39			0 45 00	.14	2.8	0 54	V. M.	V. C. 0.15 mm. Earthquake, IV at Butuan (NE of Mindanao).
		WSW-ENE	0 42 37			0 44 21	.51	2.4	0 55	V. M.	
		WSW-ENE	0 42 43			0 43 55	.17	10.5	0 55	H. P.	
47	21	NNW-SSE	4 33 24			4 36 30	.03	8.6	5 32	V. M.	It was felt in Tacloban (NE of Leyte) and in Butuan (NE of Mindanao) with intensity IV.
		WSW-ENE	4 33 20			4 38 00	.02	8.8	5 29	V. M.	
		WSW-ENE	4 33 11			4 38 48	.20	8.7	5 34	H. P.	
48	22	WSW-ENE	12 38 04						12 42	V. M.	V. C. 0.03 mm.
		NNW-SSE	12 38 06						12 42	V. M.	
49	23	NNW-SSE	20 29 00	20 31 34	20 33 21	20 34 37	.08	10.4	21 25	V. M.	V. C. 0.05 mm.
		WSW-ENE	20 29 00	20 31 37	20 34 06	20 34 39	.11	6.4	21 22	V. M.	
		WSW-ENE	20 29 06	20 31 20	20 33 11	20 34 56	2.33	11.1	21 42	H. P.	
50	27	WSW-ENE	7 25 07	7 43 13	8 04 35	8 09 17	.01	14.4	9 33	V. M.	Earthquake in Mexico.
		WSW-ENE	7 25 12	7 43 06	8 03 51	8 09 14	.07	12	9 40	H. P.	
		NNW-SSE	7 25 11	7 42 54	8 04 27	8 08 41	.01	16.2	9 45	V. M.	
51	27	WSW-ENE	12 10 03						13 35	V. M.	
		WSW-ENE	12 10 00						13 51	H. P.	
		NNW-SSE	12 10 12						13 48	V. M.	
52	28	NNW-SSE	2 50 33		2 51 56	2 52 00	.73	2.4	3 23	V. M.	V. C. 0.22 mm. Earthquake, IV at Borongan (E of Samar) about 2^h 40^m.
		WSW-ENE	2 50 32		2 51 53	2 52 15	.73	2.4	3 24	V. M.	
		WSW-ENE	2 50 22		2 51 41	2 52 10	3.67	8.4	3 29	H. P.	
53	31	NNW-SSE	0 02 06		0 02 25	0 02 43	.20	2.4	0 06	V. M.	V. C. 0.25 mm.
		WSW-ENE	0 02 04		0 02 24	0 02 43	.25	2.4	0 06	V. M.	
		WSW-ENE	0 02 12						0 07	H. P.	

Instrumental constants.—Vicentini microseismogr phs (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=10.5 seconds; WSW–ENE pendulum, T=10 seconds. Magnification of the record: NNW–SSE, 15 times; WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters which extends many kilometers toward north and south and only four to the east, where volcanic tuff outcrops. To the west there lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

76732—4

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

1, $22^h\ 8^m\ 31^s$.* **Aparri** (NE de Luzón). Temblor oscilatorio. Dirección SE–NW; intensidad III; duración 15^s.

5, $9^h\ 41^m$. **Joló.** Temblor oscilatorio. Dirección SE–NW; intensidad II; duración 8^s.

5, $10^h\ 19^m\ 46^s$.* **Centro de Mindanao.** Terremoto de intensidad VI, cuyo origen debe situarse dentro de aquella isla, probablemente en la región del Río Agusan.[2] Este terremoto pasó de fuerza VI en Butúan, situado al N del Valle Agusano, mientras que en Dávao, situado al S, tan solo llegó á VI y en Cotabato que está al WSW á IV. De donde se infiere que el origen se hallaba entre las dos primeras estaciones pero algo más cerca de Butúan. No hay duda pues que procedió del antiguo y ya conocido centro situado hacia la mitad del expresado valle, en el lado oeste del Río Agusan. Como las tres estaciones citadas, con ser las más próximas al origen, distan aún mucho, 90 kilómetros Butúan, 105 kilómetros Dávao, y 170 kilómetros Cotabato, no es posible decir la intensidad que tuvo en el epicentro aunque sin duda debió ser violento. Fuera del Archipiélago las ondas se propagaron hasta Europa. Á continuación copiamos las horas en tiempo medio de Greenwich de las diferentes fases de la perturbación registrada en algunas estaciones.

Estación.	Principio.			Segundo movimiento preliminar.			Parte principal.			Fin.	
	h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*
Manila	2	19	46				2	22	—	4	30
Zikawei	2	23	14				2	27	43	4	—
Graz	2	31	3	2	41	40	3	6	50	4	40
Goettingen	2	31	4	2	41	36	3	5	—	5	14
Strassburg	2	31	12	2	43	5	3	1	—	5	24

8, $11^h\ 1^m\ 15^s$.* **Cápiz** (N de Panay). Temblor oscilatorio. Dirección E–W; intensidad IV.

9, $23^h\ 29^m$. **Aparri** (NE de Luzón). Temblor oscilatorio. Dirección NE–SW; intensidad III; duración 10^s.

18, $5^h\ 8^m$. **Surigao** (NE de Mindanao). Temblor oscilatorio. Dirección SE–NW; intensidad III; duración 4^s.

21, $0^h\ 42^m\ 39^s$.* **Butúan** (N de Mindanao). Temblor oscilatorio. Dirección SE–NW; intensidad III. Repitió á 2^h con menos intensidad.

21, $4^h\ 33^m\ 43^s$.* **Leyte, Sámar y NE de Mindanao.** Temblor de tierra de intensidad IV. El origen de este temblor sentido en la parte nordeste de Mindanao, en el este de Leyte y sur de Sámar probablemente se halla en el Pacífico hacia el paralelo 10° 30′ latitud N y á más de 1,000 kilómetros de Manila.

24, $4^h\ 55^m$. **Borongan** (E de Sámar). Temblor de tierra de intensidad II.

28, $2^h\ 40^m$. **Borongan** (E de Sámar). Temblor oscilatorio. Intensidad III. Repitió á 2^h 45^m con intensidad II.

28, $3^h\ 15^m$. **Butúan** (N de Mindanao). Temblor oscilatorio. Dirección NNW–SSE; intensidad IV; duración 34^s.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120° E de Greenwich.

[2] En el abreviado "Seismological Bulletin" que se envía á las principales Estaciones Séismicas poco después de terminar cada mes, se consideró á este terremoto como independiente de la perturbación Núm. 35, registrada por los microseismógrafos del Observatorio á $10^h\ 19^m$ del 5 de Marzo. El origen de esta perturbación se creyó estaba fuera del Archipiélago. La razón fué el no haberse recibido aún, cuanto se redactó, las notas de las estaciones más lejanas de Mindanao y venir las ya recibidas con horas muy diferentes.

EARTHQUAKE CATALOGUE, 1890–1907, MONTH OF MARCH.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1890	*h. m.*			*Km.*	*Km.*		
22	8 30	Albay Province	Vicinity of Mayon Volcano	40	40	IV	
25	22 40	Guinayangan, SE Luzon	NW of Burias Island	80	60	III	
1891							
5	21 44	Tamontaca, S Mindanao	Rio Grande Valley	100	80	III	
6	2 0	do	do	100	80	III	
15	10 0	Southern Luzon	Vicinity of Taal Volcano	140	140	V	
28	22 14	Cotabato, S Mindanao	Celebes Sea?	200	80	III	Earthquake in the Celebes group about 21ʰ 30ᵐ.
29	8 15	Zamboanga, W Mindanao	W of Illana Bay	100	40	III	
29	20 0	Cotabato, S Mindanao	Illana Bay	200	90	V	
29	21 10	do	do	200	90	III	
1892							
1	13 19	Batangas, S Luzon	Vicinity of Taal Volcano	80	70	III	
3	0 4	Albay Province	Vicinity of Mayon Volcano	60	40	III	Many light shocks during the hour following.
8		Batanes Islands				VIII	On the 9th the NE wind brought some ashes.
14	0 56	Panay and Cuyo Islands	Southern part of Panay	150	120	V	
14	2 22	do	do	150	120	V	Slight aftershocks at intervals of a few minutes during the 24 hours following.
16	20 58	Pangasinan, Union, and Benguet	W and S of Mount Santo Tomas	650	300	X	
16	21 48	do	do	300	200	V	
16	23 46	do	do	360	300	V	
16	23 55	do	do	280	200	V	
17	0 34	do	do	500	300	VI	
17	1 43	do	do	200	150	IV	
17	4 47	do	do	180	150	IV	
17	6 11	do	do	300	200	V	
17	6 36	do	do	180	150	IV	
17	7 11	do	do	180	150	IV	
17	23 20	do	do	250	200	V	
22	20 32	do	do	180	150	IV	
23	0 15	Negros and Cebu Islands	Vicinity of Canloan Volcano	120	80	V	
26	10 15	Negros Island	do	80	60	IV	
26	13 40	Central and eastern Luzon	S of Casiguran Bay	200	80	IV	
26	15 40	Central Luzon	W and S of Mount Santo Tomas	300	180	V	
28	18 30	Northern Luzon	N of the Central Range	180	70	V	
1893							
9	0 35	Western Luzon	W of Mount Santo Tomas	350	170	V	
16	21 0	Western coast of Luzon	Off the N Zambales coast	270	40	IV	Light shocks at 21ʰ 18ᵐ, 22ʰ 2ᵐ, and 23ʰ 52ᵐ.
17	0 41	Bolinao Point	Off Cape Bolinao	60	30	III	
17	6 17	do	do	60	30	III	
30	6 44	Tamontaca, S Mindanao	Rio Grande Valley	80	70	III	
1894							
14	21 34	Southeastern Luzon	NW of Burias Island	310	120	IV	10 minutes later slight shock felt only in the vicinity of the epicenter.
1895		None					
1906							
1	10 6	Jativa, E Mindanao	Agusan River Valley	40	30	III	
14	13 31	Southern Luzon	S of Lake Bay	130	50	III	
16		Tandag, NE Mindanao	NE of the Agusan Valley	80	40	III	
21	21 38	Northeastern Mindanao	do	120	50	IV	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF MACRH—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1896	*h. m.*			*Km.*	*Km.*		
22	5 50	Northeastern Mindanao	NE of the Agusan Valley	120	50	III	
22	7 47	Northeastern Luzon	NE end of the island	100	40	IV	
22	18 34	Veruela, E Mindanao	Agusan River Valley	60	40	IV	
23	5 58	Butuan, N Mindanao	N of the Agusan Valley	70	60	III	
25	16 36	Veruela, E Mindanao	Agusan River Valley	60	50	III	
1897							
7	5 21	Tandag, NE Mindanao	Off the eastern coast	100	40	III	
16	14 16	Eastern Mindanao	do	400	180	V	Registered at European observatories.
16	15 20	do	do	400	180	V	Registered at European observatories. On the eastern coast of the island were felt several aftershocks until 10ʰ of the 17th.
20	4 12	City of Manila		20	10	III	
21	22 32	Albay Province	Vicinity of Mayon Volcano	60	30	IV	
23	13 55	Ilocos Sur	Near the Ilocos coast	80	30	III	
24	11 41	Tandag, NE Mindanao	Off the E coast	100	60	IV	
29	13 17	Northern Luzon	N of the Central Range	80	30	III	
30	13 36	Tandag, NE Mindanao	Off the E coast	60	20	IV	
31	7 6	do	do	220	150	V	
1898							
5	19 15	Zamboanga, W Mindanao	SE Sulu Sea	80	30	IV	
6	5 31	City of Manila		10	10	II	
6	7 30	Nueva Caceres, Camarines	SE of St. Miguel Bay	60	50	III	
7	5 10	Northern Luzon	Off the N coast	150	80	IV	
9	12 17	W Mindanao	SE Sulu Sea	60	30	II	
10	9 52	do	do	60	30	III	Repeated 17ʰ.
12	4 45	do	do	60	30	III	Repeated 13ʰ 30ᵐ.
12	18 36	Tandag, NE Mindanao	Off the NE coast	80	30	III	
17	5 41	do	do	80	30	III	
18	5 37	W Mindanao	SE Sulu Sea	60	30	II	Repeated 18ʰ 02ᵐ.
21	9 22	do	do	60	30	II	Repeated 10ʰ 47ᵐ.
23	23 30	Calamianes Islands	Vicinity of Cuyo Island			III	
25	11 02	W Mindanao	SE Sulu Sea	60	30	II	
25	16 19	do	do	100	50	IV	
26	20 10	Ilocos Norte	N of the Central Range	120	100	IV	Registered at Manila.
28	9 08	W Mindanao	SE Sulu Sea	80	40	III	
28	9 38	City of Manila		10	10	III	
1899							
16	6 36	Western Mindanao	E Sulu Sea			III	
19	1 20	do	do			III	
28	11 59	City of Manila				III	10 minutes later a second light shock was felt.
1900							
1	14 30	Albay Province	Mayon Volcano			III	Slight shocks during volcanic eruption which lasted until the afternoon of the 3d.
7	5 0	Butuan, N Mindanao				III	
1901							
25	14 1	City of Manila				III	
29	1 24	Dagupan, Pangasinan				V	Repetition at 2ʰ 20ᵐ.
1902							
3	21 40	Surigao, NE Mindanao	Off the NE coast	100	40	IV	Registered at Manila.
9	10 30	Zamboanga, W Mindanao	SE Sulu Sea	80	20	II	
13	20 32	Panay Island	Near the NE coast	110	100	III	Do.
15	19 30	City of Manila		10	10	II	
17	11 30	Zamboanga, W Mindanao	SE Sulu Sea	60	40	II	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF MARCH—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1902	*h. m.*			*Km.*	*Km.*		
26	14 32	S. Negros	Near the Magaso Volcano	80	50	III	
28	14 00	Zamboanga, W Mindanao	SE Sulu Sea	80	40	III	Registered at Manila.
28	23 52	City of Manila		10	10	II	
1903							
10	16 35	Batanes Islands	S of the group			III	
21	11 52	Southeastern Mindanao	Near the SE coast	150	30	III	
22	9 2	do	do	150	30	III	
23	11 24	do	do	110	30	II	
26	9 14	do	do	150	40	III	
27	20 35	Capiz, N Panay	Near the NE coast	50	40	II	
29	14 56	Southeastern Mindanao	Near the SE coast	80	30	II	
29	20 0	Aparri, NE Luzon	NE end of the island	70	60	III	Do.
1904							
4	20 16	Dapitan, NW Mindanao	E Sulu Sea	100	60	II	
6	20 50	Southeastern Mindanao	Off the SE coast	120	70	IV	
8	5 30	Davao, SE Mindanao	Vicinity of Apo Volcano	80	60	II	
10	4 45	do	do	80	60	II	
11	10 25	Batanes Islands	South of the group			II	
14	21 40	Albay Province	Vicinity of Mayon Volcano	70	5	IV	Do.
19	5 15	Northeastern Leyte	Near SW coast of Samar	40	20	III	
19	14 46	Southeastern Mindanao	Off the SE coast	100	70	IV	Do.
20	15 7	do	do	100	50	III	
23	2 40	Southern Leyte	SE end of the island	50	50	III	
1905							
3	2 12	SE Luzon and N of Samar	Vicinity of N coast of Samar	200	80	IV	Do.
13	15 23	Ormoc, W Leyte	Near the NW coast	150	50	III	
16	23 52	Tuguegarao, N Luzon	E of Central Range	80	60	II	
17	2 24	Northern Luzon	N of Central Range	180	120	IV	Do.
17	17 29	Tuguegarao, N Luzon	E of Central Range	80	60	III	
18	23 6	Eastern Visayas	NE of of Cebu Island	300	200	IV	Do.
19	1 12	Capiz, N Panay	do	100	80	III	
20	0 31	Borongan, E Samar	Off the E coast	120	40	IV	
20	23 22	do	do	120	40	III	
23	19 2	Batanes Islands	South of the group			IV	Do.
28	13 30	Southern Leyte	SE end of the island	50	50	III	
31	16 37	Northeastern Luzon	NE end of the island	80	40	III	Do.
1906							
1	20 15	Zamboanga, W Mindanao	SE Sulu Sea	60	20	II	
6	20 28	Dapitan, NW Mindanao				III	
9	14 38	Ormoc, W Leyte	NW coast of Leyte	80	40	III	
10	20 16	SE Luzon and Samar	Vicinity of Masbate	450	200	VI	Registered at Manila. Later some slight aftershocks.
27	3 35	Cebu Island	Near the E coast	50	30	III	
1907							
1	11 54	SE Luzon and E Visayas	Near the NE coast of Samar	200	150	IV	Registered at Manila.
4	18 11	Northeastern Luzon	NE end of Luzon	60	40	III	
7	8 57	Southeastern Luzon	S of Catanduanes Island	50	20	III	Do.
10	20 16	do	do	50	20	III	
11	19 23	Northeastern Luzon	NE end of Luzon	60	40	III	
14	3 24	Romblon Island				II	
17	15 36	Northeastern Luzon	NE end of Luzon	60	40	III	
30	4 40	Southeastern Mindanao	Off the SE coast	200	80	III	Registered at European and American observatories.
31	5 05	do	do	200	40	II	
31	6 26	E Luzon	Casiguran Bay	100	60	IV	

BULLETIN FOR APRIL, 1908.

METEOROLOGICAL BULLETIN FOR APRIL, 1908.

By Rev. José Coronas, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—Although throughout the month not a single depression of any importance influenced the Philippines, the monthly mean of atmospheric pressure comes out everywhere slightly lower than that of April of the preceding year. For Manila the actual mean differed from the normal for the month by —0.68 millimeter and from the corresponding mean of 1907 by —0.53 millimeter. At many stations the highest pressures were observed on the 3d, and the lowest on the 5th and 7th.

The monthly mean of temperature is found to have been in nearly all the stations of the Weather Bureau somewhat higher than for April, 1907, the greatest differences having occurred at Aparri, Vigan, and Olongapo. At Manila the monthly mean differed from the normal value for the month by —0.3° C., and from the mean of the same month in 1907 by +0.2° C.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, APRIL, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from April, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from April, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.97	—0.70	758.69	20	756.81	5	27.4	+0.4	33.8	27	21.4	6, 20
Surigao	58.43	----------	59.13	2	57.34	5	26.7	----------	31.8	19, 25, 26, 27	21	1
Cebu	58.31	— .49	59.11	2	57.02	5	27.3	— .1	31.8	13	22.4?	12
Iloilo	58.26	— .71	59.04	3	57.14	5	28.1	+ .6	35	27	22.5	1
Ormoc	58.47	— .61	59.42	16	57.30	5	26.1	+ .6	33.4	23	18.6	1
Tacloban	58.85	— .70	59.66	2	57.79	5	26.9	+ .2	32.8	30	21.8	1
Capiz	58.77	— .62	59.58	3	57.58	7	27.6	+ .4	33.8	28	19.9	22
Calbayog	59.09	— .49	59.87	3	57.84	5	25.9	+ .1	34.2	22	19.4	1
Legaspi	59.15	— .50	60.06	3	58.04	5	27.3	+ .3	32	27, 30	21	21
Atimonan	59.15	— .57	60.24	3	57.82	7	27.9	+ .5	34	26	21.8	22
Olongapo	58.42	— .96	59.40	3	57.29	7	28.3	+1	37.2	27	21.7	4
San Isidro	58.84	— .95	60.08	3	57.43	7	28.5	+ .3	37.7	22	19.4	1
Dagupan	58.35	— .71	59.33	3	56.99	7	29	+ .8	39	28	21.6	1
Vigan	58.65	— .57	59.62	3	57.30	7	28.8	+1.3	36.2	25	23.5	18
Tuguegarao[1]	59.02	----------	60.43	12	58.16	22	28.2	----------	36.2	30	20.6	12
Aparri	59.32	— .88	60.95	12	57.68	7	27.1	+1.1	34.5	16	21	12

[1] 20 days only.

Precipitation.—At some stations the total amount of rain which fell during this month has surpassed the rainfall during April, 1907, at others it has fallen short of it. In Manila, on Corregidor Island, and in the Province of Batangas no rain has fallen during the entire month.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF APRIL, 1908.

Station.	Total.	Departure from April, 1907.	Rainy days.	Departure from April, 1907.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from April, 1907.	Rainy days.	Departure from April, 1907.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	135.3	-------	9	------	49	13	Batangas	0	— 1.6	0	— 3	0	0
Isabela, Basilan	119.2	— 11.7	10	+ 2	36.8	14	Atimouan	70.1	+ 55.9	4	+ 2	29.5	10
Davao	250.9	+106.2	8	+ 3	48.3	29	Silang	5	— 18.3	2	— 1	3	18
Butuan	122.2	— 8.6	15	— 1	37.1	29	San Antonio, Laguna	109.9	+ 58.6	12	+ 5	38.1	25
Yap, W. Carolines	109	+ 84.1	12	0	19.8	3	Corregidor	0	— 25.7	0	— 1	0	0
Tagbilaran	29.8	+ 19.8	3	0	13.7	29	Manila	0	— 4.9	0	— 3	0	0
Surigao	272.8	-------	20	------	61	10	Balanga	76.5	+ 68.4	4	+ 3	53.1	16
Maasin	126.4	+116	5	+ 3	50	12	Olongapo	3.6	— .2	1	— 2	3.6	16
Cebu	44	+ 42.1	8	+ 3	18.8	15	San Isidro	43.4	+ 11.5	1	— 2	43.4	17
Bacolod	24	+ 20.4	5	+ 2	13.5	14	Tarlac	50.5	+ 33.9	3	— 3	22.6	16
Iloilo	15.3	+ 13.2	5	+ 2	11.9	14	Baler	96.3	—195.7	19	+ 7	17.5	17
San Jose, Buenavista	9.4	— 12.9	2	0	8.9	15	Dagupan	41.4	— 71.7	9	+ 4	13.2	29
Tuburan	4.6	— .2	3	+ 1	2	10	Bolinao	17.8	+ 15.5	3	+ 1	10.4	19
Ormoc	35.5	— 22.8	6	0	16.8	12	Baguio, Benguet	48.1	+146.8	14	+13	39.6	18
Tacloban	92	+ 18	15	+ 4	20.3	12	San Fernando, Union	44.7	+ 43.4	3	+ 2	35.6	20
Capiz	19.5	— 16.8	6	+ 1	7.9	10	Echague	25.9	-------	6	------	16.5	17
Borongan	208	+ 79.6	22	+ 6	42.4	12	Candon	4.5	+ 3.2	3	+ 2	2	20
Calbayog	143.8	+ 68.7	17	+ 7	20.6	3	Vigan	3.3	— 44.5	3	+ 2	2	20
Palanoc, Masbate	15.2	+ 7.2	5	0	10.4	11	Tuguegarao[1]	30.6	-------	4	------	15.2	14
Laoang	87	-------	16	------	22.4	12	Laoag	5.3	-------	2	------	3	26
Gubat	146.7	+ 51.9	11	+ 2	50.8	16	Aparri	10.2	— 18.3	4	0	5.1	8
Legaspi	131.2	+ 16	16	+ 8	27.7	12	Sto. Domingo Batanes Is.	252.1	+112.5	13	+ 7	134.4	28
Virac	72.7	-------	17	------	23.4	16							

[1] 20 days only.

DEPRESSIONS AND TYPHOONS.

Throughout the entire Far East not a single typhoon has been registered during the month; and such depressions as have been observed either have been of small importance or have barely influenced our Archipelago.

If we examine the table of meteorological observations made at Manila, we notice at once that the atmospheric currents were remarkably normal, except on the 17th and 22d, on which days westerly winds prevailed either entirely or at least in part. Now, the weather maps of those days show that on the 17th there was a depression far out in the Pacific, southeast of the Loochoos Islands and northeast of Luzon, which apparently moved eastward; while on the 22d another depression manifested itself in the neighborhood of the same group of islands, moving in a northeasterly direction, toward Japan. The first of these two depressions was responsible for the more or less gusty winds from the northwest quadrant which were observed at Santo Domingo, Batanes Islands, during the whole of the 17th. For the 22d the same station recorded likewise light winds from west-northwest.

Besides those mentioned, there occurred during the month another depression which affected Japan to quite an extent, but exercised no influence upon the Philippines: not even the station at Santo Domingo could notice any indications of its existence. Formed, as it would seem, on the 7th to the east of Formosa, it moved first toward northeast, passing successively through the east and north of the Loochoos Islands on the 8th; then its course took a true east direction, toward the Pacific, in which latter the disturbance lost itself during the night of the 9th, after having passed between the Bonin group and Nippon and caused a severe snowstorm in southeastern Japan.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Á pesar de no haber influído en Filipinas durante todo el mes depresión alguna de importancia, con todo, la media mensual de la presión atmosférica es en todas partes algo inferior á la de Abril del año próximo pasado. La de Manila difiere de la normal de este mes en –0.68 mm., y de la media correspondiente de 1907, en –0.53 mm. Las presiones máximas se observaron en muchas estaciones el día 3, y las mínimas los días 5 y 7.

La temperatura media mensual es en casi todas las estaciones del Weather Bureau algún tanto superior á la de Abril 1907, correspondiendo las diferencias mayores á Aparri, Vigan y Olongapó. La media de Manila difiere de la normal en –0.3° C., y de la media del año pasado en +0.2° C.

Precipitación acuosa.—La cantidad total de lluvia caída este mes ha sido en unas estaciones superior y en otras inferior al total de Abril, 1907. En Manila lo mismo que en Corregidor y Batangas la precipitación acuosa ha sido nula en todo el mes.

DEPRESIONES Y TIFONES.

No se ha registrado tifón alguno durante este mes en todo el Extremo Oriente; y aun las depresiones observadas ó han sido de poca importancia ó apenas han influído en nuestro Archipiélago.

Examinando el cuadro de observaciones meteorológicas de Manila notamos enseguida que las corrientes atmosféricas fueron muy normales á excepción de los días 17 y 22 en que dominaron ó en todo ó en parte vientos del W. Pues bien, los mapas del tiempo de aquellos días muestran para el 17 la existencia de una depresión muy lejana en el Pacífico al SE de las Islas Liukiu y NE de Luzón, moviéndose aparentemente hacia el Este; y para el 22 otra depresión en los alrededores de las Islas Liukiu, moviéndose al NE en dirección al Japón. La primera de estas depresiones fué causa de que se observasen en Sto. Domingo, Islas Batanes, vientos más ó menos racheados del cuarto cuadrante durante todo el día 17. También el 22 por la tarde hallamos anotados en la misma estación vientos flojos del WNW.

Otra depresión hubo este mes de más importancia para el Japón, pero no así para Filipinas, toda vez que ni la estación de Sto. Domingo arriba mencionada dió señales de su existencia. Formada al parecer el día 7 al Este de Formosa, se movió primero al NE, pasando sucesivamente por el Este y Norte de las Islas Liukiu durante el día 8; luego se inclinó completamente al Este en dirección al Pacífico en el que se internó la noche del 9, después de haber cruzado por entre las Islas Bonin y la Isla Nippon y haber causado una fuerte tempestad de nieve en el sudeste de Japón.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Temperature.									Relative humidity, mean.	Vapor pressure, mean.	Evaporation.	
		Open air.[2]			Underground.									
		Mean.	Maximum.	Minimum.	0.25 meter.		0.50 meter.		1.50 meters.	2.50 meters.			Free exposure, total.	Shelter, total.
					8 a. m.	2 p. m.	8 a. m.	2 p. m.	8 a. m.	8 a. m.				
	mm.	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	*Per ct.*	*mm.*	*mm.*	*mm.*
1	758.95	26.8	33.5	19.7	26.9	29	27.7	28.3	27.7	27.8	66.1	17	9.7	4.7
2	59.57	27	33.4	20.2	27	29	28	28.4	27.7	27.8	65.9	17.2	11	4.6
3	59.90	27	33.4	21	27.3	28.9	28.2	28.6	27.8	27.9	67.1	17.7	9	4.4
4	58.88	27	33.5	21.2	27.3	29.3	28.2	28.7	27.8	27.9	69.7	18.2	10	4.3
5	57.62	26.8	33.8	20.4	27.6	29.1	28.5	28.4	27.9	27.9	69.8	17.9	9.5	5.8
6	57.61	27.8	34.3	21.7	27.8	30.1	28.7	29	27.9	28	66.5	18	9.8	4.5
7	57.46	27.9	35.2	21.5	28	30.9	28.8	29.2	27.8	27.9	64.2	17.5	9.8	4.6
8	57.94	28.2	35.4	21.5	28.3	31	28.9	29.8	27.9	27.9	64	17.8	9.4	4.6
9	58.56	28	34.4	22	28.8	31	29.4	29.9	28	27.9	66.2	18.3	10.3	4.8
10	58.92	27	33.9	21.3	28.7	30.7	29.4	29.9	28	28	65.4	17.3	8.9	4.3
11	59.16	27.2	34.5	22	28.3	30.4	29 3	29.6	27.9	28	69.4	18.4	9.3	4.2
12	59.58	28.1	34.3	21.7	28.3	30.5	29.3	29.6	28	28	65.8	18.3	9.9	4.5
13	59.27	28.2	34.3	22.8	28.7	31.2	29.4	29.9	28	28	64.9	18.2	10.7	5
14	58.84	27.6	35.2	20.5	28.6	31.4	29.5	30	28	27.9	65.4	17.5	9.7	4.6
15	58.91	28.2	35.5	21.4	29	32	29.7	30.3	28.1	28	66.5	18.5	9.7	4.5
16	59.21	28	35.3	22	29.4	32	30	30.5	28.3	28.1	69.9	19.2	10.5	4.3
17	58.64	28.3	33.8	22.2	29.6	32.2	30	30.6	28.3	28.1	70.8	20	8.7	4.1
18	58.49	28.3	35.3	22.8	30.1	32.5	30.4	30.8	28.3	28	70	19.6	8.1	3.9
19	58.88	28.2	35.8	21.9	29.9	32	30.7	31	28.4	28.1	65.7	18.2	10.7	4.8
20	58.99	28.4	35	22.3	30.1	33	30.6	31.3	28.3	28	60.4	16.7	10.2	5
21	58.66	27.6	34.6	20.1	29.8	32.7	30.5	31.1	28.4	28	61.6	16.5	9.9	5.2
22	58.56	27.5	34.4	20.5	29.7	32.9	30.6	31.2	28.6	28	68.5	18.2	9.9	5
23	58.70	28.3	34.8	21.8	30.2	33.1	30.8	31.3	28.7	28.4	67.5	18.9	8.7	4.4
24	58.91	28.2	35.2	22.1	30.3	33	31	31.4	28.6	28	65.8	18.4	9.8	4.7
25	58.38	28.1	35.4	21.5	30.1	32.8	30.8	31.3	28.7	27.9	66	18.3	10.2	4.8
26	58.45	28.8	35.2	24.1	30.4	33.4	30.9	31.6	28.7	28.1	64.6	18.6	10.2	4.6
27	58.66	28.7	35.7	22.4	30.4	33.1	31	32.1	28.8	28.2	66.1	19.1	9.9	4.8
28	58.78	28.6	35.3	22.5	30.7	32.1	31.8	32.1	29	28.1	65.5	18.7	10.5	5.3
29	58.97	27.9	34.8	22.2	30.1	31.9	31.2	31.5	29.1	28.2	69.2	19	9.4	4.4
30	58.96	29	35.5	23.1	29.9	31.6	30.9	31.1	29	28.1	65	18.9	10	4.6
Mean	758.75	27.9	34.7	21.7	29	31.4	29.8	30.3	28.3	28	66.4	18.2	9.8	4.6
Total													293.4	139.3
Departure from normal	—0.68	—0.3	+0.9	—1.2							—3.2	—1.4	+10.4	

Date.	Wind.				Clouds.			Sunshine.	Rainfall.	Miscellaneous.
	Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Amount, mean.	Prevailing form and its direction.				
						Upper.	Lower.			
		Km.	*Km.*		*0–10.*			*h. m.*	*mm.*	
1	ESE	271.5	23	SE	3.2	Ci.-S S	Cu. ESE	10 30		≡° a. ↙° p.
2	SE	304	26.5	SSE	2.8	Ci.-S.	Cu. E	10 20		≡ a. ↙° p.
3	SE	290	25.5	SE by E	4.8	Ci.	Cu. E	8 40		≡° a.
4	SE	250.5	25	SE	3.2	A.-Cu.	Cu. ENE	10 05		≡° a. ↙° p.
5	SE	247	23.5	SE	4.3	Ci.-S.	Cu. ESE	10 25		≡ a.
6	SE	246	23	SE	2.8	Ci.	Cu. E by S	11 10		≡° a. ↙° p.
7	SE	234.5	16.5	ESE	3.3	Ci. NW	Cu.	10 55		≡° a. ◯° p.
8	SE	228.5	20	SE by S	2.3	Ci.	Cu. E	10 25		≡° a. ϟ p.
9	ESE	303	28	SE by S	2.8	Ci.	Cu. E, NE	9 45		≡° a. ↙° p.
10	E	242	19	SE by E	5.1	A.-Cu.	Cu. E by N	7 45		≡° a. d° p.
11	ESE	241	26	ESE	6.2	A.-Cu.	Cu. E	7 50		≡° a. ↙° p.
12	SE quad.	248.5	22.5	E by S	4.9	A.-Cu. ESE	Cu. E by N	8 40		≡° a.
13	ESE	295.5	29.5	E by S	6.7	Ci.-S. S by W	Cu. E by N	8 15		≡° a. p. ↙° ⌣ p.
14	ESE	264	24	ESE	1.6	Ci.	Cu.	10 40		≡° a. ϟ p.
15	ESE	242	24.5	ESE	3.2	Ci.-S. SW	Cu. E	11 00		≡° a. ↙° p.
16	ESE	213.5	20.5	SE by E	5.1	Ci.-S. SW	Cu.-N. E	8 45		≡° a. ϟ p.
17	NNE, W	249.5	19.5	W	4	Ci.-S.	Cu.	10 20		≡° a. ⌈ϟ p.
18	SE	246	25	SE	4.4	Ci.	Cu. E	9 50		≡° a. ⌈ϟ p.
19	SE quad.	223	19	S	3.8	Ci.-S. NW	Cu. E	9 15		≡ a. p.
20	SE	186.5	20	SSE	3.3	Ci.-S.	Cu. E	10 45		≡° a.
21	SE	190	18	SE	2.8	Ci. SW by W	Cu. E	11 30		≡ a.
22	W	180	19	SSW	1.1	Ci.	Cu.	11 05		≡° a.
23	W, SE	145	18	W	4.1	Ci. SW by S	Cu. E	10 20		≡ a. ↙° p.
24	SE	230	25	SE	3.1	A.-Cu. SE by E	Cu. E	9 55		≡° a. ↙° p.
25	SE	168.5	16.5	SE by E	5	A.-Cu. ESE	Cu. E	9 15		≡ d° a. ϟ° p.
26	ESE	210	23	E by S	5.6	A.-Cu. ESE	Cu. E	7 30		≡ °↙° p a.
27	SE	259	25.5	SE	3.9	Ci. N	Cu. E	10 40		≡ a. ◯ p.
28	SE	235.5	29.5	SE	4.5	Ci. NE	Cu. E	8 35		≡° a. ↙° ϟ ° p.
29	SE	243	25	SE	7.9	Ci.-S. SW by W	Cu. E	6 10		≡° a. ◯ a. p.
30	SE	259.5	21	SE	4.8	A.-Cu. NE	Cu. E	8 25		≡° a. ϟ p.
Mean		238.2	22.7		4			9 38		
Total								288 45	0.0	
Departure from normal		—2.0			+0.1			+21 15	—29.7	

[1] All the mean values given in this table are deduced from hourly observations.
[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.30	26.8	31.6	22	73.5	NW	1.3	2	------	Cu. E	------	
2	58.54	27.3	31.1	24.2	71.2	SE	1.2	7.5	Ci.-S. S	Cu. E	------	
3	58.66	27	31.3	23	75.7	NNE, NNW	1.3	7.2	Ci.-S.	S.-Cu. E	------	
4	57.71	27.3	32.4	22.6	72.6	NNE, SE	1.2	7	Ci.-S.	Cu. E	------	
5	56.81	26.9	31.7	22.6	75.2	NW	1.5	4.5	Ci.-S.	Cu. E, NE	------	
6	57.07	27	32.7	21.4	73.7	N	1.5	2.5	------	Cu. E	------	
7	57.03	27.9	32.9	24.4	73.2	SE	1.3	4.5	Ci.-S.	Cu. E	------	
8	57.33	27.6	33.3	23.1	73	SE	1.3	6	Ci.-S. N	Cu. E	------	
9	57.60	27	32.5	22.1	72.7	NNE, SE	1.2	6	Ci.-S. NE	Cu. E	------	d a.
10	57.42	26.5	31.4	22	77.3	N quad.	1	6.8	Ci.-S., A.-S.	Variable	4.3	● a.
11	57.63	28	33.5	23.9	66.3	NNE	1.3	7.8	Ci.-S.	Cu. E	------	⌣°
12	57.83	28	31.8	23.9	73.7	NNE, WNW	1.3	8	Variable	Cu.-N. E	------	d° p.
13	58.58	27.2	31.3	24.3	80.7	NNE, SE	.8	9.2	A.-S.	Cu.-N. E	11.8	d a. ⌈↯ p.
14	58.03	27.5	31.6	23.4	76.3	NNE, SE	1.2	5.5	A.-S.	Cu. E	------	⌣°
15	58.16	27.5	31.2	23.8	77.8	NNE, SE	1	9.5	A.-S., Ci.-S.	S.-Cu., Cu. E	------	○° ⊤ p.
16	58.56	27.3	31.9	23.4	76.5	NNE	1.3	5.8	Ci.-S., A.-S.	Cu. E	------	d° a. ⌣²
17	58.18	27	32.4	22.9	76.8	N, SE	1	8.2	Ci.-S.	Cu. E, W	------	C° ⌣°
18	58.10	27	32.5	22.5	74.3	SE	1.2	6	Ci.-S.	Cu.-N. E	------	
19	58.54	26.9	31.4	21.9	72.8	SE	1	3.8	Ci.-S.	Cu. E	------	
20	58.69	26.8	31.1	21.4	72.1	SE	1.5	3	Ci.-S.	Cu. NE, E	------	
21	58.48	27	29.5	22.6	77	NNE, SE	1.3	5	------	Cu. E	------	
22	58.02	27.3	31.7	22.5	74.8	N	1	8.8	Ci.-S.	S.-Cu. E	------	↯ p.
23	58.19	28	33	23.6	73.2	NNE, NW	1.2	4.2	Ci.-S.	Cu. E	------	Co
24	58.23	27.7	31.6	23	69.6	NNE, SE	1	3.2	------	Cu. E, NE	------	
25	57.66	27.3	31.8	22.3	71.3	NW	1.3	7	Ci.-S. SE	Variable	------	
26	57.47	28.2	33.6	24.1	72.4	SE, NNE	1.3	4.5	------	Variable	------	↯° p.
27	57.68	28.5	33.8	23.6	70.7	SE	1	2.8	Ci.-S., A.-S.	Cu. E, W	------	
28	58.04	28.8	33.6	24.4	71.1	SE	1.3	5.2	Ci.-S.	Cu. E, NE	------	↯° p.
29	58.27	27.2	28.8	24	81.2	NNE	.8	9.8	A.-S.	N. E	13.7	● a. ⊤ p.
30	58.33	27.5	32	23.8	76.3	N, SE	1	7.5	Ci.-S.	Cu. E	------	
Mean	757.97	27.4	32	23.1	74.1	------	1.2	6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	29.8	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.72	26	30.6	21	87.5	E, SE	1.7	3	Ci.	Cu. NE	0.5	Ω a. ↙° d p.
2	59.13	27	29.9	23	85.4	E	1.5	3.8	Ci.	Cu. ENE, E	------	Ω a. p. ⌒
3	59.10	26.6	30.3	23.2	87.2	E	1.4	6.8	Ci.S., Ci.	N.-cf. NE, N	9.4	●° a. d Ω p.
4	58.17	26.4	30.2	23	88.2	NNE	1.7	6.5	Ci.	Cu. NE	9.4	Ω ●° a. p.
5	57.34	26.7	30.4	22.3	89.2	NE, E	1.7	3	Ci.	Cu. E	------	Ω a. p.
6	57.57	26.2	30.3	21.7	88	E quad.	1.1	4.2	Ci.	Cu. NE	.8	Ω² d a. p.
7	57.50	26.5	30.2	23.1	90	E quad.	1.2	4.8	Ci.	Cu. NE	16.8	● a. Ω p.
8	57.84	26.1	30.2	21.9	90.5	ESE, ENE	1.2	4.5	Ci.	Cu. E	------	d° a. Ω
9	58.24	27	30.4	23.3	86.7	E quad.	1.8	5.8	Ci.	Cu. NE	.3	d p. Ω
10	57.74	26	28.7	23.4	92.8	NE	1.2	9.5	Ci.-S.	N.-cf. ENE	61	● a. p. ⌒
11	58.04	27.6	30.4	23.7	85.6	NE	3	7	Ci.	Cu. E, NE	31.5	●² a. Ω p.
12	58.40	26.4	29.8	23.8	91.2	ESE, ENE	1.7	6.8	Ci.	Cu. E, NE	19.8	● a. p. ⌒
13	59.08	26.1	28.7	23.7	89.8	E	1.2	8	Ci.-S.	Cu. NE, E	42.9	●² a. Ω p.
14	58.47	26	31.3	22.2	90.3	SE	1.2	7.8	Variable	Cu. SE, NE	8.1	Ω a. ●° p.
15	58.50	26.8	31.7	23.2	87.7	SE	1.2	6.5	A.-Cu., Ci.	Cu. N, E	------	d° p. Ω
16	58.97	26.4	30.8	23	87.2	SE	1.5	4.8	Ci.	Cu. NE	7.4	Ω ●° a. ⌣
17	58.61	26.8	31.2	22.7	85.3	ESE	1.1	6.2	Ci.	Cu. SE, NE	------	Ω a. p.
18	58.83	26.6	31	22.2	83.5	ENE	1.2	2.5	Ci.	Cu. NE	------	Ω a. p.
19	59.02	26.9	31.8	21.8	75.6	ENE	1.2	2.8	Ci.	Cu. NE	------	Ω a. p.
20	59.06	26.7	31	22.4	84.8	ENE	1.1	4.2	Ci.	Cu. NE	------	Ω a. p.
21	58.68	26.8	31.6	22.9	83.8	Variable	1	6	Ci.	Cu. NE	------	d° p. Ω ≡°
22	58.55	26.7	30.8	22.8	84.7	Variable	.9	7.8	Ci.-S., Ci.	Cu. NE	5.8	●° p. Ω
23	58.81	27	30.7	23.2	85.1	SSE, ENE	1.8	2.2	Ci.	Cu. NE	------	Ω a. p.
24	58.81	27.2	30.9	23	82.8	ENE	1.3	3.2	Ci.	Cu. SE, NE	1.8	●° a. Ω
25	58.08	26.8	31.8	22.6	86.2	SSE, ENE	1	7.5	Ci.	Cu. NNE, E	6.6	Ω d a. ●° p.
26	57.94	27.1	31.8	22.5	87.7	ENE	1.2	5.8	Ci., Ci.-S.	Cu. ENE	6.1	●° Ω a. p.
27	58.34	26.8	31.8	23	86	ENE	1.5	7.8	A.-Cu.	Cu. NE	3.6	Ω d a. p.
28	58.28	27.6	31	24	88.3	NE	1.8	6.5	Ci.	Cu. NE	15.8	● a. p. Ω
29	58.46	26.9	30.2	23.8	87.7	SSE, ENE	1.3	10	Ci.-S.	N.-cf. ENE	24.4	● a. ↙° Ω p.
30	58.60	26.7	30.2	23.1	88.2	NNW	.9	8.2	Ci., A.-Cu.	Cu. N	.8	Ω d a. p. ↯
Mean	758.43	26.7	30.7	22.8	86.9	------	1.4	5.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	272.8	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	758.65	26.9	30.6	22.9	76.8	E	9.7	2.5	Ci.	Cu. ENE, E	1.3	Ω ∞ p p.
2	59.11	27.4	30.6	24.9	75	N, E	10.4	5.2	Ci. SE	Cu. ENE	------	Ω ≡° ○
3	59.03	27	30	23.7	78.4	NE	10.7	6	Ci.	S.-Cu. ENE	------	Ω ≡°
4	58.04	26.8	30.4	23.7	77	E	10.9	3.2	Ci.	Cu. ENE	------	Ω ∞
5	57.02	26.6	30.6	23.4	82.3	ENE, E	9.6	3	Ci.	Cu. NE	------	Ω^2 ≡°
6	57.36	26.9	30.5	26.6	75.5	E	10.8	3	Ci.	Cu. ENE	------	Ω ≡°
7	57.31	27.4	31	24.5	73.6	ENE, E	8.7	2.5	Ci.	Cu. E, ENE	------	Ω ≡°
8	57.81	27.2	31.6	23.9	78.2	E, NNE	9.8	2.8	Ci.	Cu. ENE	------	Ω ∞
9	58.13	27.1	30.5	23.2	76.3	ENE	11.7	3.5	Ci.	Cu. ENE	------	Ω ≡°
10	57.96	26.5[1]	30	23.6	80.4[1]	N, E	9.4	6.2	Ci.	Cu. NE, ENE	------	Ω ≡° a. d° p.
11	58.14	27.8[1]	30.9	23.9	76.7[1]	E, NE	13.3	4.2	Ci.	Cu. NE, ENE	3.8	p ≡° a.
12	58.38	27.1	31.2	22.4	79.3	E	12.5	5.5	Ci.	Cu. ENE	------	Ω ≡° a. d° p.
13	59.04	27.2	31.8	------	82.5	E	10.1	5.2	Ci.	Cu.	.3	Ω ≡° d o.
14	58.40	27.8[1]	30.5	------	84.6[1]	ENE, E	9	3.8	Ci.	Cu. ENE, NE	------	≡° d° a.
15	58.56	28.2[1]	31.1	23.5	76.4[1]	E	8.9	5.8	Ci.-S.	Cu. ENE	18.8	● ≡° ○ a. ⌣
16	59.02	27.6	30.5	24.4	77.3	E	9.5	3.8	Ci.	Cu. NE, ENE	------	Ω ∞
17	58.37	26.9	30.6	23.6	78.5	S, E	7.2	5.8	Ci.-S. SW	Cu. E	------	Ω ≡° a. ⊤ ⌣ p.
18	58.53	26.6	30.5	23.5	80	SE, E	8.4	3.8	Ci.	Cu. NNE, NE	.8	Ω ≡° d a.
19	58.75	26.9	30.4	23.3	76.8	E	9.1	2.8	Ci.	Cu. NE	------	Ω ≡°
20	58.77	27.2	30.8	24	76.9	E	9.2	2.5	Ci.	Cu. ENE	.8	d a. ∞
21	58.36	26.9	31.1	23.9	78.2	E	7.9	3.2	Ci.	Cu. ENE	------	Ω ∞
22	58.22	27.6	31	22.8	74.7	SE, E	7.8	5.5	Ci.-S.	Cu. E	------	Ω ≡°
23	58.54	27.7	30.5	23.7	73	E	9.8	3	Ci.	Cu. ENE	------	Ω ∞
24	58.69	27.9	30.6	24.5	74	E	11.4	2.8	Ci.	Cu. ENE	------	Ω ∞
25	57.96	27.6	30.9	23.9	74.3	E	11.3	3.5	Ci.	Cu. ENE	------	Ω ∞
56	57.92	28.1	31.4	24	74.3	E	11.7	3	Ci.	Cu. E	------	Ω ∞
27	58.12	28.6	32	25	71.5	E, ENE	11.1	3	Ci.	Cu. E	------	Ω ≡°
28	58.20	28.2	31.5	24.4	75.8	E	10.6	4.2	Ci.	Cu. E	3	p ≡° Ω a. ≺ p.
29	58.44	26.4	29.5	24.3	85.8	N, NE	6.6	8.5	Ci.-S.	Variable	15.2	≡ ● ⊤ a. ○
30	58.56	27.7	31.6	23.9	78.2	E	8.5	4.8	Ci.	Cu. ENE	------	Ω^2 ≡°
Mean	758.31	27.3	30.8	23.8	77.4	------------	9.9	4.1	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	44	

[1] Mean deduced from five observations.

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	758.50	27.3	31.9	22.5	73.2	N, NE	13.7	2.8	Ci.	Cu.	------	
2	58.83	28.3	33.5	24.5	71.2	N, NE	14.1	4.8	Ci.	S.-Cu., Cu.	------	
3	59.04	27.9	33	24.1	73.9	NE	16.2	3.5	Ci.	Cu.	------	≺ p.
4	58.07	27.7	33.2	23.5	72.8	NE quad.	15.6	2.8	Ci.	Cu. NE	------	Ω
5	57.14	27.5	32.1	23.6	73.9	N	13	4	Ci.	Cu.	------	p a.
6	57.22	27.4	33	23.5	68.3	N	14.7	1.5	Ci.	Cu.	------	
7	57.22	28	33.2	23.5	69.6	N, E	13	4.2	Ci.	Cu.	------	
8	57.54	27.7	33	23.5	69.8	N, NE	--------	4.2	Ci.-S.	Cu.	------	
9	57.95	28.2	34	24.4	68	N, NE	14.9	2.5	Ci.	Cu.	------	
10	57.93	27.9	33	24.4	70.2	NE	16.5	4.8	Ci.	Cu.	------	d^2 a. p. ≺
11	58.01	28	32.8	24.9	72.5	NE	20.4	6.8	Ci.	Cu. NE	------	
12	58.36	28.1	33.4	24.2	72.8	NE	17.8	7.2	Ci.-S.	S.-Cu. NE	0.5	●° a. ≺ p.
13	58.88	27.2	31	24.3	79.5	N, NE	13.7	8.5	A.-Cu.	N.	1.8	≺° ●° a.
14	58.30	28.4	34	25	74.8	N, NNE	12.6	7.8	Ci.	Variable	11.9	⊤ ≺ ● p.
15	58.54	28.1	33	25	75.5	NE quad.	10.7	7.2	Ci.-S.	Cu.	------	≺ p.
16	58.92	28.4	33.4	24.8	73.7	N, ENE	12	5.2	Ci.-S.	Cu.	------	
17	58.38	28	32.8	24.5	71.9	NE	8.1	8.8	Ci.-S.	Cu., Fr.-N.	------	⌣ ○ ⊕ ⊤° p.
18	58.47	27.5	33	23	69.2	N, NE	10.1	4.8	Ci.	S.-Cu., Cu.	------	Ω
19	58.76	27.9	33.6	23.1	64.8	N, NE	10.4	4	Ci.	Cu.	------	
20	58.84	27.6	33.1	23.5	68.7	NE	12.2	4.2	Ci., A.-Cu.	S.-Cu., Cu.	------	p° a.
21	58.56	27.5	33.4	22.8	66.3	N, NE	10.9	4.8	Ci.	Cu.	------	
22	58.30	28.1	34.8	23.1	66.7	NE	9.5	7.2	Ci.-S.	Cu.	------	∞ a. ≺ p.
23	58.36	29	34.5	25.5	64.7	NE	12.3	6.8	Ci.-S., A.-Cu.	Cu.	------	∞^{2}
24	58.56	28.3	33.7	24.4	65.2	N	14.2	3	Ci.	Cu.	------	∞^{2}
25	57.97	28.5	33.5	24.2	67.2	ENE	12.7	7	Ci.-S.	Cu.	.8	●° a. ∞
26	57.77	28.8	34	24	67.5	N, ENE	14.2	4.8	Ci.	S.-Cu. NE	------	
27	58.02	28.9	35	25	68.5	N, NE	13.9	2.8	Ci., Ci.-S.	Cu.	------	d° a. ∞^{2}
28	58.26	29.2	34.1	25.6	66.2	N, ENE	15.8	3.8	Ci.	S.-Cu., Cu.	------	∞
29	58.46	28.2	33	24.5	71.4	NE	14.7	9.2	A.-Cu., Ci.-S.	S.-Cu. NE	.3	⊤ ●° a. ∞°
30	58.58	28.6	33.5	24.6	67.7	N, ENE	13.6	4.5	Ci.	Cu.	------	∞^{2}
Mean	758.26	28.1	33.3	24.1	70.2	------------	13.5	5.1	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	15.3	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	758.85	24.8	31.7	18.6	79.7	Variable	6.4	5	Ci.	Cu. E	------	Ω ↙°
2	59.23	26.2	31.2	21.3	75.8	SE, NE	5.2	4.2	Ci.	Cu. E	------	Ω
3	59.23	26.7	30	22.4	75.7	N	6.5	6.8	Ci.	Cu. E	------	⚡ p.
4	58.28	25.6	31.1	20.9	79.2	S	5.7	3.2	Ci., Ci.-S	Cu. ENE	------	Ω
5	57.59?	25.2	31.5	20.4	77	NNE	6.7	3.2	Ci.	Cu. E, ENE	------	Ω a. ⚡° p.
6	57.85?	25.4	29.9	18.9	77.2	S	6.5	4.5	Ci., Ci.-S.	Cu.	------	Ω a. d p.
7	57.49	26.4	31	21.4	75.6	Variable	5.4	2.2	Ci.	Cu.	------	Ω ⊤ p.
8	57.90	25.6	31.2	20.3	77.2	Variable	6.8	4.2	Ci.	Cu. E, ENE	------	Ω d a.
9	58.29	26.8	33.3	21.2	71.8	SSW	6.2	5.2	Ci.	Cu. ENE, NE	------	
10	58.19	25.4	29.3	20.5	81.7	N quad.	4.1	7	Ci.-S.	Cu.-N. ENE, E	4.8	d a. ●° p.
11	58.26	27.6	32.4	23.4	68.8	NE	8	4.8	Ci.	Cu. E, ENE	------	d ⊤ ⌒
12	58.78	24.8	28.9	22.2	88.7	S	4.2	7	Ci.-S.	Cu. E	16.8	⊤ a. [⚡ p.
13	59.02	25.6	29.8	22.8	87.2	SSW, S	2.6	8	Ci.-S.	Cu.-N.	11.9	● a. d° p.
14	58.42	26.4	31.2	21.9	81.9	SW, S	4.2	5.8	A.-Cu. SE	Cu E, ENE	------	⋓
15	58.65	26.4	31.2	22.9	82.8	Variable	4.5	7	Ci.	Cu. E	------	⊤ ⚡ ⋓ p.
16	59.15	25.8	31.7	22.5	82.7	S	6.4	5.8	Ci.	Cu. ENE	.5	d a. ⚡ p.
17	58.54	25.9	30.6	20	77.8	Variable	5.5	5.8	Ci. WSW	Cu. NE	------	d ⚡ p.
18	58.56	26.1	31.5	20.1	73	Variable	6.5	3.2	Ci.	Cu. ENE	------	
19	58.90	25.7	31	21	77	S	7.3	2.8	Ci.	Cu. ENE	------	
20	58.94	25.2	30.3	19.5	80	Variable	5.1	5	Ci., Ci.-S.	Cu. ENE, NE	------	
21	58.56	25.2	30.6	18.8	76.8	S	5.5	4.2	Ci., Ci.-S.	Cu. ENE	------	⚡ p.
22	58.31	25.9	30.8	20.2	78.8	S	7.6	5	Ci. WSW	Cu. ENE, NE	------	⚡° p.
23	58.59	26.5	33.4	20.5	72	SSE, E	6.8	4	Ci. SE	Cu. ENE	------	⚡° p.
24	58.82	26.3	32.7	20.8	75.2	S	6	2.2	Ci.	Cu. ENE	------	⚡ p.
25	58.12	26.4	32.2	20.4	74.9	S	6.8	4.2	Ci. SE	Cu. E, ENE	------	
26	57.94	26.4	32.1	21.5	79.3	NE	5.6	4	Ci.	Cu. ENE	------	⚡° d° a. ⊤ p.
27	58.18	26.7	31.4	21	76.8	Variable	5.6	4.2	Ci.	Cu. ENE	1	d a. p ⚡ p.
28	58.31	27.7	33.1	21.8	74.2	Variable	6.6	4	Ci., Ci.-S.	Cu. E	------	⚡ d p.
29	58.57	26.9	32.6	24.3	78.2	NE, S	5.8	9	Ci.-S.	Cu. E, NE	------	◯°
30	58.70	26.2	31.1	21.3	79.2	SW	4.2	6.8	Ci.	Cu. E	.5	d a. ●° ⊤ ⚡ p.
Mean	758.47	26.1	31.3	21.1	77.9	------------	5.8	4.9	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	35.5	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	759.22	26.6	31.7	21.8	79.2	SE	0.8	5.5	Ci.-Cu.	Variable	------	Ω² a. d° p.
2	59.66	27.2	31	24	78.7	SE	.8	4.8	------------	Cu.-N. E	2.5	● p.
3	59.54	27.1	31.1	23.8	80.7	ESE	.8	5.2	Ci.-S.	S.-Cu., Cu. E	1.3	●° p. ⌒
4	58.51	26.7	31.5	23.5	80.8	N	.8	4	Ci.-S.	Cu. ENE	------	
5	57.79	26.8	31.1	23.3	83.2	NW, S	1	2.8	Ci., Ci.-S.	Cu. E	------	
6	58	26.6	31	22.9	81.2	Variable	.7	4	------------	Cu.-N. E	12.7	[⚡ p.
7	57.95	26.8	30.7	22.5	83.1	E	.7	4.5	Ci., Ci.-S.	Cu.-N. E	1.8	●° p.
8	58.29	27.2	31.5	22.5	79.8	SE	.7	3.8	Ci.-S. WNW	S.-Cu., Cu. E	------	Ω°
9	58.69	26.8	32	23	83.7	Variable	1	4	Ci.-S.	S.-Cu. E	------	Ω²
10	58.49	26.4	30.7	23.5	84.4	N	1	6.8	Variable	Cu.-N. E	15.7	Ω² ↙° ●² ⏀²
11	58.64	27.6	32	23.9	78.7	E	1	4.2	Ci. ENE	Cu. E	2.5	● a. ⋓² ⏀°
12	59.09	25.8	30.1	23.5	87.7	WSW, WNW	.7	9.2	Ci.-S. S	N. E	20.3	● a. p. ⋓² ⏀°
13	59.45	26.3	29.7	23.8	86.9	Variable	.5	8.2	Ci.-S.	Cu.-N. E, NE	4.8	●° a. p. ⌒
14	58.75	27.1	31	23.7	82.4	S	.8	6.5	A.-Cu., Ci. SW	Cu. E	------	Ω a. d° ⋓² ⏀° p.
15	59.02	27	30.6	24.3	82.5	WNW, SSE	.8	7.8	Ci.-S. SW	Cu.-N. E	1.5	●° ⋓² p.
16	59.38	27.3	31.4	24.2	79	SSE	1	5.5	Ci.-S.	Cu. E	2.5	●° ⌒ ⏀° p.
17	58.80	27	31.6	23.5	80.3	WNW	1.2	5.5	Ci. SW	Cu.	------	Ω ⏀°
18	58.76	26.7	31.7	22.6	79.4	SE	.8	5.2	Ci.-S. WNW	Cu. E	------	◯°
19	59.25	26.8	31	23.4	79	SE, S	1.2	3	Ci., Ci.-S.	Cu. E	------	
20	59.28	25.9	30.9	22.8	84.4	SE	.5	6.2	Ci.	Cu.-N. NE	1.8	Ω a. ●° p.
21	58.90	26.9	32.1	22.6	79.3	W, SE	1.2	4.5	Ci. SW	Cu. NE	------	Ω² ◯°
22	58.72	27.4	31.2	22.6	79	NW, SSE	1.3	5.8	Ci. SW	Cu. E by S	------	Ω a. ↙° p.
23	59.22	27.4	31.7	23.7	79.2	SE	.8	4	Ci. WNW	Cu.	------	Ω²
24	59.27	26.6	31.6	23.7	81.3	W, ESE	1	5 5	Ci.-S.	S.-Cu. E	------	Ω°
25	58.56	27.6	32	23.7	78	WNW, SE	.8	3	Ci.	S.-Cu., Cu. E	------	
26	58.45	27.9	32.5	24.6	78.5	Variable	.8	3.8	Ci.-Cu.	Cu. E	.5	⌒° d p.
27	58.81	26.4	32	24	85.8	SSW	.7	6.2	Ci., Ci.-S.	Cu.-N. E	15	●² p.
28	58.96	27.2	32.2	23.6	81	SSW	.8	5	------------	Cu.-N. E	7.6	● p.
29	59	27.8	32.6	24.7	77.2	SE	1	6.5	Ci.	Cu. E by N	------	◯°
30	59.01	27.2	32.8	23.4	83.2	W	1	7.2	Ci. SW	Cu.-N. E	1.5	●° a. d ⌒² ⚡ p.
Mean	758.85	26.9	31.4	23.4	81.3	------------	.9	5.3	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	92	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	758.81	26.6	31	20.6	82.5	NE	0.3	4.5	Ci.	S.-Cu. NE	------	
2	59.29	27.9	31.5	23.5	83	ENE	1	3.2	Ci.	S.-Cu. E	------	
3	59.58	27.5	30.9	22.8	85.1	NE	1	4.5	Ci.	Cu. E	------	
4	58.83	27.2	30.5	22.5	82.7	NE	.7	4.2	Ci.	Cu. E	1.5	●° p.
5	57.75	26.9	31.3	22.5	85.8	NE	.7	3.8	Ci.	Cu.-N. E	------	
6	57.87	26.6	31.4	22	85	NE	.5	2.2	Ci.	Variable	------	
7	57.58	26.9	31.2	21.4	85	E, NNE	.5	3.5	Ci.	Variable	------	d° a.
8	57.72	27.2	31.2	22	82.7	ENE	.3	3.8	Ci.	Variable	------	d° a.
9	58.36	27.8	31.9	22.3	81.3	ENE, NE	.7	2.5	Ci.	Cu. E	------	d° a.
10	58.61	28.1	32.1	23.3	81.5	ENE	1.2	4.2	Ci.	Cu.-N. E	7.9	● ⊤° ⚡² p.
11	58.97	27.8	32.2	23	84.5	ENE	.5	5	Ci.	Cu.-N. E	1.5	d p.
12	59.47	27.1	30.5	22.4	86.5	NE	.7	6.5	Ci.	Cu. E, NE	3	● ⚡ ⊤ p.
13	59.36	27.4	30	23.2	85.2	NE	.5	9	Ci.-S.	N. NE	5.1	● a.
14	58.76	27.6	30.3	23.7	83.7	ENE, NNE	.5	7.2	Ci.	Cu.-N. NE	------	ϖ°
15	58.92	28.4	32.4	23.6	83.7	NE, ENE	.5	5.8	A.-Cu., Ci.	Cu.-N. NE	------	⚡° d° a.
16	59.20	28.6	32.6	23.6	82.5	E, NE	.5	4.5	Ci.	Cu. E	------	
17	58.69	27.7	31.6	22.2	79.3	E, NE	.3	3	Ci.	Cu.	------	Ω°
18	59.06	26.4	31.5	20.5	84.3	NE	.3	2.8	Ci., Ci.-S.	S.-Cu., Cu. E	------	ϖ° Ω° a.
19	59.26	27	32	20.9	85.7	NE	.3	5.5	Ci.	Cu.-N. NE	------	d° a.
20	59.37	26.8	31.4	21	84.2	ENE, NNE	.5	2.8	Ci.	Variable	------	Ω
21	59.13	26.6	31.6	20.9	83	NE	.3	3.5	Ci.	S.-Cu. NE	------	Ω
22	58.69	26.7	31.3	19.9	85.3	NNE, NE	.5	4.2	Ci.	S.-Cu. E	------	Ω a. ⚡° p.
23	58.79	27.7	32.8	22.6	86	SE, NE	.5	7.2	Ci.	Variable	------	
24	59.08	27.6	32.6	21.5	82.4	ENE, NNE	.3	3.8	Ci.	Cu. E	.5	d a.
25	58.40	28.4	32.2	23.5	80	NE	.3	4.8	Ci.	S.-Cu. E	------	
26	58.24	28.9	33.3	23.3	82.2	E, ENE	.3	4.8	Ci.	S.-Cu., Cu. E	------	
27	58.60	28.6	32.2	23.7	82	NE	.7	3.5	Ci.	Cu. E	------	
28	58.70	28.9	33.8	23.9	79.8	NE	.7	3.8	Ci.-S.	Variable	------	
29	58.91	28.6	32.9	24.5	82.5	ENE	.8	8.5	Ci.-S.	N. E	------	
30	58.97	28.1	33.7	22.7	81.8	NE	.3	4	Ci.	S.-Cu. E	------	
Mean	758.77	27.6	31.8	22.4	83.3	------------	.5	4.6	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	19.5	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	759.54	25.8	33.8	19.4	82.2	N	1.3	5.2	Ci.	S.-Cu. NE	------	⚡ p.
2	59.84	26.4	33	21.2	82.3	N, W	1	5.5	A.-Cu. NE	S.-Cu. NE	1	p ⚡ p.
3	59.87	25.1	31	22.4	89.8	N, NE	1	6.5	A.-Cu. NE	Cu.-N. NE	20.6	p a. ↙ ●² ⊤ ⚡ p.
4	58.92	24.9	29.5	21.2	90.5	N, W	1	7	A.-Cu. NE	Cu.-N. NE	8.1	●° ⚡ p.
5	57.84	26	33	21.4	86.2	N	.8	4.5	Ci.-S.	S.-Cu. NE	.3	⚡ p.
6	58.11	25.6	33.5	20.6	86.3	N	1	5.8	A.-Cu. NE	S.-Cu. NE	------	d ⊤ ⚡ p.
7	58.14	25	31.5	21.4	89.2	N, W	1	5.2	A.-Cu. NE	S.-Cu. NE	2.5	d a. p ⊤ ⚡ ϖ p.
8	58.47	25.1	32	20.7	87.3	N	1	6	A.-Cu. NE	S.-Cu. NE	------	⊤ p ⚡ p.
9	59.01	25.9	33.2	20.4	83.5	N	1	4.5	Ci.	S.-Cu. NE	------	⚡ p.
10	58.98	25	32	21.4	89.2	N	1.2	6	A.-Cu. NE	S.-Cu. E	5.6	d a. ⌈⚡ p.
11	59.06	26.2	32	22.2	81.2	N	1.3	5.8	Ci.	S.-Cu. E	.3	⚡ p.
12	59.40	25.8	31	22.5	87.5	N	1.3	6.8	A.-Cu. NE	Cu.-N. E	5.6	● a. d ⊤ ⚡ p.
13	59.73	25.8	30	22.4	89.5	N	1	7.5	A.-Cu. NE	Cu.-N. NE	15	⌒° ● a. d ⚡ p.
14	59.21	25.5	30.8	23	91.3	N	1	7.2	A.-Cu. NE	S.-Cu. NE	8.1	● a. ⊍° d ⚡ p.
15	59.44	25.4	30.4	22.6	90.3	N, NE	1	6.8	Ci. NE	S.-Cu. NE	5.6	⌒° ● a. d ⚡ p.
16	59.65	26	32.6	23.2	89.3	N, WNW	1	6.2	A.-Cu. NE	S.-Cu. NE, E	18	● ⚡ p.
17	59.09	25.7	32	21.1	84.5	N, WNW	1	4.8	Ci.	Cu. E	.3	d ⚡ p.
18	59.13	25.8	32.4	20.6	85.2	N, WNW	1.2	4.5	Ci., A.-Cu.	S.-Cu. NE	------	⚡ p.
19	59.39	26	33.2	21	83.5	N	1	5.8	Ci. E	S.-Cu. E	------	⚡ p.
20	59.50	25.4	31.5	21.2	86	N	1	7	Ci.-S.	Cu.-N. E	------	p ⚡ p.
21	59.02	26.2	32.9	20.8	82	N	1	6	Ci.	S.-Cu. NE	------	⚡ p.
22	58.84	27.1	34.2	22.4	82.5	N, W	1	5.8	Ci.	S.-Cu. NE	------	⊤° ⚡ p.
23	59.28	27	31.8	22.7	83.5	N	1	6.8	Ci. NE	S.-Cu. NE	------	⚡ p.
24	59.29	26.5	33	22	84.3	N	1	5.8	Ci.	S.-Cu. E	1.5	d a. p ⚡ p.
25	58.72	25.5	31.8	21.8	89.8	N	1	6.2	Ci.	Cu.-N. NE	14.2	p a. ● ⚡ p.
26	58.60	27.3	33.2	23.4	81.8	N	1	5.5	Ci. NE	S.-Cu. NE	------	⚡ p.
27	59.08	25.3	31.5	22.2	90	N	1	6.2	A.-Cu. NE	S.-Cu. NE	24.1	⌈⚡ p.
28	59.13	26.2	31	21.8	86	N, W	1	5.8	A.-Cu. NE, N	S.-Cu. NE, N	------	⚡ p.
29	59.24	27.5	33.1	23.4	79.8	N	1	6.2	Ci.	S.-Cu. NE	------	⚡ p.
30	59.20	26.2	32	22.4	87.2	N	1	7	A.-Cu. NE	S.-Cu. NE	13	⌈⚡ p.
Mean	759.09	25.9	32.1	21.8	86.1	------------	1	6	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	143.8	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N ; λ=123° 45′ E ; barometer above sea, 4 meters ; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	759.54	26.4	30.1	22.5	80	NE quad.	8.7	2.5	Ci.	Cu. NE	-----	
2	59.97	27.2	30.6	24	78.3	ENE	12.2	1.2	Ci.	Cu.	2.8	● p.
3	60.06	26.8	29.9	24.3	83.3	NE quad.	12.5	5.5	Ci.	Cu.-N. NE	15	● a. p. ϟ°
4	59.16	26	30	23.8	84	NE	10.8	2.8	-----	Cu.-N. ENE, E	1.8	● a. d p.
5	58.04	27	30.5	24.6	78.2	N, ENE	11.3	3	Ci.	Cu.-N. ENE	.5	
6	58.06	27.4	31	24.9	78.8	ENE	10.5	1.5	Ci. SW	Cu. NE	-----	
7	58.07	27.4	30.7	24.5	78.4	NE quad.	9	3.5	Ci.	Cu. E	10.2	p p.
8	58.45	27.7	30.5	24.9	77.3	NNE	11.7	2.2	A.-Cu., Ci.	Cu. E	10.2	
9	59.18	27.8	31.1	25.8	75.3	ENE	12.1	2.8	Ci.	Cu. E	-----	
10	59	27.4	30.5	23.9	80.3	ENE	13	3	-----	Cu.-N. E, ENE	7.9	● a. d p.
11	59.26	27.8	31.3	25.9	76.7	N, ENE	16.8	3.8	Ci.	Cu. NE, E	1	
12	59.62	26.1	29	24	87.3	NNE	12.4	8.2	A.-Cu.	Cu.-N. NE	27.7	● a. p.
13	59.70	27.5	30.6	25	77.8	NE	11.6	6.2	A.-Cu.	Cu. E, NE	-----	
14	59.34	26.1	30.7	23	87.3	NE quad.	10.4	8.2	Ci., A.-Cu.	Cu.-N. NE	14.5	● a. p.
15	59.48	27.1	30.6	23.4	82.3	NE	9.4	3.8	A.-Cu. NE	Cu. ENE	4.8	● a. p p.
16	59.82	26.9	30.5	23.6	81.2	NNE, ENE	9.6	3.5	A.-Cu., Ci.	Cu.	8.6	● a.
17	58.90	27.2	31.2	23	77.4	NE quad.	6.9	0	-----	-----	-----	≡°
18	59.02	26.7	31	21.9	77	ENE	6.3	.2	-----	Cu.	-----	
19	59.39	26.9	31	23.5	77.8	NE	8.8	1	Ci.	Cu. ENE	-----	d° a.
20	59.46	27.5	31.4	24.5	74.2	ENE	9.8	1	Ci.	Cu. ENE	-----	
21	59.01	26.8	31.6	21	75.8	ENE	7	1.5	Ci.	Cu. NE	-----	
22	58.71	27.5	31.9	22	78.2	ENE	9.1	1.2	Ci.	Cu.	-----	
23	59.19	27.8	31.7	23.9	76.1	ENE	10.8	2.2	Ci. W	Cu.	-----	
24	59.41	27.9	31.5	25.1	74.6	ENE, NNE	9.8	3.8	Ci. SW	Cu.-N. NE	.8	p a.
25	58.77	28.2	31.5	25.1	75.5	N, ENE	11.4	2.2	Ci.	Cu. E, ENE	.5	d° a. p.
26	58.75	27.8	30.9	23	78.8	NE	11.6	2.8	Ci.	Cu.-N. E	23.1	● a.
27	59.15	28.3	32	26.4	76.8	NNE, ENE	12.9	4	Ci.	Cu. ENE	-----	
28	59.28	28.3	31.5	26	75	NE	12.5	1.2	Ci.	Cu. ENE	-----	
29	59.38	28.4	31.6	26.4	74.3	ENE	12.2	2	Ci. NW	Cu. E, ENE	-----	
30	59.37	28.2	32	25.5	76.3	NNE	9.6	2	Ci. WSW, SW	Cu. E	1.8	d a. ϟ° p.
Mean	759.15	27.3	30.9	24.2	78.5	-----	10.7	2.9	-----	-----	-----	
Total	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	131.2	

ATIMONAN.

[ϕ=14° 00′ N ; λ=121° 55′ E ; barometer above sea, 7.8 meters ; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	759.47	27	30.7	24.5	83.8	N	8.8	3	Ci.	Cu. N, E	-----	Ω°
2	59.96	26.9	32	22.6	84.1	N	8.8	3.2	Ci.	Cu. NE	-----	Ω° ≡° ⊕°
3	60.24	27.9	32.8	24.4	82.5	NNE	12.7	3.5	Ci.	Cu. NE	-----	Ω° ϟ° p.
4	59.17	27.5	32.5	23.4	85.5	NE quad.	10.2	2	Variable	Cu. NE	-----	Ω° d° a. p.
5	58.27	27.4	31.9	24	83	NE	10.5	6.8	Ci.-Cu. SE	S.-Cu., Cu. NE	18.3	Ω° a. ● p.
6	58.17	26.9	32	22.9	86.7	ENE, N	9.4	2.8	A.-Cu. NE	Cu. NE	7.6	d ≡ a. ϖ^{2}
7	57.82	27.4	31.6	22.4	85.3	NE	8.3	2.2	Ci.	Cu.	-----	
8	58.30	27.6	32.5	22.6	83.8	NE quad.	8.8	4.8	Ci.	Cu.	-----	Ω° d° ϖ° p.
9	58.90	28.2	33	24.2	82.9	NE	11.8	3.8	Ci.	Cu. NE	-----	Ω° ϖ°
10	59.22	27	31.9	24.6	86.3	NE	15.6	6	Variable	S.-Cu. NE	29.5	d a. ● p.
11	59.34	28	33	24.6	81.8	NE	15.6	4	Ci. E	Cu. NE	-----	d° a. ϟ° ϖ° p.
12	59.91	27.4	31.6	25	83.8	NE	15.9	9.2	Ci.	S.-Cu. E, NE	14.7	d a. ⌈ϟ p. ϖ°
13	59.70	27.8	31.6	25	79.8	ENE, NNE	11.9	4.8	Ci.	Cu. NE	-----	ϖ°
14	59.22	28	32	24.3	83.3	NNE	11.1	5	Ci.	Cu. NE	-----	ϖ^{2}
15	59.24	28.6	33.1	26	82.8	ENE, NNE	11.4	5.5	Ci.	Cu. NE, E	-----	ϟ° ϖ^{2} p.
16	59.51	28.4	33	25.9	82	ENE, NNW	8.3	4.8	Ci.	Cu. ESE	-----	ϟ ⌒° ϖ^{2} ◡°
17	58.79	27.8	32.4	23.6	84	Variable	7.2	1.8	Ci.	Cu., Cu.-N.	-----	ϖ^{2} ϟ° p.
18	58.88	27.6	33.5	22.8	81.4	NNE	7.7	2.2	Ci.	Cu.	-----	ϖ^{2} Ω° ϟ° p.
19	59.34	27.3	32.3	22.6	82	ENE	8.4	1.8	Ci.	Cu. E	-----	ϖ° ϟ° p.
20	59.61	28.2	32.1	25.6	79	E	11.2	2	Ci. N	Cu. NE, E	-----	ϖ°
21	59.13	27.4	32.9	21.9	80.7	N	7.4	2.2	Ci.	Cu.	-----	ϖ^{2}
22	58.85	26.8	32	21.8	85.2	WSW, NNW	10.9	1.8	Ci.	Cu.	-----	ϖ^{2} ⊕^{2}
23	59.14	27.7	32.6	22.4	83.6	NNE	10.9	7	Ci. SSW, S	Cu. NE	-----	ϖ^{2} Ω° ≡° ⊕°
24	59.40	28	33	23.5	83.3	NE	11.6	3	Ci.	Cu. E	-----	
25	58.68	29.1	33.8	26.1	82.5	NE, NNE	11.8	5.2	Ci.	Cu. NE., N	-----	
26	58.76	28.8	34	24.4	81.5	NNE	10.6	6	Ci.	Cu. E	-----	
27	59.20	29.2	33.8	24.5	79	NE	11.6	4.2	Ci.	Cu. NE, E	-----	⊕°
28	59.31	29.3	33.6	26.5	79.2	NE, NNE	13.9	4.5	Ci. ENE	Cu. NE, E	-----	○^{2} ϟ° p.
29	59.38	29.2	33.9	25.5	81.5	NE, N	11.4	7.8	Ci. N	Cu. E, NE	-----	⊕° ϟ° p.
30	59.51	28.6	33.7	24.1	83.5	NE	10.6	4	Ci. NW	Cu. E, NE	-----	⊕° ϟc p.
Mean	759.15	27.9	32.6	24.1	82.8	-----	10.8	4.2	-----	-----	-----	
Total	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	70.1	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[ϕ=14° 49′ N; λ=120° 16′ E; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.50	27.8	35.2	22.9	70.5	ENE	0.7	5.2	Ci.-S. W	Cu.	------	⌓ ∞
2	59.04	28.8	36.8	23.2	68.8	NE, E	.8	2	Ci.-S.	Cu.	------	⌓ ∞
3	59.40	29.1	36.7	22.2	67.8	ENE, E	.7	4.8	Ci.-S.	Cu. ENE	------	⌓ ○² ∞
4	58.55	28	35.7	21.7	69.9	ENE	.8	4.2	A.-Cu.	Cu. E, ENE	------	∞
5	57.38	28.4	35.9	22.1	66.5	N	.7	2.5	Ci.-S.	Cu. E	------	⌓ ∞
6	57.30	28.6	36.4	23.1	69.5	NE	.6	3.8	Ci.-S.	Cu. E	------	⌓ ∞
7	57.29	26.9	34.9	22.9	77.8	NE, S	.7	4.8	Ci.-S.	Cu. E	------	∞ ○°
8	57.67	27.4	34.4	22.7	77.5	ENE	.5	3.2	Ci.-S.	Cu. ENE, E	------	∞² ϟ p.
9	58.16	28.9	36.4	24.2	67.2	Variable	.3	3.8	Ci.-S.	Cu. E	------	∞² ϟ a.
10	58.41	28.7	36.2	23.1	64.1	ENE	.8	4.5	A.-Cu. E	Cu. E	------	∞ ϟ a.
11	58.75	28.8	34.9	24.1	65.8	ENE	.8	6.2	A.-Cu. NE	Cu. ENE	------	d° ∞ ϟ p.
12	59.06	29.7	36.4	24.7	59.1	ENE	.6	4.2	Ci.-S.	Cu. E	------	∞
13	58.96	28.6	35.6	23.4	69.9	Variable	.4	7.2	A.-Cu. E	Cu. E	------	∞ ϟ a. p. ⊍
14	58.44	28	35.4	23.6	72	Variable	.6	1.8	Ci.-S.	Cu.	------	∞
15	58.71	28.8	36.5	23.6	69.3	NE	.5	4.8	Ci.-S.	Cu. E	------	∞²
16	58.94	26.9	34.9	23.6	79.2	ENE	.7	5.8	Ci.-S.	Cu. E	3.6	☈ p. ↙°
17	58.52	26.9	31.3	22.6	79.7	NE quad.	.3	6.5	Ci.-S.	Cu. E	------	∞² ϟ² ⊍ p.
18	58.22	27.6	35.5	24.2	75.8	ENE, NW	.4	6	Ci.-S.	Cu.-N. NE	------	∞ ⊤ ϟ² p.
19	58.67	27.6	34.5	24.4	75.7	SSW	.4	7.2	Ci.-S.	Cu. E	------	∞²
20	58.73	27.6	34.4	24.1	74	Variable	.5	6.8	A.-Cu., Ci.-S.	Cu. E	------	∞² d° a.
21	58.38	27.4	34.9	24.1	72.7	ENE	.7	3	Ci.-S.	Cu. E	------	∞²
22	58.25	26.6	31.8	21.9	76.5	Variable	.5	3.2	Ci.-S.	Cu.	------	∞²
23	58.44	28	35.7	23.6	76.2	SSW	.5	4.5	Ci.-S.	Cu. E	------	∞² ϟ p.
24	58.66	28.4	35.4	24.8	75	ENE	.8	5.2	Ci.-S.	Cu. E	------	∞² ○²
25	58.07	28.4	35.5	23.7	73	Variable	.5	4.8	Ci.-S., A.-Cu.	Cu. E	------	∞²
26	58.10	29.6	36	23.4	66	N, ENE	.5	5	A.-Cu. SE	Cu. E	------	∞
27	58.27	29.7	37.2	24	64.6	Variable	.4	5.2	Ci.-S. N	Cu. E, NE	------	∞
28	58.56	29.9	36.7	25.1	64.3	N	.7	4.8	Ci.-S.	Cu. E	------	∞ ϟ p.
29	58.58	28.5	34.9	24.4	73.3	Variable	.5	6.8	Ci.-S. NE	Cu. E, NE	------	∞ ○² ϟ p.
30	58.69	29	35.3	25.2	73.3	NE	.8	5.2	Ci.-S.	Cu. E	------	ϟ d ⊤
Mean	758.42	28.3	35.4	23.6	71.2	----------	.6	4.8	----------	----------	------	
Total	------	------	------	------	------	----------	------	------	----------	----------	3.6	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.98	27.3	35.3	19.4	66.4	N, E	0.7	4	Ci. SE	Cu. E	------	⌓
2	59.64	27.6	35.2	21.5	64.4	E	1.3	3	A.-Cu. NE	Cu. NE, E	------	⌓
3	60.08	26.8	34.7	21	66.6	E	1.3	4.2	Ci. NE	S.-Cu. E	------	↙°
4	58.98	27.9	34.8	21.4	62.8	E	1.2	3.8	A.-Cu. NE, N	Cu. E	------	⌓
5	57.77	27.9	34.8	22	62.8	E	.5	4.2	A.-Cu. NE	Cu. E	------	⌓
6	57.56	28.8	37	21.4	62.7	E quad.	.6	6	A.-Cu. SE	Cu.-N. NE	------	
7	57.43	29.5	37.4	23.1	58.8	Variable	.2	5.2	Ci. WNW	Cu.-N. SE	------	
8	57.92	28.8	37.2	23.5	61.8	Variable	.9	5.2	Ci.	Cu. NNE, SE	------	⊤ p.
9	58.64	28.8	35.9	23.5	62.2	E	1.2	2.5	Ci., A.-Cu.	S.-Cu.	------	↙° ϟ p.
10	58.96	28.3	35.6	21.5	62.2	ESE	1	3.5	A.-Cu. SE	Cu. E	------	⌓ ↙° ⊕°
11	59.50	28.2	33.9	23.6	65.3	E	1.5	5.8	A.-Cu. SE	Cu.-N. E	------	↙°
12	59.93	28	34.5	22.3	62.2	E	.8	4.5	A.-Cu. E, SE	Cu. NE	------	⌓ ↙° ⊕²
13	59.37	29	36.5	24	59.2	E	.6	5.8	A.-Cu. SE	Cu. E	------	⌓ ⊍² ϟ
14	58.84	28.9	37.3	22.5	57.7	NE	.8	2.8	Ci.	S.-Cu. E	------	⌓ ⊕² ϟ
15	58.96	28.7	35.8	22.3	59.3	E	1.1	4.2	Ci.	S.-Cu.	------	⌓ ϟ
16	59.46	28.3	37.4	23.5	66.6	Variable	1	5.2	Variable	Variable	------	↙° ϟ p.
17	58.87	27.7	37.3	22.4	73.5	N, NE	.6	5.2	Ci.	Cu. E	43.4	⌓ ●² ↙° ☈ p.
18	58.62	27.9	33.9	23.6	71.2	NE	.3	5.5	A.-Cu. SE	Cu. E	------	≡ a ϟ ⊤ p.
19	58.98	27.5	35.1	23	70.1	ESE	.7	5.8	Ci. S	Variable	------	≡° a. d ⊤ p.
20	59.02	28.6	34.9	23.9	63.4	NE, E	.8	4.5	Ci. SW	Variable	------	≡°
21	58.61	28.5	36.8	21.4	60.7	NE	.2	3.5	Ci.	Cu. E	------	⌓ ≡°
22	58.36	29.4	37.7	22.4	57.2	Variable	.2	3	A.-Cu. NNW	Cu. SE	------	≡°
23	58.62	29.6	36.8	23.8	57.1	Variable	.4	4.2	Ci.	Cu. ESE	------	⊕² ⌓ ≡° a. ϟ ⊤ p.
24	59.05	28.6	35.8	23	62.8	E	.8	4	A.-Cu. SE	S.-Cu., Cu.	------	⌓ ↙°
25	58.50	28.4	34.9	22.5	64.5	ENE	.8	5.2	Ci. SW	S.-Cu., Cu. E	------	ϟ p.
26	58.69	28.8	34.4	23.8	65.4	ENE	1.1	7	A.-Cu. NE	S.-Cu., Cu. E	------	⌓
27	58.82	29	36	23.1	61	N, ENE	.9	5.2	Ci. SW	Cu. E	------	○°
28	58.98	29.4	36.5	23.2	59.9	ESE	1.1	3.2	Ci. S, SW	Cu. E	------	⌓ ≡° a. ϟ p.
29	59.04	29.5	36.7	24	60.3	NE, E	1	4.5	Ci. SW	S.-Cu., Cu. E	------	
30	58.92	30	37	24	56.5	NE, ESE	.9	4	A.-Cu. NE	S.-Cu., Cu. E	------	⌓ a. ϟ ⊤ p.
Mean	758.84	28.5	35.9	22.7	62.8	----------	.8	4.5	----------	----------	------	
Total	------	------	------	------	------	----------	------	------	----------	----------	43.4	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	758.52	27.9	35.1	21.6	70	SE, NW	11.2	3	Ci.	Cu.	------	
2	59.02	28.4	36.4	22.5	73.2	S, NW	11.4	3	Ci.	Cu.	------	
3	59.33	29.7	37.6	23.8	63.3	SSE	13.7	3	Ci.	Cu.	------	
4	58.47	28.7	35.5	23.6	66.2	NW	13.4	2.8	------------------	Cu.	------	
5	57.27	28.9	37.5	23.3	67.2	S	12.3	3.8	------------------	Cu.	------	
6	57.27	29.4	37.7	24	67.7	NW	12.2	2.8	Ci.	S.-Cu., Cu.	------	
7	56.99	29.3	37.4	23.9	68.8	S, NW	12	5.2	Ci.	Cu.	7.1	●² a.
8	57.63	29.8	38.1	24	69.1	NW	12.5	3.8	Ci.	Cu.	------	∪
9	58.23	28.8	37.4	24.9	71.7	S, N	13.4	5.2	------------------	Cu.	2.5	⛈ p.
10	58.24	28.5	37.2	24	65.2	S, NW	12.8	4.2	Ci.	Cu.	.5	⚡ a. d p.
11	58.75	28.2	35	24	70.6	S, NNW	12.6	4.5	Ci.-S., Ci.	Cu.	------	
12	59.05	28.8	36.6	23.8	63	SE	16	3.5	Ci., Ci.-S.	Cu.	------	
13	58.97	29	35.5	23.5	67	NW	12.2	5.5	Ci.	Cu.	------	⚡ p.
14	58.44	29.3	37.5	23.8	68.3	SE, NW	13.1	3.2	Ci.-S.	Cu.	.5	d a. ⚡ p.
15	58.54	29.8	38.9	23.9	65.6	S	11.4	3.8	A.-Cu, Ci.	Cu.	.8	d ⊤ a. ⛈ p.
16	58.96	28.7	36.5	23.5	71.6	SE	9.9	4.5	Ci.	S.-Cu., Cu.	------	⚡ p.
17	58.48	28.3	34.3	23.2	74	NW	13.1	5	Ci.-Cu., Ci.-S.	Cu.	------	⊤ ⚡ ⊕ p.
18	58.01	29.1	37.5	23.4	70.8	Variable	9.6	5.8	A.-Cu., Ci.	S.-Cu., Cu.	------	⊤ ⚡ p.
19	58.52	29.2	38	24	68.2	S, SE	12.3	8.8	Ci.-S.	Cu.	------	⊤ ⚡ p.
20	58.79	27.8	36.4	24.4	74.2	Variable	12.1	6	A.-Cu.	S.-Cu.	------	⊤ ⚡ p.
21	58.22	29.2	36.7	24.3	69.7	S	12	2.5	Ci.	Cu.	6.4	p p.
22	58.07	28.8	34.8	23.4	72.2	SE, NW	11.9	2	------------------	Cu.	4.3	p a. ⚡ ⊕ p.
23	58.31	29.4	36.6	24.5	70.7	NW	10.8	5.8	Ci.	S.-Cu., Cu.	------	
24	58.52	29.4	38.9	24.3	65.8	S	11	4.5	Ci.	Cu.	------	⚡ p.
25	58.10	27.8	36.5	22.8	72.5	NW	9.3	4.5	------------------	Cu., Cu.-N.	6.1	p a. ⛈ p.
26	58.04	29	37.5	22.9	73	Variable	10.1	4.2	Ci.	Cu.	------	
27	58.30	29.7	38.4	23.6	67.6	S, NW	12.8	6.5	Ci.	Cu.	------	⚡ p.
28	58.41	30.6	39	24.5	62.8	SSE, NW	13.8	5.2	Ci.	Cu.	------	⚡ p.
29	58.44	30	37.5	24.5	68.7	S	12	6.2	Ci.	S.-Cu., Cu.	13.2	⛈ p.
30	58.52	30	37.3	24.9	72.5	S, NW	10.4	6	A.-Cu., Ci.-S.	Cu.	------	⚡ ⊤ p.
Mean	758.35	29	37	23.8	69	------------	12	4.5	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	41.4	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

	mm.	°C.	°C.	°C	P. ct.		0-12.	0-10.			mm.	
1	758.78	28	34.1	24.5	80.7	Variable	1	0	Ci.	Cu.	------	
2	59.24	28.9	34	26	79.7	SSW	.8	.2	A.-Cu.	Cu.	------	
3	59.62	28.8	34.7	25	73	Variable	.8	0	Ci.	Cu.	------	
4	58.83	28.4	33.4	25	78.7	E	.8	2.5	Ci.-S.	Cu. WSW	0.8	p p.
5	57.80	27.6	32.8	24.4	83.7	SSW	1.5	1.5	A.-Cu., Ci.	Cu. S by W	------	
6	57.70	28.4	35.4	25.5	83.2	Variable	1.2	.8	Ci.-S.	Cu. W by S	------	Ω°
7	57.30	28.4	34.1	25.1	80.7	S	1.3	.2	Ci.	Cu.	------	↙° ⚡° ⊕ p.
8	58.14	28.3	34.2	25.7	83.2	W	1.2	3	Ci.-S.	Cu. WSW	------	⚡° ∪ p.
9	58.44	28.5	34.2	24.5	77.3	W	1.2	.5	Ci.	Cu.	------	⚡° p.
10	58.50	28.9	35	26.6	77.8	Variable	1.3	1.2	Ci.	Cu.	------	⊕
11	58.89	29	33.1	25.5	74.8	SE, W	1.5	2	Ci.	Cu. N	------	↙° ⊕ p.
12	59.44	29.4	35	26.2	70.3	Variable	1.2	0	A.-Cu., Ci.-S.	Cu.	------	⚡° p.
13	59.46	29	34.8	26.1	75	Variable	1.3	.2	Ci.-Cu.	Cu.	------	⚡° p.
14	58.74	28.7	35	25.6	76.3	Variable	1.3	.2	A.-Cu.	Cu.	------	⚡° ⊕ p.
15	58.75	28.7	34.8	24.8	79	Variable	1.2	.5	Variable.	Cu.	------	⚡° p.
16	58.96	29.2	33.8	26.5	77.7	Variable	.8	.2	Ci.-S.	Cu.	------	⊕
17	58.82	28.4	34.6	25.2	75.7	NW	1.8	.5	A.-Cu.	Cu.	------	Ω° a. ↙° ⚡° p.
18	58.35	27.9	36	23.5	73.8	W	1	0	Ci.	Cu.	------	Ω° a. ⚡° p.
19	58.93	28.6	33.5	24.8	77	Variable	1.7	2.2	A.-Cu.	Cu. NW	------	↙° d° ⚡° p.
20	59.19	28.2	34.1	24.5	79.2	S	1.2	3.2	Ci.	Cu.	2	⚡° ●° p.
21	58.38	28.5	34.5	25.2	80.2	Variable	.8	1.5	A.-Cu.	Cu.	.5	⚡° p.
22	58.34	29.1	34.4	26	74.5	Variable	1	.2	Ci.	Cu.	------	⚡° p.
23	58.68	29.3	34.3	25	71	E	1.3	2	A.-Cu. ESE	Cu.	------	⚡° p.
24	58.72	29.2	34.8	26.1	71.5	SSE	1.3	.5	A.-Cu.	S.-Cu., Cu.	------	⚡° p.
25	58.37	29.6	36.2	26	72.7	Variable	1	.5	A.-Cu.	Cu.	------	⚡° p.
26	58.28	28.8	34.5	25.5	73.2	Variable	1.3	1.5	A.-Cu. SSW	Cu.	------	
27	58.73	29.5	34.8	25.7	67.8	Variable	1	1.8	Ci.-S.	Cu.	------	⚡° p.
28	58.67	29.4	34.8	25.7	67.2	S	1.2	.8	Ci.	Cu.	------	⚡ p.
29	58.75	29.8	35.2	26.3	70.5	W	1	.8	Ci.-S.	Cu. S	------	⚡° p.
30	58.80	29.7	35.2	26.6	73	Variable	1	.5	A.-Cu.	Cu. WSW	------	⚡° p.
Mean	758.65	28.8	34.5	25.4	75.9	------------	1.2	1	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	3.3	

METEOROLOGICAL DATA, ETC.—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11	760.28	27.5	33.6	22.4	71.1	SE, NE	0.3	6.2	Ci.-S.	Cu.-N. SE		Ω a. ⚡ p.
12	60.43	28.3[1]	34.3	20.6	65.6[1]	SE, E	.3[1]	6	A.-Cu. E	Cu.-N. SE		⊤ ↙° p.
13	59.40	28.1	35.4	21.7	69.8	NW	.7	6.8	Ci. SE	Cu.		d ⚡ p.
14	58.95	27.8	34.7	22.3	72.2	S	.8	5.8	Ci.	Cu.-N. SE, SW	15.2	⚡ a. K² ↙° p.
15	59.29	27.8	33.5	22.3	72.2	SE	.2	4.5	Ci.	Variable		⊤ a K p.
16	59.04	27.3	34.5	23	78.4	Variable	.7	4	A.-Cu., Ci.-Cu.	Variable	10.4	Ω a. K p.
17	58.64	27.4	34.4	23.3	78.7	NW	.8	3.8	A.-Cu.	S.-Cu. N		⚡ p.
18	58.85	27.6	32.5	23.5	76.4	NW, N	.5	7	A.-Cu.	Cu.-N. NW	2.5	K p.
19	59.29	26.3	32.5	23	84.3	SE, NNW	.7	8	Ci. SE	Cu.-N. NW	2.5	⚡ ●° a.
20	59.20	27	33.3	23.2	77.7	SW, NE	.5	4.8	Ci.	Variable		⊤ d. ↙° p.
21	58.34	27.9	34	23	75	SW, NW	.8	3.5	Ci. SE	Variable		Ω
22	58.16	28.1	35.1	23.3	77.6	SW, NW	1	3.2	Ci.	Variable		Ω a. ⚡ p.
23	58.75	29.1	35.4	24	69	SW, NW	.8	5	Ci.-Cu. NW	S.-Cu. SE		
24	58.83	28.6	35.6	23	69.9	S	.8	1.5		Variable		Ω a. ⊤ p.
25	58.46	28.9	35.7	22.6	71.8	NW	.7	3.8		Cu.		Ω a. ⚡ p.
26	58.45	29.4	35.7	23.5	67.7	Variable	.8	4.2	Ci., Ci.-S.	Cu. S		Ω
27	58.87	28.4	35.5	22.5	71.2	SE	.8	6.8	Ci.	Cu. S		Ω ◯ a. ⊤ p.
28	59.09	29.3	35.8	23.5	70.2	S, NE	.5	6.5	Ci.	Cu.-N. S		Ω a. ⚡ p.
29	59.15	29.2	35.8	23.5	70.3	S	.7	8	Ci. SE	Cu.		⚡ p.
30	58.86	29.6	36.2	24.3	65.1	S	.8	4	A.-Cu., Ci.	Variable		⊤ ⚡ p.
Mean	759.02	28.2	34.7	22.9	72.7		.7	5.2				
Total											30.5	

[1]Mean deduced from five observations only.

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	759.38	26.4	31.8	22.2	84.8	S	8	1.8	Ci.	S.-Cu. SW		⊤ ⚡ p.
2	60.09	26.7	30.6	23	87.7	S, NE	9.5	1.2	A.-Cu. W	Cu. S		
3	60.45	26.8	32.4	22.5	84	S	12.4	.5	Ci.-S.	Cu.		
4	59.20	26.9	31.6	22.4	85.8	S, NE	12.5	.2		Cu.		Ω a. ⚡ p.
5	57.96	27	33	22.5	84.1	S	13.5	.2	Ci.	S.-Cu.		
6	58.08	27.3	32.1	23.8	85.3	SW, S	11.5	2	Ci. W	Cu.-N., S.-Cu.		Ω
7	57.68	27	31.9	22	82.5	NE	11.4	.5		Cu.-N., S.-Cu.		Ω a. ⊤ ⚡ p.
8	58.44	26.6	33.1	23.1	83.8	SE	11.9	3.8	Ci.-S.	S.-Cu. SW	5.1	K p.
9	59.48	26.7	31.5	22.7	81.5	S, E	10.1	.8	Ci.-S.	Cu. S		⚡ p.
10	60.22	26.5	31	22.4	83.8	SE, E	11.8	.8		Cu. S		Ω
11	60.90	26.2	31	22.5	82.5	SW, E	10.5	2	Ci.-S.	Cu.-N. SE		⌒ a.
12	60.95	26.1	31	21	85.2	NE	7.6	3.5	Ci. W	Cu.-N. SE	3.3	p a. ⚡ p.
13	59.88	27.1	31.8	23.7	85.2	S, NE	10.3	2.8	Ci.	Cu. S		Ω ⊤ ⚡ p.
14	59.43	27.1	31.1	23	83	S, NE	10.2	.8	Ci.-S.	Cu. S		⚡ p.
15	59.64	27.4	31.2	23.8	84.5	NE	9.4	6	A.-Cu. SE	S.-Cu. S		⚡ p.
16	59.34	27.9	34.5	23.8	81.2	S, N	9.8	2.8		S.-Cu. NW		
17	59.34	27	31	23.5	84.4	Variable	9.1	4.5	A.-Cu. SW	Cu.-N.		Ω a. ⚡ p.
18	59.34	26.6	31.2	22.9	82.4	NE	11.2	3.2	A.-Cu. SW	Cu.-N. S		⚡ p.
19	59.68	26.1	32.2	23.5	88	S	10.8	5.5	Ci.-S. W	Cu.-N. S	.8	⊤ ⚡ d p.
20	59.52	26.6	31.9	23	84.7	SW, NE	9.3	6.8	A.-Cu. W	S.-Cu. S		
21	58.82	26.8	33.1	23.5	83	S	13.3	4.8	Ci.-S. W	Cu. S		⊤° ⚡ p.
22	58.70	26.9	32.1	23.7	82.5	SW, NE	11.4	1.8	Ci. W	S.-Cu.	1	p ⊤° ⚡ p.
23	59.12	26.9	32	23.5	84.6	S, NE	11	3	Ci. W	S.-Cu., Cu.-N.		⚡ p.
24	59.26	27.5	33.4	22.3	83.5	S, NE	12.3	1	Ci.-S. NW	Cu.-N., S.-Cu.		Ω
25	58.71	27.9	33.1	23.6	83.3	SE, NE	13.3	2.5	Ci.-S W	Cu.-N., S.-Cu.		⚡ p.
26	58.72	28.4	33.4	24	82.3	Variable	12.3	3.8	Ci. W	Cu.-N., S.-Cu.		
27	59.20	28	32.7	24.4	81.8	S, NE	10.2	4.5	Ci. NW, W	Cu.-N.		⚡ p.
28	59.41	28	32.8	23.2	81.5	S	10.5	4	Ci. W	S.-Cu.		⊤° ⚡ p.
29	59.53	27.8	32.8	22.1	80.7	S, NE	8.8	3.5	Ci.-S. W	Cu.-N. S		⚡ p.
30	59.25	28.1	33	24	80.7	S, NE	10.7	.2	Ci.-S.	S.-Cu.		⊤° p.
Mean	759.32	27.1	32.1	23.1	83.6		10.8	2.6				
Total											10.2	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.3	22.3	94	85	5	8	48	● ⊤ a.
2	31.2	22.5	98	77	4	5	.8	●° a.
3	31.6	21.9	96	76	4	6	------	Ω ≡ a.
4	32	23	97	76	3	5	------	Ω ≡ a. ⊕ p.
5	31.8	23.3	96	72	3	5	------	Ω ≡ a.
6	31.8	22.5	97	75	3	7	------	Ω² a.
7	31.9	22.5	95	74	7	9	------	Ω a. d p.
8	32.2	22	96	67	7	8	------	Ω² a. d p.
9	32.6	22.6	96	72	4	4	------	Ω a. ⊕ p.
10	31.7	23.1	96	77	6	7	------	Ω a. ⊕ p.
11	32.7	22.8	97	71	6	8	------	Ω a. ς p.
12	27.5	23.9	94	93	9	10	8.9	d a. ● ⊤ p.
13	30.7	23.8	97	92	8	9	49	d ●² ↯ a.
14	31.4	22.9	98	90	4	10	9.1	● d ↯ p.
15	30	22.7	98	94	8	9	9.4	Ω ● a.
16	31.1	23	96	74	8	7	------	⊤ a. ○ p.
17	31.4	23.1	96	73	8	5	------	Ω a. ↙° p.
18	31.9	22.6	96	72	4	4	------	Ω a. ς p.
19	32.2	22.6	96	66	3	3	------	Ω a.
20	32.2	22.2	96	75	3	4	------	Ω a.
21	32.3	22.2	96	71	3	3	------	Ω² a.
22	31.8	22.1	96	70	7	8	------	Ω a. ς p.
23	32.1	22.5	97	74	6	10	------	Ω a. d ς p.
24	31.1	22.6	93	91	6	9	------	Ω a.
25	32.4	22.5	95	77	7	8	------	Ω a.
26	31	22.4	96	77	3	9	7.6	Ω ● ⊤ a. ς p.
27	32.5	23.1	94	69	8	7	------	Ω a. ↯ p.
28	29.9	23.5	97	81	9	9	------	Ω a. ς p.
29	32.7	22.6	95	74	6	9	1	Ω a. ↯ ●° p.
30	30.3	23.9	88	79	10	10	1.5	●° a.
Mean	31.5	22.8	95.7	77.1	5.7	7.2	------	
Total	------	------	------	------	------	------	135.3	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	22.4	96	78	------	------	0.5	Ω a. d p.
2	30.5	22.3	96	71	------	------	------	Ω a.
3	30	22.5	96	75	------	------	------	Ω a. ↯ p.
4	31	23.7	95	70	------	------	------	Ω a. p° p.
5	30	22.4	96	74	------	------	------	Ω a.
6	30.2	22.5	96	67	------	------	------	Ω ≡° a. ↯ p.
7	30	22.6	96	73	------	------	------	Ω a.
8	30.3	21.5	96	66	------	------	------	Ω ≡° a.
9	32	21.6	96	66	------	------	------	Ω ≡° a.
10	30.6	22.3	91	75	------	------	------	Ω ≡° a.
11	------	22	96	74	------	------	10.7	↙ ● ↯ p.
12	------	21.5	97	85	------	------	26.9	d a. p. ⊤ ● p.
13	------	21.6	96	84	------	------	4.8	≡° a. p p.
14	------	22	96	94	------	------	36.8	Ω ≡° a. ● a. p.
15	------	22.4	96	70	------	------	25.4	● ⊤ a. d p.
16	------	22	96	85	------	------	------	≡° a.
17	------	22.6	96	71	------	------	------	Ω a.
18	------	22.5	96	69	------	------	------	Ω ≡° a. ⊤ p.
19	------	22	96	78	------	------	------	Ω ≡° a.
20	------	20.5	95	76	------	------	------	Ω ≡° a.
21	------	21.7	98	84	------	------	------	Ω ≡° a.
22	------	22	96	59	------	------	------	Ω a.
23	------	22	97	67	------	------	------	Ω ≡° a. ⊤ p.
24	------	22.7	96	75	------	------	------	Ω a.
25	------	21.5	96	77	------	------	------	Ω a. p p.
26	------	21	96	95	------	------	5.8	Ω a. ↯ ● p.
27	------	22	95	71	------	------	------	≡° a.
28	------	23	97	68	------	------	2.3	⊤ d a. ↯ d p.
29	------	24	96	78	------	------	3	↯ p p.
30	------	23.5	96	74	------	------	3	⊤ ● a.
Mean	30.7	22.2	95.9	75	------	------	------	
Total	------	------	------	------	------	------	119.2	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	23.9	87	58	3	4	------	
2	30.1	23	90	77	3	3	------	
3	31.1	23	85	77	2	9	------	
4	30.2	23.2	86	72	4	5	------	
5	29.9	23.4	87	71	2	6	------	
6	29.4	23.4	91	75	5	8	------	
7	29.9	22.5	89	73	4	2	------	
8	29.3	22.9	88	75	1	6	------	
9	32.6	23	83	64	7	5	------	
10	30.2	23.4	82	77	5	4	------	
11	29	23.8	83	80	6	9	------	
12	28.4	23	84	81	2	10	?	● p.
13	32.5	23.1	86	65	5	7	------	
14	28.9	23.4	83	87	8	9	------	d p.
15	29.1	23	82	79	9	9	------	
16	29.9	23	85	79	4	9	------	
17	29.4	23.5	87	88	6	8	------	
18	30.1	23.4	91	78	5	6	------	
19	30.6	22.5	83	75	2	3	------	
20	30	22.5	84	77	1	4	------	
21	32.1	21.8	88	71	1	3	------	
22	30.6	22.9	88	67	3	9	------	
23	30.9	22.7	86	74	5	9	------	
24	30.1	23	91	73	9	9	?	● p.
25	29.9	22.9	93	71	10	10	?	● ⊤ p.
26	29.4	22.4	91	78	5	8	------	
27	32.2	23.5	91	71	4	4	------	
28	30.6	23.4	87	77	10	3	------	
29	30.3	24	87	77	6	8	------	↯ p.
30	29.5	22	86	84	8	7	------	
Mean	30.3	23	87	75	4.8	6.5	------	
Total	------	------	------	------	------	------	------	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.2	21.2	97	69	6	7	19.3	● p.
2	34.2	22.7	97	60	7	6	------	
3	32.6	22.3	93	70	5	7	------	
4	34.8	21.6	94	57	6	7	------	
5	34.3	22.4	97	60	5	7	19	● ⌒ p.
6	34.7	22	96	56	6	5	------	
7	35.2	22.4	98	70	7	7	------	
8	33.7	22	96	63	6	7	------	
9	32.6	22.3	96	62	5	7	------	
10	32	21.5	96	71	6	5	27.4	● ⊤ p.
11	33.1	22.6	97	63	8	7	------	
12	33.3	23.1	92	66	7	6	------	
13	33.7	22	97	64	5	7	------	
14	33.7	22.3	96	63	8	7	47.8	● p.
15	32.4	22.1	96	69	8	6	------	
16	29.8	23	93	81	8	9	------	d ⊤ p.
17	33	21.1	96	73	6	7	------	
18	32.3	22	97	68	7	5	27.9	● p.
19	32.7	22.6	97	64	6	7	------	⊤ p.
20	33.1	22.3	93	69	7	6	------	
21	34.1	21.6	99	66	5	6	------	ς p.
22	33.2	22.5	97	67	5	7	42.4	● ⊤ p.
23	32.6	22.1	97	66	5	5	------	
24	33.1	22.3	93	61	7	6	18.8	● ς p.
25	32.2	23.1	97	61	5	7	------	
26	35.3	22.2	97	68	6	5	------	⊤ p.
27	35.3	22.8	96	60	7	6	------	⊤ p.
28	34.7	22	97	68	5	7	------	
29	34.6	24	96	84	7	8	48.3	● p.
30	33.4	22.4	96	60	7	7	------	
Mean	33.4	22.3	96	66	6.3	6.5	------	
Total	------	------	------	------	------	------	250.9	

METEOROLOGICAL DATA, ETC.—Continued.

BUTUAN.

[$\phi=8°\ 56'$ N; $\lambda=125°\ 32'$ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32	22.2	95	70	1	3	0.3	↙° a. p p.
2	31.2	22.8	91	66	1	6	.3	Ω p a.
3	29.5	21.8	93	79	4	7	6.4	Ω ≡° a. ● a. p.
4	30	22	96	62	3	4	------	∞ a.
5	31.4	22.4	93	75	6	5	.8	≡² a. ● p.
6	31.8	22.6	92	65	2	8	2.3	≡² a. ● ⩽ p.
7	31.6	22.6	93	66	7	8	3.6	Ω a. ⛈ ● p.
8	32.3	23	94	63	2	7	------	Ω a. ⊤ p° p.
9	31.1	23.1	96	63	6	5	2.8	Ω ● a.
10	28.8	23.4	93	72	5	7	------	p° ⌒ a.
11	30.2	23.4	97	65	9	7	14.5	d a. ⊤ ● a. p.
12	31.7	23.8	91	82	3	8	2.8	Ω a. p ● p.
13	30.3	23.7	96	70	8	7	1.3	Ω a. d p.
14	29.6	23.1	96	96	4	10	23.6	Ω ● a. ● d ⌒ p.
15	30.9	23.1	98	66	2	5	.5	Ω a. ⛈ p p.
16	31	23.1	95	78	5	8	20.6	≡ a. ⊤ ● p.
17	30.1	23.3	93	71	3	7	------	Ω a.
18	31.1	22	93	62	6	2	------	
19	32	22.2	96	63	3	6	------	Ω a. ⌒ p.
20	31.8	22.9	95	57	2	3	------	Ω a.
21	32	23.1	95	62	3	7	------	
22	32.6	23.6	93	64	6	7	------	Ω a. ⌒ p.
23	33.6	23.9	91	59	2	4	------	Ω a.
24	32	22.4	92	61	2	4	------	Ω a.
25	31.6	22.1	99	63	6	4	------	Ω a. ⛈ p.
26	32.5	23.4	96	67	1	5	------	⩽ p.
27	32.5	23.6	95	54	1	4	------	Ω a.
28	32.3	24	93	67	8	4	5.3	● a. ⛈ p.
29	26.5	23.5	97	92	10	10	37.1	⛈ ● a. p. ∞ p.
30	32	23.9	96	64	7	6	------	Ω a. ⌒ p.
Mean	31.2	23	94.4	68.1	4.3	5.9	------	
Total	------	------	------	------	------	------	122.2	

YAP (Western Carolines).

[$\phi=9°\ 29'$ N; $\lambda=138°\ 08'$ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.7	23	83	83	2	4	------	
2	30.1	24.4	82	78	4	2	------	
3	29.4	24.5	86	77	2	9	19.8	
4	29.4	22.3	81	83	8	9	.8	
5	30.1	23.4	86	78	5	5	4.6	
6	29	23.8	77	85	3	2	1.5	
7	29	22.5	90	73	4	3	------	
8	29	22.5	86	77	4	10	12.7	
9	28.8	22.4	92	79	10	9	1.8	
10	29.6	19.6	93	76	9	4	------	
11	28.1	25.2	80	90	4	9	------	
12	29.5	22.6	90	80	5	4	------	
13	29.9	23.4	84	85	4	3	8.1	
14	30.2	24.7	88	78	2	7	------	
15	30	24.2	78	73	6	4	------	
16	30	24.2	85	73	6	4	------	
17	30.3	23.7	87	73	6	5	------	
18	29.9	23.7	89	74	4	5	8.1	
19	30.2	23.8	88	85	5	7	19	
20	29.9	23.8	83	76	5	5	------	
21	29.9	23.6	90	75	8	8	------	
22	29.9	23.5	91	71	5	4	------	
23	30.5	23.4	87	76	2	7	------	
24	29.9	21.1	82	76	3	4	6.9	
25	30.1	19.9	91	83	4	4	15.5	
26	30.2	23.2	86	75	5	3	------	
27	30.2	22.7	86	85	6	4	------	
28	31	25	90	79	7	6	10.2	
29	31	23.4	90	84	8	8	------	
30	32	23.2	90	72	6	7	------	
Mean	29.9	23.2	86.4	78.4	5.1	5.5	------	
Total	------	------	------	------	------	------	109	

MAASIN.

[$\phi=10°\ 08'$ N; $\lambda=124°\ 50'$ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.7	21	95	71	1	4	------	↙ a. ⩽ p.
2	30.9	24.2	86	78	8	4	------	⩽ p.
3	30.4	23	91	71	9	9	------	d ⌒ a. d ↙° p.
4	30.6	22.6	90	76	8	5	------	⩽ p.
5	30.5	22	86	73	6	7	------	
6	30.6	23.6	80	76	2	8	------	⩽ p.
7	31.4	23.4	92	69	6	4	------	⩽ p.
8	31.2	23.5	93	75	6	4	------	d a.
9	31.2	23.4	91	73	7	8	17.5	d a. p. ⊍ ⩽ p.
10	31.2	22.6	90	89	9	10	16.3	d ● a. ≡² ● ⛈
11	30.6	23.1	95	65	9	3	------	d a. ⊕ ⊍ ⩽ p.
12	31.3	23.6	95	76	8	9	50	↙ ● a. ⩽ d ● p.
13	31	23.8	95	85	10	7	15.7	● d ≡² a. ↙° d p.
14	29	23.6	92	78	3	4	------	d a. ⩽ ⊍ ⊕ p.
15	31.2	23.5	92	78	9	10	------	⊍ ⊕ ⩽ p.
16	30.5	23	94	85	2	8	------	p ⊤ a. ⩽ ⊕ ⊍ p.
17	30.7	22.5	95	78	9	9	------	⛈ ⊍ p.
18	30.8	21 8	92	68	2	6	------	⩽ ⊕ p.
19	31.5	22.3	88	65	2	3	------	↙° a. p. ∞ ⩽ p.
20	31.4	22.1	93	80	3	2	------	
21	30.1	22.4	88	78	4	6	------	
22	31	22.2	90	73	8	8	------	⩽ p.
23	31.6	23.1	94	65	3	2	------	
24	31.8	24.8	88	62	2	3	------	
25	32	23.2	83	72	10	4	------	↙° p.
26	32	23.6	91	64	2	4	------	d a. ⩽ p.
27	32.8	24.4	88	66	9	4	------	↙° ⩽ p.
28	32.2	23.9	90	69	6	5	------	⌒ a. ↙° ⩽ d p.
29	32.4	24.2	92	89	10	10	26.9	⛈ a. ● a. p. ≡² p.
30	29.1	22.8	92	76	10	10	------	≡² a. ⩽ p.
Mean	31.1	23.1	90.7	74.1	6.1	6	------	
Total	------	------	------	------	------	------	126.4	

BACOLOD.

[$\phi=10°\ 41'$ N; $\lambda=122°\ 56'$ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30	20.9	91	75	6	5	------	≡° ↙° p.
2	33	25	86	76	4	3	------	↙° p.
3	31.5	23.7	90	71	3	3	------	↙° ⊤° p.
4	30.3	23.6	89	74	4	2	------	
5	31.6	22.5	94	74	3	3	------	≡° p.
6	30.6	22	89	70	3	4	------	
7	30.8	24.4	92	72	7	6	------	≡° a. p. ⊕ p.
8	31.2	21.7	93	67	4	4	------	↙° ⊕ p.
9	31.1	22.9	90	79	2	2	------	≡° a. ↙° p.
10	32.2	23.3	89	69	2	7	------	↙° ⊕ p.
11	32.1	24.7	88	66	6	5	1.8	↙ ●° a. ≡° ⊕ p.
12	32.2	23.1	86	69	6	6	------	d° ⩽ ⊕ p.
13	31	23.6	96	78	10	8	7.9	●° a. ↙ ●° ⛈ ⌒ ⊕
14	31.7	24.5	90	74	8	6	13.5	≡° ⛈ ↙ ●² p.
15	32.2	23.9	91	75	10	7	------	d° ⛈ p.
16	32.6	23	95	73	6	6	.5	≡° a. d ⛈ ⊕ p.
17	32.5	22.9	96	68	6	6	------	⊤ ⊕ p.
18	31.2	21.4	93	59	6	2	------	≡° a. ↙° ≡² ⊕ p.
19	32.1	21.3	87	78	3	7	------	≡° a. ⊕ p.
20	31.5	22.3	91	64	4	4	------	↙° ≡° p.
21	32	22.4	86	57	3	4	------	
22	31.6	22	89	72	3	6	------	≡² a. p. ⊤° ⩽ p.
23	31.8	23.1	87	71	6	7	------	≡° ⊤° p.
24	32.2	22.7	88	71	4	4	------	≡° a. ↙° p.
25	32.3	22.7	90	70	3	6	------	
26	34.1	22.8	87	72	3	5	------	≡° ↙° p.
27	32.2	23.8	88	66	2	4	------	⊤° p.
28	32.1	25.3	80	66	2	2	------	↙° p.
29	32.9	25	92	62	8	8	.3	↙ ●° ⊤° d° a.
30	31.7	23.1	88	68	6	3	------	↙° ⩽ p.
Mean	31.8	23.1	89.7	70.2	4.8	4.8	------	
Total	------	------	------	------	------	------	24	

METEOROLOGICAL DATA, ETC.—Continued.

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	21.4	86	63	3	1	------	Ω a.
2	32.5	22.8	88	64	4	2	------	
3	32.6	22.5	91	60	2	2	------	
4	32.9	22.5	89	61	3	2	------	
5	32.9	21.7	88	65	1	3	------	
6	32.9	21.8	88	63	0	3	------	
7	32.9	21.5	89	63	1	10	------	
8	33.8	21.9	80	62	1	7	------	
9	33	22.3	89	62	7	4	------	↙° a.
10	34.8	22.5	79	56	3	3	------	
11	36.3	25.3	80	56	10	6	------	↙° a.
12	34.7	23.3	71	55	7	3	------	↯ p.
13	32.9	25.4	80	68	10	10	------	d a. ⊕ p.
14	33	24.4	87	63	10	10	------	⛈ d ⌒ ↙° ⊕ p.
15	33	24.7	87	67	10	10	8.9	● ⛈ ↙° p.
16	32.4	23	91	69	1	6	------	⛈ p.
17	32.5	23.7	86	64	7	10	------	⊤ p.
18	33	22.8	87	62	3	4	------	
19	33.3	22.9	80	60	2	3	------	
20	33.3	22.7	84	55	1	2	------	
21	33.4	22.6	78	59	5	3	------	↯ p.
22	33.1	23.2	83	59	4	6	------	↯ p.
23	34.1	24.3	83	61	3	4	------	⛈ d° p.
24	34	22.9	84	53	2	4	------	
25	33.9	22.8	82	55	7	4	------	
26	34.1	23.3	84	62	1	3	------	
27	34.8	23.6	85	61	2	1	------	
28	35	23.5	87	54	2	3	------	↯ p.
29	32.8	23	88	72	8	10	.5	Ω a. ●° ↯ p.
30	34.5	21.9	84	53	7	3	------	Ω a.
Mean	33.5	23	84.6	60.9	4.2	4.7	------	
Total	------	------	------	------	------	------	9.4	

TUBURAN.

[ϕ=10° 45′ N; λ=123° 50′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.1	21.1	93	58	1	8	------	Ω° ≡^{2} a. d p.
2	34.1	24.6	87	47	7	8	------	○^{2} p.
3	33.6	22.4	92	78	3	9	------	p ↯^{2} p.
4	31.1	21.6	95	70	3	4	------	Ω° ≡^{2} a. ↯° p.
5	30.8	21.7	95	68	2	3	------	Ω° ≡^{2} a. ↯^{2} p.
6	31.1	20.9	95	69	2	3	------	Ω^2 ≡^{2} a. ∞^{2} p.
7	31.7	24.2	89	66	6	3	------	↯^{2} p.
8	33.1	22.3	94	64	4	6	------	
9	32.7	21.7	92	68	1	5	------	≡ a. ↯° p.
10	32.1	21.8	92	76	4	9	2	Ω° ≡^{2} a. ●° p.
11	34.6	23.5	94	54	8	6	------	⋓^{2} p.
12	30.7	21.8	91	81	6	8	1.3	Ω° ≡^{2} a. ↯ ●° p.
13	31.2	24.1	92	73	10	8	------	∞^{2} p.
14	31.8	22.5	93	73	7	6	------	↯^{2} ⋓° p.
15	31.9	24	92	72	10	9	------	p° a. ○° ↯^{2} ⋓^{2} p.
16	34.4	23.4	92	66	8	5	1.3	●° ⊤° a. ○° ↯^{2} ⋓^{2}
17	31.6	22.8	90	67	5	8	------	≡^{2} a. ○° ↯^{2} ⋓^{2} p.
18	31.3	22.2	92	64	9	3	------	≡° a.
19	31.6	21.6	91	66	2	4	------	≡^{2} a. ∞ p.
20	31.7	22.1	90	65	2	4	------	∞^{2} ↯° p.
21	31.6	22.5	90	62	7	4	------	≡^{2} a. ↯^{2} p.
22	31.6	22	90	66	4	8	------	≡^{2} a. ↯^{2} p.
23	34.4	22.9	91	62	5	5	------	↯° p.
24	33	22.2	90	66	2	4	------	≡° a. ↯° p.
25	31.6	22.3	90	71	3	5	------	Ω° a.
26	34.3	22.7	88	73	2	7	------	≡° a. ↯^{2} p.
27	32.5	22.9	91	60	1	4	------	≡^{2} a.
28	32.3	23.6	89	72	1	3	------	≡° a. ↯^{2} p.
29	33.3	25.7	87	50	10	10	------	d a. ○^{2} a. p.
30	31.9	22.6	90	64	9	7	------	
Mean	32.4	22.7	91.2	66.4	4.8	5.9	------	
Total	------	------	------	------	------	------	4.6	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.7	20.2	98	79	2	8	5.3	Ω ≡ a. ● p.
2	30.6	22.3	98	74	5	7	10.2	Ω ↙ ●° a. ● p.
3	30.8	23.2	97	76	6	9	4.8	●° a. ↙ ●° p.
4	30.8	22.8	97	70	8	5	------	Ω ≡ a.
5	30.7	22.7	96	66	7	2	------	Ω ●° a.
6	30.5	21.4	95	76	6	4	3.8	Ω ● a.
7	29.6	21.8	97	77	9	7	22.6	Ω ● a.
8	30.7	21.4	97	70	8	5	------	Ω ≡ a.
9	30.9	22.2	97	71	6	8	9.7	Ω ≡ a. ● ↙ p.
10	30.6	22.3	97	81	9	8	24.1	↙° a. ↙ ● p.
11	30.7	24.2	85	75	9	6	2.3	↙ ●° a. p.
12	30.3	24.7	89	84	9	10	42.4	↙ ●° a. ●^{2} p.
13	28.3	22.6	96	83	9	10	23.4	≡ ⊤ a. ● a. p.
14	31.2	23.5	97	72	8	6	6.9	≡ a. ● a. p.
15	31.1	23.5	96	77	9	7	12.2	● a. p.
16	30.9	23.7	97	71	7	6	1.5	↙ ●° a. ●° p.
17	30.8	21.7	98	66	4	2	.3	Ω a. ●° p.
18	30.6	21.3	96	64	5	3	------	Ω ○ a.
19	31.2	21.5	96	65	2	4	------	Ω a.
20	30.7	20.9	98	70	6	5	3.8	Ω ● a. ↯ p.
21	31.1	20.6	96	73	7	4	------	Ω ≡ a. ↯ p.
22	31.5	21.6	97	71	3	6	------	Ω a. ↯ p.
23	31.3	22.8	96	70	8	8	1.8	Ω a. ●° a. p.
24	31.2	22.7	94	65	6	5	------	Ω ≡ a. ↯ p.
25	31.8	22.5	95	68	8	6	6.4	Ω a. ● ↯ p.
26	31.7	23.8	95	70	8	8	6.9	● a. ↯ p.
27	31.2	22.6	97	79	9	9	8.9	Ω ≡ ● a. ●° p.
28	31.4	23.1	97	82	6	9	8.4	●° a. ● ↯ p.
29	31.3	24.7	81	70	8	9	1.8	↙° ●° a. ○ a. p.
30	31.7	22.6	97	73	6	8	.5	Ω ≡ a. ●° ↯ p.
Mean	30.8	22.5	95.4	72.9	6.8	6.5	------	
Total	------	------	------	------	------	------	208	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	------	------	------	2	5	------	
2	------	------	------	------	1	7	6.4	⛈ ● p.
3	------	------	------	------	2	8	------	● p.
4	------	------	------	------	10	5	2	d a. ● a. p.
5	------	------	------	------	2	5	------	
6	30.2	------	------	71	2	2	------	
7	29.6	22.3	98	77	10	6	11.7	d ● a. ↙ ● p.
8	29.9	21.6	97	69	3	2	.5	
9	29.8	21.6	98	72	2	7	6.4	d° ● p.
10	30.3	22.1	98	78	6	9	1	p ●° a. ↙ ●° p.
11	30.2	23.4	95	72	5	4	5.3	↙ ● a. ↙ ●° p.
12	29.2	23.6	97	89	8	10	22.4	● ⌒ a.
13	29.7	23.3	97	81	9	10	1.3	d a. ● p.
14	28.8	23.6	97	92	7	7	6.4	↙ ●° a. d p.
15	29.6	23.7	97	93	8	9	.8	● a. ↙ ●° p.
16	30.1	24.1	98	72	6	2	------	
17	29.6	21.6	97	71	2	1	------	
18	29.6	21.6	98	73	2	1	------	
19	30.2	21.8	98	70	5	3	------	
20	29.6	22.2	97	67	4	0	------	
21	29.7	21.3	97	74	4	2	------	
22	31.5	21.1	97	68	1	2	------	
23	31.7	22.4	97	65	3	2	------	
24	30.6	22	97	71	3	2	2	
25	30.3	22.4	98	76	5	4	.5	● ⌒ ≡ a.
26	30.6	23.2	96	71	2	3	.5	≡ a. ● p.
27	30.8	23.1	97	72	3	3	3.3	● a.
28	30.4	23.1	99	73	2	4	------	
29	30.7	25.6	84	71	3	2	------	
30	30.9	23.3	98	71	2	4	16.5	≡ a. ● ⛈ p.
Mean	30.1	22.7	96.8	74.4	4.1	4.4	------	
Total	------	------	------	------	------	------	87	

METEOROLOGICAL DATA, ETC.—Continued.

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.8	20.9	96	67	4	5	------	
2	33.2	24	85	64	4	4	------	d p.
3	30.4	24	90	75	10	8	18.3	p ●° a. ● d ⌒ p.
4	32	23.8	87	69	5	6	------	
5	32.6	22.9	88	67	3	4	3.8	d p° a.
6	33.2	24.1	89	63	8	6	------	
7	31	24	85	78	5	10	12.2	● a. ⌒ p.
8	33.2	23.5	88	64	4	5	------	
9	33.4	24.2	83	64	6	5	------	d p.
10	32.6	23.7	83	65	4	6	4.6	d a. p. ↙ ● ⌒ p.
11	31.6	24.1	85	69	10	8	8.9	d a. p. ● p.
12	31	23.5	89	76	8	10	17.3	↙ ● a. p.
13	31.1	24	83	66	8	10	7.6	● a.
14	31	23.4	95	70	10	9	10.4	● d a.
15	32.8	22.9	97	66	8	6	------	
16	31.9	22.7	95	68	10	5	50.8	●² a.
17	32.2	21.2	97	65	7	5	------	
18	32.3	22.7	96	65	8	6	------	
19	32.3	22.1	95	65	8	4	6.4	● a.
20	33	24	82	63	5	4	------	d a.
21	33.2	20.4	95	62	6	5	------	
22	33.5	21.9	95	60	7	4	------	
23	33.5	24	84	62	8	6	------	
24	33.8	22.8	90	59	7	5	------	
25	33.8	24.5	87	65	4	6	------	
26	34.3	24.8	84	59	8	6	------	
27	33.5	25	87	60	9	6	6.4	p ●° a.
28	34.2	25.2	86	58	7	5	------	
29	34.2	25.6	82	55	8	6	------	
30	34.4	25	84	57	5	5	------	d p.
Mean	32.7	23.5	88.7	64.9	6.8	6	------	
Total	------	------	------	------	------	------	146.7	

SUMAY, GUAM (Ladrones Islands).

[ϕ=13° 24′ N; λ=144° 38′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.8	24.8	78	68	4	6	------	
2	29.4	25	84	70	6	8	------	● a.
3	29.4	24.4	88	78	8	7	------	● a.
4	28.4	24.2	88	77	8	6	------	● p.
5	29.7	25.1	80	66	7	5	------	
6	30.5	24.6	88	62	5	6	------	
7	30.3	24.2	89	79	5	8	------	↙ ● a. p.
8	28.7	24.6	88	74	4	5	------	↙ ● a.
9	29.3	24.8	83	71	9	8	------	
10	27.6	24.6	89	84	7	5	------	
11	29.4	24.7	88	72	6	5	------	
12	28.8	25.3	85	75	5	6	------	
13	29.8	24.6	77	71	2	3	------	
14	29.7	24.7	87	68	2	3	------	
15	30.6	25.3	89	71	3	6	------	
16	31.1	25.5	88	73	6	8	------	
17	30.3	24.9	88	67	5	3	------	
18	30.6	24.8	85	65	1	3	------	
19	30.2	24.4	84	58	1	4	------	
20	29.6	24.6	87	73	3	6	------	
21	28.4	24.6	82	78	8	7	------	
22	28.8	24.1	85	72	5	5	------	
23	29.2	24.9	87	81	1	4	------	
24	29.9	24.8	84	70	2	4	------	
25	29.2	24.8	84	79	2	3	------	
26	29.9	24.6	81	73	8	5	------	
27	30.3	24.9	96	70	10	8	------	⊤° a.
28	30.3	26.9	87	66	3	3	------	
29	29.8	24.8	97	87	9	9	------	
30	30.3	25.4	88	78	1	5	------	
Mean	29.6	24.8	86.1	72.5	4.9	5.5	------	
Total	------	------	------	------	------	------	------	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.7	21	96	71	2	2	1.5	● d a.
2	31.5	22.5	93	65	4	2	.3	d° a. d p.
3	31	22.9	94	71	2	8	7.1	● d° a. ↙ ● p.
4	30.9	21.9	93	70	2	8	8.9	● a. ∞ p.
5	31.4	21.4	96	71	2	2	------	∞ p.
6	31.6	21.2	94	72	1	2	------	
7	31.6	21.9	94	75	2	7	3.3	Ω ● a. ∞ p.
8	31.6	24.8	84	68	2	2	------	
9	31.6	22.1	91	65	2	3	.5	d ∞ ⊍ p.
10	31.9	22.4	93	64	4	2	1.5	●° a. p. d p.
11	31.2	25.2	83	67	2	3	2.5	●° d a. ● p.
12	31.8	24.4	93	71	9	6	7.1	● ⌒ d a. ●° p.
13	31.5	22	93	72	5	8	------	○ p.
14	31.4	22.9	89	73	9	8	3.6	●° a. d a. p.
15	31.4	22.8	94	72	6	3	1	●° ⊤ d° a. ⌈ϟ p.
16	31.5	23	96	73	9	4	23.4	↙ ● a.
17	31.5	21	94	71	1	3	------	
18	32	21.2	94	70	3	4	------	
19	32.2	20.9	94	65	2	2	.3	●° a.
20	31.7	21.1	93	60	2	3	------	
21	32.2	20.5	94	70	0	5	------	
22	32	21.9	95	69	8	4	------	
23	32	22.5	88	66	7	5	------	
24	32.2	21.9	91	65	8	4	.5	d a. ⋖ ●° p.
25	32	22.4	91	65	2	6	.8	●° a. p.
26	32.1	23.8	93	66	9	3	9.9	●² ⌒ a. ● p.
27	32.2	23.1	89	70	8	4	------	
28	32.3	22.4	92	68	3	4	------	d a. ∞ p.
29	32.5	25.4	82	60	4	3	.5	●° p.
30	32.5	22.5	91	66	5	7	------	
Mean	31.7	22.4	91.9	68.4	4.2	4.2	------	
Total	------	------	------	------	------	------	72.7	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.9	21.1	95	50	2	5	------	
2	34.9	22.5	96	51	2	3	------	
3	35	21.9	93	47	4	4	------	⋖ p.
4	34.8	22.7	91	49	4	6	------	
5	34.9	22.9	92	46	3	3	------	
6	35	24.4	88	50	6	6	------	
7	36.4	21.5	95	43	4	6	------	
8	35.9	22.3	96	49	3	5	------	
9	35.4	22.4	95	47	4	7	------	
10	35.7	21.5	91	64	4	7	------	d ⌒ a. d° p.
11	35.5	22.2	90	49	4	5	------	
12	34.4	22.3	88	49	6	6	------	⊕ p.
13	34.7	22.9	90	45	5	6	------	⊍ p.
14	35.3	22	88	45	4	6	------	
15	35.7	23.4	90	51	6	5	------	⌈ϟ p.
16	35.1	23.3	89	47	6	6	------	⊤° a. ⋖ ⊍ p.
17	35.7	22.7	88	58	3	7	------	⌈ϟ p.
18	36.4	22.4	90	51	5	5	------	
19	35.9	22.2	90	47	3	7	------	⌈ϟ a.
20	35.4	21.8	89	51	4	4	------	
21	35.5	20.7	89	46	2	4	------	
22	35	20.3	89	52	2	6	------	⌈ϟ p.
23	36.5	21.8	90	44	5	6	------	
24	35.8	22.7	92	41	3	6	------	⌈ϟ a.
25	36.4	22.8	88	43	2	6	------	⌈ϟ p.
26	35.7	22.4	85	46	5	4	------	⌈ϟ a.
27	36.5	24.5	88	45	4	5	------	
28	36.7	23.9	88	44	3	4	------	⋖ p.
29	36.6	23.4	91	44	7	7	------	
30	36.8	22.6	88	39	4	5	------	
Mean	35.6	22.4	90.4	47.8	4	5.4	------	
Total	------	------	------	------	------	------	------	

METEOROLOGICAL DATA, ETC.—Continued.

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	20.3	98	55	2	2	------	≡ a.
2	31.3	20.7	98	59	7	5	------	Ω ≡ a.
3	32.6	20.3	98	55	8	3	------	Ω ≡ a.
4	31.8	20.2	98	60	2	7	------	
5	32.2	20.5	98	59	6	8	------	
6	31.7	20.1	99	61	7	8	------	p a.
7	32.3	20.1	98	55	2	8	------	
8	32.7	20.2	97	55	5	7	------	≡ a.
9	31.5	20.2	98	56	7	4	------	d a.
10	31	20	98	58	2	7	------	Ω ≡ a. d p.
11	32.1	20.1	98	56	5	8	------	⊤° p.
12	32.2	20.2	98	56	8	9	2	●° a. d ⋖ p.
13	31.6	20	97	56	5	3	------	
14	31.8	20.3	98	56	7	7	------	
15	32.8	20.3	97	55	9	7	------	d ⊤° a. ⋖ p.
16	31.6	20.6	98	60	3	8	------	⊤° p.
17	32	20.8	97	60	5	7	------	≡ a.
18	32.2	20.5	98	60	6	8	3	≡ a. ●° ⊤° p.
19	31.9	20.8	98	62	3	2	------	
20	32	20.6	96	60	5	7	------	Ω ≡ a. ⊤ p.
21	31.8	20.5	97	60	7	7	------	
22	31.5	20.4	98	62	4	6	------	
23	32.6	20.2	98	59	2	3	------	
24	32.9	20.8	98	58	6	7	------	
25	32.8	20.5	98	59	7	8	------	d p.
26	32.7	20.3	98	58	2	2	------	d a.
27	32.8	20.6	98	58	3	7	------	⋖ p.
28	32.5	20.4	97	60	3	2	------	≡ a.
29	32.5	20.5	98	60	2	2	------	d p.
30	32.4	20.3	97	59	2	8	------	⋖ p.
Mean	32.1	20.4	97.7	58.2	4.7	5.9	------	
Total	------	------	------	------	------	------	5	

SAN ANTONIO.

[ϕ=14° 22′ N; λ=121° 32′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.9	21	96	58	1	7	------	
2	31	21	89	65	5	3	4.8	
3	29.1	21.5	97	81	7	4	3	
4	29	21	86	61	4	4	1.3	
5	29.6	21	96	66	6	2	------	
6	30.6	21.4	96	65	3	2	3.8	
7	34	20.6	98	52	4	2	------	
8	31.5	20.5	98	62	6	2	------	
9	31.5	20.9	94	58	4	2	------	
10	29	21.6	92	77	6	8	8.9	
11	29	21.5	97	71	6	4	11.4	
12	28.6	22	91	73	7	4	8.4	
13	29.5	21	96	67	2	9	------	
14	30.5	21	96	63	4	3	------	
15	30.5	21.6	97	68	5	3	10.2	
16	30.6	21.5	96	67	6	7	3	
17	31.7	20.6	96	63	7	3	------	
18	29.8	21.2	97	68	2	3	------	
19	30.6	21	96	55	2	3	------	
20	30.1	20.4	95	56	7	1	------	
21	30.5	18.2	99	58	5	1	------	
22	32.2	17.6	99	47	8	1	------	
23	31.4	18.4	89	40	9	2	------	
24	30.7	20.2	93	55	6	2	------	
25	31.1	21.5	95	69	3	3	38.1	
26	30.4	21.4	97	69	9	4	12.7	
27	31	22.5	96	65	8	3	------	
28	30	22.1	91	74	6	7	------	
29	30.5	22.2	96	67	8	9	4.3	
30	30.8	22.2	91	60	9	1	------	
Mean	30.5	21	94.8	63.3	5.5	3.6	------	
Total	------	------	------	------	------	------	109.9	

CORREGIDOR.

[ϕ=14° 23′ N; λ=120° 35′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	23.3	76	62	10	10	------	
2	32.5	23	83	60	2	2	------	
3	32.5	23.6	73	64	2	2	------	
4	32.1	23.8	78	62	10	3	------	
5	32	22.8	79	64	3	2	------	
6	32	24.2	79	66	3	2	------	
7	32.7	23.8	82	65	2	2	------	
8	32.7	24.3	81	66	10	2	------	
9	34	24	78	55	10	2	------	
10	32.2	23.8	75	62	10	10	------	
11	33	24.3	85	59	10	2	------	
12	33	23.7	72	59	2	10	------	
13	33.2	23.8	73	59	10	4	------	
14	33	24.3	82	66	10	2	------	
15	31.6	23.7	80	65	2	2	------	
16	32.2	22.2	76	66	2	2	------	⊤ p.
17	32.4	24.2	85	67	10	2	------	
18	32.5	23.3	87	66	10	2	------	
19	32	24.2	88	63	2	4	------	
20	32.3	24.2	80	60	10	4	------	
21	32.3	23.5	74	63	2	2	------	
22	33	23.8	82	57	10	2	------	
23	33.5	23.8	80	58	10	2	------	
24	32.8	24.8	80	59	10	2	------	
25	32.7	23.5	69	62	3	10	------	
26	32.8	25	79	62	10	2	------	
27	32.5	25.1	80	58	2	2	------	
28	33.1	24.8	74	63	2	3	------	
29	33	24.8	77	68	3	10	------	
30	33	25	78	62	10	2	------	
Mean	32.6	24	78.8	62.3	6.4	3.6	------	
Total	------	------	------	------	------	------	------	

BALANGA.

[ϕ=14° 41′ N; λ=120° 32′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35	21.4	85	49	2	3	------	
2	36.1	21.6	84	44	0	1	------	
3	35.8	22.1	83	46	7	5	------	
4	35.6	21.1	87	47	1	3	------	
5	35.9	21	83	47	1	1	------	
6	35	23.1	83	43	1	1	------	
7	35.5	23	83	44	4	4	------	
8	35.7	22.5	87	50	1	1	------	
9	35.4	24.5	86	46	2	2	------	
10	36.4	22.4	82	51	0	10	------	d° p.
11	35.4	23.8	83	53	4	6	------	p° p.
12	36.5	22.8	78	51	1	7	------	
13	35.4	23.2	88	46	3	9	------	⋖ ⊕° ∪° p.
14	37	22.4	87	40	1	1	------	
15	36	22.5	87	51	1	3	------	⋖ p.
16	36.1	24	91	47	1	4	53.1	⊤ ●² p.
17	35	22.8	95	55	2	3	.3	⌈⋖ d p.
18	34.5	23.6	92	57	4	4	------	⋖ p.
19	34.5	24.3	92	48	7	7	------	⋖ p.
20	33.5	23.6	94	52	6	2	18	● ⌒ a. ⋖ p.
21	34.9	23.2	92	43	4	1	------	
22	35	21.6	91	37	1	1	------	
23	35.5	22.8	92	44	10	2	------	⋖ p.
24	34.6	23.7	96	55	4	2	5.1	●° a. ⋖ p.
25	34	22.2	92	60	0	5	------	⋖ p.
26	34.7	23.7	87	66	6	8	------	
27	35.5	24.1	92	54	7	3	------	
28	35.5	23.7	95	52	3	3	------	⋖ p.
29	35.2	24	93	52	9	8	------	⋖ p.
30	35.6	23.5	92	49	2	3	------	⋖ p.
Mean	35.4	22.9	88.4	49.4	3.2	3.8	------	
Total	------	------	------	------	------	------	76.5	

METEOROLOGICAL DATA, ETC.—Continued.

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	37.8	18.4	94	41	2	4	------	Ω ≡° ○ a.
2	38.1	20.5	81	39	2	4	------	Ω ≡° a.
3	37.7	19.3	94	39	0	4	------	Ω ≡° a.
4	38.7	20.3	92	42	0	6	------	Ω ≡° a.
5	37	20.5	92	37	0	4	------	Ω ≡° a. d° p.
6	38.5	21	93	38	0	4	------	Ω a.
7	38.4	22.5	88	36	0	5	------	Ω ≡° a. ⊕ p.
8	39	21.4	95	32	0	5	13.2	Ω² ≡² a. ⌈ϟ ● p.
9	36.2	23.3	97	41	3	3	------	≡° a. ϟ° p.
10	37.8	21	96	40	1	6	------	Ω² ≡² a.
11	36.1	23.3	86	52	4	4	------	d° ≡° a.
12	37.4	20.4	91	48	0	6	------	Ω ≡ a. ↙° p.
13	37.8	21.9	90	42	5	7	------	Ω ≡° a. ϟ° p.
14	39.6	21.4	89	36	0	4	------	Ω ≡° a. ∞ ⌈ϟ° p.
15	38.4	21.2	91	47	0	3	------	Ω ≡² a. ∞ p.
16	40	22.5	91	38	0	6	22.6	Ω ≡² a. ⌈ϟ ● p.
17	36	21.7	96	49	3	5	------	≡² a. d° ⌈ϟ p.
18	36.7	23.8	95	48	10	5	------	
19	37.5	22.4	92	42	3	6	------	Ω ≡° a.
20	37.3	23.4	92	40	2	4	------	Ω ≡ a. ∞² ⌈ϟ° ↙°
21	38.2	22.3	95	38	9	2	------	Ω ≡° a. ∞ p.
22	39.2	21.6	94	32	0	1	------	Ω ≡² a. ∞ p.
23	38.5	22.9	92	39	1	2	------	Ω ≡ a. ∞ ϟ° p.
24	38.2	22.2	93	46	1	5	------	Ω ≡° a. ϟ° p.
25	38.8	21.1	88	44	0	7	------	Ω a.
26	37.4	22.8	91	46	4	6	------	Ω ≡° a.
27	39	22.1	85	34	2	5	------	Ω a.
28	39.4	22.2	90	42	1	4	------	Ω ≡° a. ⌈ϟ² p.
29	39.8	22.6	91	36	3	4	------	Ω ≡° a. ⌈ϟ° p.
30	39.7	23.1	83	39	0	5	14.7	Ω ≡ a. ⌈ϟ ● p.
Mean	38.1	21.8	91.2	40.8	1.9	4.5	------	
Total	------	------	------	------	------	------	50.5	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.9	19.6	96	------	0	9	1.8	d a.
2	30	22.7	99	78	8	1	1.3	d° a.
3	29.5	21.8	100	73	10	1	3	d a.
4	29.4	22.6	96	76	10	1	1.3	d° a.
5	29	21.7	96	74	10	1	2.8	p° a.
6	30	21.5	96	------	8	1	3	⌒ d a.
7	30	23.5	96	75	10	1	.8	p° a.
8	30.4	22.6	91	74	2	1	2	p° a.
9	30.5	23	100	71	1	1	16.3	p° a. d p.
10	30	22	94	71	1	2	10.7	d a.
11	30	22	97	88	10	10	5.1	p° a. p. ↙° p.
12	30	21.8	93	------	10	4	.5	
13	30	24	99	74	7	3	------	⊤ p.
14	30.4	21.6	96	79	0	1	------	
15	29.8	22	100	74	8	5	.5	
16	29.7	23	96	76	10	6	2	d° a. p.
17	31.6	22.2	94	------	0	1	17.5	d a.
18	31.6	23.5	99	75	10	6	------	p° a.
19	30.2	22	93	71	1	8	------	
20	31.1	21.2	100	------	0	0	------	
21	31	20.2	95	------	0	0	------	
22	31.5	21.3	99	------	0	0	------	
23	30.7	22.1	99	------	2	0	------	
24	31.1	23.1	94	------	10	1	4.3	
25	31	22	100	------	10	5	15.5	p° a.
26	29.8	23.7	95	80	10	8	3.3	p° a. p.
27	30.4	22	93	71	6	4	------	p° a.
28	31.4	23.1	99	------	2	1	------	
29	30.4	23.5	100	------	4	8	4.6	⌒ p.
30	30.6	22.6	99	71	10	1	------	p° a.
Mean	30.4	22.3	96.8	75.1	5.7	3	------	
Total	------	------	------	------	------	------	96.3	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.4	23.4	94	49	1	1	------	≡° a.
2	33	24.4	88	57	1	1	------	
3	34.5	23.7	87	57	0	0	------	
4	34.3	23.6	87	57	6	0	------	ϟ p.
5	32.3	24	83	63	1	0	------	Ω ≡ a. ↙° p.
6	33.8	24	93	63	10	3	6.6	● ⌒° a.
7	33.5	24.6	91	68	7	8	------	↙° p.
8	33.6	24.2	92	62	3	3	------	ϟ ⌣² p.
9	34.7	24.7	87	62	3	4	------	⊤ ⊕ p.
10	35.2	24.5	80	60	6	5	------	∞² p.
11	35.8	24.4	82	54	2	4	------	∞° ⌈ϟ° p.
12	36.5	24.5	73	54	0	2	------	⌈ϟ° p.
13	35.6	24.5	88	51	7	6	------	ϟ p.
14	33.5	24.5	82	62	0	1	------	∞° ϟ p.
15	34.5	25	91	57	7	0	------	⊤° a. ↙° ϟ p.
16	34.8	25.4	84	56	10	3	------	ϟ p.
17	34.7	24.8	88	62	0	6	------	ϟ p.
18	34.5	25	88	55	0	1	------	⊤° p.
19	32	24.4	81	60	6	7	10.4	⊤° ↙° ●² ϟ² p.
20	31.8	24.2	85	59	10	8	.8	● ↙° ⌈ϟ° p.
21	33	24.6	92	58	10	6	------	↙° ϟ p.
22	33.5	23.6	83	58	0	0	------	ϟ° p.
23	34.4	23.2	90	61	7	6	------	⊤° a. ∞² p.
24	34	24.5	88	62	3	3	------	Ω° ≡° a. ⌈ϟ° p.
25	33.4	24.8	87	60	4	1	------	
26	34.5	25.5	80	64	2	2	------	⊤° d° a. ↙° ⊤ d°
27	33.5	25	84	61	5	4	------	
28	35.2	25	78	65	3	2	------	ϟ p.
29	34.4	25.4	80	53	6	7	------	↙° ϟ p.
30	34.3	24.6	88	61	3	3	------	↙° ϟ p.
Mean	34.1	24.5	85.8	59	4.1	3.2	------	
Total	------	------	------	------	------	------	17.8	

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	24.3	14.4	84	79	3	8	------	
2	24.6	13.3	92	73	3	5	------	
3	25.1	13.4	89	70	3	5	------	
4	24.2	13.4	83	86	2	7	------	
5	24.5	13.5	97	73	2	7	------	
6	23.8	13	99	74	2	6	------	
7	23.5	14	98	70	3	6	7.1	● p.
8	22.7	14.4	99	86	2	6	------	
9	22.4	15	95	87	9	6	------	
10	25	14.3	87	68	2	5	------	
11	25.5	13.4	92	83	2	10	5.6	● p.
12	25.4	11.9	75	83	1	7	------	
13	23.2	13.4	85	94	4	10	2.5	● ⊤ ⌒ p.
14	23.5	14.5	95	83	8	7	9.9	● p.
15	23.8	14.2	97	65	1	6	1.5	d p.
16	22.5	14.5	95	95	7	10	4.1	● p.
17	21.5	14	77	73	3	10	14.7	● p.
18	23	13.7	97	97	6	10	39.6	● ⌈ϟ p.
19	22.6	15	98	79	10	10	13.2	● p.
20	22.4	13.9	95	98	7	10	7.1	● p.
21	23.2	15.4	99	70	8	5	------	≡ a.
22	23.2	13	98	75	5	6	------	
23	22.7	15.6	98	93	9	10	32.5	● p.
24	23.5	13.9	87	79	3	10	5.8	● p.
25	22.5	13.2	91	78	1	5	2	d p.
26	24.5	14	98	74	2	3	2.5	d p.
27	23.5	13.4	90	82	3	5	------	
28	23.3	15.1	95	82	3	6	------	
29	22.9	15.2	90	90	4	9	------	
30	22.1	17	95	88	5	10	------	
Mean	23.5	14.1	92.3	80.9	4.1	7.3	------	
Total	------	------	------	------	------	------	148.1	

METEOROLOGICAL DATA, ETC.—Continued.

SAN FERNANDO UNION.

[$\phi=16° 37' N$; $\lambda=120° 19' E.$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.6	------	88	60	4	3	------	Ω a.
2	34.6	------	88	63	2	4	------	Ω a.
3	33.8	------	95	59	2	3	------	Ω a.
4	33.4	------	83	59	2	3	------	
5	34.8	------	82	64	2	6	------	
6	35.5	------	92	67	3	6	------	Ω a.
7	35	------	90	71	3	6	7.6	● a. ⌈ϟ² ●° p.
8	34.6	------	88	66	4	3	------	Ω a. T p.
9	33	------	88	63	2	3	------	Ω a. ϟ p.
10	33.4	------	90	69	4	3	------	Ω a.
11	33.4	------	93	71	2	3	------	Ω a. T p.
12	33	------	93	72	3	3	------	
13	34	------	88	57	3	3	------	ϟ p.
14	35	------	86	60	6	3	------	↙° p.
15	36.4	------	81	42	3	2	------	ϟ p.
16	35.2	------	------	55	2	3	------	
17	33.9	------	------	62	2	2	------	
18	34	------	------	62	3	3	------	T p.
19	35.2	------	84	51	6	4	------	⌈ϟ p.
20	35.6	------	------	46	4	5	35.6	● ⌈ϟ² p.
21	34	------	88	65	3	2	------	
22	34	------	------	57	3	3	1.5	Ω a.
23	34.2	------	90	64	6	6	------	d° a.
24	34.6	------	88	55	4	6	------	Ω a. T p.
25	34.6	------	92	57	2	2	------	Ω a. ϟ p.
26	34.6	------	90	55	2	2	------	T ⌒ d p.
27	35	------	90	54	6	3	------	ϟ p.
28	35.6	------	89	61	4	5	------	ϟ p.
29	34.5	------	86	59	6	4	------	ϟ p.
30	35.5	------	87	57	6	4	------	
Mean	34.4	------	88.4	60.1	3.5	3.6	------	
Total	------	------	------	------	------	------	44.7	

ECHAGÜE.

[$\phi=16° 41' N$; $\lambda=121° 39' E.$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	17.4	95	47	2	2	------	Ω² a.
2	------	21.1	97	48	9	2	------	◯° a. ↙° p.
3	------	18.7	97	51	2	3	------	Ω² ↙° a. ◯° ϟ p.
4	------	19.4	99	47	1	3	------	Ω° a.
5	------	18.5	99	57	1	4	------	Ω² ⊕° a. ↙° p.
6	------	18.7	98	48	1	3	------	Ω² a. ⊕° p.
7	------	19.3	99	50	2	4	3.8	Ω° ↙° a. ⌈ϟ ●² p.
8	------	20.6	98	50	3	5	------	≡ a. ⌈ϟ ↙° p.
9	------	21.5	99	56	9	4	3.8	●° d° ≡ a. ⌈ϟ ⊍°
10	------	19.4	100	58	4	4	.5	Ω° ≡² a. ⌈ϟ ⊖² d²
11	------	20.9	99	77	3	8	1	d² ∞° a. ⌈ϟ ⊍°
12	------	19.7	100	54	3	5	------	Ω² ≡² ⊕° ⌈ϟ d° ⊖²
13	------	19.5	99	48	8	7	------	Ω² ◯° a. ⌈ϟ ↙° p.
14	------	21.2	98	52	7	6	------	⌈ϟ a. p. ↙° ⊖° p.
15	------	21.3	95	46	8	5	------	⌈ϟ ↙° p.
16	------	20.4	96	49	2	5	------	Ω° a. ⌈ϟ ↙° a. p.
17	------	20.6	99	46	2	5	16.5	⌈ϟ ●² p.
18	------	20.7	99	62	10	4	.3	d² a. ⌈ϟ a. p.
19	------	21.9	98	51	8	6	------	◯° a. ⌈ϟ d° p.
20	------	22.1	97	79	9	4	------	⊕° a. ⌈ϟ p.
21	------	19.7	98	44	4	3	------	↙° ⌈ϟ p.
22	------	19.5	93	51	8	2	------	Ω° a. ↙° ⌈ϟ p.
23	------	21.9	93	50	4	5	------	⌈ϟ p.
24	------	20	98	43	2	4	------	Ω² a.
25	------	19.2	96	50	1	7	------	Ω² a. ↙° ⌈ϟ ●° p.
26	------	20.5	96	50	2	4	------	Ω° a. ⌈ϟ ↙° p.
27	------	19.3	98	54	3	7	------	Ω° ◯° a. ϟ p.
28	------	20.5	96	46	3	4	------	Ω° ◯° a. ↙° p.
29	------	20.6	98	66	4	8	------	Ω° ◯° a. ↙° ϟ p.
30	------	20.3	98	47	2	2	------	Ω° a. ϟ p.
Mean	------	20.1	97.5	52.6	4.2	4.5	------	
Total	------	------	------	------	------	------	25.9	

CANDON.

[$\phi=17° 12' N$; $\lambda=120° 26' E.$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	23.8	87	72	2	2	------	Ω² ≡ a.
2	30.7	23.9	88	62	7	2	------	Ω ≡ a. T° p.
3	31	23.7	86	63	4	0	------	Ω ≡ a. ϟ p.
4	30.7	23.6	82	67	2	0	------	Ω ≡ ↙° a. T° p.
5	31	24.2	86	60	5	0	------	Ω² ≡ ↙° a. ⊖ p.
6	31	25.5	84	65	2	4	------	Ω ≡ a. ↙° p.
7	31.4	24.8	81	60	3	7	1.5	Ω° ≡ a. ↙° ⌈ϟ° ●°
8	31.1	26	85	59	8	5	------	↙° a. ⊍ ϟ p.
9	31.2	24	81	68	0	1	------	Ω ≡ ↙° T° d ϟ
10	31.6	25	85	65	9	4	------	
11	31.4	25.4	80	68	5	4	------	≡ a. T° p.
12	31.7	24.2	85	60	3	2	------	Ω° ≡ a. ↙° p.
13	31.6	25	84	62	9	1	------	Ω ≡ ↙° a. T° ϟ
14	31.7	24.6	79	65	1	0	------	Ω ≡ ↙° a. ϟ p.
15	31.9	25	83	59	4	0	------	Ω ≡ a. ↙° T° p.
16	32.5	25	81	60	3	0	------	Ω ≡ ↙° a.
17	31.7	25.1	83	66	6	0	------	Ω ≡ ↙° a. T ϟ p.
18	31.4	23.2	86	61	2	0	------	Ω ≡ a. ↙° ϟ p.
19	31.6	23.2	76	59	9	4	1	Ω ≡ a. ↙° ⌈ϟ ●°
20	31.2	23.2	83	61	2	3	2	≡ a. ↙° d ⌈ϟ° ●
21	31.6	25.2	87	56	5	4	------	≡ a. d ϟ p.
22	32	25.5	78	62	2	0	------	≡ a. ↙° ϟ p.
23	32	24.7	80	61	7	4	------	Ω ≡ a. ↙° T° p.
24	32.5	26.5	76	55	6	0	------	≡ a. ϟ p.
25	31.6	25.1	79	63	0	1	------	≡ ↙° a. d ϟ p
26	32.2	25.9	79	60	6	1	------	≡ a. ↙° T° p.
27	32.5	24.9	77	58	8	2	------	ϟ p.
28	32.6	25.5	77	56	3	0	------	≡ a. ϟ p.
29	32.6	25.2	77	61	8	0	------	≡ a.
30	32.5	25.5	80	64	3	0	------	≡ ↙° a. T° ϟ p.
Mean	31.6	24.7	81.8	61.9	4.5	1.7	------	
Total	------	------	------	------	------	------	4.5	

LAOAG.

[$\phi=18° 12' N$; $\lambda=120° 35' E.$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	23	90	62	0	3	------	≡ a.
2	33	23.2	90	63	0	5	------	≡ a.
3	32.7	23.3	90	58	0	2	------	≡ a. T p.
4	32.5	22.6	89	63	0	3	------	≡ a. T p.
5	32.4	23.1	93	60	0	2	------	≡ a.
6	33	23.6	91	60	0	3	------	≡ a.
7	32.9	22.4	89	67	0	4	------	≡ a. ↙° ϟ p.
8	33.5	24	86	61	0	2	------	≡ a. ↙ T ϟ p.
9	35	22.7	88	43	0	1	------	≡ a. T p.
10	33.7	23.3	88	66	0	6	------	≡ a. T p.
11	33.3	23	92	55	0	2	------	≡ a.
12	33.8	22.9	93	47	0	1	------	≡ a.
13	33.9	23.6	79	59	0	2	------	≡ a.
14	33.6	23	83	61	0	1	------	≡ a.
15	34	23.5	89	54	0	2	------	≡ a. T ϟ p.
16	34.2	24.5	83	55	0	2	------	≡° a. ↙ p.
17	33.5	22.5	88	44	0	1	------	≡° a. ⊖ p.
18	35.1	21.4	91	40	0	2	------	≡° a. ⊖ p.
19	33.1	22.8	80	64	1	6	2.3	T ● p.
20	33.5	22.1	92	61	0	5	------	⌒ ϟ p.
21	33.1	23	92	55	3	4	------	T ϟ p.
22	33.7	22.9	84	55	1	3	------	ϟ p.
23	34	22.6	85	50	1	2	------	≡° a.
24	24.2	23.9	82	52	0	2	------	≡° a.
25	34.5	23.6	88	57	0	2	------	ϟ p.
26	33.6	23.3	85	63	0	3	3	T ● p.
27	34.1	23.4	92	58	1	3	------	ϟ p.
28	34.4	22.9	90	63	1	3	------	ϟ p.
29′	34.3	24	88	56	3	3	------	T p.
30	34.2	24.5	82	56	1	4	------	T p.
Mean	33.6	23.2	87.7	56.9	.4	2.8	------	
Total	------	------	------	------	------	------	5.3	

METEOROLOGICAL DATA, ETC.—Continued.

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.1	23.7	90	83	1	2	------	≡ ↙° a. ≡ Ω² p.
2	30.4	22	96	78	3	8	------	↙° d a. ≡ Ω p.
3	29.5	24.2	87	78	1	7	------	≡° a. ○ ↙° p.
4	29.8	24.3	85	76	4	3	------	↙° a. p. ≡ p.
5	29.8	24.1	78	74	1	0	------	≡ a.
6	30	25.1	88	76	2	5	1	●° p° a. ≡ Ω p.
7	29	22.7	92	86	2	9	6.1	● a. p. d Ω p.
8	29.8	25.2	85	80	4	5	------	≡ a. p. ⌐↘ p.
9	26	22.5	91	92	10	10	27.7	● a. p. ⊤ p.
10	29.2	23.2	85	71	6	2	3.8	d a. ≡° p° ◡ p.
11	29	23.1	95	78	10	4	27.7	●² a. d ≡ p.
12	29.6	25	82	72	2	4	------	≡ d ⌒ p.
13	30	25.2	82	73	1	4	------	v a. p° ↙° p.
14	29.7	23.9	84	68	1	2	15.5	Ω ●° a. ↙° ●° p.
15	26.3	23.2	93	88	10	10	13.7	●° a. ⌒² d Ω² p.
16	30.3	21.7	96	78	1	1	1.3	Ω d a. ≡ ↙° Ω²
17	29.2	23.5	88	78	1	5	------	Ω² a. ↙° p.
18	27.8	22.2	93	76	10	1	3	d a. ≡ p° p.
19	29.1	23.3	92	81	4	10	------	Ω² ↙° a. p° p.
20	28.8	24	83	81	10	10	------	d ⌒ ↙° p.
21	30.1	23.5	93	78	10	4	13.9	●² a. ≡ p.
22	29.4	24.7	89	81	10	9	------	Ω p.
23	29.3	23.4	93	76	10	5	------	≡ p.
24	30.9	23.8	88	71	3	1	2.5	●° v a. ≡ p.
25	30.7	26	84	76	3	4	------	≡ ↘° p.
26	30.9	25.8	86	76	1	3	------	
27	31	25.8	84	76	1	9	1.5	⌒ a. d ↙ p.
28	29.3	22.7	92	79	10	8	134.4	●² a. Ω² p.
29	29.8	22.8	93	84	7	8	------	Ω² a. p.
30	30.5	23.7	92	73	2	1	------	Ω² ↙° a. ≡ Ω² p.
Mean	29.5	23.8	88.6	77.9	4.7	5.1	------	
Total	------	------	------	------	------	------	252.1	

SEISMOLOGICAL BULLETIN FOR APRIL, 1908.

By Rev. Miguel Saderra Masó, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, $21^h\ 59^m\ 14^s$.* **Virac** (Catanduanes). Oscillatory quake. Direction N–S; intensity III; duration 4^s.

8, $15^h\ 50^m$. **Ormoc** (W of Leyte). Earthquake of intensity III; duration short.

12, $15^h\ 8^m$. **Virac** (Catanduanes). Oscillatory quake. Direction NNE–SSW; intensity II; duration 6^s.

13, $1^h\ 55^m$. **Jolo.** Oscillatory earthquake. Direction NE–SW; intensity IV; duration 10^s.

16, $8^h\ 9^m\ 52^s$.* **Butuan** (N of Mindanao). Earthquake of intensity III and 20^s duration. It was felt with greater intensity at Talacogon, which is 45 kilometers south of Butuan, an indication that the origin must be sought in the valley of the Agusan River. The shock has been registered by the microseismographs at Manila and the duration of the preliminary movements locates the origin at a distance slightly in excess of 900 kilometers from Manila, which corresponds with the distance of the well-known focus near the Agusan.

26, $1^h\ 38^m$. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction SSW–NNE; intensity II; duration short.

30, $23^h\ 5^m$. **Sumay** (Guam). Earthquake of intensity III.

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight = 0^h.]

No.	Date.	Component.	Beginning. First preliminary tremors.	Beginning. Second preliminary tremors.	Beginning. Principal portion.	Maximum range of motion. Hour.	Maximum range of motion. Amplitude (2 a.).	Maximum range of motion. Period.	End.	Instrument.	Remarks.
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
54	1	NNW-SSE	21 59 14	----------	21 59 55	22 00 12	0.03	2.4	22 06	V. M.	Earthquake, III, at Virac (Catanduanes Island).
		WSW-ENE	21 59 03	----------	21 59 56	22 00 13	.03	2.4	22 05	V. M.	
55	2	NNW-SSE	9 08 16	----------	9 10 11	----------	------	------	9 15	V. M.	Vertical C. 0.03 mm.
		WSW-ENE	9 08 12	----------	9 10 05	----------	------	------	9 15	V. M.	
		WSW-ENE	9 08 27	----------	----------	----------	------	------	9 16	H. P.	
56	3	NNW-SSE	----------	----------	19 56 06	----------	------	------	19 59	V. M.	
57	4	NNW-SSE	14 27 00	14 32 47	14 38 43	----------	------	------	15 00	V. M.	Earthquake in India.
		WSW-ENE	14 27 06	14 33 00	14 38 39	14 39 18	.04	8.4	15 06	H. P.	
58	7	NNW-SSE	9 18 13	9 23 17	----------	----------	------	------	9 50	V. M.	
		WSW-ENE	9 18 12	9 24 09	----------	----------	------	------	9 54	V. M.	
		WSW-ENE	9 18 13	9 24 08	----------	----------	------	------	9 50	H. P.	
59	9	NNW-SSE	22 48 53	----------	----------	----------	------	------	22 52	V. M.	
60	10	NNW-SSE	7 51 52	----------	7 58 56	8 03 01	.01	8	8 30	V. M.	
		WSW-ENE	7 51 41	----------	7 59 08	8 04 06	.10	10.2	8 43	H. P.	
61	13	NNW-SSE	17 26 38	----------	17 26 45	17 27 17	.24	2.4	17 34	V. M.	V. C. 0.06 mm.
		WSW-ENE	17 26 32	----------	17 26 47	17 27 18	.16	2.6	17 32	V. M.	
62	15	WSW-ENE	----------	----------	21 37 47	----------	------	------	21 41	V. M.	

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.

RECORDS OF THE MICROSEISMOGRAPHS—Continued.

No.	Date.	Component.	Beginning.			Maximum range of motion.			End.	Instrument.	Remarks.
			First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2 a.).	Period.			
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
63	16	NNW-SSE	8 09 52	8 11 40	8 13 34	----------	------	------	8 27	V. M.	Earthquake, III, at Butuan (N of Mindanao).
		WSW-ENE	8 09 48	8 11 51	8 14 00	----------	------	------	8 27	V. M.	
		WSW-ENE	8 09 47	8 11 45	8 13 39	8 14 35	.04	10.8	8 29	H. P.	
64	19	NNW-SSE	16 04 22	----------	----------	16 09 27	.38	2.4	17 15	V. M.	V C. 0.10 mm.
		WSW-ENE	16 04 18	----------	----------	16 09 15	1.18	2.4	17 10	V. M.	
		WSW-ENE	16 04 15	----------	----------	16 08 36	1.47	6.6	17 15	H. P.	
65	23	NNW-SSE	7 58 17	----------	----------	----------	------	------	9	V. M.	
		WSW-ENE	7 58 09	----------	----------	----------	------	------	9	V. M.	
		WSW-ENE	7 58 08	----------	----------	8 11 58	.15	9.9	9 08	H. P.	
66	23	NNW-SSE	17 13 36	----------	----------	----------	------	------	17 38	V. M.	
		WSW-ENE	17 13 34	----------	----------	----------	------	------	17 38	V. M.	
		WSW-ENE	17 13 43	----------	----------	----------	------	------	17 39	H. P.	
67	27	NNW-SSE	12 57 33	----------	----------	----------	------	------	13 30	V. M.	
		WSW-ENE	12 57 27	----------	----------	----------	------	------	13 22	V. M.	
		WSW-ENE	12 57 35	----------	----------	----------	------	------	13 31	H. P.	
68	28	NNW-SSE	7 45 00	----------	----------	----------	------	------	7 50	V. M.	
		WSW-ENE	7 44 58	----------	----------	----------	------	------	7 51	V. M.	

Instrumental constants.—Vicentini microseismograph (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=10.5 seconds; WSW–ENE pendulum, T=10 seconds. Magnification of the record: NNW–SSE, 15 times, WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters which extends many kilometers toward north and south and only four to the east, where volcanic tuff outcrops. To the west there lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS[1].

1, 21^h 59^m 14^s.* **Virac** (Catanduanes). Temblor oscilatorio. Dirección N–S; intensidad III; duración 4^s.

8, 15^h 50^m. **Ormoc** (W de Leyte). Temblor de tierra de intensidad III; duración corta.

12, 15^h 8^m. **Virac** (Catanduanes). Temblor oscilatorio. Dirección NNE–SSW; intensidad II; duración 6^s.

13, 1^h 55^m. **Joló.** Temblor oscilatorio. Dirección NE–SW; intensidad IV; duración 10^s.

16, 8^h 9^m 52^s.* **Butúan** (N de Mindanao). Temblor de tierra. Intensidad III; duración 20^s. Sintióse con mayor intensidad en Talacogon situado 45 kilómetros al sur de Butúan; lo cual indica que el origen se hallaba en el valle del Río Agusan. Fué registrado en el Observatorio por los microseismógrafos y la duración de los movimientos preliminares coloca su origen á poco más de 900 kilómetros de Manila, distancia correspondiente al conocido foco Agusano.

26, 1^h 38^m. **Butúan** (N de Mindanao). Temblor oscilatorio. Dirección SSW–NNE; intensidad II; duración corta.

30, 23^h 5^m. **Súmay** (Guam). Temblor de tierra de intensidad III.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120 E de Greenwich.

77357——4

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1890–1907.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF APRIL.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance.		Intensity (Rossi-Forel).	Remarks.
				Longer axis.	Shorter axis.		
1890	*h. m.*			*Km.*	*Km.*		
7	6 15	Southwestern Luzon	S of Taal Volcano	100	60	IV	
13	14 4	Northern Luzon	N part of Central Range	150	140	V	
13	20 0	do	do	140	100	V	
16	11 30	Cuyo Island				III	
20	8 49	Southeastern Luzon	Near the Bulusan Volcano	60	50	III	
1891							
5	5 14	Cotabato, S Mindanao	Illana Bay	200	80	V	
5	5 35	Jinatuan, E Mindanao	Off the eastern coast	150	60	V	
15	5 53	Albay, SE Luzon	Near Mayon Volcano	60	50	IV	
20	5 7	City of Manila	N of Lake Bay	40	30	III	
24	5 2	do		10	8	II	
1892							
3	7 3	Pangasinan Province	NW part of the province	100	70	IV	
7	16 51	Nueva Vizcaya	About φ=16° 20′; λ=121° 4′	220	160	V	
9	13 28	do	do	90	90	III	Repetition 40 minutes later.
15	11 26	Pangasinan Province	N part of the province	100	80	V	
17	18 50	Abra Province	Central Range of Luzon	80	80	IV	
22	10 0	Batanes Islands and N Luzon	SW of Formosa	180	70	V	One of the most violent in Formosa; felt likewise on the eastern coast of China.
23	12 44	City of Manila		8	7	II	
1893							
1	11 11	Southern Luzon	Near the S coast	170	170	IV	
7	19 2	Northeastern Mindanao	Off the NE coast	80	40	III	
11	3 56	Batanes Islands				III	
12	8 46	Dapitan, NW Mindanao	E Sulu Sea			III	
12	13 48	SE Luzon and Samar	N of Masbate	300	180	V	
16	3 18	Ilocos Norte	Near NW coast	150	80	III	
24	15 20	City of Manila		10	8	II	
25	20 29	Southern Luzon	S of Banajao Volcano	220	140	IV	
1894							
1		Eastern Mindanao	Agusan River Valley			IV	
2	2 34	Central Luzon	N Pangasinan	450	230	V	
5	5 10	City of Manila		10	8	II	
9		Eastern Mindanao	Agusan River Valley			IV	
14		do	do			IV	
18	21 23	City of Manila		10	8	II	
23	7 26	Batanes Islands	S of the group			III	
24	15 22	Southeastern Panay	About φ=10° 50′; λ=122° 20′	80	70	III	
26	16 10	Albay Province	Near Mayon Volcano	120	80	V	Felt at Manila by the Bertelli tromometer.
28	20 40	Northeastern Mindanao	Near NE coast	100	70	IV	
29	22 8	do	do	60	40	III	
30	12 10	do	do	60	40	III	
1895							
20	6 37	Tayabas Province	S of Banajao Volcano	150	140	IV	Slight aftershock at 7^h 40^m.
27	5 23	Northeastern Mindanao	Near Lake Mainit	70	50	III	
1896							
17		Tandag, NE Mindanao	Off the NE coast	80	40	III	
24	21 35	Albay, SE Luzon	Near Mayon Volcano	40	30	IV	
28		Iloilo, E Panay				III	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF APRIL—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1897	*h. m.*			*Km.*	*Km.*		
1	21 30	Eastern Mindanao	Agusan River Valley	210	120	IV	
8	21 20	do	do	400	200	VIII	Slight aftershock at 23ʰ 8ᵐ. Registered in Europe.
9	10 8	do	do	100	60	III	
13	13 26	City of Manila		10	8	III	
15	15 8	Eastern Mindanao	Agusan River Valley	110	80	IV	
16	3 15	Bolinao, NW Luzon	N of Zambales Range	50	30	III	
22	15 13	Northeastern Mindanao	Near Lake Mainit	100	50	IV	
23	22 49	do	do	100	50	V	
28	2 32	do	do	80	40	IV	
29	23 30	do	do	80	40	III	
30	8 8	Eastern Mindanao	Agusan River Valley	200	90	IV	
1898							
4	6 6	Tandag, NE Mindanao				IV	
4	22 1	Zamboanga, W Mindanao				III	
5	21 6	do				III	
10	18 4	Tandag, NE Mindanao				III	
18	12 1	Zamboanga, W Mindanao				III	
20	4 36	Tandag, NE Mindanao				IV	
22	4 8	Zamboanga, W Mindanao				III	
24	11 39	do				II	
1899							
13	8 9	do				II	
13	20 1	City of Manila				II	
1900							
25	7 14	Manila				II	Earthquake in the Celebes at about the same hour.
27	7 8	Eastern Mindanao	Agusan River Valley	200	140	V	Repeated some minutes later.
1901		None					
1902							
2	6 48	Western Luzon	S Zambales Range	60	40	III	
2	7 7	City of Manila		10	9	II	
12	13 58	Southern Negros	Near Magaso Volcano			IV	Repeated at 14ʰ 10ᵐ.
13	8 25	do	do			IV	Repeated at 15ʰ 4ᵐ.
17	14 35	Ilocos Sur	Off the Ilocos coast	100	60	III	
18	7 35	City of Manila		20	18	III	
29	6 11	Northeastern Mindanao	Near Lake Mainit	150	60	IV	
1903							
5	1 56	Northeastern Luzon	NE end of Luzon	110	50	IV	Registered at Manila.
7	4 28	do	do	100	50	III	
19	17 27	Southeastern Mindanao	SE end of Mindanao	100	80	III	
22	8 36	Southeastern Luzon	S of Catanduanes Island	110	100	IV	Do.
22	10 11	Northern Panay	Near N coast	100	60	III	
26	7 22	Northeastern Mindanao	Near Lake Mainit	100	60	III	
28	15 35	Camarines Province	SE of St. Miguel Bay	100	40	III	
28	17 50	Southeastern Mindanao	S of Davao Gulf	200	140	V	Do.
1904							
4	9 48	Northeastern Luzon	NE end of Luzon	100	60	III	
7	4 17	Batanes Islands	S of the group			IV	Do.
10	22 18	Southeastern Mindanao	Near SE coast	100	60	III	
18	12 15	Southern Leyte	SE end of Leyte	50	40	IV	
19	18 10	do	do	50	40	IV	
21	0 58	Ilocos Sur	Near the Ilocos coast	60	40	III	
26	20 19	Batanes Islands				III	
27	2 44	SE Luzon and Samar	N of Masbate Island	220	150	V	Do.
28	2 40	Southeastern Mindanao	Near SE coast	100	40	III	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF APRIL—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1905	*h. m.*			*Km.*	*Km.*		
8	11 10	Southeastern Mindanao	Near SE coast	100	40	III	Registered at Manila.
9	16 14	do	do	110	60	IV	Do.
12	8 28	Laguna Province	E of Lake Bay	80	40	IV	
14	15 23	Pangasinan and Zambales	N Zambales Range	100	100	IV	Do.
21	4 58	Eastern Visayas	Near center of Leyte	300	180	V	Do.
22	5 54	Ormoc, W Leyte	do	100	60	III	Repeated at 6^h.
23	3 31	Western Luzon	Zambales Range	80	80	III	Registered at Manila.
23	8 52	Ilocos Sur	Near the Ilocos coast	70	40	III	
24	1 43	do	do	60	40	III	
24	16 6	Southeastern Luzon and Masbate	NW of Masbate	200	80	V	Do.
25	22 10	Ilocos Sur	Near the Ilocos coast	60	20	II	
1906							
2	11 27	Batanes Islands	S of the group			V	Preceded by slight shocks at $11^h 9^m$, $11^h 20^m$, and $11^h 22^m$.
2	20 32	Southeastern Mindanao	Near the SE coast	80	20	II	
5	21 19	Northeastern Mindanao	Off the NE coast	120	80	IV	Slight aftershock at $21^h 40^m$.
6	2 17	NE Mindanao and S Samar	do	300	90	IV	Slight aftershock at $7^h 7^m$.
6	9 30	Southeastern Mindanao	Near the SE coast	100	60	III	
11	9 32	Northern Cebu	S of Masbate	80	30	II	
12	19 40	Southeastern Mindanao	Near the SE coast	100	60	III	
13	19 30	Northern Mindanao	Near Camiguin Volcano	70	50	III	
14	14 30	Southeastern Mindanao	Near the SE coast	60	20	II	
21	16 30	Northwestern Samar	SE of Masbate	80	40	III	
21	18 45	Southeastern Mindanao	Near the SE coast	60	20	II	
25	9 34	Central Mindanao	N of Apo Volcano	480	300	V	Registered at Manila.
1907							
7	8 26	Batanes Islands	S of the group			II	Repeated at $14^h 50^m$.
10	16 25	Northern Cebu	S of Masbate	80	30	II	
14	9 34	Samar and NE Leyte	Near E coast of Samar	220	100	V	
19	5 0	Camarines Province	About $\varphi=13° 30'$; $\lambda=123°$	600	200	IX	Some 24 aftershocks of intensity III and IV were felt during the 19th.
19	7 53	do	do	550	200	VII	
20		do	do	150	80	III	Six aftershocks.
21		do	do	150	80	III	Two aftershocks.
22		do	do	150	80	III	Three aftershocks.
22	11 0	Western Mindanao	SE Sulu Sea	80	50	II	
23	0 2	Camarines Province	About $\varphi=13° 30'$; $\lambda=123°$	150	80	IV	Two aftershocks.
26		do	do	150	80	II	Do.
27		do	do	150	80	II	Do.
29		do	do	150	80	III	Do.
30		do	do	150	80	III	Three aftershocks.

BULLETIN FOR MAY, 1908.

METEOROLOGICAL BULLETIN FOR MAY, 1908.

By Rev. JOSÉ CORONAS, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The monthly mean of atmospheric pressure for all the stations of the Weather Bureau is below the normal of this month, and, likewise, lower than the mean for May of the preceding year. The differences are greater for the stations in the north and west of Luzon, that is to say, in the portion of the Philippines nearer to the cyclonic center of which we shall speak later. The maximum pressure was registered on the 20th in the southern part of the Archipelago, and on the 14th or 15th in the northern part. The minimum took place in all the stations on the 27th or 28th.

With few exceptions, the monthly means of temperature are somewhat below those of the corresponding month of the preceding year. As regards Manila, the mean for the month differs from the normal of May by —1.3 °C. and from the average of May, 1907, by —1.5 °C. Slightly inferior to this was the difference for the station of San Isidro in the interior of Luzon, as is shown in the following table:

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, MAY, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from May, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from May, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.83	—0.41	759.39	20	756.13	27	28	+0.3	35.4	8	23	4,5
Surigao	58.07	----------	59.59	20	56.21	27	27.7	----------	33.6	11,26	22	6
Cebu	58.01	— .26	59.56	20	56.13	27	27.9	+ .2	33.5	30	23.3	6
Iloilo	58.18	— .37	59.66	20	56.10	27	27.7	— .2	34.9	4	21.9	28
Ormoc	58.20	— .42	59.68	20	56.29	27	26.5	+ .2	33.1	8	20.3	6
Tacloban	58.30	— .53	59.86	20	55.96	27	27.8	— .2	34.4	26	23	29
Capiz	58.24	----------	59.66	20	55.85	28	27.6	----------	34.2	13	20.2	6
Calbayog	58.39	— .53	59.96	15	55.92	27	27	— .2	34.3	10	21.5	5,6
Legaspi	58.15	— .43	60.20	15	54.79	28	27.4	— .7	33.6	11,30	21.9	4
Atimonan	57.96	— .63	60.25	15	52.89	28	27.9	— .9	35.3	10,11	22	13
Olongapo	57.53	—1.02	59.73	15	52.14	28	27.2	— .3	36.2	14,15	23	22,28
San Isidro	57.81	— .84	60.22	15	51.47	28	27.4	—1.3	37.4	4	22.4	13
Dagupan	57.33	— .92	59.64	14	50.48	28	28	— .4	38.9	21	22.2	22
Vigan	57.32	—1.03	59.92	15	46.74	28	28.6	+ .3	36.7	19	23	22
Tuguegarao	57.30	—1.30?	60.12	14,15	45.41	28	28.5	— .1	37.8	17	21.4	30
Aparri	57.69	—1.02	60.46	14	44.46	28	27.2	— .1	33.7	16	21	30

Precipitation.—The amount of rainfall for this month was almost everywhere throughout the Philippines superior to that of the former year. It was due, no doubt, to the influence of the typhoon mentioned above. The records of the Central Observatory show that the total monthly precipitation for Manila is the greatest ever recorded in May since the foundation of the Observatory in 1865. It differs from the normal of the month by +365.9 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF MAY, 1908.

Station.	Total.	Departure from May, 1907.	Rainy days.	Departure from May, 1907.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from May, 1907.	Rainy days.	Departure from May, 1907.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	192.1	-------	14	------	42.7	9	Virac	84	-------	13	------	18.3	30
Isabela, Basilan	99.6	− 21.8	9	− 6	33.8	17	Batangas	227.9	+205.6	15	+12	45.5	28
Davao	262	+ 39.2	9	0	46.2	25	Atimonan	209.1	+184.6	18	+14	41.2	22
Dapitan	13.4	− 16.9	7	− 3	3.8	2	Silang	276.7	+217.5	22	+16	69.1	27
Butuan	61.3	− 30.1	11	− 2	17.8	14	San Antonio, Laguna	161	+ 94.6	13	+ 1	27.4	27
Yap, W. Carolines	247.8	+ 13.7	20	0	46	25	Corregidor	419	+363.6	14	+10	107.2	28
Tagbilaran	47.4	+ 14.7	9	− 1	20.1	13	Manila	476.5	+414.3	21	+13	121.6	29
Surigao	67.6	-------	12	------	15.5	16	Balanga	691.2	+675.1	18	+11	234.2	28
Maasin	73.1	+ 25.1	2	− 5	64.5	17	Olongapo	438.1	+348.3	18	+ 6	89.9	28
Cebu	63.3	− 37.7	10	0	43.9	19	San Isidro	403.7	+349.2	21	+15	55.3	28
Bacolod	206.2	+ 51.5	14	+ 2	39.4	28	Tarlac	346.5	+188.3	21	+ 6	58.7	2
Iloilo	221.9	+194.1	17	+ 8	56.4	27	Baler	413.4	+202.7	22	+16	85.1	29
San Jose Buenavista	313.4	+246.4	18	+10	94.5	27	Dagupan	340.1	+209.8	20	+ 9	78.5	21
Tuburan	56.2	+ 13.4	5	− 3	23.4	17	Bolinao	327.2	+ 84.2	17	+ 2	67.6	21
Ormoc	63.7	− 29.4	15	− 1	14	1	Baguio, Benguet	585.6	+185	23	+ 5	234.9	28
Tacloban	119	+ 59.5	14	+ 4	21	28	San Fernando, Union	215	-------	13	------	50.8	29
Capiz	147	-------	15	------	39.9	13	Echague	217.5	-------	18	------	38.4	31
Borongan	155.5	+ 60.6	11	− 2	38.4	16	Candon	267.3	-------	10	------	104.9	28
Calbayog	134.5	+ 75.8	15	+ 1	24.1	19	Vigan	333.3	+ 89.9	12	0	136.6	28
Palanoc, Masbate	82.6	+ 48.5	13	+ 4	19.3	17	Tuguegarao	41.9	− 26.4	7	− 4	14.2	22
Romblon	259.7	+203.5	16	+10	50.5	29	Laoag	297.9	-------	11	------	207	28
Laoang	74	-------	11	------	19.3	31	Aparri	338.5	+292.3	13	+ 5	111.5	21
Gubat	139.2	+ 51.4	13	+ 2	35.3	2	Santo Domingo	389.5	+ 95.3	18	0	93.5	24
Legaspi	141.7	+ 40.4	18	+ 7	41.7	11							

DEPRESSIONS AND TYPHOONS.

Only one typhoon really exerted any influence on the weather in the Philippines during the month of May. Nevertheless, we must mention another experienced in the Pacific by the American barkentine *Kohala* so as not to deprive our readers of the excellent observations which were kindly sent to us by the captain of said barkentine, Mr. F. K. Dedrick:

TYPHOON OF MAY 7 TO 10, 1908.

It is not our intention to describe the track of this typhoon as it would be impossible with the few data we possess. We have already stated that it did not influence the weather in the Philippines. Besides, the observations of Yap, western Carolines, and Guam, Ladrone Islands, scarcely give any indication of such a typhoon, although we can probably attribute to it the winds from SW which prevailed in the former station on the 4th and 5th, and most especially the light swell from NW observed in the latter station during the 11th. Finally, although the observations of Japan and the weather maps of Tokio for the 11th and 12th indicate the existence to the south of one or several areas of low pressure, still it is impossible to identify them with the typhoon of the *Kohala*.

We give the observations and interesting remarks of Mr. Dedrick:

METEOROLOGICAL OBSERVATIONS ABOARD THE BARKENTINE "KOHALA," MAY 7 TO 10, 1908.

Date and hour.	Latitude N.		Longitude E.		Barometer.	Remarks.
	°	′	°	′	*mm.*	
7, noon	19	14	135	36	759.45	Light easterly winds with rain showers. Swell from SSW increasing rapidly. Overcast and gloomy sky.
8, noon	18	32	132	36	758.94	Strong SE winds. Heaviest sea from SSW to SW. Heavy squalls at times.
8, 3 p. m	18	32	132	36	754.37	Hard gale from SE. Terrific sea from SW by W; constant rain and heavy squalls. We were involved in a typhoon with the center bearing SW.
8, 8 p. m	18	32	132	36	751.32	Very hard gale from SE with terrific squalls and heavy confused sea from WSW.
8, midnight	18	32	132	36	750.50	From midnight to 8 a. m. wind hauled from SE to S, the center of the storm evidently passing W of ships's position.
9, noon	19	24	133	14	750.81	Hard gale from south, terrific cross sea. At midnight still a hard gale, but inclined to moderate.
10, noon	19	55	134	00	755.38	4 a. m. wind moderating rapidly and hauling to SW. 8 a. m. moderate gale from SW, weather clearing. Noon moderate breeze from SW. The storm has evidently passed to the northward.

These observations, especially the remarks referring to the direction of the winds and waves, clearly indicate the successive positions of a well-developed cyclonic center to the SW, W, NW, and N of the position of the barkentine *Kohala*. This vortex could not have passed very far from the barkentine, but in all probability was located on the 8th between 130° and 132° long. E, moving northward.

TYPHOON OF MAY 23 TO 31, 1908.

It is, indeed, very rare the case of a typhoon which, having been formed in the China Sea, moved to the NE and acquired so great a development as the one which we will now study briefly.

Origin of the typhoon.—The weather reports of the Manila Observatory for the 23d and 24th read as follows:

May 23, 12.20 p. m.: Pressure is relatively low over the central China Sea, where there seems to be a depression about west of southern Luzon.

May 24, 11.35 a. m.: The depression reported yesterday about west of southern Luzon lies at present west-northwest of Bolinao Peninsula.

Similar to these, were the weather reports issued by the Director of the Hongkong Observatory:

May 23, 11.55 a. m.: The barometer is still inclined to fall at the stations around the China Sea, and conditions favor the formation of a depression over the middle part of this area.

May 24, 11.55 a. m.: There are still indications of the existence of a low pressure area over the China Sea, probably between Luzon and the Paracels.

After examining carefully all the data we could get on the subject, we think it very probable that this typhoon was developed within the area of low pressure which appeared on the 22d or 23d in the neighborhood of the Paracels, and that it remained almost stationary or moving very slowly until the 27th, when it began to move decidedly northeastward coming nearer to northwestern Luzon.

In confirmation of this we will copy here a part of a report which we owe to the kindness of Mr. Alfredo Garriga, captain of the steamer *Isla de Panay* of the Compañía Trasatlántica. This steamer left Singapore for Iloilo at 5 p. m. of the 22d and notwithstanding the great distance from the vortex, as shown by the barometric readings, it felt clearly the influence of the typhoon from the 24th to the 27th.

May 24: In the early morning of the 24th, the winds from the SW quadrant set in and gradually freshened. The position of the ship at noon was 6° lat. N, 109° 53′ long. E.

May 24–25: At nightfall fresh winds from the WSW and high seas from the same direction. Mercurial barometer: 759.5 millimeters. During the night fresh winds from WSW and SW. On the morning of the 25th wind from the same direction. Position of ship at noon 6° 33′ lat. N, 113° 46′ long. E.

May 25–26: Fresh and variable winds from the SW quadrant with heavy sea from same direction. In the evening of the 25th weather rather uncertain. Heavy cumulus appeared intensely red at sunset. Barometer at 6 p. m.: 756.9 millimeters. On the following morning we entered the Balabac Strait after having observed during the night, as we approached the coast, *a swell from the NW*, confused but *of considerable importance.* The barometer at 9 a. m. of the 26th: 756.9 millimiters. The wind calmed in the strait, but set in strong from SW and SSW as we steamed from the coast.

May 26–27: At 3 p. m. barometer: 754.4 millimeters with strong winds from the SSW. From midnight till 6 a. m. there were continual rain squalls with light winds, the rain at times completely walling us in, while lightning flashed continuously accompanied by some thunderclaps. At 7 a. m. the rain ceased and strong winds set in from the SW and SSW.

May 27–28: At 3 p. m. of the 27th we anchored in Iloilo amid heavy rain squalls with strong winds which continued during the night. At noon of the 28th a violent squall from the SW with light rain struck the SW coast of Panay.

We call special attention to the sea from the NW which was observed before the arrival in the Balabac Strait; this evidently was the swell proceeding from the cyclonic vortex which was situated, as stated above, in the vicinity of the Paracel Islands; that is, to the NW of the *Isla de Panay*.

The typhoon to the W of northern Luzon.—The Manila Observatory sent to all the stations of the Weather Bureau this typhoon warning at 8 a. m. of the 27th:

Typhoon in China Sea approaching northwest end Luzon.

And at 11.45 a. m. of the same day the following report was sent to the newspapers at Manila:

The typhoon in the China Sea lies at present west-southwest of the Balintang Channel and moves slowly probably to the NE. Rough weather in the China Sea between parallels 13° and 22° N.

At 7.45 of the 27th the following telegram was cabled to the China coast, Indochina, Formosa, and Japan:

The typhoon nearing west Balintang Channel moving probably northeastward.

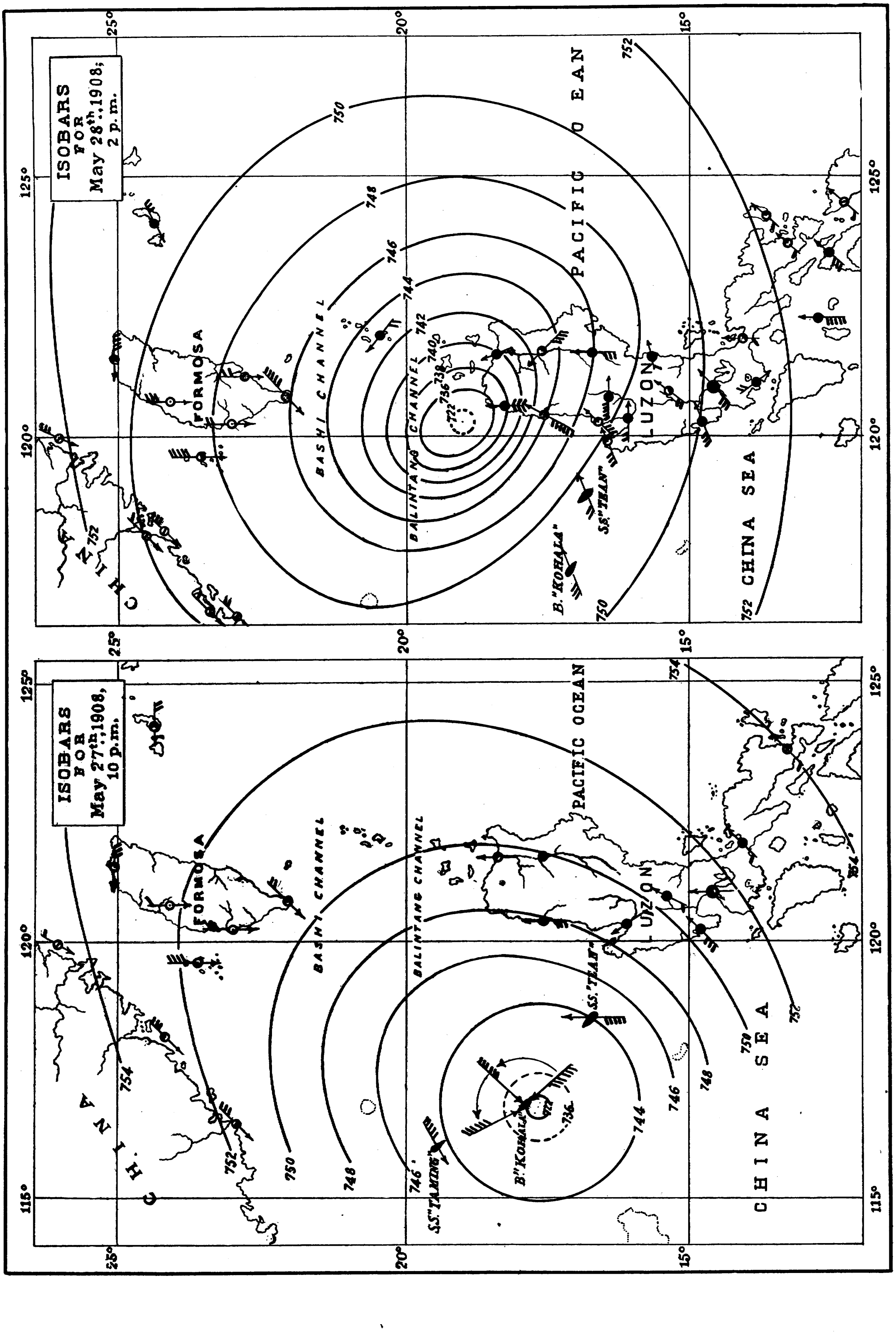
It is hardly necessary to state that the observations, which enabled most the Observatory to give these timely warnings, were those received from the stations on the western coast of Luzon.

In the following table we give some of the observations taken at Manila, Bolinao, and Vigan, as we believe they will prove of special interest to our readers:

Date.	Manila.						Bolinao.						Vigan.					
	Pressure, 700 mm. +	Difference in 24 hours.	Wind.		Rainfall. (Daily total.)	Weather.	Pressure, 700 mm. +	Difference in 24 hours.	Wind.		Rainfall. (Daily total.)	Weather.	Pressure, 700 mm. +	Difference in 24 hours.	Wind.		Rainfall. (Daily total.)	Weather.
			Direction.	Force.					Direction.	Force.					Direction.	Force.		
May 23:	*mm.*	*mm.*		*0–12.*	*mm.*		*mm.*	*mm.*		*0–12.*	*mm.*		*mm.*	*mm.*		*0–12.*	*mm.*	
6 a. m.	57.21	—1.53	Calm	----	----	o	56.02	—0.77	Calm	----	----	o	57.28	—1.67	E	1	----	o
2 p. m.	55.51	—1.41	SE	1	3.7	o	55.50	—1	Calm	----	12.2	o	56.31	— .35	NW	2	7.1	o
May 24:																		
6 a. m.	57.40	+ .19	ESE	0	----	c	55.65	— .37	Calm	----	----	o	56.46	— .82	E	1	----	o
2 p. m.	55.55	+ .04	SE	3	.5	o	54.93	— .57	SW	1	33.8	o	55.58	— .73	NNW	2	46.2	c
May 25:																		
6 a. m.	56.82	— .58	Calm	----	----	o	55.34	— .31	S	1	----	od	56.13	— .33	S	1	----	o
2 p. m.	55.32	— .23	WSW	3	30	or	53.79	—1.14	S	1	34.3	o	54.18	—1.40	NW	2	41.1	o
May 26:																		
2 a. m.	55.55	—1.60	E	0	----	----	53.70	—1.90	----	----	----	----	54.69	—1.62	ESE	1	----	c
6 a. m.	55.69	—1.13	ESE	0	----	o	53.04	—2.30	S	2	----	o	54.49	—1.64	E	1	----	b
10 a. m	56.38	— .99	ESE	1	----	o	53.93	—1.57	S by E	1	----	od	54.87	—1.22	NNW	1	----	o
2 p. m.	54.53	— .79	SE	1	----	o	53.81	+ .02	SSE	1	----	or	53.84	— .34	W	1	----	o
6 p. m.	55.44	— .56	ESE	0	----	od	52.19	—1.61	Calm	----	37.6	or	53.73	—2.12	E	1	----	od
10 p. m.	56	—1.20	SE by S	2	13.5	----	52.80	—1.90	----	----	----	----	53.11	—3.03	NE	1	2	o
May 27:																		
2 a. m.	54.15	—1.40	SE	1	----	----	51.60	—2.10	----	----	----	----	52.41	—2.28	E	1	----	o
6 a. m.	54.10	—1.59	SE	1	----	o	51.11	—1.93	SE	4	----	rq	52	—2.49	SE	1	----	or
10 a. m.	54.79	—1.59	SE	1	----	od	51.29	—2.64	SE	2	----	od	52.76	—2.11	ESE	1	----	or
2 p. m.	53.42	—1.11	SSE	1	----	od	48.83	—4.98	Calm	----	----	or	50.24	—3.60	S	2	----	or
6 p. m.	52.37	—3.07	S by W	1	----	or	47.80	—4.39	SSW	2	66.3	o	49.46	—4.27	SSE	4	----	rq
10 p. m.	53.35	—2.65	S	5	46.6	q	48.20	—4.60	----	----	----	----	49.88	—3.23	S	6	35.8	rq
May 28:																		
2 a. m.	52.05	—2.10	S by W	2	----	r	46.70	—4.90	----	----	----	----	46.10	—6.31	SE	10	----	rq
4 a. m.	51.40	—2.40	SSW	2	----	r	46.10	—5.10	----	----	----	----	44.74	—7.16	SE	12	----	rq
6 a. m.	51.64	—2.46	SSW	2	----	o	46.41	—4.70	SW	6	----	oq	44.13	—7.87	SSW	12	----	rq
8 a. m.	52.29	—2.08	SSW	5	----	rq	47.84	—3.22	SW	2	----	oq	44.77	—7.37	S	12	----	rq
10 a. m.	53.42	—1.37	SSW	5	----	oq	47.99	—3.30	SW	1	----	o	45.03	—7.73	SSW	12	----	rq
Noon	52.52	—2.21	SW by S	4	----	oq	48.70	—1.26	----	----	----	----	45.18	—5.38	SSW	12	----	rq
2 p. m.	52	—1.42	SW	5	----	oq	48.71	— .12	WSW	5	----	oq	45.66	—4.58	SSW	11	----	rq
4 p. m.	51.61	— .52	WSW	6	----	oq	48.96	+1	WSW	3	3.8	dq	46.88	—2.07	WSW	10	----	rq
6 p. m.	52.14	— .23	SW by W	6	----	rq	49.40	+1.60	----	----	----	----	48.93	— .53	W	6	----	rq
10 p. m.	54.30	+ .95	WSW	5	43.7	rq	51	+2.80	----	----	----	----	50.87	+ .99	W	6	136.6	rq

The isobars and the position of the cyclonic center at 10 p. m. of the 27th are represented in the first small map of Plate II.

Plate II.



N.B.-The barometric readings have been corrected to standard gravity.

We publish here in three different tables some of the splendid observations and reports for which we are greatly obliged to the captains of the steamers *Tean* and *Taming* and the barkentine *Kohala*. Those of the *Kohala* are extremely interesting: the vortex passed very near to the S and E of the ship; and according to a letter of the Captain to the Director of this Observatory dated June 26th, "if the hurricane had lasted much longer it is doubtful that they would have escaped from entire disaster."

METEOROLOGICAL OBSERVATIONS MADE ON BOARD STEAMER "TEAN" MAY 26 TO 28.

[Captain, Mr. A. W. Outerbridge.]

Day and hour.	Position.		Pressure.	Wind.		Remarks.
	Latitude N.	Longitude E.		Direction.	Force.	
May 26:	° ′	° ′	*mm.*		*0–12.*	
5 p. m.	Manila.		755.52	SW	3	SW winds, squally, with thick rain. 2d typhoon signal hoisted.
May 27:						
6 a. m.			52.22	S	3	1.20 a. m fresh increasing south wind and cross sea. Noon hove ship to with head west. Wind steady at south, rapidly increasing with furious squalls; high sea from S. and SW. Midnight wind hurricane force from S, with fierce squalls, incessant rain, thick.
Noon	16 8	118 55	49.93	S	7	
4 p. m.			46.88	S	8	
8 p. m.			46.38	S	10	
Midnight			44.60	S	12	
May 28:						
2 a. m.			44.09	S	12	Midnight till 4 a. m. typhoon at its worst. At 4.30 a. m. wind shifted to SW by S; at 7 to SW gradually moderating with less sea; at 7.40 kept ship NW; noon, wind WSW strong, thick rain and cross sea; afternoon, wind and sea moderating weather clearing; midnight, moderate NW winds; fine, cloudy.
4 a. m.			44.34	S	12	
6 a. m.			45.87	SW by S	10	
8 a. m.			47.65			
Noon	17 35	118 3	49.68	WSW	6	
6 p. m.			51.96			

METEOROLOGICAL OBSERVATIONS MADE ON BOARD STEAMER "TAMING", MAY 26 TO 28.

[Captain, Mr. A. Sommerville.]

Day and hour.	Position.		Pressure.	Wind.		Remarks.
	Latitude N.	Longitude E.		Direction.	Force.	
May 26:	° ′	° ′	*mm.*		*0–12.*	
4 p. m.	Hongkong.		754.62	ENE	3	Slow but continuous drop in the barometer and gradual increase in the force of the wind which remained at ENE.
Midnight	Leaving Hongkong		53.66			
May 27:						
Noon	19 40	116 10	48.56			The wind gradually increased from ENE to about force 6 or 7, with a very heavy confused sea. At 5.45 p. m. the storm had increased to typhoon violence; a tremendous sea was running and the squalls and rain were very terrific. At 10 p. m. the wind shifted to NE by E; at 11 p. m. the wind was NE. At midnight rain squalls.
2 p. m.			46.95			
4 p. m.			45.21			
6 p. m.			45.02	ENE	9	
8 p. m.			45.21			
10 p. m.			45.58			
Midnight			44.09	NE by E	9	
May 28:						
2 a. m.			44.09	NE by N	9	
3 a. m.			43.78	NNE	9	Heavy rain squalls.
4 a. m.			44.26	N by E	9	Do.
6 a. m.			45.28	N	8	Weather improving.
8 a. m.			46.09	N by W	7	Do.
10 a. m.			47.82	NW	6	Do.
Noon	18 18	117 17	48	NW by W	5	

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE AMERICAN BARKENTINE "KOHALA," MAY 23 TO 28, 1908.

[Captain, Mr. F. K. Dedrick.]

Day and hour.	Position.		Pressure.	Wind.		Remarks.
	Latitude, N.	Longitude, E.		Direction.	Force.	
May 23:	° ′	° ′	*mm.*		*0-12.*	
Noon	16 51	118 12	755.38			Day begins with light baffling S to SE wind squalls and calms.
4 p. m.			53.86	SE	2	
10 p. m.			54.87	SE	9	Overcast, gloomy sky, hard squalls.
May 24:						
4 a. m.			53.35	SE	9	Thick rainy weather.
10 a. m.			54.37			Sea making up rapidly from SSW.
Noon	16 41	117 43	52.84	SE	9	Heavy squalls, heavy confused sea, mostly from SW. 16 hours steady SE gale.
4 p. m.			51.32	SE	9	High confused sea, mostly from SSW.
10 p. m.			52.33	SE	10	No perceptible change in the weather during these 24 hours; increasing swell from SSW, gloomy dully looking appearance to the sky. Part of the day hove to on starboard tack and part of the day on port tack.
May 25:						
4 a. m.			51.32	SE	10	
10 a. m.			51.83	SE	10	
Noon	16 49	117 56	50.81	SE	10	Confused sea and hard squalls. 40 hours of steady SE gale.
4 p. m.			50.30	SE	10	Confused sea and hard squalls.
10 p. m.			50.81	SE	10	Do.
May 26:						
4 a. m.			49.29	SE		Wind very steady in SE, variable in force, blowing in heavy gusts. Part of this day on starboard and part on port tack.
10 a. m.			50.81	SE.		
Noon	17 20	117 56	49.79	SE	9	64 hours of steady SE gale.
4 p. m.			47.25	SE		Heavy confused sea increasing in force toward evening.
10 p. m.			46.75	SE	12	During night wind a hurricane, during the squalls, heavy cross sea, ship laboring heavy, sprung a leak making from 5″ to 7″ of water per hour. Rudder head twisted off. Ship helpless.
May 27:						
4 a. m.			42.68			
10 a. m.			41.67			
Noon	17 55	116 51	41.16			88 hours steady SE gale still increasing. Ship during last 24 hours has been hove to on port tack.
1.30 p. m.			37.60			Center of typhoon rapidly approaching, barometer falling very rapidly; wind, rain, and confused sea increasing.
4 p. m.			29.98			
10 p. m.			26.93			Wind gusts moderate and hauling left-handedly, wind hauled from SE around by NE to NNW in less than one hour. 11 p. m. wind NW blowing again with renewed violence. Center of storm passed to S and E of ship position. Lowest reading of barometer when center passed at 10.30 p. m. was 28.43 inches, (722.11 mm.)
10.30 p. m.			22.11			
11 p. m.				NW	12	
12 m. n.			23.89			
May 28:						
4 a. m.			26.93			
10 a. m.			42.68			
Noon	18 03	116 35	44.21			Barometer rising, wind and sea moderating.
4 p. m.				WSW	9	

The typhoon to the north of Luzon, in the vicinity of the Balintang Channel.—The warnings given out by the Observatory of Manila for the 28th were:

May 28, 11.20 a. m.: The center of the typhoon lies probably near the parallel 19° N and between the meridians 120° and 121° moving to the NE or ENE very slowly.

May 28, 7.30 p. m.: The typhoon is raging near Santo Domingo de Basco, Batanes Islands. It has been one of the most severe typhoons of the China Sea on record for many years, similar to the one which swept the NW end of Luzon in August 22d, last year, but far more severe.

The observations of Laoag, Aparri and Santo Domingo, which are enbodied in the table below, serve admirably to trace the track of this cyclone across the Babuyan Islands and the Balintang Channel. The three stations give us approximately the same barometric minimum: Laoag at 1.55 p. m., Aparri at 5.30 p. m., and Santo Domingo at midnight of the 28th. Whence it follows, that the typhoon which was already moving ENE, inclined a little more to the E, after it passed the

120° long. E; but then, once in the Babuyanes, it inclined again toward the north, moving during the afternoon and night of the 28th toward the northeast:

Date.	Laoag.						Aparri.						Santo Domingo.					
	Pressure, 700 mm.+	Difference in 24 hours.	Wind.		Rainfall. (Daily total.)	Weather.	Pressure, 700 mm.+	Difference in 24 hours.	Wind.		Rainfall (Daily total.)	Weather.	Pressure, 700 mm.+	Difference in 24 hours.	Wind.		Rainfall. (Daily total.)	Weather.
			Direction.	Force.					Direction.	Force.					Direction.	Force.		
May 25:				0-12.	mm.					0-12.	mm.					0-12.	mm.	
6 a. m	55.70	-0.47	SE	1		c	57.41	-0.35	S	1		o	57.88	-0.94	ESE	2		o
2 p. m	53.72	-1.48	NNW	2	6.1	c	55.44	-1.17	SE		7.6	o	56.77	-1.20	ESE	2	20.6	o
May 26:																		
6 a. m	54.07	-1.63	SE	1		c	55.56	-1.85	S	1		o	56.26	-1.62	ESE	2		o
2 p. m	53.06	-.66	W	2	24.9	o	54.35	-1.09	W	1	2.5	o	55.31	-1.46	ESE	2	2.5	o
May 27:																		
2 a. m	52.20	-2.20					53.53	-2.16	S	1		o	53.70	-2.70				
6 a. m	51.34	-2.73	SE	1		or	53.28	-2.28	S	1		o	53.63	-2.63	ESE	2		o
10 a. m	51.40	-3					53.21	-2.89	S	1		o	53.70	-2.80				
2 p. m	49.61	-3.45	ENE	1	12.7	or	51.86	-2.49	S	1		o	52.51	-2.80	ESE	2	8.6	o
6 p. m	48	-5.80					50.28	-4.25	S	1		or	51.70	-3.60				
10 p. m	48.10	-4.90					51.25	-4.14	S		.8	or	51.90	-4				
May 28:																		
2 a. m	45.90	-6.30					48.67	-4.86	S	1		or	49.70	-4				
4 a. m	44.58	-7.02	SE	8		rq	47.63	-5.67	SW	1		o	48.70	-4.90				
6 a. m	43.79	-7.55	SE	10		rq	46.85	-6.43	SE	1		o	48.37	-5.26	E by S	3		rq
8 a. m	42.78	-8.72	S	12		rq	46.44	-6.93	SE	1		od	48.10	-5.80				
10 a. m	41.62	-9.78	S	12		rq	45.62	-7.59	SSE	1		o	47.60	-6.10				
12 noon	40.15	-10.45	S	12		rq	43.58	-8.94	SE	4		rq	46	-7				
2 p. m	39.11	-10.50	S	12	207	rq	41.62	-10.24	SSE	4		oq	44.47	-8.04	ESE	3	57.1	dq
4 p. m	41.20	-7.40					39.64	-10.97	S	6		rq	42.50	-9.20				
6 p. m	44.10	-3.90					38.85	-11.43	S	6		rq	41.30	-10.40				
8 p. m	46.20	-2.20					40.02	-11.31	SW	6		rq	40.40	-11.40				
10 p. m	48.50	+.40					45.15	-6.10	SW	4		rq	39.30	-12.60				
12 m. n	49.40	+2.10					47.41	-2.50	W	3	43.2	oq	38.80	-12.20				
May 29:																		
2 a. m	50.10	+4.20					47.71	-.96	W	2		or	40.40	-9.30				
4 a. m	51	+6.42					48.95	+1.32	NW	1		o	43.50	-5.20				
6 a. m	51.93	+8.14	S	10		rq	50.09	+3.24	SSE	1		o	46.89	-1.48	NW	5		dq
10 a. m	53.30	+11.68					52.04	+6.42	W	1		o	50.40	+2.80				
2 p. m	54.34	+15.23	W	2	27.9	o	52.89	+11.27	NNW	3	8.1	o	51.43	+6.96	WNW	2	58.4	o

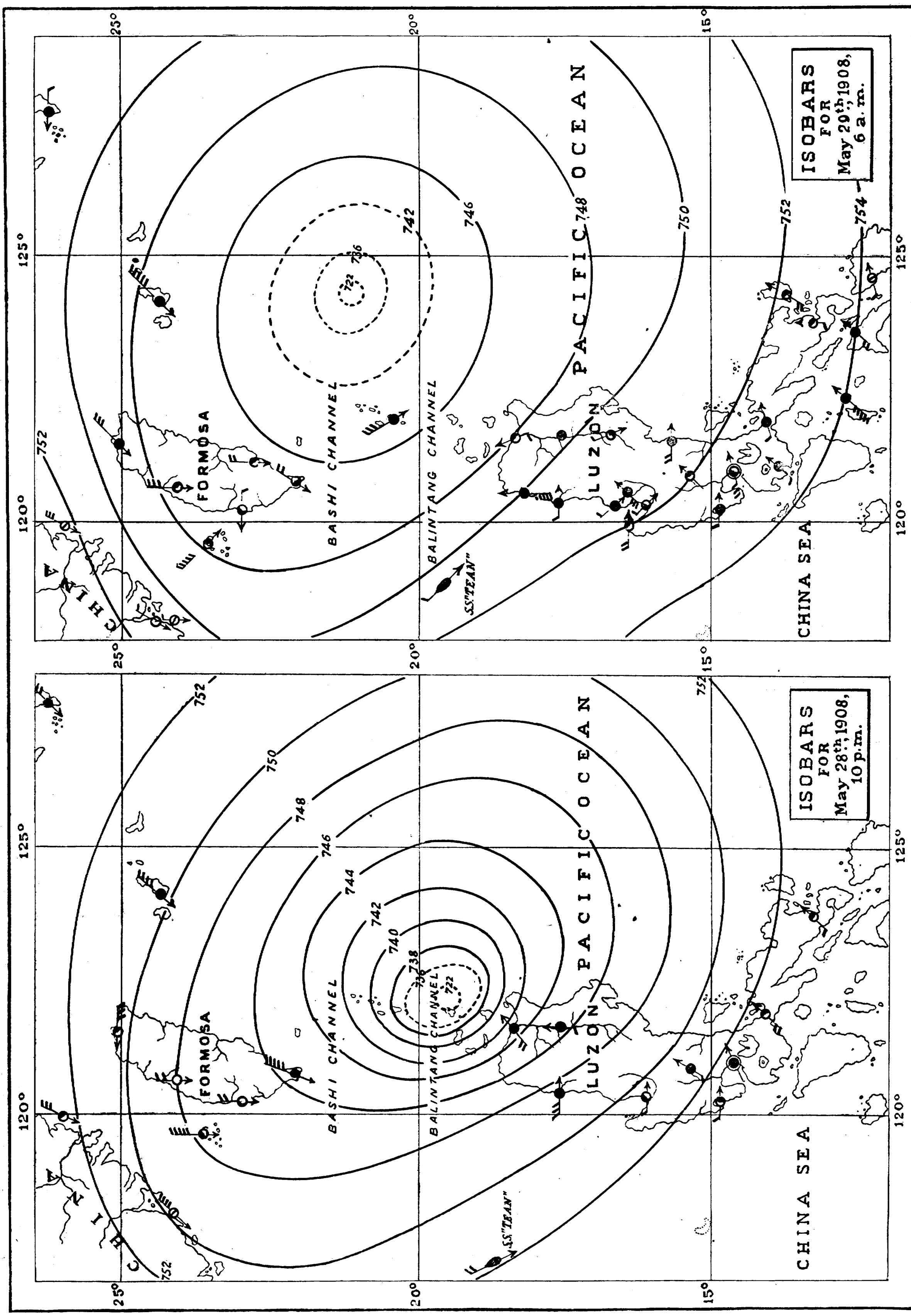
In the second small map of Plate II we give the isobars and the position of the cyclonic center at 2 p. m. of the 28th, when it was nearest to Laoag. The first small map of Plate III represents the typhoon at 10 p. m. of the same day, two hours before it passed at the shortest distance from Santo Domingo.

The typhoon in the Pacific.—The weather report of the Observatory at noon of the 29th reads:

The typhoon has crossed the Balintang and Bashi Channels last night. It lies at present east of the south end of Formosa and south-southwest of Ishigakihima, the most southern Island of the Loochoos. It has moved with increasing velocity to the NE.

The position of the cyclonic vortex and the distribution of the isobars at 6 a. m. of the 29th, can be seen in the second small map of plate III.

Plate III



N.B.-The barometric readings have been corrected to standard gravity.

Plate IV.

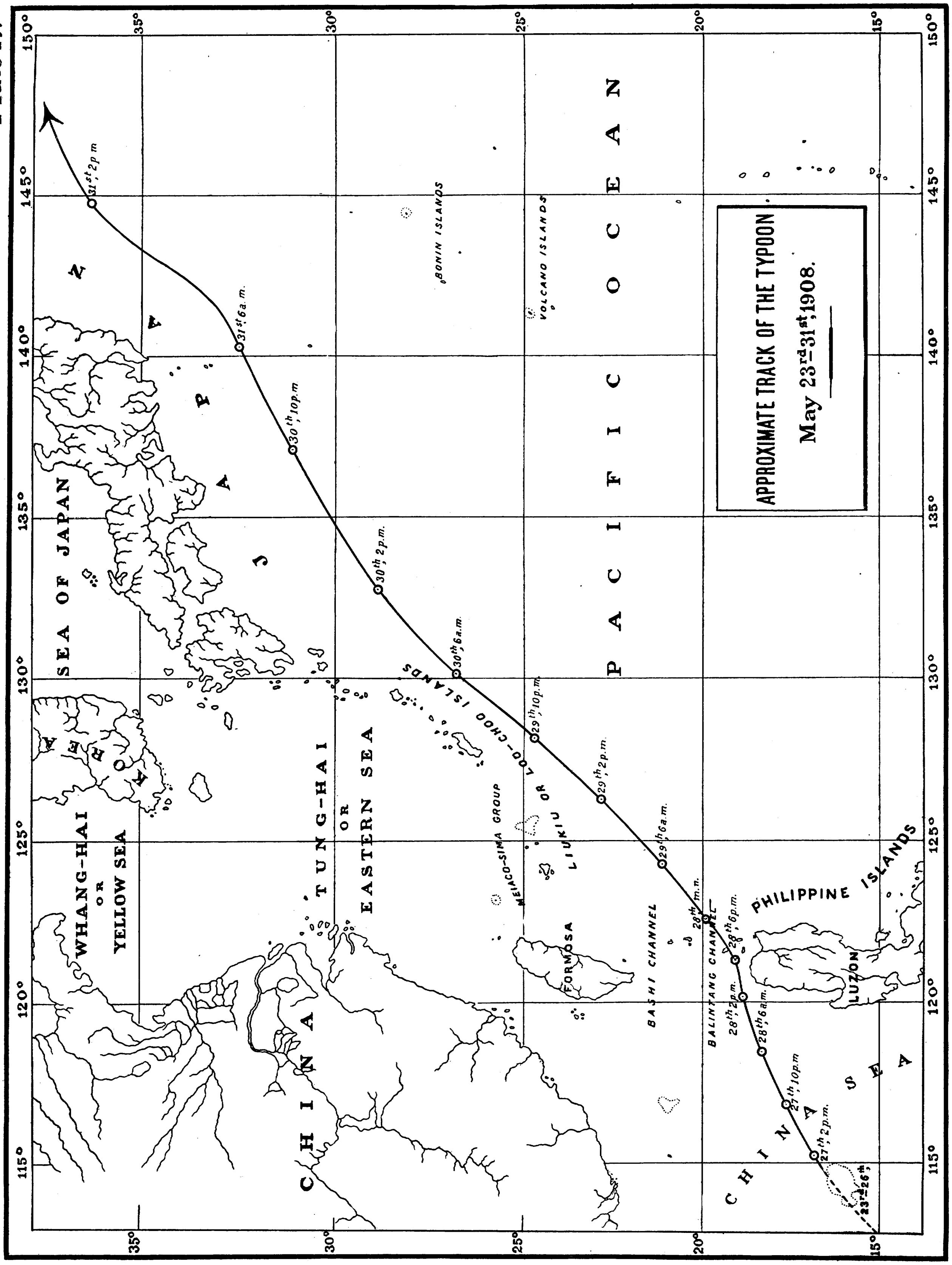

APPROXIMATE TRACK OF THE TYPOON
May 23rd–31st, 1908.
PACIFIC OCEAN
SEA OF JAPAN
JAPAN
KOREA
WHANG-HAI OR YELLOW SEA
TUNG-HAI OR EASTERN SEA
CHINA
CHINA SEA
PHILIPPINE ISLANDS
LUZON
FORMOSA
BASHI CHANNEL
BALINTANG CHANNEL
LIUKIU OR LOO-CHOO ISLANDS
MEIACO-SIMA GROUP
BONIN ISLANDS
VOLCANO ISLANDS
31st, 2 p.m.
31st, 6 a.m.
30th, 10 p.m.
30th, 2 p.m.
30th, 6 a.m.
29th, 10 p.m.
29th, 2 p.m.
29th, 6 a.m.
28th, m.n.
28th, 6 p.m.
28th, 2 p.m.
28th, 6 a.m.
27th, 10 p.m.
27th, 2 p.m.
23rd–26th

Plate IV shows the track of the typhoon from its formation in the Paracel Islands from the 23d to the 26th until it disappeared into the Pacific on the 31st. The latter part of the track by the south of Japan is taken from the "Journal of the Meteorological Society of Japan, June, 1908." According to this chart, the typhoon moved to ENE during the whole of the 27th and the morning of the 28th, to E by N the afternoon of the 28th, and to NE from the evening of the 28th until the morning of the 31st.

Effects of the typhoon on the western coast of Luzon.—Remarkable were the effects of this typhoon on the stations of the western coast of Luzon, especially on Laoag and Vigan, in spite of the fact that these stations were over 50 and 80 miles distant respectively from the center of the cyclone.

The observer of Laoag in a letter dated May 30 describes the effects of the storm as follows:

During the typhoon of the 28th of May in this locality, 13 houses of light materials were blown down and likewise 2 uncompleted houses with galvanized iron roofs, the municipal school of the eastern part of the city and 1 of the stalls in the public market. Besides this, the roofs of some buildings of strong materials were damaged, as the town hall, the provincial school, the building in which the high school is located, the Catholic Church and the adjoining convent, and various others.

In the barrio of San Nicolas the following were destroyed: 44 houses, and 4 graneries of palay, all of light construction; also were damaged the public market and some other buildings of strong materials.

The observer of Vigan thus describes the violence of the typhoon:

Early in the morning of the 28th the wind blew with considerable violence causing the destruction of various houses of light materials and uprooting some trees. The force of the wind continued to increase more and more until at noon it registered force 12 of the Beaufort scale. Toward evening the wind gradually abated.

We will conclude by giving a table showing the total daily rainfall in the stations on the western coast of Luzon from the 24th to the 30th inclusive:

Day.	Laoag.	Vigan.	Candon.	San Fernando.	Bolinao.	Dagupan.	Olongapo.	Manila.
	mm.	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*
24	4.6	46.2	8.1	3	33.8	13.5	39.1	0.5
25	6.1	41.1	37.3	5.1	34.3	3.6	2.7	30
26	24.9	2	0	31.7	37.6	26.4	30.1	13.5
27	12.7	35.8	52.3	14.2	66.3	19.3	44.9	46.6
28	207	136.6	104.9	3	3.8	45.7	89.9	43.7
29	27.9	3.8	0	50.8	5.8	1.5	51.9	121.6
30	0	0	13.7	0	2	.3	30.9	42.2

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La media mensual de la presión atmosférica es para todas las estaciones inferior á la normal, é inferior, asimismo, á la media del año próximo pasado, siendo las diferencias más notables en el oeste y norte de Luzón, ó sea, en la región de Filipinas que más cerca se halló del tifón de la última década del mes, de que hablaremos luego. Las mayores presiones se registraron el día 20 en la parte meridional del Archipiélago, y el 14 ó 15 en la parte septentrional. Las mínimas presiones tuvieron lugar en todas partes el 27 ó el 28.

Á excepción de unas pocas estaciones, la media temperatura del mes es algo inferior á la de Mayo, 1907. La de Manila difiere de la normal en —1.3 °C. y de la del año pasado en —1.5 °C. Próxima á esta es la diferencia de San Isidro en el interior de Luzón, según puede verse en el cuadro de presión y temperatura que, como de costumbre, damos en el texto inglés.

Precipitación acuosa.—La lluvia de este mes ha sido casi en todas las estaciones superior á la de Mayo del año próximo pasado, efecto, sin duda, del baguio arriba mencionado. Los registros del Observatorio de Manila arrojan para esta ciudad un total de agua, el mayor registrado en Mayo desde la fundación del Observatorio en 1865, y superior á la normal de este mes en 365.9 milímetros.

DEPRESIONES Y TIFONES.

Solo un tifón ha influído propiamente en Filipinas durante el mes de Mayo. Sin embargo, haremos mención de otro que sintió en el Pacífico el bergantín americano *Kohala* con el fin de no defraudar á nuestros lectores de las preciosas observaciones que tuvo la amabilidad de remitirnos el capitán de dicho bergantín, Sr. F. K. Dedrick.

TIFÓN DE 7 Á 10 DE MAYO, 1908.

No es nuestro intento describir la trayectoria de este tifón, pues nos es imposible con los datos que poseemos. Ya dejamos dicho, en primer lugar, que no influyó en Filipinas. Además, las observaciones hechas en Yap, Carolinas Occidentales, y en Guam, Islas Marianas, apenas dan señales del tal baguio, aunque probablemente pueden á él atribuirse los vientos del SW que dominaron en la primera de estas dos estaciones los días 4 y 5, y la ligera marejada del NW que se notó en la segunda durante el día 11. Por último, aunque las observaciones del Japón y mapas del tiempo de Tokio señalan el paso de una ó varias áreas de baja presión por el sur de aquel Imperio, todavía es de todo punto imposible identificarlas con el tifón del *Kohala*.

Véanse á continuación las observaciones y notas interesantes que, según indicamos arriba, nos remitió el Capitán de este bergantín:

OBSERVACIONES METEOROLÓGICAS HECHAS ABORDO DEL BERGANTÍN "KOHALA", 7 Á 10 DE MAYO, 1908.

Día y hora.	Latitud N.		Longitud E.		Barómetro.	Notas.
	°	′	°	′	*mm.*	
7, 12 m. d	19	14	135	36	759.45	Ligeros vientos del E con algunas lluvias. Marejada del SSW creciendo rápidamente. Cielo cubierto y triste.
8, 12 m. d	18	32	132	36	758.94	Fuertes vientos del SE. Marejada del SW¼S. Fuertes chubascos á intervalos.
8, 3 p. m	18	32	132	36	754.37	Vientos muy violentos del SE y mar terrible del SW¼W con lluvia constante y fuertes chubascos. Estamos envueltos en un tifón cuyo centro demora hacia el SW.
8, 8 p. m	18	32	132	36	751.32	Continúan los vientos durísimos del SE con terribles chubascos y mar del WSW.
8, 12 m. n	18	32	132	36	750.30	Desde media noche hasta 8 a. m. el viento roló del SE al S. El centro del tifón pasa evidentemente por el W de la posición del barco.
9, 12 m. d	19	24	133	14	750.81	Vientos muy duros del S y mar muy alborotada. Á media noche todovía sopla el viento muy duro, pero con tendencia á amainar.
10, 12 m. d	19	55	134	00	755.38	Á 4 a. m. el viento amaina rápidamente y rola al SW. Á 8 a. m. vientos fuertes del SW; tiempo aclarando. Á mediodía brisa fresca del SW. El tifón ha pasado hacia el norte.

Estas observaciones, sobre todo los datos que se dan referentes á la dirección de los vientos y del oleaje, indican perfectamente la posición sucesiva de un vórtice ciclónico bien desarrollado al SW, W, NW y N de la posición respectiva del bergantín *Kohala*.

Dicho vórtice no debió pasar muy lejos del bergantín: se hallaría con toda probabilidad el día 8 entre los meridianos 130° y 132° moviéndose hacia el norte.

TIFÓN DE 23 Á 31 DE MAYO, 1908.

Pocas veces se habrá dado el caso de un tifón formado en el Mar de China que se haya movido hacia el NE y haya adquirido tanto desarrollo y desplegado tanta energía como el que ahora vamos á estudiar brevemente.

Origen del tifón.—Decía el Observatorio de Manila en la nota del tiempo de los días 23 y 24:

Día 23, 12.20 p. m.: La presión atmosférica se halla relativamente baja en el Mar de China, donde parece existir una depresión al W del sur de Luzón.

Día 24, 11.35 a. m.: La depresión anunciada ayer al W del sur de Luzón se halla al presente al WNW de la península de Bolinao.

Parecidas á éstas fueron las notas dadas por el Director del Observatorio de Hongkong:

Día 23, 11.55 a. m.: Los barómetros tienden aún á bajar en las estaciones alrededor del Mar de China. Las condiciones son favorables para la formación de una depresión en la parte central de esta área.

Día 24, 11.55 a. m.: Hay aún indicios de la existencia de un área de baja presión en el Mar de China, probablemente entre Luzón y Paracels.

Después de haber examinado con detención cuantos datos hemos podido recoger, creemos poder asegurar con bastante probabilidad que del 23 al 26 se estuvo formando este baguio no lejos de las Islas Paracels, permaneciendo casi estacionario, ó moviéndose con muchísima lentitud hasta el 27, en que no se podía dudar ya de la existencia de un verdadero tifón, el cual, según todos los indicios, emprendía decididamente su marcha hacia el NE acercándose al NW de Luzón.

En confirmación de esto, citaremos parte de un report que debemos á la amabilidad del Sr. D. Alfredo Garriga, capitán del vapor de la Compañía Trasatlántica *Isla de Panay*. Había salido este barco de Singapore para Iloílo á 5 p. m. del 22, y á pesar de la distancia á que se hallaba del tifón, según se echa de ver por las alturas barométricas, sin embargo, sintió bien su influencia del 24 al 27:

Mayo 24: El 24, después de amanecer, se entabló viento del 3er cuadrante que fué refrescando gradualmente. La posición del barco á mediodía es 6° 00′ lat. N, 109° 53′ long. E.

Mayo 24–25: Anocheció el 24 con viento fresco del WSW y marejada del mismo. Barómetro de mercurio: 759.5 milímetros. Durante la noche, viento fresco del WSW y SW. Amaneció el 25 con el mismo viento. Situación del barco á mediodía: 6° 33′ lat. N, 113° 46′ long. E.

Mayo 25–26: Viento fresco y variable del 3.er cuadrante, mar gruesa del mismo. Al anochecer el 25, tiempo de cariz dudoso. Gruesos cumulus tomaron un tinte rojo muy marcado al ocaso del sol. Barómetro á 6 p. m.: 756.9 milímetros. Al amanecer entramos en el estrecho de Balabac, habiéndose notado durante la noche, y al aproximarnos á la costa, *mar del NW confusa, pero de bastante importancia.* El barómetro á 9 a. m. del 26: 756.9 milímetros. El viento calmó en el Estrecho, pero volvió á entablarse frescachón del SW y SSW al separarnos de la costa.

Mayo 26–27: Á 3 p. m. barómetro: 754.4 milímetros con viento frescachón del SSW. Desde media noche hasta 6 a. m. descargaron continuos chubascos de agua y poco viento, quedando á ratos cerrado completamente en lluvia con relámpagos continuos y algunos truenos. Á 7 a. m., cesó la lluvia y quedó entablado de nuevo viento frescachón del SW y SSW.

Mayo 27–28: Á 3 p. m. del 27 fondeamos en Iloílo, descargando fuertes chubascos de agua y viento, los cuales fueron continuos durante la noche. Á mediodía del 28 descargó en la costa SW de Panay un violento chubasco de viento duro del SW, pero con poca lluvia.

Llamamos la atención de un modo especial sobre la mar del NW que se observó antes de llegar al estrecho de Balabac: era evidentemente el oleaje procedente del vórtice ciclónico que demoraba, según queda indicado, en los alrededores de Paracels, ó sea, hacia el NW del *Isla de Panay*.

El tifón al W del norte de Luzón.—El Observatorio de Manila envió á todas las estaciones del Weather Bureau este anuncio de tifón á 8 a. m. del 27:

El tifón del Mar de China se acerca probablemente al extremo NW de Luzón.

Y á 11.45 a. m. del mismo día se envió la siguiente nota á los periódicos de la Capital:

El tifón del Mar de China se halla al presente al WSW del canal de Balintang y se mueve probablemente despacio en dirección al NE. Tiempo borrascoso en el Mar de China entre los paralelos 13° y 22° N.

Á 7.45 p. m. del 27 se transmitió el siguiente telegrama á la costa de China é Indochina, á Formosa y Japón:

El tifón se está acercando al oeste del canal de Balintang moviéndose probablemente hacia el nordeste.

Inútil es decir que las observaciones que más ayudaron al Observatorio para dar oportunamente estos anuncios fueron las que se recibieron de las estaciones de la costa occidental de Luzón. Por creerlo de especial interés para nuestros lectores damos en un cuadro que puede verse en el texto inglés algunas de las observaciones hechas en Manila, Bolinao y Vigan. Además, en el primer mapita de la lámina II (plate II) ofrecemos las isobaras y la posición del centro ciclónico á 10 p. m. del 27. Por fin, en otros tres cuadros hemos incluído las preciosas observaciones y reports que agradecemos á los capitanes de los vapores *Tean* y *Taming* y del bergantín *Kohala*. Las de este último son en verdad muy interesantes: el vórtice pasó muy cerca por el S y E del barco; y según escribía su Capitán al Director de este Observatorio con fecha 26 de Junio, "si el huracán hubiese durado algo más, difícilmente hubiera podido evitar un fatal desenlace."

El tifón al N de Luzón, en los alrededores del canal de Balintang.—He ahí los avisos dados por el Observatorio de Manila el día 28:

Día 28, 11.20 a. m.: El centro del tifón demora probablemente cerca del paralelo 19° N y entre los meridianos 120° y 121° E, moviéndose muy lentamente hacia el NE ó ENE.

Día 28, 7.30 p. m.: El tifón está desfogando cerca de Sto. Domingo de Basco, Islas Batanes: ha sido uno de los baguios más fuertes que se han observado en el Mar de China, semejante en su trayectoria al que atravesó el NW de Luzón el 22 de Agosto del año pasado, pero mucho más intenso.

Las observaciones hechas en Laoag, Aparri y Sto. Domingo y que resumimos en un cuadro que acompaña el texto inglés, sirven admirablemente para trazar la trayectoria de este baguio á través de las Islas Babuyanes y del canal de Balintang. Las tres estaciones nos dan la misma mínima barométrica próximamente: Laoag á 1.55 p. m., Aparri á 5.30 p. m. y Sto. Domingo á las 12 medianoche del 28. De donde se sigue que el tifón, que se movía ya al ENE, se inclinó todavía un poco más al E al llegar al meridiano 120° E: pero luego, una vez en las Islas Babuyanes, se inclinó de nuevo al N, moviéndose durante la noche del 28 hacia el NE.

En el mapita segundo de la lámina II damos las isobaras y posición del centro ciclónico á 2 p. m. del 28 cuando pasó á la menor distancia de Laoag. El mapita primero de la lámina III representa el tifón á 10 p. m. del mismo día, ó sea, dos horas antes de que pasase á la menor distancia de Sto. Domingo.

El tifón en el Pacífico.—Decía el Observatorio á 12 mediodía del 29:

El tifón ha atravesado la noche pasada los canales de Balintang y Bashi. Demora al presente al E del extremo meridional de Formosa y SSW de Ishigakihima, la isla más meridional del grupo Liukiu. Se ha movido con velocidad creciente hacia el NE.

La posición del vórtice ciclónico y distribución de las isobaras á 6 a. m. del 29 pueden verse en el mapita segundo de la lámina III (plate III). En la lámina IV (plate IV) va toda la trayectoria del tifón desde su formación en las Paracels del 23 al 26 hasta que se internó en el Pacífico el 31. La última parte de esta trayectoria, por el S de Japón, la tomamos del "Journal of the Meteorological Society of Japan, June 1908." Según se ve en esta lámina, el tifón se movió al ENE durante el día 27 y mañana del 28, al E¼NE la tarde del 28, y al NE desde la noche del 28 hasta la mañana del 31.

Efectos del tifón en la costa occidental de Luzón.—Es verdaderamente notable lo mucho que se sintió este baguio en las estaciones de la costa occidental de Luzón, especialmente en Laoag y Vigan, á pesar de haberse hallado estas estaciones á una distancia del vórtice mayor de 50 y 80 millas respectivamente.

El observador de Laoag con fecha 30 de Mayo describe los efectos del temporal en estos términos:

Durante el tifón ocurrido antes de ayer, 28 de Mayo, en esta localidad, se cayeron 13 casas de materiales ligeros, 2 casas en construcción con techo de hierro galvanizado, la Escuela Municipal del Este, y 1 de los camarines existentes dentro del mercado público de esta Cabecera. Además, hubo varios desperfectos en los techos de diferentes casas de materiales fuertes, como son: la Casa-Presidencia Municipal, la Escuela Central Provincial, la casa donde se halla establecida la High School, el Convento é Iglesia Católica y varias otras.

En el pueblo de S. Nicolas se han venido al suelo unas 44 casas, 4 graneros de palay, todas de materiales ligeros, habiendo también sufrido desperfectos el Mercado Público y varias otras casas de materiales fuertes.

El observador de Vigan describe así la violencia de este tifón:

Por la madrugada del 28 corría ya el viento con una velocidad pasmosa, causando la caída de varias casas de materiales ligeros y arrancando de cuajo algunos árboles. La velocidad del viento fué todavía aumentando más y más, llegando á su apogeo á eso de mediodía, en que alcanzaba la fuerza 12 de la escala Beaufort. Á la caída de la tarde empezó á amainar gradualmente.

Vamos á terminar incluyendo en un cuadro la cantidad total de lluvia caída diariamente en las estaciones occidentales de Luzón desde el 24 hasta el 28 ambos inclusive:

Día.	Laoag.	Vigan.	Candón.	San Fernando.	Bolinao.	Dagupan.	Olongapó.	Manila.
	mm.	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*	*mm.*
24	4.6	46.2	8.1	3	33.8	13.5	39.1	0.5
25	6.1	41.1	37.3	5.1	34.3	3.6	2.7	30
26	24.9	2	0	31.7	37.6	26.4	30.1	13.5
27	12.7	35.8	52.3	14.2	66.3	19.3	44.9	46.6
28	207	136.6	104.9	3	3.8	45.7	89.9	43.7
29	27.9	3.8	0	50.8	5.8	1.5	51.9	121.6
30	0	0	13.7	0	2	.3	30.9	42.2

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N ; λ=120° 58′ 33″ E ; barometer above sea, 14.2 meters ; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Temperature. Open air.[2] Mean.	Temperature. Open air.[2] Maximum.	Temperature. Open air.[2] Minimum.	Underground 0.25 meter. 8 a. m.	Underground 0.25 meter. 2 p. m.	Underground 0.50 meter. 8 a. m.	Underground 0.50 meter. 2 p. m.	Underground 1.50 meters. 8 a. m.	Underground 2.50 meters. 8 a. m.	Relative humidity, mean.	Vapor pressure, mean.	Evaporation. Free exposure, total.	Evaporation. Shelter, total.
	mm.	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	*Per ct.*	*mm.*	*mm.*	*mm.*
1	759.05	28.9	34.8	22.3	30	31.8	30.7	30.9	29.2	28.3	65	19	10.3	5.2
2	59.14	28.6	36.2	24.4	30.3	32.1	30.8	31.2	29.2	28.3	72.3	20.8	7.9	4.2
3	58.72	26.9	34.8	22.8	30.1	31.8	30.7	31.1	29.2	28.2	80.5	20.8	7.6	3.6
4	57.83	27.5	33.7	22.6	29.5	31.3	30.4	30.8	29.2	28.2	77.6	20.9	5.6	2.6
5	57.62	26.8	33.6	23.5	30	31.4	30.5	30.8	29.2	28.2	84.5	22	4.5	2.8
6	58.28	27.1	32.5	23	29.4	31	30.3	30.7	29.2	28.3	81.5	21.4	4.5	2
7	58.43	27.4	33.4	23.1	29.6	31.3	30.3	30.8	29.1	28.3	82.4	22	5.5	2.3
8	57.96	28	32.7	24.1	30	31.7	30.4	30.7	29.2	28.3	81.7	22.8	5.2	2.4
9	57.39	27.9	32.4	24.5	30.2	31.4	30.6	30.8	29.2	28.3	84.2	23.3	4.8	2.5
10	57.59	28.5	32.7	24	30.1	31.7	30.6	30.8	29.3	28.3	80.5	23	5.5	2.6
11	57.64	28.9	33.2	24.5	30.5	32	30.8	30.9	29.3	28.4	78.3	22.9	7.6	3.7
12	58.15	27.8	33.3	23.6	30.5	31.9	30.7	31	29.2	28.3	78.8	21.7	7	3.5
13	58.97	27.9	33.9	22.9	30.2	31.7	30.7	30.8	29.2	28.5	73.9	20.4	6.7	3.2
14	59.70	28.2	34.3	23.2	30.1	31.8	30.7	30.9	29.4	28.5	71.9	20	8.6	4.2
15	59.95	28.3	34.4	23.5	30	31.3	30.6	30.9	29.4	28.5	73	20.6	7.7	4
16	58.96	28.6	34.5	23	30	31.7	30.5	30.8	29.4	28.6	73.3	21.1	7.2	3.4
17	58.16	29	33.8	23.7	30.2	32	30.7	30.9	29.4	28.7	71.3	20.9	8.3	4.3
18	58.10	28.5	31.7	24.6	30.3	31.1	30.7	30.9	29.3	28.7	78	22.4	6.8	3.5
19	59.10	27	33.7	24.2	30	31.4	30.4	30.7	29.3	28.7	83.3	21.9	5.6	3.2
20	59.48	27.6	33.9	23.2	29.4	31.8	30.1	30.9	29.3	28.7	81.1	22	5.1	2.3
21	58.68	28.1	34.7	23.5	29.8	31.6	30.3	30.8	29.4	28.7	78.6	21.9	5	2.3
22	58.21	26.3	32.8	22.3	29.9	31.3	30.3	30.6	29.3	28.7	87.3	22	4.2	2.2
23	57.46	26.2	33.4	22.6	29.3	30.7	30	30.4	29.3	28.7	88	22	3.5	1.7
24	57.19	27.1	33.3	23	29.3	31	30	30.2	29.4	28.8	82.6	21.7	5	2
25	56.60	26.4	32.7	23.8	29.6	30.4	29.9	30.1	29.4	28.8	88.2	22.4	3.2	2.1
26	55.59	25.8	31	23.5	29.1	29.8	29.9	30	29.3	28.4	88.3	21.7	2	1.4
27	53.68	25.2	27.1	24	28.8	28.5	29.6	29.5	29.3	28.7	92	22	.5	.7
28	52.59	26.2	30.3	23.8	27.8	27.9	28.9	28.8	29.2	28.4	87.3	22	1.7	1.3
29	55.35	25.6	27.3	23.5	27.3	26.8	28.3	27.9	29.3	28.6	90.2	22	2.9	2.5
30	57.50	24.8	26.4	23.3	26.4	26.5	27.9	27.5	29.3	28.9	94.1	21.9	.5	.6
31	58.46	26.6	31.1	23.1	27.9	28.3	27.8	27.8	29.1	28.6	84.8	21.9	3.6	1.7
Mean	757.79	27.3	32.7	23.5	29.5	30.8	30.1	30.4	29.3	28.5	81.1	21.7	5.3	2.7
Total													164.1	84
Departure from normal	—0.62	—1.3	—0.7	—0.5							+5.0	—0.1	—69.5	

Date.	Wind. Prevailing direction.	Wind. Total movement.	Wind. Maximum hourly velocity.	Wind. Direction at the time of the maximum velocity.	Clouds. Amount, mean.	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Sunshine.	Rainfall.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h. m.*	*mm.*	
1	SE	211.5	20	W	2.2	Ci.	Cu.	11 10		≡° a. ⊤° ☇ p.
2	Variable	169	18	NE by E	5.2	Ci.-S.	Cu. ENE	8 20		≡° a. ⛈ p.
3	W, NE	197	17	W	4.4	Ci.-S.	Cu.-N.	8 05	38.2	≡° a. ⛈ ● p.
4	SE, W	177.5	17	W by N	4.6	Ci.-S.	Cu.-N.	8 20		≡° a. ⛈ p.
5	NE	159.5	13	NNE	8.8	Ci.-S.	Cu.-N. E	4 50	30	≡° ○° a. ⛈ ⩘ ●
6	Variable	172	25.5	NW	6.6	Ci.	Cu. E by S	7 50	19	d ≡° ⛈² ● ⩘°
7	Variable	171.5	14.5	W	6.2	Ci.-S. N	Cu. ENE	10 00	14.3	≡° a. ⛈ ⌒ ●² p.
8	SW quad.	202	22	W	7.1	Ci.-S.	Cu.-N. WNW	6 55	8.4	≡ ○² a. ☇ p. ●
9	SW	147	19	SW	7.4	Ci.-S.	Cu.-N. S, SW	5 35	.1	d a. ⛈ ◡° ●° p.
10	SW	262.5	26	SW	4.8	Ci.-S.	Cu.	9 35	10	≡ ⩘ ● ⌒² a. ⛈ p.
11	SW by W	260	25.5	SW by W	4.3	Ci.-S. SE by E	Cu. W by S	8 50		≡° a. ⊕ ⛈° ○ ◡
12	NE	215	18	SW by W	7.8	Ci.-S. SW	Cu.-N.	6 55	2.2	≡° ○ a. ⛈ ● p.
13	ESE	183.5	19	ESE	6	Ci.-S. NW	Cu. E	8 50	.2	d ≡ a. ⛈° p.
14	ESE	199	17.5	E	6.2	Ci.-S. NNE	Cu. E	9 35		≡° a. ⊕ ⛈° ◡°
15	SE	167	13	WNW	5.2	Ci.-S.	Cu. E, NE	8 00		≡° a. ⛈ ⌒ p.
16	SE	203	18	SE	4.3	Ci.	Cu. E	9 55		≡ a. ⊤° p.
17	SW	200	22.5	SW	7.2	Ci.-S.	Cu.	9 20		
18	WNW	163	12	SW	9	Ci.-S. ENE	Cu. NE	0 20		
19	Variable	158.5	24	NNW	8.1	Ci.-S. S	Cu.-N. E, SE	5 30	.9	⛈ ● d° p.
20	SE, SSE	159	20	SSE	6.8	Ci.-S.	Cu. SSE	8 05	11.7	Ω° ≡ a. ⛈² ● p.
21	SE	220.5	17	SE	7.2	Ci.-S. NNE, SW	Cu. ESE	7 00	18.5	○° ● a. p. ⛈ p.
22	SE	137.5	11	SE	9.8	Ci.-S. WSW	Cu.-N. ESE	2 30	21.2	≡° a. ⛈ ● p.
23	SE	147	19.5	SW	8.7	A.-Cu. S	Cu. SE	1 45	3.7	≡° a. ⛈ ● d p.
24	SE	205	19	SE	6.9	Ci.-S. N by E	Cu.	6 35	.5	⛈ d² p.
25	SE	207	24	WSW	9.4	Ci.-S. WNW	Cu.-N. S by W	3 30	30	≡° ○ a. ⛈ ⩘ ● p.
26	ESE	258.5	35.5	SW	9.4	Ci.-S.	N. SW	2 30	13.5	⊤° a. ⩘ ● a. p.
27	SE	361.5	33	S by W	10	Ci.-S. NW	Fr.-N. SW	0 00	46.6	●² a. ● d a. p.
28	SSW	902	54	WSW	10	Ci.-S.	Fr.-N. WSW	0 00	43.7	⊤° a. ☇ ⩘ ● a. p.
29	WSW	662	52	WSW	10	Ci.-S.	Cu.-N. W	0 00	121.6	⛈ a. ⌒ p. ⩘ ●
30	SSW	180.5	22	W	9.7		N. W, SW	0 00	42.2	●² d a. d² p.
31	SE	95	9	NW	8.8	A.-Cu. SW	Cu.	1 20		⛈° a. p.
Mean		230.8	21.9		7.2			5 51		
Total								181 10	476.5	
Departure from normal		—1.8			+1.6			—53 34	+365.9	

[1] All the mean values given in this table are deduced from hourly observations.
[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	758.22	27.1	32.2	24.3	80	NNE	0.8	6.8	Ci.-S., A.-S.	Variable	------	⊤² p.
2	58.21	28	32.7	24.4	79.5	SE	1.2	8.2	Ci.-S. E	S.-Cu. E	------	d ⊤² p.
3	57.89	28	32.6	23.4	75.8	SE	1.2	6.5	Ci.-S. ENE	S.-Cu. NE	------	
4	57.45	27.8	34	23	76.2	SE	1.5	7.5	Ci.-S. E	S.-Cu. E	------	
5	57.24	27.8	30.8	23	73.7	SE	1.2	5.8	Ci.-S. E	S.-Cu. W, E	------	
6	57.85	28.2	31.2	23.2	72.5	SE	1.3	7	Ci.-S. E	Cu. W	------	
7	58.10	28.5	31.5	24.4	74.8	NNE, SE	1.3	6.5	Ci.-S.	Cu. W	------	ϟ p.
8	57.54	28.6	35.4	24	73.7	NNE, NW	1.3	6.8	Ci.-S.	Cu. W	------	⊤ ϟ p.
9	57.27	27.6	34	23.7	79.2	NNE, SE	1	6.5	Ci.-S.	S.-Cu.	------	⊤ ϟ° p.
10	57.55	28.3	31.8	23.8	76.3	SE	1	8	A.-S.	S.-Cu. E	------	⊤² ϟ² p.
11	57.89	28.7	33.5	24.5	75.6	NNE, SE	.8	7.8	Ci.-S.	Cu.-N. E	------	⊤° ϟ Φ² p.
12	58.05	27.5	31.6	23.5	78.3	NNE, SE	.8	7.5	Ci.-S., A.-S. E	S.-Cu., Cu. E	1.8	⌈ϟ a. p.
13	58.38	27.7	31.5	23.8	78.8	SE, NW	1.7	8.2	Cu., Cu.-N. E	------	20.1	⌈ϟ p.
14	58.51	28	32.1	23.7	73	NNE, SE	1.3	5.2	Ci.-S.	Cu. E	.5	d² p.
15	58.73	28.4	32.3	24.9	75.2	NNE	1	5.2	------	Cu.-N. E	------	
16	58.57	27.1	32.6	23.9	81.4	NNE, NW	1	9	Ci.-S.	Cu. E	9.7	⌈ϟ p.
17	57.92	27	30.2	24.3	83.8	NNE, SE	.8	9.8	A.-S. E	N. E	3.3	⌈ϟ p.
18	58.42	27.3	31.4	24.2	82.2	Variable	1.2	9.8	A.-S.	N. W, NE	1.3	d a. p.
19	59.03	27.6	30.5	24.1	80.9	SE	.8	9	Ci.-S.	Cu. E	8.4	⊤ a. ○ ●² ϟ² p.
20	59.39	27.8	31.6	23.7	77	SE	1.2	9	A.-Cu., A.-S.	Cu.-N. E	1.3	●° ϟ p.
21	58.98	27.4	31.2	24.2	80.2	SE	1.2	5	Ci.-S.	Cu. E	------	⊤ p.
22	58.09	28	33.8	23.3	77.7	SE	1	7.5	Ci.-S.	Cu. NE	------	⊤ ϟ p.
23	57.74	28.2	31.2	23.7	79.7	NNE, SE	1.3	9	Ci.-S. NE	Cu. W	------	d° ϟ° p.
24	57.68	28.1	32.2	24.4	78.1	SE	1.3	5.8	Ci.-S.	S.-Cu. E	------	ϟ p.
25	57.19	28.3	31.5	24.3	77.2	SE	1.3	8.5	Ci.-S.	Cu. W	------	
26	56.70	28.9	32.7	25.3	74.3	S, SE	2	9.5	Ci.-S. ENE	Cu. W	------	○°
27	56.13	29	32	26.5	73.3	SE	1.5	10	A.-S.	Cu. S, SW	------	⇗° p.
28	56.17	28.5	31.8	25.8	72.1	SSW	1.2	10	A.-S. ENE	S.-Cu. W, SW	------	●° ⇗° a.
29	56.62	28.7	30.8	25.5	74.5	SE	1.2	7.8	A.-S.	Cu. S, SW	------	
30	57.15	27.6	31.3	23.2	76.8	NNE, SE	1.7	8	Ci.-S., A.-S.	Cu. S, W	1	⌈ϟ° p.
31	58.04	27.9	30.9	24.4	75.5	SSE	1.2	9.8	A.-S. NE	Cu.-N. E	------	⌒° d ϟ p.
Mean	757.83	28	32	24.1	77	------	1.2	7.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	47.4	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	758.66	27.3	31.2	23.8	88.3	NE	0.9	6.2	Ci.	Cu.	13	● ⊤ p. Ω
2	58.64	27.6	31.7	23.3	87.7	NE quad.	1.6	5	Ci.	Cu.	9.1	● ⌒ a. Ω
3	58.23	27	30.8	23.2	87.6	Variable	1.3	3.8	Ci.	Cu.	------	Ω
4	57.68	27.2	30.1	23.4	85.1	SSE	1.2	5	Ci.	Cu.	------	Ω ≡°
5	57.45	26.6	29.7	23.1	86	Variable	1.2	8.5	A.-Cu.	Cu.	------	Ω
6	58.11	26.8	32.2	22	87	SW	.8	9.2	Ci.-S.	Cu., S.-Cu.	------	Ω ≡° ψ
7	58.38	27.3	33.4	22.4	80.7	Variable	1.2	4.8	Ci.	Cu.	------	Ω
8	57.92	27.5	32.2	22.8	82.5	WNW	1.5	2.5	Ci.	Cu.	------	Ω ≡° ⊤
9	57.56	28.1	33.2	23.8	84.7	E	1.2	3	Ci.	Cu.	------	Ω ≡° ⊤
10	57.94	28.1	31.8	23.9	84.7	NNW	.9	3	Ci.	Cu.	------	Ω ≡°
11	57.94	28.8	33.6	23.9	81.7	ENE	1.1	2.5	Ci.	Cu.	------	Ω ≡° ϟ ψ
12	58.25	28.4	32.7	23.7	80.2	ENE	2.1	3.5	Ci.	Cu.	------	Ω ≡° ψ
13	58.87	27.9	31.8	24.2	83.2	ENE	1.2	5.2	Ci.	Cu.	2.5	Ω ⌒ ≡° ●
14	59.22	26.9	32.2	23.2	87.2	ENE	1.3	6	Ci., Ci.-S.	Cu., N.-cf.	5.3	Ω ≡° a. ●° p.
15	59.30	27.8	32.7	23.1	85.5	Variable	1.1	5.2	Ci.	Cu.	3.6	Ω ●° a. p.
16	58.71	26.2	29.7	24.4	91.8	SSE	1.1	8.5	Ci.-S., Ci.	Fr.-N.	15.5	● a. p.
17	57.97	26.9	30.3	24	87.7	SSW	.8	8.5	A.-Cu.	Cu.	1.5	Ω d a. ⊤ ●° p.
18	58.35	27.4	31.2	24.1	84.3	SW	1.4	5.8	A.-Cu., Ci.	Cu.	3.8	Ω ● a.
19	59.04	28.1	32.1	24	86	NNE	.8	4.8	Ci.	Cu.	3.3	Ω ● ϟ
20	59.59	28	31.9	23.7	83.5	ENE	1.4	6.8	Ci.	Cu.	2.3	●° p. Ω ≡°
21	59.28	28	32.8	23.3	81.3	Variable	1.1	2.5	Ci.	Cu.	------	Ω
22	58.25	27.5	31.3	23.2	82.8	Variable	.9	2.8	Ci.	Cu.	------	Ω ≡°
23	57.83	27.5	32.4	23	81.8	Variable	1.2	3	Ci.	Cu.	------	Ω ≡°
24	57.92	28	32.2	23	80.2	SW quad.	1.4	3	Ci.	Cu.	.3	d a. Ω ≡°
25	57.08	27.8	32.4	24	82.5	WSW	1.3	8.2	Ci.	N.-cf., Cu.	7.4	⌈ϟ a. Ω
26	56.66	28.8	33.6	24.6	78.7	SW quad.	1.9	8.5	Ci.	Cu.	------	Ω
27	56.21	27.7	30.4	24.2	86.3	WSW	1	10	A.-S.	S.-Cu.	------	Ω ≡° ϟ
28	56.36	27.8	32	24.9	87.9	Variable	1.4	9.2	Ci.-S.	S.-Cu., Cu.	------	Ω ≡° ϟ
29	56.91	28.2	33.1	24.5	86	E	1.2	6.5	Ci.-S., Ci.	Cu.	------	Ω ϟ
30	57.46	28.5	32.8	23.8	84	Variable	1.4	2.5	Ci.	Cu.	------	Ω
31	58.50	28.1	32.7	24	83.8	ENE	1.3	7.5	Ci.	Cu.	------	Ω ≡°
Mean	758.07	27.7	31.9	23.6	84.5	------	1.2	5.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	67.6	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	758.36	27.4	31.7	24.3	81	E	8.5	4	Ci.	Cu. E, NE	4.3	⛈ ≡° a. ∞ ϟ p.
2	58.49	28.2	31.4	24.8	77.8	E	8.9	3.2	Ci.	Cu. E, ENE	------	⌓ ∞
3	58.22	27.5	31.1	24.6	78.7	E	7.8	3.2	Ci.	Cu. E, NNE	------	⌓ ∞
4	57.61	27	31.9	23.8	79.3	S, E	7.2	5.5	Ci.	Cu. NE	------	⌓ ≡° a. ⊤ p.
5	57.56	28	32.8	23.8	79	SE, SSE	7.1	4	Ci.	Cu. S, NE	------	⛈ ∞ a. p.
6	58.07	27.4	31.5	23.3	79.7	S, NW	5.7	6	Ci.-S.	Cu. NNE	------	⌓ ≡°
7	58.21	28.2	31.9	24.7	78.3	S, SW	7.2	5	Ci.	Cu. NNE, SSW	------	⌓ ∞ ϟ a. p.
8	57.84	28.5	31.9	24.6	77.1	E	6.3	6.8	Ci.-S.	Cu. WSW	------	≡° ⊤ ϟ a. p.
9	57.42	28.4	33	24.9	76.8	E	5.2	6	Ci.-S. W	Cu. ENE, E	------	⌓ ∞ ϟ
10	57.54	28.6	33.4	24.7	81.8	SSE, ENE	5.9	4.8	Ci.-S.	Cu. ENE	1.3	≡° ⛈ a. p.
11	57.92	28	33	25	77.5	S	5.6	6	Ci. W	Cu. N	------	≡° ⊤ ϟ a. p.
12	57.97	28.3	31.9	24.3	78.2	N, E	8	5.2	Ci.-S. W	Cu. N, ENE	------	⛈ a. p. ≡°
13	58.61	28.2	31.5	23.4	75.3	E	10.4	3.5	Ci.	Cu. ENE	2	⛈ ∞ a. p.
14	59.17	28.6	32.1	26.6	72.3	NE	11.2	4.2	Ci.	Cu. E	------	⌓ ϟ ≡° a.
15	59.23	28.5	32.1	24.7	76.5	E	7.6	3.5	Ci.	Cu. E	.8	ϟ ⌓ ≡° p. ∞
16	58.56	27.6	31.8	23.8	78.4	ENE, E	8.4	7.2	Ci.-S. E	Cu. N	------	⌓ ≡ ⊤ ϟ ○
17	58.04	27.1	31.5	24.6	84.2	E	7	7.5	A.-Cu. E	Cu.-N. NNE	2.8	ϟ ≡° a. ● p.
18	58.42	26.6	29.8	24.6	83.7	N	4.9	7.2	Ci.-S.	Cu.-N. N	.8	d ϟ ≡° a. ⌣ p.
19	59.16	27.8	32	24.2	79.6	SE	5.5	8.2	Ci.-S.	Cu. W	43.9	⌓ ⌣ ≡° ⛈ ⇙ ●° ○
20	59.56	27.7	32	23.4	79.7	Variable	5.6	4.2	Ci.	Cu. ENE, E	------	⌓ ≡° ⊤ ϟ
21	59.19	27.4	32	23.7	81.8	Variable	5.9	4	Ci.	Cu. N	------	⊤ ϟ ∞ a. p.
22	58.26	27.6	32.2	24.2	81.7	S, E	6.3	4.5	Ci.-S.	Cu. NNW	------	⌓ ∞ ϟ
23	57.93	27.5	31.1	24.3	81.5	Variable	6.6	7.2	Ci.-S. E	Cu. NNE	------	⌓ ≡° ○
24	57.93	27.4	32.8	24.2	83.3	SSE	6.1	5	Ci.	Cu. WNW	2.3	ϟ ≡° ⊤ •
25	57.39	27.4	32	23.8	80.3	SSE, SW	6.3	6	Ci.-S.	Cu. SW	.5	⌓ ϟ ≡° d
26	56.56	29	32.2	25.4	72	SSW	10.7	6.2	Ci.-S. ESE	Cu. WSW	------	⌓ ≡° ⇙° ○
27	56.13	28.6	31.9	26	75.2	SW	9.7	8.2	Ci.-S. ENE	Fr.-Cu. SW	------	⌓ ϟ ≡° ○ ⊤
28	56.24	27	30.2	23.8	81.7	W, SW	6.7	9	Ci.-S.	Cu.-N. WSW	4.6	ϟ ≡° ⇙° ● ⊤
29	56.90	28.3	32.5	24	76	SSW, SW	7	5.2	Ci.-S.	Cu. SW	------	⌓ ≡° a.
30	57.40	27.8	33.5	23.5	78.2	S, E	6.9	4.8	Ci.-S. NNE	Cu. SW	------	⌓ ≡° a.
31	58.30	28.1	31.5	25.1	80	E	7.1	6.8	Ci.-S. E	Cu. NNE	------	ϟ ∞
Mean	758.01	27.9	31.9	24.4	78.9	------------	7.2	5.6	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	63.3	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	758.57	28.8	33.4	24.1	70.8	NE	11.9	7	Ci.	N.-cf.	------	d a.
2	58.82	28.5	34	24.7	74.7	N quad.	8.8	5	Ci., Ci.-S.	Variable	2.8	⛈ a.
3	58.36	28.8	34.4	24.5	74.5	Variable	8.4	5.5	Ci., Ci.-S.	Cu.	------	⛈ p.
4	57.70	28.4	34.9	23.8	71.9	NE	---------	8.2	Ci.-S.	Cu.	------	○ ⊕
5	57.50	28.1	34.5	23.5	72.6	N, SW	---------	4.2	Ci.	Cu.	2.5	●° p.
6	58.14	27.3	32.9	23.6	77.5	Variable	7.5	5.2	Ci.	Cu.	------	∞ a.
7	58.52	27.7	31.5	23	77.8	SW	8.5	7.8	Ci.-S.	Cu.	------	≡° ⌓·a.
8	58.06	27.1	31.5	22.9	77.3	SW	8.8	5	Ci., Ci.-S.	Cu.	------	⌓ a.
9	57.58	28	32.5	24.3	76.7	SW	9.7	7.8	Ci.-S.	Cu.	------	∞ ◡
10	58	27.4	32.5	24	79	N, SW	---------	6.5	Ci -S.	N. SE	------	⊤ a. d² p.
11	58.09	27.7	32.5	24	76.8	Variable	6.3	7.8	Variable	N.	------	∞ ⊤ ϟ ◡² ⌣²
12	58.16	26.8	32.6	24	80.9	Variable	6.1	8.2	Ci.	Variable	4.6	⛈ p.
13	58.54	28.2	34.8	23.5	73.2	NE	11	8.5	Ci.-S.	Cu.	2	⛈° a. p.
14	58.86	29.2	34.5	23.5	68.8	NE	14.6	5.5	Ci.	Cu.	------	∞ p.
15	59.32	28.8	34.4	25	72.3	N, NE	11.3	5	Ci.	Cu.	------	ϟ a. p ⊤° p.
16	58.94	28.2	33.6	25.5	73.2	NE	11.2	7.8	Ci.-S.	Variable	2.8	⊤ ● p.
17	58.33	26.6	33.1	22.8	84.4	Variable	6.5	9.5	Ci.-Cu. SE	N.	24.9	⛈ p. ○°
18	58.45	27.1	30.9	24	83.3	SW, NNW	6	9.8	A.-S.	Variable	1.3	ϟ ● p. ⊕
19	59.24	27.9	31.7	25	80.8	Variable	6.3	9.2	Ci.-S.	Cu.-N.	------	d ○² ⊕² ϟ² p.
20	59.66	27.5	32	23.6	82.2	SSW	8.8	8.8	Ci.-S.	Cu.-N.	2.8	d a. ⊤ ● p.
21	59.27	27.8	31	24.2	80.2	SW	7.4	7.2	Ci.-S.	N.	.3	●° a. ⊤ p.
22	58.35	27.9	31.1	24.8	77	SW	10	7.2	Ci., Ci.-S.	N., Cu.	1.5	● ⊤ a. p.
23	58.12	27.3	30.5	24.1	81	SW	8.6	9.5	Ci.-S.	Fr.-N.	------	⊕
24	58.13	28.3	33	25	72.5	SW	10.9	8	Ci.-S. ESE	Cu.	------	
25	57.78	26.8	30.4	23	79.9	SW	12.1	9.2	Ci.-S.	Cu.	14	●² ⇙° ϟ
26	56.97	26.7	28.9	23.3	85.7	SW	14.6	9.5	Ci.-S.	N.	26.7	● a. p. ⊤°
27	56.10	27.4	30.5	22.8	80	SW quad.	18.4	10	Ci.-S.	N. S, SW	56.4	⛈ ⇙ ●
28	56.52	26.4	29	21.9	84.5	SW	22.4	9.8	A.-Cu. SW	S.-Cu.	24.4	⇙ ● ⛈ ⊕
29	56.99	27.1	29.5	22.4	86.5	SW	11.7	9.5	Ci.-S.	N. SW	52.6	⊤ ● a. p. ϟ
30	57.78	27.1	30.5	24.5	86.5	SW	8.6	9.5	Ci.-S.	Cu. SW	1.8	ϟ ○ ⊕ ● ⊤°
31	58.61	27.6	31.9	24	79.2	N	4.5	8.5	Ci.-S.	Cu.	.5	● ϟ ⊕ ○ ⊤
Mean	758.18	27.7	32.2	23.8	78.1	------------	10	7.7	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	221.9	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.		Clouds. Prevailing form and its direction. Lower.		Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.					mm.	
1	758.74	25.8	31.1	22.8	88.7	SSW, N	3.7	5	Ci.		Cu.	ENE	14	☈ p.
2	58.75	26.2	31.7	22	84	S	5.3	2.8	Ci.		Cu.	ENE, E	.5	⌓●° a. ⊤ ⚡ p.
3	58.51	26	31.2	20.5	78.3	Variable	5.6	3.2	Ci.		Cu.	NE	------	⌓° a. ⊤ d ⚡ p.
4	57.72	26.2	30.8	21.8	82.7	SE, S	5.4	5.8	Ci.	SSE	Cu.	NNE	------	○
5	57.45	25.5	30.8	20.4	80	S quad.	5.8	5	Ci.	SE	Cu.		------	⌓° a. ⚡ p.
6	58.12	26	32.2	20.3	82	S, E	5.7	6.2	Ci.	E	Cu.		------	⌓° a.
7	58.33	26.8	30.4	22.8	82.3	SSE, S	6.1	6	Ci.	E	Cu.	SW	------	⚡ a. p.
8	57.87	27.2	33.1	23.3	79.9	Variable	4.2	6.2	Ci.-S., Ci.		Cu.-N.	NW	------	☈ a. p.
9	57.62	26.2	31.3	22.7	87.9	S	5.2	7.2	Ci.	E, N	Cu.-N.	SE	9.6	⚡ a. ☈ p.
10	57.88	26.5	31.9	22.7	84.7	SSW	4.9	7	Ci., Ci.-S.		Cu.-N.	S, ENE	.5	☈ a. p.
11	58.09	26.2	31.3	23.4	85.3	SW, N	4.3	6.8	Ci., Ci.-S.		Cu.-N.	ENE, W	------	☈ a. p.
12	58.17	26.8	32.2	21.5	80.2	W, SSE	4.9	5.2	Ci.	WSW	Cu.		------	⚡ a. ☈ ⊍ p.
13	58.78	27.1	32.8	22.3	76.8	S, E	8.1	4.5	Ci.	SE	Cu.	E	------	⚡ d ⊤
14	59.41	26.5	32.6	22.4	80.8	SW, ESE	5.3	5.5	Ci.		Cu.	E	6.6	⚡ a. p. ↙●
15	59.49	26.9	31.4	23.4	82.5	SSW, S	4.4	3.2	Ci.		Cu.	ENE	1.3	●° ⚡
16	58.86	25.7	29.5	22.2	86.5	W, NE	2.8	9	Ci.-S.		Cu.	NE	1.8	☈ p. ⊍
17	58.30	26.6	31.6	23.3	81.7	Variable	3.5	7.8	Ci.-S., Ci.		Cu.		1.3	● ⊤ ⚡
18	58.50	25.7	29.5	22.8	87.2	S, ENE	3.3	7.8	Ci.-S.		Cu.	E	1.5	☈ p.
19	59.32	26.2	31.1	21.8	86.3	SSW	2.6	8.2	Ci.-S.		Cu.	E	------	⚡ a. p. ⌓
20	59.68	27.1	31.6	22.2	80.2	S	5.4	5	Ci.	NNE	Cu.	E	------	⚡ ⌓ ⊤
21	59.36	26.4	30.8	21.7	79	Variable	6.2	2.2	Ci.		Cu.	ENE	------	⚡ a. p. ⌓°
22	58.42	26.6	30.7	20.8	77.8	S	6.3	6.8	Ci.	E	Cu.		------	⚡ a. p.
23	58.22	26.6	30.8	22.8	82.4	S, WSW	3.6	9	Ci.-S.		Cu.-N.	SE, E	------	⚡ ⊤
24	58.20	26.9	31	21.5	81.8	S	5.6	5.5	Ci.	E	Cu.-N.		.5	☈ a. p.
25	57.50	26.1	30.5	22.5	85.2	N, S	3.7	7.5	Ci.	E	Cu.		1	☈ a. p.
26	56.70	27.5	31.4	22.9	81	S, SE	8.1	7.2	Ci.	ENE	Cu.	SW, WSW	.5	☈° p.
27	56.29	28.9	30.7	27.5	77.2	SSE	16	9.8	Ci.-S.		Cu.	S	7.6	○° ☈ p.
28	56.50	26.8	28.5	22.8	82	E	5.8	9.8	Ci.-S.		Cu.	S	9.6	☈ ↙ ● a. d p.
29	57.17	27.2	30.5	22.7	82.7	SSE	8.5	5.2	Ci.	E	Cu.	SSE	7.4	● a. ⚡ p.
30	57.86	26.6	31.2	22.5	84.2	S, SW	3.7	5.5	Ci., Ci.-S.		Cu.		------	d ⚡ p.
31	58.54	26.2	31.2	22.7	83.2	WSW, S	3.5	6.8	Ci.	ENE	Cu.		------	⚡ ⊤
Mean	758.20	26.5	31.1	22.4	82.4	------------	5.4	6.2	------------		------------		------	
Total	------	------	------	------	------	------------	------	------	------------		------------		63.7	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.		Clouds. Lower.		Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.					mm.	
1	759.03	27.4	32.3	24.7	84.7	WNW	1	5.8	Ci.-S.	SSW	Cu.	N, E	------	
2	59.12	27.5	32	24.3	81.2	SE	1	4.2	Ci.-Cu.	WNW	S.-Cu.	NE	------	⌒° ○²
3	58.58	27.8	33.2	23.5	78	W, E	1	3.2	Ci.		Cu.	E	------	⌓ ⊤
4	57.93	27.9	33.5	23.9	75.7	SSE	.8	6.8	Ci.	SSW	Cu.	E	------	○² ⌒°
5	57.63	27.8	32.8	23.5	73.7	WNW, ESE	1	6.2	Ci.-S.	SW	Cu.	E	------	○°
6	58.11	27.6	32.5	24.3	79.4	Variable	.8	6.8	Ci.-S.	SW	Cu.	E	------	○° ⊍²
7	58.27	28.2	33.1	24.1	79	Variable	.7	6	Ci.-S.	SSW	S.-Cu.		1.5	⌓ ● ⚡
8	57.96	28.7	33.5	24	78.2	NW	.5	4.8	Ci.	SSE	Cu.	WNW	------	⚡
9	57.66	28.2	32.5	24.8	79.3	ESE	.8	6	Ci.	S	Variable		------	⊤ ⚡
10	57.98	28.3	32.7	25	81.3	W	.8	5	Ci.-S.		Cu.-N.	S, WNW	------	⊤ ⚡
11	58.25	28	32.5	24.8	79.2	Variable	.5	5	Ci.-S.	N	Cu.	SE	13.5	☈² ∞
12	58.54	28.3	32.7	25	79.2	SE	.8	5.8	Ci.-S.	SW	Cu.	SE	1	⊍° ⊖° ●
13	59.36	27.2	31.7	24.8	86.2	Variable	1	7.2	Ci.-S.	NE	Cu.-N.	SE	16	☈ ⊖°
14	59.74	26.5	32	23.6	85.3	Variable	.7	5.2	Ci.		Cu., Cu.-N.	E	17.3	● ⚡ ⊍²
15	59.71	27.7	32	25.2	82	SE	.8	6	Ci.-S.		Cu.	E	.8	⊖° ● ⌒°
16	59.22	26.5	30.4	24.8	88.5	WNW, SW	1	8.2	Ci.-S.		Cu.-N.	ESE, NE	8.6	●
17	58.25	27.2	32	24.2	86.4	Variable	.7	7.5	Ci.	SW	Cu.-N.	E	3	● ○² ⊤ ⚡ ⊖°
18	58.48	27.6	32	24.8	83	ESE	.7	6.5	Ci.-S.	WNW	Cu.	E, ESE	11.2	⊖² ●²
19	59.43	27.6	32.2	24.2	83	SE, SSE	.8	7	Ci.-S.	W	Cu.	E, ESE	------	
20	59.86	28.3	32	24.8	78.4	SE	1.2	4.5	Ci.-S.	WNW	Cu.	E	------	⌒
21	59.60	28.3	32	24.3	77.8	SE	.7	3.8	Ci.	W	Cu.	SE	------	⌓ ○° ⚡
22	58.55	27.8	32.8	24.5	80.7	SE	.3	7	Ci.	W	Cu.	E	8.9	⌒² ●
23	58.17	26.9	32.2	24.7	85.5	NW, NE	.8	8	Ci.	WNW	Variable		------	○² ⊤
24	58.09	27.6	33.3	24	84.7	NNW	.7	5.8	Ci.	E	Cu.	W	13.7	○ ⊤ ●
25	57.46	28.1	33.4	24.2	81	NW	1	6.2	Ci.-S., Ci.	SSE	Cu.	N	1.5	○° ●
26	56.56	28.9	34.4	24.3	77.2	W	.5	6.5	Ci.-S.	NE	Cu.	NW, WNW	------	d
27	55.96	29	33.7	23.9	72.8	SSW	.8	7.2	Ci.	E	Cu.	W	------	⌓ ○² ⊕ ⚡
28	56.30	26.6	30.3	23.7	84.7	SW	.7	8.5	Ci.-S.		Cu.-N.	SSW	21	↙ ● ⚡
29	56.87	28.1	32.3	23	81.5	S, SSE	1.2	7	Ci.	ESE	Cu.	SW	1	↙ ●°
30	57.80	27.6	32.7	24	81.7	NW	1	4.5	Ci.		Cu.	S	------	
31	58.77	28	32.3	24.7	81.9	SSE	.5	7.2	Ci.	WNW	Cu.	S, SSE	------	○ ⊕
Mean	758.30	27.8	32.5	24.3	81	------------	.8	6.1	------------		------------		------	
Total	------	------	------	------	------	------------	------	------	------------		------------		119	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.05	27.9	31.9	22.5	84.2	NE	0.5	3.2	Ci.	S.-Cu.	5.3	Ω° ● a.
2	59.02	28.2	32.6	23.5	86.2	NE	.5	5.5	Ci.	Cu.-N. NE, E	------	Ω° d a. ⚡° p.
3	58.77	28.1	32.4	22.5	81	NE	.5	4.5	Ci.-S.	Variable	3	●° a. ⚡° p.
4	58.08	27.4	32.1	21.5	84.8	NE	.2	5.8	Ci. NE	Variable	------	Ω° a.
5	57.68	27.1	31.3	20.6	84.8	NE	.3	3.8	Ci.	S.-Cu. NE	------	Ω a.
6	58.08	27.4	32.2	20.2	83.8	NE	.3	4.8	Ci., Ci.-S.	Cu.-N. NE	------	Ω° a.
7	58.41	27.2	32.6	21.3	80.8	NW	.5	8.5	Ci.-S.	Cu.-N. E	------	Ω° a.
8	58.08	28.1	32.3	21.6	80.5	NNE	.5	4.2	Ci.	Variable	------	Ω° a.
9	57.73	28.2	32.9	22.1	82	Variable	.8	5.8	Ci.	Cu.-N. NE	------	Ω a. ⚡ p.
10	58.08	27.2	33	21.2	84.5	SW	.5	4.5	Ci.	Cu. SW	------	Ω° a.
11	58.08	27.5	32.6	21.7	85.3	N	.2	5.5	Ci.	Cu.-N. N	------	T a. p. Ω
12	58.22	28.1	33.2	21.6	81.8	Variable	.3	6	Ci.-S.	Cu.-N. NE	------	T d° ⊕°
13	58.63	28.8	34.2	21.6	80.2	NE	.7	5.5	Ci.-S., Ci.	Cu.-N. NE, E	39.9	⛈² a. p.
14	59.40	28.6	32.9	24.2	80	NE	.7	5.8	Ci.-S., Ci.	Cu.-N. E	2.5	⛈ p.
15	59.53	28.7	32.2	22.9	82.5	NE	.7	5.5	Ci.	Cu.-N. E	7.4	● a.
16	59.07	29	31.6	24	82.7	NE quad.	.5	7.2	Ci.	Cu.-N. E	------	
17	58.45	27.7	31.1	23.4	83.7	Variable	.3	9.2	Ci.-S.	N. NE	------	d a. ⛈ p.
18	58.69	27	30.6	22.3	88.3	SSW, N	.2	9.8	Ci.-S.	N. NW, N	8.9	⛈ a. ⚡ p.
19	59.32	27.6	31.8	22.6	86.8	NE	.2	9.8	Ci.-S.	N. E, NE	7.1	⛈ p.
20	59.66	27.3	31.9	22.5	85	Variable	.3	6.5	Ci.	Cu.-N. NE, S	7.4	● a. ⚡ p.
21	59.21	27.6	31.8	21.7	85	Variable	.0	5	Ci.-S., Ci.	Cu.-N. SW, N	7.6	⛈² a. ⚡ p.
22	58.55	27.1	31.9	21.3	84.8	Variable	.3	8	Ci.-S.	Cu.-N. E, NE	.8	⚡° a. ⛈° p.
23	58.16	26.9	31.8	21.3	87	SSW	.0	8.8	Ci.-S.	Cu.-N. SW	------	d a. ⚡° p.
24	58.12	27	32	21.7	85.5	S	.3	6.5	Ci.	Cu.-N. S, NE	------	Ω° T d° ⚡°
25	57.85	27	31.9	21.9	86.7	SSE	.5	8.2	Ci.-S.	Cu.-N. SE, NE	18.3	⛈ p.
26	56.59	27.8	32.2	21.5	84.5	SW	.5	9.5	Ci.-S.	N., Cu.-N. SW	------	
27	55.97	26.7	30.2	22.2	88.9	SW quad.	.8	10	Ci.-S.	N. SW	5.6	d a. ● p.
28	55.85	26.5	29.5	22.1	87.5	SW quad.	.8	10	Ci.	N.	9.9	● a. p. T
29	56.57	27.7	32	21.5	86.7	SW	.3	9.5	Ci.	Cu.-N. SW	1.5	⛈ p.
30	57.73	27	32.1	22.7	87	SW	.3	7	Variable	S.-Cu. SW	21.8	⛈² p.
31	58.68	27.2	31.5	21.9	87.2	Variable	.5	5.2	Ci.	S.-Cu. NW	------	T ⚡ p.
Mean	758.24	27.6	32	22.1	84.5	------------	.4	6.7	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	147	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 4.1 meter; gravity correction not applied, —1.80 mm.]

	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.20	25.7	31.4	23.4	92.3	N	1	5.8	Ci.	S.-Cu. NE	0.3	p ⚡ p.
2	59.03	27.1	32.5	23	86.2	N	1	6	Ci.	S.-Cu.	3.3	p a. ⌒° ⚡ p.
3	58.76	26.8	32.8	22.5	83.8	N	1	4.5	Ci.	S.-Cu. NE	------	⚡ p.
4	58.18	26.4	32.6	21.8	85.5	N	1	6.8	Ci. NE	S.-Cu. NE	------	⚡ p.
5	57.96	26.2	32	21.5	84.3	N	1	5.8	Ci. N	S.-Cu. NE	------	⚡ p.
6	58.25	26.4	32.9	21.5	80.3	N	1	6.2	Ci. N	S.-Cu. NE	------	⊍² ⚡ p.
7	58.68	27.1	33.1	21.9	84	N, W	1	6.2	Ci. N	S.-Cu. NE	14.7	● ⚡ p.
8	58.20	26.8	32.5	22.8	87	N, W	1	6	Ci. N	S.-Cu. NE	.5	d ⚡ p.
9	57.86	27.5	34	23.4	84	N	1	5.5	Ci. N, NE	S.-Cu. NE	------	T ⚡ p.
10	58.16	27.9	34.3	23	82.8	N, W	1	5.5	Ci.	S.-Cu. NE	------	⌒° a. ⚡ p.
11	58.08	27	34	23.7	85	N, W	1	5.5	Ci. N	S.-Cu. NE	------	p ⊍ ⚡ p.
12	58.55	27.2	34	22.8	81.8	N, W	1	6.5	A.-Cu. NE	S.-Cu. NE	------	○° ⚡ p.
13	59.34	26	32.6	23	88.8	N	1	6.8	Ci.-S.	S.-Cu. NE	8.9	p a. ↙ ●° ⊍ ⚡ p.
14	59.83	26.1	32.4	22.6	86.2	N	1	6.2	Ci.	S.-Cu. NE	4.1	↙ ●° ⚡ p.
15	59.96	25.8	30.5	22.8	91.3	N	1	6.2	A.-Cu. NE	Cu.-N. NE	5.1	p ⚡ p.
16	59.43	25.5	31.5	22.1	91	N	1	6.5	Ci. NE	S.-Cu. NE	20.1	● a. p. ⚡
17	58.41	26.4	30.5	23.2	88.7	N	1	7.5	Ci. NE	S.-Cu. NE	.3	○° a. ⚡ p.
18	58.58	26.7	31.5	23.3	88.5	N	1	7.8	Ci. NE	S.-Cu. NE	------	○° a. ⚡ p.
19	59.48	26.2	32	23.4	90	N, W	1	7.2	Ci. NE	S.-Cu. NE	24.1	●² ⚡ p.
20	59.89	27.1	33	23.1	86.5	N, W	1	6	Ci. N	S.-Cu. NE	.3	○° a. ⚡ p.
21	59.52	27.4	33	23.3	82.5	N, W	1	4.2	Ci.	S.-Cu.	------	⚡ p.
22	58.71	26.7	32.5	22.6	83.3	N, W	1	5.8	Ci. N	S.-Cu. N	------	T p ⚡ p.
23	58.22	27.5	32.4	23.2	82.8	N, W	1	7.5	Ci. NE	S.-Cu. NE	------	○° a. ⚡ p.
24	58.26	26.9	33	23.2	86	N	1.2	7.2	Ci. NE, N	S.-Cu. NE, N	17.3	○° ↙° ● ⚡ p.
25	57.72	27	32	23.5	87	N, WNW	1	7.5	Ci. N	S.-Cu. N	------	⚡ p.
26	56.57	28	32.2	23.7	79.3	N, W	1.3	7.5	Variable	S.-Cu. W	------	p a ⚡ p.
27	55.92	28.3	31.8	23	80.7	SW, WSW	1.8	7.5	Ci., Ci.-S.	S.-Cu. W	15.2	↙ ● a. p.
28	56.07	27.6	31.5	24	80.7	SW, WSW	2	7.8	A.-Cu. SW	S.-Cu. SW	19.8	↙ ● ⚡
29	56.71	29.1	34.2	26.6	76.2	WSW	2	6.8	A.-Cu. SW	S.-Cu. SW	------	↙° a. p. ⚡
30	57.82	28.2	33.5	25	84.7	N, W	1	7.2	Ci.-S.	S.-Cu. SW	------	⚡ p.
31	58.72	27.2	33.8	24.4	86.3	N, W	1	7	Ci.-S.	S.-Cu. SW	.5	p a. ⚡ p.
Mean	758.39	27	32.6	23.1	85.1	------------	1.1	6.5	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	134.5	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 4.2 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	759.21	28.1	31.9	24.5	79.7	NNE, ENE	9	4	A.-Cu. SE	Cu. ENE	3.8	d a. p p.
2	59.28	27.8	31.2	23.9	81.8	NE	8.3	2.8	Ci.	Cu. NE	1	d a.
3	58.75	28.6	32.1	25.1	75	ENE	7.6	1	Ci.	Cu.-N. N	------	☇ p.
4	58.13	27.6	32.9	21.9	72.5	E	7.2	2.5	Ci. SSE, SW	Cu.	------	☇ p.
5	57.62	28	32	23.8	75.8	ENE	6.9	5.2	Ci. SSE, SE	Cu. NE	------	☇ p.
6	58.02	27	32.3	22.2	80.2	ENE, NE	4.1	3	Ci.	Cu. NW	------	☇ p.
7	58.24	26.5	33.1	22.6	84.8	ESE	3.6	5	A.-Cu. WNW	Cu. W	15	p ☈ p.
8	57.95	27	33	22.7	81.3	WSW	3.4	3.8	Ci.	Cu. W	------	⊤ p ☇ p.
9	57.66	26.8	32.9	24	86.7	ENE	3.3	3.2	Ci.-S.	Cu.-N. S	17.5	● p.
10	57.81	26.9	33.5	22.6	84.5	Variable	4	4.8	------	Cu. SW	5.8	☈ p.
11	57.91	26.4	33.6	23.1	88.5	Calm	3.1	3.2	Variable	Cu.-N. SW	41.7	⊤ a. ●² ☇ p.
12	58.39	27.1	32.5	23.6	85	Calm	4	7.8	Ci. W, NW	S.-Cu. SW	.3	○² ☇ p.
13	59.34	28.3	31.7	24	80.5	NE	10.3	3.2	Ci. NW	Cu. ENE	5.1	d a. ● ☇ p.
14	59.93	27.9	31.5	24.5	79.8	NE quad.	11	4	Ci.	Cu.-N. E	11.7	d° a. ● p.
15	60.20	28.2	31.5	25	80.5	NE quad.	9.8	3	Ci.	Cu. E	8.9	● a.
16	59.43	28.8	32.1	25.9	74.3	NE quad.	9.9	4.2	Ci. SE	Cu. ENE	------	☇ p.
17	58.20	27.4	32.2	24.3	84.2	N, ENE	4.3	6.2	Ci. NNW, NW	Cu.-N. E	1.5	☈ ◡ p.
18	58.22	27.8	32.6	24	79.7	ENE	5.4	7.5	Ci.-S. NW	Cu.	------	○ ☇ ◡ p.
19	59.32	27.8	31.5	23.9	81.3	ENE	6.9	8.8	Ci.-S. NW	Cu.	------	○ ☇ p.
20	59.80	28.2	32.1	24.5	78.5	ENE	7.3	3.2	Ci. NW, NNW	Cu.	------	☇ p.
21	59.39	28	32.1	23.2	76.3	ENE	8.5	1	Ci.	Cu.	------	☇ a. p.
22	58.53	27.9	32.2	24	77.6	ENE, NE	------	7	Ci.-S. NW	Cu.	------	○² ☇ p.
23	57.92	26.8	32	22.5	82.5	ENE, E	3.5	8	Ci.-S. NW	Cu. SSE	------	○ ☇ p.
24	58.12	27.4	32.6	23.3	81.5	Variable	3.9	8.5	Ci.-S. NW, W	Cu.	------	○ ☇ p.
25	57.39	26.5	32.1	23	85.2	Calm	2.8	9	Ci.-S.	Cu. SW	2.5	○ p² a. d ☇ p.
26	56.07	26.8	33.1	23.9	80.8	SW	5.7	9	Ci.-S.	Cu. SW	.8	● p.
27	55.28	27.2	31.5	24.5	80.8	SSW	8.7	9.5	A.-Cu. W	Cu.-N. SW	2.5	p a. p.
28	54.79	26.2	30.9	23.6	83.5	SW	12.3	9.5	Ci.-S.	Fr.-N. SW	11.9	●° a. p. ○
29	55.73	27	28.7	25	82.2	S	9.4	10	Ci.-S.	Fr.-N. WSW	.5	d a. ☇ p.
30	57.51	27.6	33.6	24.7	81.1	SW	5.1	8.5	A.-Cu. SW	Cu., Fr.-N. W	1	d a. p ☇ p.
31	58.64	25.9	31.7	24.2	89.8	NE, ENE	3	6.8	A.-Cu. SE	Cu. S	10.2	● ☇ a. p.
Mean	758.15	27.4	32.2	23.8	81.2	------	6.4	5.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	141.7	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 7.8 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	759.52	29.2	33	26.3	78.3	NE	10.3	0.8	Ci.	Cu.	------	☇° p.
2	59.41	29.1	33.9	24.9	82.8	NNW, N	10	3.5	Ci.	Cu. NE	------	⊕ ☇ p.
3	58.85	29.5	34.8	25.3	84.3	N quad.	9.4	4	Ci.	Cu. N, NE	------	☇ a. p.
4	58	28.7	34.4	24	82.4	NE	9.4	4	Ci. SE	Cu. N, NE	------	Ω ≡° ⊕ a. ☇ p.
5	57.66	28.5	33	24.3	81.8	NNW	10.5	8.5	Ci.	S.-Cu. NNE	18.3	○ ⊕ a. ☈ p.
6	58.28	27.3	32.2	22.9	87.2	N	10.8	8.2	Ci. NW	Variable	17.7	⊕ a. ☇ ● Φ p.
7	58.76	26.5	31.4	24	92	NE, N	7.2	9	Ci.-S.	Cu. N	26.6	● a. ☇ Φ p.
8	58.22	26.9	32.9	23.9	91.2	SW	6.6	7.2	Ci.	Cu.	2.3	d ⌒ ○ ⊤ ☇ Φ
9	57.61	27.3	31.7	24	91.7	SW	5.4	9.5	Ci.	S.-Cu.	1.5	d ☇ ⊕ ≡° Φ
10	57.46	28.8	35.3	23.9	84.7	SW	7	2	Ci.	Cu. SSW	------	≡° Ω ☇ ⊕ ⊤ Φ
11	57.45	28.7	35.3	23.7	82.5	SW	8.1	1.5	Ci.	Cu. SW	------	Ω ≡° Φ ⊕ ⊤ ☇
12	58.02	28.3	34.7	23.2	84.5	SW	8.1	7.5	Ci.	S.-Cu. SW, NE	13.5	Ω Φ ○ ⊕ ☈
13	59.54	27.8	31.9	22	85.2	NE	9.5	9.5	Ci.	Fr.-Cu. NE	6.8	☇ ●° ⊕ ⊤ Φ
14	59.81	28.7	34.4	24.1	83.6	NNE	9	7.5	Ci.	Cu. E, NNE	2.8	Φ ☈
15	60.25	28.3	32.9	23.6	84.2	Variable	10.4	6.8	Ci.	Cu. E	------	≡° Ω Φ ⊕ ⊤ ☇
16	59.27	29.6	34.4	25	79.8	N, NE	7.4	3.5	Ci.	Cu. NE	------	Φ Ω
17	58.16	28.7	34	23.6	85.2	SW	7.5	6	Ci. E	S.	------	Φ Ω ≡° ⊕ ☇
18	58.28	28	32.7	24.1	86.3	Variable	8.7	9.5	Ci.-S.	S.-Cu. N	------	Ω ☇
19	59.16	27.5	32.8	25.2	90.8	N, WSW	5.1	9.8	Ci.	Cu.	8.9	○ ☈ Φ ◡
20	59.59	27.1	32.4	23.9	91.5	SW, NE	6	7.8	Ci. NW	Cu.	6.8	Φ ≡ Ω ●° ☇
21	59.05	27.6	33	23.9	90.3	SW	6.7	7.8	Ci. NNW	S.-Cu.	3.6	≡° Φ ◡ ☈
22	58.55	26.6	30.5	23.8	91.5	SW	8.1	8.8	Ci.-S.	Cu. E	41.2	≡° Ω Φ ○ ☈
23	57.70	27.5	33.3	23.5	87.5	SW	7.9	7	Ci. SSE	Cu. S, SSE	------	≡° Ω ○ ⊤ ☇
24	57.56	28.2	34	23.3	82.8	SW, S	7.3	9	Ci.-S., Ci.	S.-Cu. SE	11.9	≡ Ω ◡ Φ ○ ⊕ ☈
25	56.98	27.7	33.6	24	85.8	SSE	6.7	9.5	Ci.-S., Ci.	Cu. S	14.5	☇ ○ ⊕ ●°
26	55.71	27.5	32.5	24	86.4	Variable	6.9	8.5	Ci.-S.	S.-Cu. S	4.3	Φ ☈
27	54.05	26.9	29.9	24.6	89.3	SW	10	10	Ci.-S.	S.-Cu. S	19.8	↙ ●° a. p.
28	52.89	26.8	30.5	24.4	87.2	SW quad.	16.6	10	Ci.-S.	S.-Cu. SW	7.1	↙ ●° a. p.
29	55.26	26.8	29.7	24.5	86.1	WSW	17.3	10	Ci.-S.	S.-Cu. SW	1.5	↙ ●° ☇
30	57.19	27.6	32	24	85.3	W	5.7	9.8	Ci.-S.	S.-Cu. SW, W	------	d ⊕ ☇
31	58.51	27.7	33.4	23.8	86.3	SW	4.7	9.8	Ci.-S., Ci.	Cu. SSE	------	d ⊕ ☇
Mean	757.96	27.9	32.9	24	86.1	------	8.5	7.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	209.1	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[ϕ=14° 49′ N; λ=120° 16′ E; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.69	29.2	34.2	25.3	72	Variable	0.5	3.5	Ci.-S.	Cu.	------	☇ T
2	59.05	27.1	31.3	25	85.2	N, NE	.4	6.5	Ci.-S.	Cu., Cu.-N.	2.5	☇² ≡ d
3	58.44	27.4	31.9	23.4	81.5	N	.7	5.5	Ci.-S.	Cu. NE	.3	☇ d
4	57.63	27.4	31.8	23.6	84.5	NE	.6	7	Ci.-S.	Cu.-N. N	------	☇ T d
5	57.44	26.6	30.3	24.1	86.3	Variable	.4	8.2	Ci.-S.	Cu.-N. NNE	5.8	○ ⛈
6	57.94	27.5	34	23.6	82.8	E	.6	5.8	Ci.-S. WNW	Cu.-N.	------	☇ T
7	58.12	27.9	34.7	23.4	80.8	SSW	.7	6.2	Ci.-S. S	Cu., Cu.-N.	------	○ ⛈°
8	57.92	26.6	29.4	24.2	88.8	Variable	.5	7.2	Ci.-S. S	Cu.-N.	26.2	≡ ⛈ ◡
9	57.26	26.9	30.8	23.6	85.8	W quad.	.3	7.5	Ci.-S.	Cu.-N. NNW	------	≡ d T ◡
10	57.58	28	33.6	23.6	77.5	Variable	.3	5.8	Ci.-S.	Cu.-N. W	------	≡
11	57.68	27.8	34.9	23.1	76.3	Variable	.5	4	Ci.-S. N	Cu.	------	T ☇
12	57.92	27.3	31.2	23.9	78.8	Variable	.7	8	Ci.-S.	Cu.-N.	2.5	● ⌒ ☇
13	58.50	28.9	35.8	24.1	68.6	ENE	.7	7.8	Ci.-S. NNW, NE	Cu.	------	≡° ○ T ☇
14	59.29	29.3	36.2	25.3	67.8	ENE	.5	6	Ci.-S. N	Cu. ESE, ENE	------	≡° ☇ d T
15	59.73	29	36.2	23.9	70	ENE	.6	5.5	Ci.-S.	Cu.	------	T ☇
16	58.64	29	34.4	24.7	74.4	Variable	.5	5	Ci.-S.	Cu. ENE	------	⌓ ☇
17	58.02	28.4	32.6	25.1	77.2	Variable	.5	8.8	Ci.-S.	Cu.	------	∞
18	58.03	27.7	29.8	25.2	84	SW	.2	9.8	Ci.-S.	Cu.-N. E	------	☇
19	58.81	26.9	33.6	24.4	85.2	ENE	.6	7.5	A.-Cu. SE	Cu.-N. E	3.3	⛈ ≡°
20	59.25	27.2	32.2	24.2	86.5	ENE	.1	8	Ci.-S.	Cu. SSE, SE	4.3	○ ⛈
21	58.64	27.8	34.3	24.6	83	ENE, SW	.7	7.5	Ci.-S. NW, W	Cu.-N. SE	13.1	○° ⛈
22	58.10	25.9	31.5	23	86.7	ENE	.8	10	Ci.-S.	Cu.-N. SW	25.1	d ○ ⛈ ↙°
23	57.08	25.1	31.1	23.3	91.2	ENE	.8	9.5	A.-Cu. SW, S	Cu.-N. S	46.7	⛈²
24	56.86	26.6	31.5	23.2	84.7	ENE, SSE	.3	8.8	Ci.-S.	Cu. SSE	39.1	⛈
25	56.20	26	29.2	23.7	86.2	S	.6	10	Ci.-S.	Cu.-N. S	2.7	d T ○
26	55.19	25	29.1	23.4	92.2	SSW	.8	10	Ci.-S.	Cu.-N. S, SW	30.1	⛈ ↙° d
27	52.73	26.5	28.4	24	90	SW	3.7	10	Ci.-S.	N. SW	44.9	↙ ● a. p.
28	52.14	26.6	28.4	23	89.8	WSW	4	10	Ci.-S.	N. WSW	89.9	↙ ● T
29	55.03	26	27.9	24	90.7	WSW	1.2	10	Ci.-S.	N., Cu.-N. W	51.9	● T
30	57.14	24.6	26.1	23.6	96	SSW	.2	10	Ci.-S.	N. W	30.9	● d
31	58.30	25.7	28.4	23.6	90.7	SSW, SW	.2	9.8	Ci.-S.	N. W	18.8	● ○
Mean	757.53	27.2	31.8	24	83.1	------------	.7	7.7	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	438.1	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	759.02	30.1	38.7	25	67	N, NE	1.2	5.5	A.-Cu. NE	Cu. E	50.8	⛈
2	59.28	27.2	35.4	25	79.3	NNE, N	.8	8	A.-Cu. NE	Variable	------	T ☇ a. p. ≡°
3	58.89	27.6	36.5	22.5	76.5	NNE	1	5	Ci.	Variable	------	⌓ a. T ☇ p.
4	57.92	28.5	37.4	23.4	72.9	NNE, SW	.5	6	A.-Cu., Ci.-S. NE	Cu.-N. N	------	⌓ ≡° a. T ☇ p.
5	57.68	28.5	35.7	24.8	74.8	WNW	.2	8.8	Ci.-S. N	Cu.-N. E	1	T ☇ a. p. d
6	58.39	27.2	36	23.8	81.2	NNW	.7	7	Variable	Variable	10.2	⌓² a. ⛈ p.
7	58.51	27.1	36.3	23.5	80.3	Variable	.3	6	Variable	Cu. ESE	50.8	≡ a. ⛈² p.
8	58.22	27.7	34	23.3	80	NE	.1	7.2	Ci. NE	Cu., Cu.-N. N	8.1	☇ ≡ a. T p.
9	57.41	27.6	35.4	24.5	81.2	N	.8	6.2	Ci.	Variable	16.8	⌓ a. ● T ϖ² p.
10	57.61	28.5	34.4	24.5	80	N	.0	6	Ci.	Cu.-N. W	28.7	⌓ ≡° a. ●² p.
11	57.66	29.7	36.2	25.2	73.3	N	.1	5	Ci.-S., Ci. NE	Cu.-N. WSW, W	------	☇ ⌓ T
12	58.24	27.5	35.5	23.4	80.5	NNE	.5	7.8	Ci.-S. NE	Cu.-N. SW, W	15.5	≡° ⛈
13	59.11	27	33.7	22.4	78.5	N	.1	7.8	Ci.-S., Ci. NE	Cu. SE, E	------	≡° ◡°
14	59.89	28.6	34	23.4	67.8	NNE, E	.7	5.5	Ci. NE	Cu. ENE	------	ϖ² ☇ p.
15	60.22	28.9	34.9	24.2	69.7	NNE	.7	4.5	Variable	Cu. E	------	≡°
16	59.11	29.2	35.7	23.9	70.1	NW, E	.3	3.5	Ci. N	Cu. E	------	⌓ ≡°
17	58.25	29.4	36.5	25.3	73.7	NE	.2	8	Ci.	Cu.-N. S	2.3	●° ϖ² ☇ p.
18	58.21	28.8	33.3	24.8	77.5	Variable	.2	9.8	Ci.-S.	Cu.-N. SE	------	ϖ² ⌓ ○² ☇
19	59.10	27.9	36.1	24.5	79.2	NNE	.2	6.5	Ci. NE	Cu.-N. SE	------	⌓² ☇ ≡° T ϖ°
20	59.54	27.6	36.8	22.8	79.7	NE	.4	7.2	Ci.-S. NE	Variable	20.3	◡° ⌓ a. ⛈ p.
21	58.97	28.1	33.4	24	80.3	NNE, SSW	.2	6.8	Ci.-S. NE	Variable	1.8	≡° ⌓ a. T d ☇ p.
22	58.49	26.2	32.7	23.4	85	NW	.2	10	A.-S.	N. E, ESE	18.5	d ⊕ a. ⛈ p.
23	57.57	25.6	32.7	22.6	88.2	NNW, SSW	.2	9.5	Ci.-S.	N. SE	9.1	≡ a. T d p.
24	57.28	25.3	32.5	23	91.8	NE	.2	8.2	A.-S.	N. SSE, S	19	≡ a. T ●² p.
25	56.66	26.5	33.2	22.5	83.8	NE, SSW	.9	9.5	A.-S.	Cu.-N. S	14.2	⛈ a. p.
26	55.55	24.9	31.2	23	91	NE	.8	9.5	A.-S.	N. S	18.8	d ☇ p.
27	53.30	24.5	26	23.2	95.7	SSW	1.6	10	A.-S.	N. SW	50.8	●² a. p.
28	51.47	25.2	27.8	24	93.5	SSW	3.2	10	A.-S.	N.-cf. SW, W	55.3	●² a. p.
29	54.68	26.1	30.5	24	88.7	SSW	1.1	9.5	Ci.-S.	Cu.-N. W, SW	7.6	● a.
30	57.37	25.6	29.8	24	91.7	S	.2	9.8	A.-S.	N. S, SW	3.3	d p.
31	58.39	26.6	32	24	85.8	Variable	.2	9.5	A.-Cu. NW	N. SW	.8	⌓ a. ☇ p.
Mean	757.81	27.4	34	23.8	80.6	------------	.6	7.5	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	403.7	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force. (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	758.87	29.2	35.9	23.9	77.2	SE, NW	11.6	4.5	A.-Cu.	Cu.	12.4	☈ a. ⚡ p.
2	58.86	28.3	33.9	24.3	79.2	NW, SE	10.3	5	Variable	Cu.	------	T ⚡ p.
3	58.52	28.4	33.5	23.8	78	NW	11.5	4	Ci.	Cu.	------	T° ⚡ p.
4	57.72	28.7	33.7	24.3	74.7	NW	11.7	6	Ci.	S.-Cu., Cu.	36.6	⚡ a. ☈ p.
5	57.35	27.5	35	24	84.2	S, E	7.8	8.5	Variable	S.-Cu.	23.6	☈ a. p. ⊕
6	57.93	27.4	35.7	22.8	82.8	Variable	9.1	5.2	A.-Cu.	Cu., Cu.-N.	4.6	☈ p.
7	57.97	28.5	35.2	22.9	77.5	SE, NW	11	5.5	Ci.	Cu.	------	T° ⚡ p.
8	57.77	28.5	34	23.5	77.8	NW	9.8	5.2	Ci.	Cu.	4.1	☈ p.
9	57.14	28.6	34.6	24.8	81.7	Variable	9.1	6.5	Ci.	Cu.	2.3	☈ ⌒ ⊕ p.
10	57.37	28.9	33.6	24.4	78.5	NW, NNW	11	3.5	Ci.	Cu.	------	⚡ p.
11	57.36	29.6	34	25.1	74.7	NW	12.9	5.2	Ci.	Cu.	------	⚡ p.
12	57.92	29	34.7	25.4	74.9	NW	11.8	7	Ci.	Cu.	------	T ⚡ a. p.
13	58.66	28.7	38.7	23	72.5	SSE	11.8	7.8	Ci.-S.	Cu.	33.3	☈ p.
14	59.64	27.7	36	22.9	79.8	SSE	9.8	5.2	Ci.	Cu.	14	● ⚡ p.
15	59.63	29.2	38	23.5	74.3	SE	8.8	3.8	A.-Cu., Ci.	Cu.	------	⚡ p. ⊕
16	58.80	29.6	37.4	23.9	-------	SE, NW	8.1	3.8	Ci.	Cu.	------	⚡ a. p. ⊕ ⌒
17	57.91	29.5	36.2	23.2	-------	NW	10.9	7	Ci.	Cu.	------	T ⚡ ⊕ a. p.
18	57.73	30.4	36.9	26	-------	SE, NW	10	9	Ci.-S.	S.-Cu., Cu.	------	T ⚡
19	58.88	28.4	36.8	23.7	-------	Variable	8.3	8.2	Variable	Cu.	5.1	☈ p.
20	59.09	27.7	36.2	23.1	83.3	SE	9.1	8	Ci.-S.	Cu.	.8	⊍ ⚡ a. ☈ p.
21	58.30	29.1	38.9	23.6	75.7	SSE, NW	10.1	8.2	Ci.	Cu.	78.5	☈ a. p. ⊍
22	58.02	25.9	30.1	22.2	89.5	S, SE	8.3	10	------------------	S.-Cu.	13.5	☈ a.
23	57.14	27.4	35.7	22.7	79.8	SE	11.6	8.8	A.-Cu.	S.-Cu.	1	d p.
24	56.56	26.5	35.1	23.4	84.8	SE	15.5	9	A.-Cu.	S.-Cu.	13.5	d° a. ☈ p.
25	55.87	26.6	33.5	23.5	85.7	SE quad.	17	10	A.-Cu.	S.-Cu. S	3.6	d° a. ☈° p.
26	54.62	25.6	32.8	23.4	87.7	SE	17.8	9.8	A.-Cu.	S.-Cu. S	26.4	d a. ● p. ↙°
27	51.90	24.9	27.2	23.4	94.2	SE	21.4	10	------------------	N. SE, SW	19.3	↙ ● a. p.
28	50.48	26.2	29.1	23.9	88.2	SE, W	18.1	10	------------------	N. SW, W	45.7	↙ ● a. p.
29	54.30	27.9	32.4	25.7	82.5	NW	14.3	9.2	Variable	S.-Cu. W	1.5	d p.
30	56.87	27.2	33.4	24	86.5	S	6.5	9.2	A.-Cu.	S.-Cu. W, SE	.3	d a.
31	58.10	26.6	33.5	23.4	84.7	SE, NW	8.2	9.2	A.-Cu.	S.-Cu.	------	⚡ p.
Mean	757.33	28	34.6	23.8	81.1	------------	11.4	7.2	------------------	------------------	------	
Total	-------	------	------	------	------	------------	-------	-------	------------------	------------------	340.1	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.16	29.8	35	26.8	73.4	Variable	1	1	Ci.-S.	Cu. S	------	⚡° p.
2	59	29.1	34.5	25.6	74	N	2.5	.8	Ci.-S.	Cu. N	------	Ω a. ↙° ⚡ p.
3	58.75	28.7	33.1	25.1	75.4	NNW	2	.8	Ci.-S. WSW	Cu. NE by N	------	Ω° a. ○ ↙° p.
4	58.01	28.6	32.6	25	77.7	N	2	.5	A.-Cu.	Cu.	------	Ω a ↙° p.
5	57.38	29.6	34.7	26.6	71.7	S	.8	2	A.-Cu. S by E	Cu.	3.8	⚡ ● p.
6	57.96	29.4	34.9	26.7	72	NW	1.2	2.2	A.-Cu.	Cu.	------	⚡ p.
7	58.26	29.3	34.5	26.1	70.7	Variable	1.3	.2	Ci.	Cu.	------	⚡° p.
8	57.72	29.5	34.4	25.9	72.3	S, W	1.2	.5	Ci.	Cu.	------	⚡° p.
9	57.33	29.3	34.8	25.5	72.8	Variable	1	.2	Ci.	Cu.	------	⚡ p.
10	57.69	29.6	34.5	26	72.8	NE, SSW	1.2	.0	Ci.-S.	Cu.	------	⚡° ⊕ p.
11	57.71	30.1	34.5	26.4	72.3	Variable	1	.0	Ci., Ci.-S.	Cu.	------	⚡ p.
12	57.92	29.3	34.7	25.9	72	Variable	1.3	.5	Ci., Ci.-S.	Cu.	------	⚡ p.
13	58.59	29.6	36	26.6	68.8	SSE, SSW	1.3	3.2	Ci.-S. NW by N	Cu.	------	○ ⚡ ⊕ p.
14	59.75	29.7	33.5	26.4	67.5	NW	1.7	2.8	Ci.-S. NNW	Cu.	------	↙° ⚡ ⊕ p.
15	59.92	29.2	35.4	26.5	75.8	SSE, W	1	1.5	Ci.-S.	Cu.	------	d° p.
16	59.19	29.8	36.5	26.2	73.2	S, WNW	1.2	.8	Ci., Ci.-S.	Cu.	------	⚡° p.
17	58.45	29.9	34.9	26.3	71.6	E	1	.8	Ci.-S.	Cu.	------	⚡ p.
18	58.12	29.9	36.2	26.3	70.8	Variable	1.2	2.2	Ci.-S. NW, SW	Cu.	------	⚡ p.
19	58.98	28.6	36.7	24.2	76.2	E, W	1.3	7	Ci.-S. WNW	Cu.	1.3	☈ p.
20	59.43	29.2	36.2	25.2	70.2	NW	1.2	5.5	Ci.-S.	Cu.	------	○ ☈° p.
21	58.66	29.4	36.1	23.3	70.8	Variable	1.5	5.8	A.-Cu. SW by S	Cu.	43.7	○° ☈ p.
22	58.14	27.1	33.4	23	81.3	E	1	10	------------------	N.	9.4	● a. d p.
23	57.17	27.7	32.5	24.4	80.5	NW	1	10	A.-Cu.	Variable	7.1	☈ p.
24	56.68	27.5	32.2	23.1	81.8	NNW	1.2	7.2	A.-Cu.	Cu. N	46.2	☈ p.
25	55.73	27.5	34	24.5	81.4	Variable	1.2	8.2	Ci.-S.	Cu. NE	41.1	○ ☈ p.
26	54.07	27.4	32.7	25	81.8	E	1	8	Ci.-S.	Cu.	2	○ ● ↙° p.
27	51.07	25.5	30.1	24.5	88.2	SE quad.	2.5	10	------------------	N. S	35.8	●° a. p. ↙°
28	46.74	25	27.3	23.7	97.7	SSW	9.5	10	------------------	N. SSW, W	136.6	↙ ● a. p.
29	54.39	26.7	33.5	25	83	W	1.5	7.8	A.-Cu., Ci.-S	Cu. W	3.8	●° a.
30	56.83	26.8	31.5	23.5	78.5	Variable	1.2	.5	Ci., Ci.-S.	Cu. NE by N	------	Ω
31	58.01	26.9	32.2	23.9	80.5	SSW	1	7	A.-Cu. S	S.-Cu. SSW	2.5	● ⌒ a. ○ ⚡ d. p.
Mean	757.32	28.6	34	25.3	76	------------	1.6	3.8	------------------	------------------	------	
Total	-------	------	------	------	------	------------	-------	-------	------------------	------------------	333.3	

METEOROLOGICAL DATA, ETC.—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	758.82	29.8	37	24.5	67.5	NW	1	2	------	Variable	------	⌓ a. ⚡ p.
2	59.04	30.2	36.8	25.1	67.5	NW	.8	5.2	Ci. SE	Cu. W, NW	------	⚡ p.
3	58.81	28.7	36.2	24.4	73.8	NW	1	5.8	------	Cu. SE, NW	------	
4	58.11	28.4	33.6	24.5	73.8	NW	1.2	5.2	Ci.	Cu.-N. SE	------	⚡ p.
5	57.85	28.2	35	24.3	78.8	Variable	.5	9.2	Ci. S	Cu.-N. NW	------	⊤ p.
6	58.86	26.8	31.7	24.6	84	NW	.5	8	------	Cu.-N. SE, N	------	⊤ ⚡ p.
7	58.54	28.2	34.5	23	75.4	NW	.7	6	A.-S. ESE	Cu. SE	------	⌓
8	57.67	28.5	35.8	22.5	71.5	NW	.7	6.5	------	Cu. SW	------	⊤ ⚡ p.
9	56.75	29.3	36.4	24.8	70	NW	.3	6	------	Cu. NW	------	⚡ p.
10	56.72	30.2	36.9	24.3	69.8	Variable	.8	5.5	A.-Cu.	Cu. SSW, SW	------	⊤ p.
11	56.96	29.7	36.8	24.2	68.8	SE	.7	4.8	Ci. E	Cu. S	------	≡° ◯² a. ⊤² ↙° p.
12	58.21	27.4	35.8	22.6	79.8	SE, NW	1.2	7	Ci.-Cu.	Cu.-N. SE, NE	------	⌒ ⛈° ↙° p.
13	59.47	27.9	35	22.6	74.8	SE	.5	7	Ci. NE, N	Cu. S	------	⌓ a. ⊤ ⚡ ↙° p.
14	60.12	28.8	35.6	23	68.7	SE	.8	5	Ci.	Cu. S	------	⊤ ⚡ p.
15	60.12	29.5	35.8	23.4	65.5	SE	1	5.5	A.-Cu. NE	Cu.-N. E	------	⊤ ⚡ p.
16	58.84	30.2	37.2	23.9	66.8	SE	.8	4	Ci. NE	Variable	------	⊕² ⚡² p.
17	57.45	31.5	37.8	25.3	64.8	NW	1.3	6	Ci.	Cu. SE, NW	------	≡° a. ⚡ p.
18	58.01	29.1	35.4	25.1	72.7	Variable	1	8.5	Ci.-S., Ci.	Cu. SE	------	⊕ ⚡ p.
19	58.84	30.5	36.5	25.6	65.9	SE, NW	1	7.8	Ci. W	Cu.-N. S, N	------	⊤ ⚡ p.
20	59.35	28.8	36.4	24.8	76.5	SE	.8	6.8	Ci. S	Cu.-N. SE	------	⚡ ⊤ d
21	58.78	28.7	36	24.4	72.8	SE	1	7.8	Ci. N	Cu. S	------	⊤ d p.
22	58.15	26.9	31.4	22.9	82.3	NW	.2	8.5	Ci.-S.	Cu.-N.	14.2	⛈ a. d° p.
23	57.81	26.9	33	23	83	Calm	0	9	Ci. NW	Cu.-N. SE, S	5.3	● a. p. ⚡
24	57.53	26.5	34.4	23.5	86.8	Variable	.5	7.8	Ci	Variable	7.6	● ⚡ p.
25	56.69	27.3	32.6	23.7	82.6	S, SE	.7	8.8	Ci. S	Cu.-N. SE, S	------	d° p.
26	55.35	26.9	31.8	23.9	86.8	S	.5	9	A.-Cu., A.-S.	Cu.-N. SE	------	d° p.
27	52.03	27.1	29.8	24.1	82.5	SE	1.3	9	Ci.-S.	Variable	1.8	● p.
28	45.41	28.1	32.5	24.5	72.9	SE	2.8	9.2	Ci.-S.	Cu.-N. S, SE	5.6	●° a. p. ⚡
29	51.83	27.6	32.9	23.3	75.1	Variable	.5	9	Ci.-S.	Cu.-N. NW	3.3	● a.
30	56.56	27.3	33.8	21.4	71.7	NW	.5	2.8	Ci.-S.	Variable	------	⌓
31	57.71	27.7	33.5	24.1	77.2	S	.8	8.2	Ci.-S., Ci.	Cu.-N. S, SW	4.1	⚡ ● p.
Mean	757.30	28.5	34.8	23.9	74.5	------	.8	6.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	41.9	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	759.27	28.1	33.5	24.3	82	S, N	11.4	0.2	------	Cu.-N.	------	⚡ p.
2	59.60	27.9	31.5	24	84.5	N	10	1	Ci.	Cu.-N. N	------	⚡ p.
3	59.47	27.1	31.7	24.1	86.7	N	11.6	2.8	Ci. W	Cu.-N. NW, N	------	⚡ p.
4	58.95	26.8	30.8	23.3	83.4	NE	11.9	7.8	Ci.-S. SW	Cu.-N. NE	5.3	● a.
5	58.38	27	29.9	24.9	83.5	NE	15.6	6	A.-Cu. S	S.-Cu. E	------	⚡ p.
6	59.33	26.9	30.7	24.4	83.3	NE	13.8?	9.5	Ci.-S. S	S.-Cu. SSE, W	.5	⛈ p.
7	59.32	27.3	31.5	23	84.8	NE	9.7	.8	Ci.-S.	Cu.-N. NE	------	⌓ a. ⚡ p.
8	58.22	27.2	31.6	23.2	85.7	NE	9.1	.8	------	Cu.-N.	------	⌓ a. ⊤ ⚡ p.
9	57.40	27.8	32.2	23.6	81.7	NE	7.9	2.2	------	S.-Cu. SW	------	⌓ a. ⊤ ⚡ p.
10	57.28	28.1	32.5	23.7	84.2	W, N	8.9	.2	------	Cu.	------	⌓ ≡° a. ⚡ p.
11	57.41	28.9	33.5	24.4	81.8	SW, N	9.5	2	Ci.	Cu.-N. W	------	⌓ ≡° ⊤ ⚡ ⋓
12	58.86	26.8	33.4	21.4	87.3	Variable	------	7	Ci.-S. NW	S.-Cu.	25.4	⌓ ≡° a. ⛈ p.
13	59.82	26.4	30.9	21.7	86.5	SW, NE	13.4	8.8	Ci. W	S.-Cu. S	------	⊤ ⚡ ⋓ p.
14	60.46	27.6	31.9	23	83.8	Variable	10.9	3.2	Ci.-S. W	S.-Cu. S	------	⌓ a. ⊤ ⚡ p.
15	60.30	28.2	33	23.6	84.3	S, NE	12.4	.2	A.-Cu. SE	Cu.	------	⌓ a.
16	59.21	28.8	33.7	24	80.8	S	10.5	2	A.-Cu. W	Cu.-N., S.-Cu.	------	⚡ p.
17	57.88	28.8	32.5	25.2	84	NW	14.6	1.2	Ci.	Cu.-N.	------	≡° a. ↙° ⊤ ⚡ ⋓ p.
18	58.30	28.5	33.1	24.5	84.2	W, NE	9.5	8.8	Variable	Cu.-N. S	------	⊤ ⚡ p.
19	59.21	27.8	32.8	22.5	84.7	Variable	------	9.2	Ci.-S. S, W	S.-Cu.	48.5	⛈ a. p.
20	59.84	25.8	32.5	22.1	92.5	SW	------	5.8	Ci.-S. NW	Variable	25.1	⛈ ⊕ p.
21	59.22	26.5	32.1	24	84.8	Variable	------	8.8	Ci.-S. NW	Cu.-N. S	111.5	⛈ a. p.
22	58.44	27	29.7	23	87	S	8.9	10	Ci.-S. SW	S.-Cu. S	------	⊤ ⚡ p.
23	58	26.7	31.1	21.5	88.8	Variable	10.3?	9.8	Ci.-S. W	S.-Cu. SW	25.7	⛈ a. d p.
24	57.87	26.9	31.5	23.4	87.2	S, SE	9.8	9.2	Ci.-S. W	S.-Cu. SW	------	⚡ p.
25	56.82	27	30.8	24.4	86.5	S	9.8	8.5	Ci.-S. S	S.-Cu. S	7.6	● ⚡ p.
26	55.27	27.1	32.1	24	85.3	S	10.5?	9.5	Ci.-S. W	S.-Cu. S	2.5	⛈ p.
27	52.24	26.9	29.6	24.5	87.8	S	9.4	10	Ci.-S.	S.-Cu. S	.8	●° p.
28	44.46	25.9	30	22	89.5	SSE	29.5	10	Ci.-S.	N. SSW	43.2	d a. ↙ ● p.
29	52.15	26.4	30.3	22	83.3	W, NW	16.9	6.8	Ci.-S. SSW	S.-Cu. W	8.1	● a. ↙°
30	57.26	25.8	30.2	21	88.5	Variable	7.1	.5	Ci.	Cu., Cu.-N.	------	⚡ p.
31	58.21	26.6	30.6	24	88.9	E	------	9.5	A.-Cu. SSE, SW	S.-Cu. SW	34.3	◯ ⛈ p.
Mean	757.69	27.2	31.7	23.4	85.4	------	11.6	5.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	338.5	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N ; λ=121° 00′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	22.2	95	71	7	7	------	Ω a.
2	31.7	23.5	96	79	9	10	0.8	Ω [↯ a. ●° p.
3	32.3	24.2	96	71	6	7	------	[↯ p.
4	33	25.9	93	70	10	9	------	[↯ p.
5	32.5	23.5	95	80	8	9	------	⊤ p.
6	32.6	23.8	95	87	6	9	2	● a.
7	32.4	22.3	96	78	7	9	------	Ω a.
8	31.8	23	97	72	7	9	27.7	Ω d a. ● ↯ ⊖ p.
9	31.2	22.6	97	81	6	9	42.7	Ω a. [↯ ●² d p.
10	31.4	22.8	98	91	5	8	1.5	Ω a. ● [↯ p.
11	31.7	22.7	96	73	5	8	------	Ω a. ↯ p.
12	32	22	94	74	8	8	------	Ω a.
13	31.3	23.9	97	92	6	9	16.5	Ω ⊤ a. ● [↯ p.
14	31.5	22.6	98	78	6	10	9.4	Ω a. d ● p.
15	31.7	23.5	96	83	8	8	3.6	● a. d p.
16	31.3	23.3	96	80	5	9	21.1	Ω a. ↙° [↯ ● ⊖
17	30.3	23.3	96	76	7	8	15.2	Ω ● a. ↙° [↯ p.
18	31.5	23.9	96	79	7	9	4.1	Ω ● a.
19	31.8	24.2	96	74	8	8	------	Ω a. [↯ p.
20	31.7	24.2	89	80	9	9	------	Ω a. d ↯ p.
21	31.3	23.7	97	71	8	9	------	Ω a.
22	32	23.6	96	77	8	9	2	Ω a. ●° ↯ p.
23	32.4	22.8	97	66	6	8	------	Ω ⊤ a.
24	33	23.2	93	64	5	6	------	Ω a. ↯ p.
25	32.6	23.8	92	64	5	6	------	Ω a.
26	32.5	25	92	64	6	8	------	↙° a. p. d p.
27	32.2	25.2	84	92	9	10	22.6	↙° a. ● [↯ p.
28	32.7	25.2	88	67	9	8	------	↙° a. ↯ p.
29	33.5	25.3	87	60	8	8	------	↙° a.
30	33	25.6	90	87	5	10	22.9	● p.
31	31.4	24.3	95	77	9	9	------	
Mean	32	23.7	94.3	76.1	7	8.5	------	
Total	------	------	------	------	------	------	192.1	

ISABELA, BASILAN.

[ϕ=6° 42′ N ; λ=121° 58′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	22.5	96	74	------	------	------	Ω ≡° a. ⊤ p.
2	------	24.2	96	78	------	------	------	Ω° ≡° a. [↯ p.
3	------	23	98	74	------	------	------	Ω a.
4	------	23.5	96	73	------	------	------	Ω° a.
5	------	23	96	70	------	------	------	Ω a. ⊤ a. p.
6	------	22	95	88	------	------	8.1	Ω ≡° a. ↙ ● [↯ p.
7	------	22	96	92	------	------	14.7	Ω ≡° a. ↙° ● p.
8	------	22.5	100	68	------	------	------	Ω ≡° a. ⊤ p.
9	------	22	96	71	------	------	26.2	Ω ≡° a. [↯ ● p.
10	------	22.2	96	73	------	------	------	Ω ≡° a. ⊤ p.
11	------	22.2	96	85	------	------	2.3	Ω ⊤ a. p p.
12	------	23	98	75	------	------	------	Ω a.
13	------	23	98	72	------	------	------	Ω ≡° ⊤ a.
14	------	23	96	59	------	------	------	Ω a.
15	------	22.5	96	75	------	------	------	Ω a. [↯ p.
16	------	23.5	96	81	------	------	3	Ω d a. d ↯ p.
17	------	23	100	84	------	------	33.8	[↯ ● p.
18	------	23	96	87	------	------	.8	d a. ↯ p.
19	------	23	97	81	------	------	------	Ω a.
20	------	23	100	84	------	------	------	Ω a. ↙° p.
21	------	23	96	69	------	------	------	Ω ≡° a.
22	------	23.5	98	78	------	------	------	Ω a. ↙° ⊤ p.
23	------	22.5	96	69	------	------	------	Ω° a. ⊤ p.
24	------	22.4	98	69	------	------	9.7	Ω a. ● p.
25	------	23	97	69	------	------	------	Ω a. ⊤ p.
26	------	22	95	56	------	------	------	Ω ≡° a.
27	------	22.5	98	70	------	------	------	↙° a. p° p.
28	------	23	96	75	------	------	------	≡° a.
29	------	22.4	95	61	------	------	------	≡° a.
30	------	22	96	83	------	------	1	Ω ≡° a. p ↯ p.
31	------	23	96	75	------	------	------	≡° a. ↯ p.
Mean	------	22.8	96.7	74.8	------	------	------	
Total	------	------	------	------	------	------	99.6	

ZAMBOANGA.

[ϕ=6° 54′ N ; λ=122° 05′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.2	23.1	89	75	3	3	------	
2	28.9	24	85	79	7	9	?	● p.
3	29.6	23.3	89	85	6	7	------	
4	30.2	23.4	87	83	9	8	------	
5	29.7	23.4	95	80	4	7	------	
6	29.8	23.5	86	73	9	9	------	
7	29.5	23.5	89	77	7	9	------	
8	30.6	23.4	86	71	6	3	------	
9	30.2	23.5	85	78	5	9	------	
10	30.6	23.9	85	74	7	3	------	
11	29.1	23.9	91	79	9	10	------	
12	29.4	23.5	88	75	6	9	?	● p.
13	31.8	23.4	87	70	5	9	------	
14	32.5	23.8	90	70	7	3	------	
15	29.9	24	91	75	5	2	------	
16	29.6	24.1	84	80	8	10	------	⊤ p.
17	28.9	22.9	86	78	2	9	------	
18	29.7	23	90	81	9	9	------	⊤ p.
19	29.5	23	89	80	4	9	------	
20	30.1	23.5	82	72	3	7	------	
21	29.7	23	90	71	4	4	?	●° p.
22	30.2	24	91	74	7	9	------	d ⊤ p.
23	30	23.1	91	71	10	7	------	
24	31.7	23	87	69	2	3	------	
25	29.2	22.5	85	81	3	5	------	
26	30.9	23	85	68	4	8	------	
27	31.6	24.5	87	65	6	9	------	
28	31.9	24.8	82	72	8	9	------	
29	31.6	23.8	80	70	4	7	?	● p.
30	30.1	23.6	82	74	5	8	------	d ⊤ p.
31	29.9	23.9	85	77	6	9	------	
Mean	30.2	23.5	87.1	75.1	5.8	7.2	------	
Total	------	------	------	------	------	------	------	

DAVAO.

[ϕ=7° 01′ N ; λ=125° 35′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.3	22.3	97	65	7	5	------	⊤ ↯ p.
2	33.2	23	93	75	6	7	------	
3	33.6	23.1	91	70	5	7	18.5	● ⊤ p.
4	36.2	22.7	97	63	7	6	------	
5	34.1	23.1	95	66	5	7	14.2	≡ a. ● p.
6	32.1	23.5	96	70	5	6	------	
7	33.1	22.1	96	61	5	7	42.4	● p.
8	33.7	22.4	96	64	5	7	------	
9	33	22.6	97	64	6	5	------	≡ a.
10	33.7	23.6	94	70	6	7	39.6	● p.
11	33.2	22.3	96	59	5	6	25.7	● ⊤ p.
12	33.1	22	99	74	6	7	------	
13	32.4	22.1	92	68	5	6	------	⊤ p.
14	32.6	21.6	97	66	7	6	------	
15	33.4	23.1	97	72	5	7	------	
16	33.7	22.5	97	84	6	5	------	
17	33.2	21.9	96	74	6	5	------	
18	32	23	95	71	7	6	------	
19	33.8	23.1	95	70	5	7	23.4	● ⊤ p.
20	33.2	22	97	69	6	7	18.5	≡ a. ● ⊤ p.
21	32.2	22.7	98	75	5	7	------	⊤ p.
22	33.7	22.4	96	63	5	7	------	
23	33.1	23.3	97	61	6	5	------	≡ a.
24	33	23.5	97	67	7	6	------	↯ p.
25	33.3	22.6	98	63	5	7	46.2	● p.
26	32.6	22.5	96	70	6	7	------	[↯ p.
27	33.3	23.1	96	65	5	6	------	
28	33.5	24.1	87	71	5	7	33.5	● ⊤ p.
29	32.9	22.6	84	67	6	5	------	
30	32.7	22.7	94	63	7	5	------	⊤ a.
31	32.5	22.3	95	64	6	7	------	
Mean	33.2	22.7	95.2	67.9	5.7	6.3	------	
Total	------	------	------	------	------	------	262	

METEOROLOGICAL DATA, ETC.—Continued.

DAPITAN.

[$\phi=8° 40' N; \lambda=123° 25' E.$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35	22.9	95	56	7	4	------	Ω a.
2	31.4	23.6	96	78	10	8	3.8	● ≡² a.
3	34.3	23.1	97	59	9	7	------	Ω a. ◯ < p.
4	35.2	22.8	95	60	4	6	------	Ω a. ◯ p.
5	33.8	22.4	96	64	5	4	------	Ω a. < p.
6	34.3	21.7	96	65	6	8	------	Ω a. ⊤ p.
7	34.5	23	94	68	7	7	------	Ω a. ↯ p.
8	34.6	23.1	96	66	5	8	------	Ω a. < p.
9	35.1	23.4	96	59	6	5	------	Ω a. ⊤° < p.
10	35.1	------	97	------	7	------	------	Ω a.
11	35.2	23	97	66	4	6	------	Ω a. < p.
12	34.6	------	95	------	8	------	------	Ω a.
13	33.7	23.6	96	71	10	4	2.5	● ⌒ ⊤ a. < p.
14	33.3	24.6	88	65	6	3	------	
15	33.8	24.6	96	66	8	6	1.3	● ≡ a. ⊤ p.
16	34.8	23.2	95	66	7	8	2.5	● ↯ ≡ a. < p.
17	34.6	------	96	------	8	------	1.8	● ↯ p.
18	31.8	23.6	96	74	10	10	1	● d° a. ↯ p.
19	32.8	------	97	------	9	------	------	Ω a. < p.
20	33.4	23.7	96	65	9	9	------	Ω a. < p.
21	34.3	23.7	91	67	5	6	------	Ω a. < p.
22	34.7	23.5	96	58	7	5	.5	Ω a. < ●° p.
23	34.1	23.6	94	64	8	6	------	< p.
24	35.6	23.5	96	59	5	6	------	Ω a. < p.
25	34.7	23.9	97	57	4	5	------	Ω a.
26	34.8	23.3	97	69	8	4	------	Ω a.
27	31.2	23.5	95	67	10	10	------	◯ p.
28	34.1	23.2	88	61	10	10	------	◯ p.
29	36	22.9	95	57	10	6	------	Ω a.
30	35.6	23.4	96	59	3	4	------	Ω a. < p.
31	34.6	23.7	95	64	8	7	------	Ω ↯ a. < p.
Mean	34.2	23.4	95.2	64.1	7.2	6.4	------	
Total	------	------	------	------	------	------	13.4	

BUTUAN.

[$\phi=8° 56' N; \lambda=125° 32' E.$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	24.5	96	92	7	9	5.6	∞ a. ↯ ● p.
2	31.3	23.4	97	69	6	7	------	Ω a. ↯ p.
3	31	23.5	96	83	9	9	7.4	≡° a. ↯ ● p.
4	31.1	23.6	98	69	7	8	------	Ω a.
5	31.2	22.4	98	58	8	6	------	Ω ≡² a.
6	32.3	22.4	96	53	8	8	------	Ω ∞ a. ⊤ p.
7	33.3	23.2	90	62	7	3	9.9	↯ ● p.
8	31.6	23.4	95	67	5	8	------	Ω a. ⊤ ϖ p.
9	34.6	24	91	61	6	6	3.6	Ω a. ↯ ● p.
10	33.8	24.7	95	63	3	6	------	↯ p.
11	34.1	24.4	91	61	2	5	------	Ω a. ↯ p° p.
12	33.7	24.2	87	89	6	8	9.1	Ω a ↯ ↙ ● p.
13	32.1	23.1	92	84	5	8	.3	Ω ↙° p a. ϖ p.
14	34.8	23.4	95	60	2	5	17.8	Ω a. ↯ ● d p.
15	33.3	23.7	92	89	3	7	------	≡² a. ↯ p.
16	30.2	24.1	94	88	5	9	------	Ω a. ↯ p.
17	31.8	24	97	78	7	9	3	Ω ≡² a. ↯ ● p.
18	30.6	23.9	97	67	7	7	.8	p a. ⊤° d p.
19	32	23.4	94	68	8	4	------	Ω a. ⊤ d < p.
20	33.6	23.6	91	65	7	8	2	● p.
21	34.5	23.6	91	62	2	6	------	⊤ p.
22	33.3	24	93	56	2	3	------	Ω ≡ a. ⊤ < p.
23	32.2	22.9	92	66	5	8	------	Ω a.
24	32.6	23.3	94	66	3	8	------	Ω a. ⊤ < p.
25	32.2	------	96	53	7	8	------	Ω ∞ a.
26	33.2	------	94	------	10	------	------	
27	------	------	91	71	9	10	1.8	↯ ● p.
28	------	------	------	------	------	------	------	
29	35.6	24.6	91	60	8	3	------	Ω a.
30	35.5	24.4	90	76	2	7	------	Ω a. ↯ d p.
31	30.3	24.1	92	81	10	9	------	
Mean	32.7	23.7	93.5	69.6	5.9	7	------	
Total	------	------	------	------	------	------	61.3	

YAP (Western Carolines).

[$\phi=9° 29' N; \lambda=138° 08' E.$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	23.1	84	79	8	5	32.8	
2	30	23	89	79	9	8	4.6	
3	31.6	21.8	94	80	8	7	------	
4	30.8	21.2	97	81	9	7	22.9	
5	31.5	21	93	87	10	5	8.9	
6	31.8	22.7	83	76	7	2	2.5	
7	31.6	23.2	91	79	2	3	2.5	
8	31.6	23.3	89	82	3	3	------	
9	31.8	23.5	92	75	4	4	------	
10	31.7	23.4	92	74	4	3	------	
11	30.8	23.4	77	73	2	2	------	
12	31.8	22.8	87	76	1	8	12.2	
13	30.1	22.5	92	84	10	10	17.8	
14	29.4	23	92	77	8	6	5.1	
15	31	22.5	87	81	8	5	------	
16	31.2	23.1	82	80	7	6	1.3	
17	31.2	22.3	82	81	5	3	------	
18	30.5	22.5	84	81	4	6	------	
19	29.6	24	84	76	5	5	1.3	
20	30.4	23.8	84	75	4	8	3.6	
21	29.5	22.5	87	83	7	10	22.4	
22	32	22.4	84	86	6	7	25.4	
23	30.1	22.4	91	78	6	4	------	
24	32.8	25.3	85	81	8	9	5.1	
25	32.3	23.2	84	76	8	6	46	
26	31	22.9	91	79	5	4	14.2	
27	31.7	23.1	84	74	4	4	------	
28	31.1	23.9	81	79	8	4	1.5	
29	31.2	33.3	91	74	3	5	2	
30	------	24.2	88	76	6	7	------	
31	30	23.8	87	69	5	5	15.7	
Mean	31	23	87.4	78.4	5.9	5.5	------	
Total	------	------	------	------	------	------	247.8	

MAASIN.

[$\phi=10° 08' N; \lambda=124° 50' E.$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.3	24	92	82	9	9	------	d p.
2	30.9	24.1	87	85	8	7	------	
3	30.9	22.7	79	74	10	8	------	< p.
4	31.2	24.1	87	75	10	8	------	
5	32.4	22.6	92	75	8	8	------	
6	30.2	23.4	91	82	10	10	------	< ϖ ∪ p.
7	30.7	24.6	95	87	10	6	------	⊤ < ϖ ∪ p.
8	31.5	25	93	74	10	8	------	d a. ↯ ∪ ϖ p.
9	31.9	24.8	92	79	10	8	------	⊤ a. p.
10	33	24.6	95	78	9	8	------	⊤ a.
11	32.8	25.1	87	75	8	9	------	⊤ ϖ < ∪ p.
12	32.5	24.6	91	80	10	9	------	< ∪ ϖ p.
13	33.6	25.9	89	71	10	4	------	↙° a. ◯ < ∪ p.
14	33	24.7	85	69	10	6	------	↙° a. ∪ < ϖ d p.
15	31.9	24	95	70	10	3	------	⌒ a. < p.
16	34.5	23.9	96	84	10	10	------	d a. ∪ < ϖ p.
17	29.5	24	97	81	10	8	64.5	d a. ●² ↯ p.
18	32	23.4	96	85	10	8	------	p < ∪ ϖ p.
19	31	24.4	95	78	9	10	------	< p.
20	31	23.8	92	79	10	7	------	< p.
21	31.5	23.5	88	78	10	8	------	
22	32.4	23.6	88	72	9	9	------	< p.
23	32.4	24	88	80	10	9	------	↙° p.
24	31.3	24.1	84	75	10	8	------	⊤ a. ↯ d p.
25	33.5	24.8	83	76	9	10	------	↯ p.
26	31.1	24.7	88	81	10	9	------	< p.
27	31	25.8	89	81	10	10	8.6	
28	30.2	25.4	95	76	10	10	------	⊤ a. < p.
29	31.5	24.2	92	82	10	8	------	≡² a.
30	30.9	24.4	83	78	5	4	------	⊤ p.
31	31.6	24.7	84	79	10	8	------	< p.
Mean	31.7	24.3	89.9	78.1	9.5	8	------	
Total	------	------	------	------	------	------	73.1	

METEOROLOGICAL DATA, ETC.—Continued.

BACOLOD.

[ϕ=10° 41′ N; λ=122° 56′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.8	23.9	84	67	6	3	0.3	⊤° a. p. ↙° ●° p.
2	30.9	23.9	93	84	2	9	29.2	↙° ●° a. ↙ ●² ⌈ϟ
3	32.4	24	85	63	5	6		≡° p.
4	32.7	21.9	92	69	6	6		≡° a. ≡ p.
5	33.6	21.5	87	62	3	3		⌈ϟ p.
6	34	23.1	92	62	1	7		⌈ϟ p.
7	33.7	23.4	93	64	6	6		⌈ϟ° Φ p.
8	34.4	23.2	90	58	3	6		⌈ϟ Φ p.
9	34.8	23.6	85	59	5	5		≡² a. ⌈ϟ ψ p.
10	33.9	24	92	68	4	7		Ω a. ⌈ϟ ψ p.
11	33.5	24.3	88	68	6	7		≡° ⊤° a. ⌈ϟ p.
12	33.3	23.9	90	81	6	9	2	≡² a. ⌈ϟ ↙° ●° Φ
13	33.6	23.6	93	79	7	8		⌈ϟ ↙° Φ p.
14	33.7	24.1	88	62	6	5		ϟ Φ p.
15	31.8	24.7	86	84	3	9	5.1	p ⌈ϟ Φ ψ p.
16	31.6	22.6	96	81	6	8		Ω d° a. ⌈ϟ ψ p.
17	31.8	23.1	92	88	9	10	33	●² ⌈ϟ p.
18	30	23.4	96	73	9	9	5.1	●° a. ⊤ ϟ p.
19	31.5	23.8	95	78	10	8		⌈ϟ p.
20	32.2	24.1	94	80	7	7	17.5	⌈ϟ a. p. ↙ ● p.
21	32.5	23.8	96	79	6	8		≡° a. ⌈ϟ p.
22	32.2	23.6	93	72	5	6	15.2	Ω a. ●. ⌈ϟ p.
23	30.5	23.3	95	79	8	10		ϟ p.
24	33	23.6	92	69	6	6		ϟ p.
25	32.5	23	92	71	8	7	8.6	p a. ϟ p.
26	30.3	23.4	94	83	8	7	3.3	↙° ●° ⌈ϟ a. ϟ p.
27	32	25.2	87	72	10	9	16.5	⊤° a. ↙ ● ⌈ϟ p.
28	29	22.1	96	96	10	10	39.4	○² ⌈ϟ a. ↙ ● a. p.
29	30.6	22.5	93	78	9	8		⌈ϟ a. p p.
30	31.8	23.7	97	69	7	6	29.5	⌈ϟ ↙ ●² p.
31	31.2	23.5	95	87	9	8	1.5	⌈ϟ ↙° ●° p.
Mean	32.3	23.5	91.6	73.7	6.3	7.2		
Total							206.2	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.2	23.4	81	58	1	5		⊤ p.
2	32.8	24	83	92	4	10	5.1	⌈ϟ ● a. ⊤ p.
3	32.9	23.7	91	75	2	10		⊤ a. p.
4	33.5	24.1	83	66	10	8		
5	33.9	23.5	83	57	2	2		⊤ ϟ p.
6	33.8	24	83	67	4	4		
7	33.4	24	84	63	10	8	.3	ϟ ●° p.
8	33.9	23.4	86	58	2	2		
9	33.9	24.3	85	66	10	10	.5	⊤ ϟ ●° p.
10	34	24.2	87	62	4	7		ϟ ψ p.
11	34.2	24.4	85	60	4	7		⊤ a. p. ϟ p.
12	34.1	25.4	87	88	10	10	8.1	⌈ϟ ● a. ● ϟ ψ p.
13	33	23.5	87	90	7	10	42.9	⌈ϟ ● ↙° p.
14	33	22.5	95	65	8	8		
15	33.1	24.5	88	71	1	8	.8	d ⌈ϟ ● p.
16	32.5	23.3	88	76	1	10	.3	●° p.
17	32.7	24.1	87	84	10	10	52.8	⌈ϟ ● p.
18	29.7	23	97	72	10	10	3	● a. ⊤ ⊕ ϟ p.
19	31.5	24	90	74	10	10		d ϟ ⊤ p.
20	31.9	24	92	74	10	10	1	⌈ϟ ● p.
21	31	23.7	93	77	10	7		⌈ϟ p.
22	31.4	24.2	88	73	3	10		⊕ ⌈ϟ p.
23	31.5	24.3	88	71	10	10	10.9	↙° ● p.
24	31.6	23	88	70	10	10	13.2	ϟ ● ↙° p.
25	30.5	23.3	91	75	10	10	34.5	● a. p.
26	30	22.9	92	88	10	10	12.7	● a.
27	28.4	23.3	93	85	10	10	94.5	↙ ● a. p. ϟ p.
28	28.9	24.1	92	84	10	10	15.5	↙ ● a. p. ϟ p.
29	30.4	22.5	94	79	10	10	5.6	↙ ● a. ϟ p.
30	31.6	24.4	92	75	10	10	11.7	● ⌈ϟ p.
31	31.3	23.9	93	85	10	10		⊤ p.
Mean	32.2	23.8	88.6	73.5	7.2	8.6		
Total							313.4	

TUBURAN.

[ϕ=10° 45′ N; λ=123° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32	24.3	89	75	5	8		p ⊤² p.
2	32.6	23.9	92	68	3	7		d a. ⊤° ϟ² p.
3	31.9	23.6	90	67	3	4		≡° a. ϟ° p.
4	31.8	23.6	85	68	10	8		○² a. ⊤² p.
5	33.1	22.5	89	66	9	9		⊤² ○² ϟ² p.
6	32.5	22.9	89	60	4	9		≡² a. ○° ψ² ϟ° p.
7	32.6	23.6	88	65	4	8		⊤² a. ○° ⌈ϟ° d p.
8	32.8	24.3	90	61	5	7		⊤² a. ⌈ϟ p.
9	33.4	23.3	86	63	8	9		≡° a. ⌈ϟ² p.
10	33.1	24.6	90	65	8	8	11.2	⊤² a. ⌈ϟ² ●² ψ° p.
11	32	24.4	93	71	6	10		Γ² a. ϟ² p.
12	32.9	23.9	92	65	10	7		○² a. p. ϟ² p.
13	33.6	24	92	64	9	8		ϟ² p.
14	35.8	24	92	45	4	8		ϟ² p.
15	32.9	24.3	88	63	9	7		⌒² d a.
16	31.4	24	91	73	7	10		≡° ○² a. ⊤° d ψ²
17	31.7	24.4	92	75	10	9	23.4	⌈ϟ² ●² a. ⌈ϟ² ●° p.
18	29.5	22.9	93	74	10	9		ϟ² ψ² p.
19	30.4	23.6	84	71	10	10		○² ϟ² p.
20	32.6	23.9	94	65	10	6	2	●° a. ⌈ϟ² p.
21	32.9	24	92	61	5	8		⌈ϟ² p.
22	32.7	22.7	89	64	10	9		⌈ϟ² p.
23	33.2	23.7	87	66	10	10		○² ⊤² a. ϟ² p.
24	32.8	23.6	91	66	9	8		ϟ² p.
25	33.2	24	85	59	10	9		○² ϟ² p.
26	35.1	24.7	85	58	10	8		○² a. ϟ² p.
27	35.3	24.7	81	47	10	9	9.9	○° a. ↙ ●² ϟ² p.
28	30.9	23.9	90	91	10	10	9.7	⊤ a. ↙ ● a. p.
29	33.6	23	92	52	9	9		○² ϟ² p.
30	32.6	23.2	87	71	9	9		○° ϟ² p.
31	30.8	24.6	92	76	10	9		○° ⊤² a. ϟ² p.
Mean	32.6	23.8	89.4	65.5	7.9	8.4		
Total							56.2	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.2	22.4	95	75	5	6	15.0	Ω ● a. ● ○ p.
2	31.5	23.9	92	70	9	6	1.5	●° a. ϟ p.
3	31.9	21.9	95	72	4	5		Ω a. ϟ p.
4	31.6	22.7	96	70	6	5		Ω ○ a. ϟ p.
5	31.2	22	97	74	7	8		Ω ○ a. ϟ p.
6	32.1	21.2	95	69	9	8		Ω a. ○ p.
7	32.5	22.2	97	74	5	9		Ω a. ⊤ ϟ p.
8	32.3	22.8	97	72	6	8		Ω a. ⌈ϟ p.
9	32.1	23.1	96	76	7	6		Ω a. ⊤ a. p.
10	32.7	23.3	93	74	2	5		Ω a. ⊤ ϟ ⌒° p.
11	32.8	24	96	75	4	6		Ω a. ⊤ ϟ ⌒ p.
12	32.3	22.9	96	77	3	9		Ω ○² a. ⊤ p.
13	32.4	23.3	97	69	8	9	21.6	● a. p. ⌈ϟ p.
14	32.1	22.1	96	74	5	6	6.4	≡ ●° a. ↙ ● ϟ p.
15	32.4	23.8	97	71	7	7	1.5	≡ ●° a. ⊤ ϟ p.
16	29.4	23.5	97	84	10	10	38.4	⌈ϟ ● a. p.
17	31.4	23.4	97	71	8	7		≡ ○² a. ⊤ ○² ϟ
18	31.7	22.8	96	74	5	2	3.8	≡ Ω a. ● ϟ p.
19	31.5	23.7	97	75	5	6	36.1	● a. ●² ϟ p.
20	31.7	22.8	97	71	5	4		Ω ≡ a. ϟ p.
21	31.6	22.3	97	70	5	6		Ω a. ϟ p.
22	31.7	22.7	96	69	8	7		Ω a. ○ ϟ p.
23	32.1	22.8	93	72	6	9		Ω ≡ a. ⌈ϟ p.
24	32.3	22.3	91	63	3	4		Ω ≡ a. ⌈ϟ p.
25	32.6	22.8	94	72	5	9	2	Ω ≡° ○ ● ⊤ a.
26	33.4	22.8	97	64	8	9		Ω ≡ a. ϟ p.
27	33.2	23.3	94	64	7	8		Ω ≡ a. ○ ϟ p.
28	30.7	23.2	96	83	10	10	7.1	● ↙ a. ⌈ϟ p.
29	34	23.2	88	59	9	5		Ω ≡ a. ϟ p.
30	33.1	23.2	96	93	2	10	22.1	Ω a. ⌈ϟ ● p.
31	31.3	23.5	95	73	8	3		Ω ≡ ○ a. ϟ p.
Mean	32	22.9	95.4	72.5	6.2	6.8		
Total							155.5	

METEOROLOGICAL DATA, ETC.—Continued.

ROMBLON.

[$\phi=12°\ 35'$ N; $\lambda=122°\ 16'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	26.3	84	57	7	2	------	
2	32.4	26.3	91	65	4	4	22.1	● ⊤ a. ↙° ● p.
3	33	25.3	89	69	6	2	------	
4	32.9	25.3	93	52	8	7	------	
5	33.3	26.4	81	65	7	5	------	
6	33.4	24.3	93	65	3	5	------	
7	34.7	23.6	94	66	8	7	.8	● p.
8	34.5	23.4	95	67	4	6	------	
9	34.5	24.5	94	66	8	7	------	
10	34.3	24.4	94	66	4	6	------	
11	34.4	25.4	87	58	3	6	24.1	∞ ☈ ● p.
12	33.4	23.6	92	68	7	7	26.7	● ☈ a. ☈ p.
13	31.8	23.5	93	68	8	4	------	⊤ d a. d ☈ p.
14	32.9	24.3	79	63	6	6	7.1	p a. ↙° ☇ ⊤ p.
15	32.3	27.5	80	64	5	3	------	☈ p.
16	33.7	26	78	64	3	3	------	
17	34.1	25.5	86	66	6	8	------	☇ p.
18	31.2	24.9	90	68	10	9	19.6	● a. ☇ p.
19	32.8	24	94	91	9	7	32	● p.
20	32.2	24.2	96	75	6	6	1.3	p a. ☇ p.
21	32.5	24.6	93	78	6	7	9.4	● a. p ☇ ⊤ p.
22	31.9	24.6	89	67	7	7	------	⊤ p.
23	32.9	25.2	86	66	7	5	4.6	● a. ☇ ⊤ p.
24	32.3	25.2	86	69	8	5	------	
25	33.4	26.2	83	57	6	7	------	↙° ☇ p.
26	31.7	26.4	78	68	9	9	14	☇ ↙ ● p.
27	30.4	24.4	90	85	10	10	15	↙ ● a. p.
28	28.8	23.4	89	79	10	10	25.7	↙ ● a. p.
29	30.5	24.4	92	71	10	9	50.5	↙ ● a. p. ⊤ ☇
30	31.4	24.1	91	82	9	9	1.5	∞ a. ● ☈ a. p.
31	33.2	23.7	94	71	7	6	5.3	● ☈ a. ⌒ p.
Mean	32.7	24.9	88.8	68.3	6.8	6.3	------	
Total	------	------	------	------	------	------	259.7	

LAOANG.

[$\phi=12°\ 35'$ N; $\lambda=125°\ 01'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	24.6	99	77	2	4	5.1	● a.
2	31.7	24.3	98	75	3	3	------	
3	30.6	22.4	98	74	4	2	------	
4	30.7	22.3	------	71	4	4	------	≡ a.
5	30.4	22.4	98	64	4	6	------	
6	31.6	21.3	------	67	3	5	------	Φ p.
7	31.9	23.2	97	75	7	5	1.3	≡ a. ⊤ ☇ p.
8	31.7	23.1	98	74	3	1	------	☈ p.
9	31.8	23.8	97	76	1	1	------	
10	32.1	23.7	------	75	1	2	------	
11	35.5	25.1	98	83	1	6	------	
12	32.3	23.6	98	74	1	3	2.8	○ a. ● p.
13	31.8	23.7	99	68	2	3	1	● p.
14	31.1	23.6	97	86	2	6	4.8	●° a. ● p.
15	30.8	23.7	98	76	2	5	.3	
16	31.3	23.6	99	81	4	8	18.8	● a. p.
17	29.7	24.4	100	98	4	10	11.2	
18	31.1	24.2	99	82	8	7	------	
19	32.5	24.1	------	83	3	7	------	
20	32.1	24.1	99	72	2	2	------	≡ a.
21	32.1	22.5	------	78	1	4	------	≡² a.
22	31.1	22.4	------	76	2	2	------	
23	31.4	23.4	------	76	0	4	------	≡² a.
24	32.6	23.1	97	70	3	1	------	
25	32.1	23.9	96	73	2	3	------	
26	33.1	24.4	90	67	5	4	------	
27	33	24.6	92	66	6	7	2.8	d ● p.
28	32.2	24	94	74	8	6	------	
29	33.4	24.7	93	65	4	6	------	
30	32.8	24.9	96	95	4	7	6.6	⊤ ●² p.
31	30.2	24.4	100	92	7	9	19.3	●° a. ☈ ●² p.
Mean	31.8	23.7	97.1	76.2	3.3	4.6	------	
Total	------	------	------	------	------	------	74	

GUBAT.

[$\phi=12°\ 55'$ N; $\lambda=124°\ 08'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33	23.4	96	60	8	6	14	● p a.
2	32.1	23.8	96	63	10	9	35.3	●² d ⌒ a.
3	33.2	23	89	63	6	5	------	
4	33.3	21.2	97	65	8	8	------	
5	32.5	21.9	90	69	8	9	------	⊤ a. ☇ p.
6	33.9	21.1	97	60	7	5	------	Ω a. ⌣ p.
7	34	22	96	61	6	10	3.8	Ω a. ☈ ● p.
8	35	22	97	60	5	8	2.5	Ω a. d ⊤ ● p.
9	34	22.6	94	59	9	6	7.1	d ⊤ ● p.
10	33.5	22	98	59	8	4	------	☈ p.
11	33.2	22.6	97	77	6	10	3	⊤ a. ● ☇ p.
12	33.8	23.2	97	71	8	10	------	⊤ p.
13	34	24.5	95	55	8	8	5.1	⊤ ☇ ● p.
14	33.2	24.8	92	65	6	8	8.4	⊤ p ⌒ p.
15	33.8	23.9	92	60	5	6	2.8	p p.
16	34	23.9	87	60	5	7	26.7	● p.
17	33.3	23.4	98	61	10	8	16.5	● a. ☇ p.
18	32.4	22.9	96	67	10	5	------	☇ p.
19	32.5	22.9	98	65	6	8	------	☇ p.
20	33.1	23.9	96	92	5	4	------	☇ p.
21	33.1	22.2	92	60	6	8	------	
22	33	23	97	61	9	10	------	☇ p.
23	33	22	97	68	10	10	------	☇ p.
24	32.5	22.2	98	63	10	10	------	⊤ ☇ p.
25	33.3	22.4	97	62	10	10	------	⊤ d a. ☇ p.
26	31.6	22.2	95	75	10	10	------	d p.
27	32.8	23.4	91	68	8	10	5.1	↙ ● a. ● ☈ p.
28	32.1	23.5	94	83	10	10	8.9	⊤ a. d ●² ☇ p.
29	32.6	22.5	84	72	10	10	------	☇ p.
30	33.6	23.8	96	60	10	8	------	☈ p.
31	33.8	23.9	97	60	10	10	------	☈ p.
Mean	33.2	22.9	94.7	64.3	8	8.1	------	
Total	------	------	------	------	------	------	139.2	

SUMAY, GUAM (Ladrones Islands).

[$\phi=13°\ 24'$ N; $\lambda=144°\ 38'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.2	25.8	88	80	9	9	------	
2	30.3	24.4	90	76	9	9	------	
3	30.2	23.7	89	78	5	9	------	
4	31.3	23.8	89	78	3	6	------	
5	29.9	25.3	91	81	4	9	------	
6	32.2	24.1	88	66	2	1	------	
7	28.4	23.9	92	83	1	3	------	
8	29.4	25	95	74	9	3	------	
9	29.8	24.6	87	73	7	4	------	
10	30.2	23.8	85	76	3	4	------	
11	31.6	23.8	94	83	1	5	------	
12	29.9	25	85	73	5	4	------	
13	29.8	26	83	73	3	6	------	
14	29.8	25	90	74	7	6	------	
15	30	24.9	86	67	3	3	------	
16	31.1	26.7	95	83	2	5	------	
17	29.6	24	93	74	9	3	------	
18	30.3	23.4	84	72	1	2	------	
19	30.5	25.8	85	65	2	4	------	
20	30.5	26	79	71	2	5	------	
21	30.1	24.9	81	71	7	8	------	
22	29.1	26.2	84	79	6	8	------	
23	29.2	25.2	85	78	10	9	------	
24	30.3	26.1	77	71	6	8	------	
25	30.4	25.9	89	73	5	5	------	
26	31.1	26.5	87	68	5	4	------	
27	29.9	25.8	90	79	6	7	?	● a. p.
28	30.4	25.9	84	75	5	5	------	
29	30.7	25.7	86	75	7	5	------	
30	30.5	25	84	71	2	3	------	
31	30.7	26	88	73	7	6	------	
Mean	30.2	25.1	87.2	74.6	4.9	5.4	------	
Total	------	------	------	------	------	------	------	

METEOROLOGICAL DATA, ETC.—Continued.

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	23.1	92	71	4	5	2.5	● ⌒ a. ⌈ζ p.
2	32	22.9	95	83	7	9	1.5	≡ ● ⌈ζ a. d p.
3	32.2	21.9	93	62	1	5	------	ϟ p.
4	32.1	21.6	89	71	2	9	------	d ϖ p.
5	32.2	22.1	92	71	9	9	------	ϖ° ϟ p.
6	32.6	21.4	92	85	8	9	1.5	●° a. ⊤ ϖ p.
7	33	23	94	71	2	9	------	⊤ a. p. ϟ p.
8	33.5	23	92	62	2	5	------	ϟ p.
9	33.8	22.6	92	68	2	5	------	⊤ ϖ° ϟ p.
10	34	23.6	93	70	5	2	------	d a. ϟ p.
11	33.8	25.9	85	68	9	5	------	⊤ ϟ ϖ° p.
12	32.7	25.4	82	64	8	8	------	⊤ a. ϟ ϖ° d p.
13	33.7	23.9	91	64	8	5	------	ϖ ϟ p.
14	33.9	24.4	90	62	5	8	3.8	↙° ● a. d ●° p.
15	34.1	24.4	95	64	7	2	14.5	↙° ● ≡ d a. ϟ p.
16	33.8	22.6	91	63	1	5	------	⌒ ϖ ϟ p.
17	33.6	24	96	75	9	8	3.8	● ⌒ a. ϟ ϖ ψ p.
18	32.6	24.5	95	70	9	8	6.6	● d ≡ a. ϟ ϖ p.
19	32.2	24.9	92	75	9	8	15.5	● a. p. ϟ p.
20	32.3	24.4	93	72	9	4	------	d a. ϟ p.
21	33.2	22	96	66	3	3	------	⊕ ϟ p.
22	31.9	22.6	94	71	8	9	------	○ ϟ p.
23	31.3	22.7	91	72	9	9	------	ϟ p.
24	31.6	22.8	92	74	9	9	------	⊤° a. ϟ p.
25	32.1	22.9	92	71	9	8	------	⊤ a. p. ○ ϟ p.
26	34.2	23.5	92	60	10	8	4.8	↙° ● ϟ p.
27	32	24.1	87	70	9	9	3.3	↙° ● ⊤° d p.
28	34.6	24.5	85	70	9	9	3.8	↙° ●° a. p. ⊤ d
29	29.7	24.8	77	77	10	10	4.1	d ↙° a. ϟ p.
30	33.4	25	93	59	9	9	18.3	● ⌈ζ d p.
31	30.6	23.4	97	75	9	5	------	○ a. ⊕ ϟ p.
Mean	32.6	23.5	91.3	69.5	6.8	7	------	
Total	------	------	------	------	------	------	84	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.5	23.1	86	49	2	2	------	ϟ p.
2	36	22	85	45	3	4	------	⌈ζ p.
3	35.8	23.5	85	72	2	7	3	⌈ζ ● p.
4	33.5	22.9	94	60	4	7	------	⊤ ϟ p.
5	34.6	23.2	90	58	6	7	------	○ ⌈ζ p.
6	34.4	22.4	92	58	3	4	------	○ ⊤ a. ⌈ζ p.
7	33.1	23.4	92	60	7	7	.8	○ a. ⊤ ●° ϟ p.
8	33.8	23.1	96	59	7	7	------	⌈ζ p.
9	34	23.1	92	65	7	7	------	⌈ζ p.
10	35	23	92	53	4	5	------	
11	35.2	23.3	92	56	3	6	------	⌈ζ p.
12	34	24.3	93	56	4	4	25.7	⌈ζ ● a. p.
13	34.8	22.1	87	52	6	6	------	⌈ζ p.
14	34.7	23.6	87	48	6	7	------	⌈ζ a. ○ ϟ p.
15	35.2	23.8	88	51	6	7	------	⌈ζ a. p. ψ p.
16	35.8	23.2	88	53	2	5	------	
17	33.8	22.2	90	57	4	7	------	○ p.
18	32.2	24.3	93	63	9	9	.3	d a. ⌈ζ a. p.
19	33.7	24.2	93	63	9	8	32.5	⌈ζ a. p. ●² p.
20	31.4	23.8	94	74	6	7	.3	⌈ζ a. p. d p.
21	34.9	23.2	97	53	5	7	------	⌈ζ p.
22	33.7	23.9	93	54	7	9	11.2	⌈ζ a. p. ● p.
23	34.4	22.6	93	81	7	9	30.2	d ● ⌈ζ² p.
24	33.3	22.4	97	59	7	7	9.1	d ⊤° ● p.
25	31.2	22.8	95	78	7	7	.3	⌈ζ d p.
26	32.4	23.1	95	66	9	9	10.2	d ⌒ a. ↙° ● ⊤° p.
27	34.5	22.7	98	88	10	10	19.6	● a. p.
28	28.8	20.2	93	95	10	10	45.5	↙ ● a. p.
29	29.3	23.1	94	94	10	10	32.3	↙° ● a. ● ⊤° p.
30	28.1	22.3	94	86	10	10	6.9	⊤° a. ●° p.
31	31.3	23	97	74	9	7	------	⌈ζ p.
Mean	33.5	23	92.1	63.9	6.2	7	------	
Total	------	------	------	------	------	------	227.9	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	21.6	97	60	5	8	------	⊤° p.
2	32.8	21.8	97	61	2	7	------	ϟ p.
3	32.2	21	98	60	7	8	6.1	● ⌈ζ p.
4	32.7	20.9	98	61	4	7	2.8	●° ⊤ p.
5	32.5	20.6	98	60	8	8	.8	Ω a. ●° ϟ p.
6	32.5	20.5	98	60	5	8	4.1	⊤° ● p.
7	32.4	20.7	98	59	7	9	------	Ω a. p p.
8	32.8	20.8	97	59	8	9	18.3	Ω ●² a. ⊤° p.
9	32.2	20.4	98	62	5	8	3.6	Ω ● a. ⊤° p.
10	32.6	20	97	60	2	8	------	⊤° p.
11	32.4	20.6	98	60	7	9	------	Ω a. ⊤° p.
12	32.9	21.4	98	60	8	9	2.5	d a. ●° ⊤² p.
13	32.5	21.1	98	62	4	8	1.8	Ω a. ●° p.
14	32.8	21	98	60	2	5	3.3	● ⊤ p.
15	32.4	21	97	61	7	9	12.4	d a. ●² ⊤² p.
16	31.6	20.2	96	60	6	8	------	⊤° ϟ p.
17	31	20.3	98	60	5	3	------	
18	31.3	20.3	98	60	7	7	------	Ω a. d p.
19	31	20.6	97	59	9	9	18	Ω a. ● p.
20	31	20.2	98	61	5	8	4.8	Ω ● a.
21	31.4	20	98	58	6	8	5.6	● ⊤² a.
22	32	20.2	98	59	8	8	16.8	⊤° a. ● ⊤² p.
23	31.5	20.3	98	59	5	9	27.9	Ω a. ● p.
24	31	20.6	98	65	2	8	21.1	● p.
25	31.2	20.6	98	61	6	9	30	● ⊤ p.
26	31.1	20.5	97	64	7	9	2.5	Ω ●° a. ↙° p.
27	30	20.7	98	72	9	9	69.1	● ↙° a. p.
28	28.8	18.8	97	68	10	10	13	d a. ↙° ● ⊤ p.
29	28	17.2	97	71	9	10	7.6	Ω d a. ● p.
30	28.3	18.6	98	68	9	9	4.6	d ● a.
31	28.8	18.9	97	70	9	9	------	⊤° a.
Mean	31.5	20.4	97 6	61.9	6.2	8.2	------	
Total	------	------	------	------	------	------	276.7	

SAN ANTONIO.

[ϕ=14° 22′ N; λ=121° 32′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	20.5	99	53	2	1	------	
2	33.5	19.4	98	56	1	3	------	
3	32	19.6	93	63	1	3	------	
4	32	20.5	99	62	5	3	------	
5	31.5	21.7	97	75	9	6	------	
6	31.5	21.1	99	76	1	6	------	
7	32	20.1	97	67	5	7	------	
8	32.6	21	98	63	9	8	4.8	
9	31	21	97	77	3	10	------	
10	32	19	99	70	1	4	------	
11	33	19.6	97	70	8	5	------	
12	33	21.4	91	69	8	7	------	
13	31	20.5	96	66	7	8	8.6	
14	29.5	21	96	82	6	9	------	
15	30.8	21	98	70	5	5	------	
16	30.5	21.6	98	73	7	3	------	
17	33.4	19	99	40	8	9	------	
18	31.3	19.9	97	74	10	10	------	
19	30.5	21	98	72	10	9	------	
20	32	21.4	98	87	8	9	14.7	
21	31.6	21	96	74	8	8	------	
22	31.4	21	97	80	9	10	2.5	
23	31.7	21.4	96	80	7	7	15.2	
24	31.7	21.3	97	63	8	7	1.5	
25	31.9	21.6	96	67	8	9	1.5	
26	30.8	22	96	98	9	9	10.2	
27	27	21.2	99	98	10	10	27.4	
28	27	21	99	90	10	9	21.3	
29	25.4	21	99	100	10	10	24.1	
30	23.8	21.5	99	99	9	10	14	
31	30.5	20.6	99	63	10	10	15.2	
Mean	30.9	20.8	97.3	73.5	6.8	7.2	------	
Total	------	------	------	------	------	------	161	

METEOROLOGICAL DATA, ETC.—Continued.

CORREGIDOR.

[ϕ=14° 23′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.6	24.8	81	60	2	2	------	⚡ p.
2	33.5	24.7	87	66	10	2	------	
3	33.5	25	80	56	10	3	------	☈ d p.
4	32.1	24.7	84	68	10	2	2	● ☈ p.
5	32	23.5	84	65	10	10	------	
6	33.5	24	84	57	4	3	8.1	● ☈ p.
7	30.8	23.8	68	63	10	8	------	
8	33.3	23.8	67	66	10	10	9.7	● ☈ a.
9	33.3	25.5	71	71	10	10	------	
10	32.2	25.7	83	63	4	3	------	
11	32.5	25.3	82	63	10	2	------	
12	32	24.7	87	70	10	10	25.4	● ⊤ a.
13	31.7	24.3	76	67	10	10	------	
14	33.2	25	70	59	10	8	------	
15	33.5	23.5	77	60	10	3	------	
16	33	25.7	83	60	10	2	------	
17	32.5	25.5	78	60	2	10	------	
18	31.5	25	81	75	10	10	8.4	● a.
19	31.2	24.5	82	69	10	10	2	● ⊤ p.
20	32.2	24	84	75	8	10	------	d ☈ p.
21	32.2	23.2	87	72	10	10	------	d ☈ p.
22	31.5	22.9	81	68	10	10	3	☈ a. ● ⊤ p.
23	29.8	23.2	87	77	10	10	31.7	●^{2} ⊤ p.
24	31.3	23.7	87	69	10	10	11.7	● ⊤ p.
25	30.5	24.2	82	82	10	10	------	d a.
26	29.3	24.2	87	81	10	10	25.1	⊤ a. ● a. p.
27	27.5	23	86	96	10	10	90.7	● a. p. ↙° p.
28	28.5	23.7	84	81	10	10	107.2	● ↙° a. p. ⊤ p.
29	27.8	22.7	84	90	10	10	58.9	⊤ a. ● ↙° a. p.
30	26.8	22.5	88	91	10	10	35.1	● a. p.
31	29	23	90	85	10	10	------	
Mean	31.5	24.2	81.7	70.5	9	7 7	------	
Total	------	------	------	------	------	------	419	

BALANGA.

[ϕ=14° 41′ N; λ=120° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10	0–10.	mm.	
1	36.8	23.9	92	46	2	1	------	
2	35.7	24.5	96	70	5	6	0.5	d a. ⊤ p.
3	36.5	22.9	92	54	0	4	4.8	☈ d^2 p.
4	35.5	22.4	96	70	3	9	------	⊤ ⚡ p.
5	35.4	23.8	92	57	9	10	14.5	☈ ● p.
6	34.5	23.6	96	64	8	8	3	☈ ● p.
7	34.7	23.3	95	59	9	5	3.8	☈ ● p.
8	32	23.7	96	82	10	10	12.2	⊤° a. p. ●^{2} ⚡ p.
9	32.9	23.4	95	72	9	9	2.8	⊤° a. ☈ d^2 ⌒ ⊍°
10	33.5	23.2	93	64	4	5	------	⊤° ⚡ p.
11	35	23.6	92	67	3	4	------	⚡ p.
12	34.4	24.5	92	67	10	8	------	⊤ a. p. d° p.
13	34.1	23	87	54	10	9	------	⊤° ⚡ p.
14	35	23.6	85	51	7	5	------	⊤° ⚡ p.
15	35.3	23.9	84	51	2	7	------	☈ p.
16	35.6	24.5	88	49	1	2	------	⚡ ⊖ p.
17	35.2	24	83	52	9	9	------	⚡° p.
18	33.2	25	84	69	10	10	------	⚡° p.
19	36	24.2	90	46	9	9	6.4	p° d^2 a. ☈ p.
20	34.5	24	92	78	9	10	12.2	☈ ● p.
21	34.3	24	92	75	9	9	------	d° a. ☈ p.
22	32.8	24	93	84	10	10	30.5	●^{2} d° a. ☈ ● p.
23	31	22.8	92	78	10	10	12.4	☈ ● p.
24	32.7	23.3	95	78	8	9	5.1	☈ ● d p.
25	29.8	23.1	94	81	10	10	3.3	⊤° a. d ⚡° p.
26	28.4	23	91	92	10	10	68.1	⊤ ●^{2} a. d p.
27	26.8	22.4	96	91	10	10	64	↙ ● a. p. d° p.
28	27.5	23.2	92	92	10	10	234.2	↙ ●^{2} a. p.
29	25.5	23	93	93	10	10	180.3	↙° ● ⊤ a. ●^{2} p.
30	25.8	22.7	94	92	10	10	33.1	● a. p.
31	29.9	22.8	94	80	10	10	------	d a. ⚡ p.
Mean	32.9	23.5	91.8	69.6	7.6	8	------	
Total	------	------	------	------	------	------	691.2	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	37.3	23.8	94	45	5	4	------	☈° p.
2	39.2	24.6	91	38	7	7	58.7	Ω ≡° a. ☈^{2} ↙ ●^{2}
3	35.5	22.1	97	57	6	4	13	≡° a. ☈ ● p.
4	35.7	23	97	56	8	4	43.2	☈ ●^{2} p.
5	32.8	23	98	71	8	10	.8	●° ☈° p.
6	35.2	23.3	97	49	5	5	2.5	☈ ●° p.
7	35.4	23	96	54	4	3	22.1	☈ ● p.
8	34.4	22.7	96	67	4	8	13.5	☈^{2} ● p.
9	34.8	24	95	66	1	6	------	↙° p.
10	35	23.8	94	79	1	8	------	Ω^2 ≡° a. p ⊤° p.
11	35.8	24	93	50	2	4	------	Ω ≡° a. ⊤° ⚡° p.
12	35.8	24.2	93	56	4	7	15.7	Ω^2 a. ☈^{2} ● p.
13	34.7	22.7	97	56	6	4	------	○ a. ⚡ ⊍° ⊖° p.
14	34.8	22.8	94	59	2	7	------	d° ⚡° p.
15	35.8	23.2	96	48	2	4	------	Ω a. ☈° p.
16	36.6	23.1	95	54	0	4	------	Ω a.
17	36.5	24.5	93	62	3	9	------	Ω a. ☈° p.
18	34	23.7	92	62	10	10	3	Ω ⊍^{2} ⊖° a. ●° ⚡°
19	36.7	24.3	96	48	1	7	4.8	☈ ● p.
20	36.2	22.8	95	58	2	8	------	
21	36.4	23.7	96	49	1	4	10.7	●° ≡ a. ☈° ●° p.
22	29	24.4	97	76	10	10	8.4	●° a. ☈ ↙° ● p.
23	34.4	21.6	97	83	8	10	8.9	● ☈^{2} p.
24	33.9	22.8	96	72	5	10	22.9	☈^{2} ●^{2} p.
25	31.8	22.8	98	73	10	10	3.6	●° a. ↙ ●° ☈ p.
26	30.2	23.2	95	95	9	10	16	⌒ ☈ a. ● d° p.
27	27	23.6	98	90	10	9	47.2	● d a. ↙ ● p.
28	28	23.5	96	90	10	10	12.9	⊤° a. ↙° ● a. p.
29	32.3	23.3	96	68	10	8	2.8	↙ ● p.
30	30.9	23.9	97	94	10	10	34	↙ ●° a. d ●^{2} p.
31	31.8	23	97	70	10	10	1.8	↙° ⚡° ●° p.
Mean	34.1	23.4	95.5	64.4	5.6	7.2	------	
Total	------	------	------	------	------	------	316.5	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	22.5	90	------	0	1	------	
2	32.5	23	91	------	0	10	------	
3	31.5	21.4	96	------	0	0	16.3	
4	32	23.4	95	------	4	1	23.6	☈ p.
5	30.9	24	96	77	6	8	49.3	⊤ a. ☈ p.
6	30.4	23.5	94	81	4	9	9.4	⊤ ↙ ● p.
7	32.4	23.4	94	59	1	1	.5	
8	32.8	24	99	------	4	4	3.8	⊤ p.
9	33.2	23.7	93	------	0	6	------	d a.
10	35	23	93	------	0	0	------	
11	32.8	24.7	88	------	9	6	17.5	
12	30.9	24	84	75	10	3	14.5	⊤ a. p ☈ p.
13	30.8	24	94	72	10	4	2.5	p p.
14	30.8	23.7	97	68	6	0	------	p° p.
15	31.5	23.5	95	71	7	0	------	
16	31.5	23.7	98	76	2	1	------	
17	33.4	23.2	99	------	0	0	27.7	
18	30.3	24.8	93	73	10	10	2.5	●° ☈ a.
19	31.9	22.8	95	------	0	1	.5	d ☈ p.
20	31	24.4	92	77	8	6	4.3	d° a. p.
21	30.6	24.4	96	75	8	2	8.6	p a.
22	31	23.8	95	76	10	8	11.9	d a. p p.
23	30.4	23.4	95	78	10	10	36.8	↙ ● p.
24	30.4	22.8	96	77	10	8	26.2	☈ p.
25	30	24.3	93	84	10	10	16.5	●° a. ⊤ p.
26	29.3	23.6	96	86	10	10	41.1	●° a. p. ↙° p.
27	27.8	23.5	95	85	10	10	8.4	●° a. p.
28	27.5	24.1	97	89	10	10	------	● a. p. ↙^{2} p.
29	30.8	25	95	77	10	8	85.1	⊤ ↙° p.
30	30	24.8	94	90	10	10	------	p° ☈^{2} ↙° p.
31	30.4	23	93	75	10	10	6.4	●° a.
Mean	31.1	23.7	94.2	77.2	6.1	5.4	------	
Total	------	------	------	------	------	------	413.4	

METEOROLOGICAL DATA, ETC.—Continued.

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.4	25.5	91	62	6	4	------	↙° ⚡ p.
2	34.2	27.8	85	60	8	4	2.3	d a. ↙° ⚡ p.
3	31	26.4	87	60	9	6	------	T° ⚡ p.
4	34	27.3	81	63	9	4	------	T° ⚡ p.
5	33.7	27.2	77	55	10	7	------	T° a. p. ⚡ p.
6	33.2	25.3	91	64	1	4	------	T° a. ⚡ p.
7	34	25.3	86	65	6	4	------	↙° ⚡ p.
8	33.7	25.4	90	62	1	4	------	T° p.
9	33.8	24.4	89	61	1	2	.5	⚡ p.
10	32.8	25.3	92	58	8	6	------	●° a. ⚡ p.
11	33.7	24.9	88	68	9	2	13.5	d° a. ⚡ p.
12	33.5	24.7	92	64	6	4	------	⛈ a. p.
13	33.8	24.6	85	57	2	4	29.2	↙° T° ●^{2} ⚡ p.
14	35.8	22.4	88	58	1	1	------	T° ⚡ p.
15	35.2	25.4	86	54	1	3	------	⚡ p.
16	34.7	25	92	54	1	3	------	⚡ p.
17	33.1	25.6	90	64	4	5	------	T° ⚡ p.
18	34.6	27.8	81	63	6	9	------	T° p.
19	34.4	24.9	85	60	9	6	16.5	⌒° ⛈ a. ● T^2 p.
20	31.8	24.9	94	72	7	10	.5	T° ⚡^{2} p.
21	31.2	24.7	93	73	6	10	67.6	⊍ ⊕ a. T^2 ●^{2} ⚡
22	29.4	22.3	98	79	10	10	1	● a. T° ⚡ p.
23	31.6	24.4	89	72	8	10	12.2	● ↙° T° ⚡ p.
24	31.9	23.5	92	67	8	10	33.8	●^{2} T° p.
25	29.6	23.3	88	77	10	10	34.3	
26	27.5	23.2	93	81	10	10	37.6	⌒^{2} a. ● ↙° p.
27	27	23.5	92	97	10	10	66.3	↙° ● a. ● T° p.
28	29.7	23.7	94	88	10	10	3.8	↙° a.
29	31	24.4	91	79	10	10	5.8	
30	30.6	23.4	92	75	10	10	2	
31	29.8	24.1	91	75	8	10	.3	⚡ p.
Mean	32.5	24.9	89.1	67.3	6.6	6.5	------	
Total	------	------	------	------	------	------	327.2	

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	23	16.6	98	84	6	10	------	
2	23.6	15	97	95	2	10	------	≡ p.
3	23.9	15.8	97	87	2	10	------	≡ p.
4	24	14.5	99	81	2	10	32.8	≡ a. ● p.
5	23	16.3	95	94	7	10	41.7	● p.
6	23.5	13.8	98	91	3	10	21.6	● ≡ p.
7	22.5	13.8	90	95	4	10	6.9	●° p.
8	22.5	14	97	94	2	10	2	●° p.
9	23	14.7	95	90	2	10	3	● p.
10	21.4	14.7	95	88	2	8	2	●° p.
11	23.1	16.1	92	91	4	10	------	≡ p.
12	22.8	15.2	92	93	3	7	------	
13	24	14.3	75	76	5	9	27.9	● p.
14	23.7	15	96	97	2	10	12.4	● p.
15	24.2	15	95	93	1	10	------	
16	23.5	15	96	90	2	2	1.5	●° ≡ p.
17	22.3	15.2	88	88	3	10	------	
18	23.5	15.4	93	85	7	7	6.1	● p.
19	23.5	16.2	99	92	7	6	7.6	≡ ● p.
20	23.4	15.6	90	94	2	10	2.3	●° p.
21	25	16.5	97	75	6	10	10.9	
22	21.2	16.2	98	81	10	10	7.9	●° a. p.
23	23	15.8	91	88	7	10	2.8	●° p.
24	22.1	16.2	85	87	7	10	16.3	● p.
25	22.5	16.4	95	76	10	10	8.6	● p.
26	20.8	15.9	91	95	10	10	26.7	● p.
27	19	16.1	94	91	10	10	85.1	● a. p.
28	19	17	99	99	10	10	234.9	●^{2} a. p.
29	19.2	16	99	93	10	9	16	● a.
30	21.3	16.6	74	98	9	10	8.6	● p.
31	21.4	15.7	99	87	8	10	------	
Mean	22.5	15.5	93.5	89.3	5.3	9.3	------	
Total	------	------	------	------	------	------	585.6	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35	24	87	67	2	2	------	Ω a. T^2 ⚡ p.
2	34.4	23.2	92	66	2	2	------	Ω a.
3	33.8	24	89	73	2	6	------	Ω a. ↙° p.
4	33.6	24	92	72	3	6	26.4	Ω a. ⛈ ● p.
5	33.2	23.8	94	69	6	6	.3	Ω a. d ⊍ p.
6	33.8	22.8	90	67	2	2	------	Ω a. ●° ⊍ p.
7	33.5	22.6	93	65	6	6	------	Ω a. ⊍ ⚡ p.
8	33.8	23.8	92	73	2	3	------	Ω a. ⊍ p.
9	33.8	23.2	87	69	3	4	------	Ω a.
10	33.5	23.2	97	67	3	2	------	Ω a. ⊍ ⚡ p.
11	34.4	23.2	93	74	4	2	------	Ω a.
12	34	23	92	72	2	4	29.2	Ω a.
13	35.5	21.8	86	77	7	6	1	Ω a. ⛈^{2} ● p.
14	35.4	22.8	87	73	2	3	------	Ω a. ●° T p.
15	35.6	22.6	92	67	2	6	------	Ω a. d p.
16	35.5	23	95	67	4	4	------	Ω a. d p.
17	35.2	23.2	92	69	3	4	------	Ω a. ⚡ p.
18	33.5	23	81	68	4	6	8.6	Ω a. ⚡ p.
19	34	23	93	66	6	6	------	Ω a. ⛈^{2} ● p.
20	34.6	22.8	88	66	4	8	30.5	Ω a. T p.
21	32.6	21.6	97	73	6	6	------	Ω a. ⛈^{2} ● p.
22	32	22	91	85	10	10	------	Ω a. d° a. p.
23	30	21.4	97	80	6	10	11.2	Ω a.
24	29.1	23	92	86	6	8	3	Ω a. ● p.
25	31	21.2	97	75	4	8	5.1	Ω a. ● p.
26	28	22.6	81	90	6	10	31.7	Ω a. ● ↙ p.
27	29.6	22.2	85	76	10	10	14.2	Ω a. ● ↙ p.
28	28.2	22.6	92	84	10	10	3	Ω a. ● p.
29	32.2	23.6	89	76	4	6	50.8	Ω a. ● p.
30	34.6	21.6	95	72	4	1	------	Ω a. ●° p.
31	31	21	91	87	4	4	------	Ω a.
Mean	33	22.8	90.9	73.3	4.5	5.5	------	
Total	------	------	------	------	------	------	215	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	21.2	92	42	1	3	------	Ω° a. ↙° ⛈^{2} p.
2	------	23.1	98	43	6	4	3	≡ a. d° ⛈ ●° p.
3	------	21.3	98	52	6	4	.5	≡⊕° a. ⛈° ●° p.
4	------	23.3	98	52	10	5	------	≡ ⊕° a. ⛈ p.
5	------	23.3	93	46	8	7	10.7	≡ ⊕° ⛈^{2} ↙ ●^{2}
6	------	21.9	100	72	8	6	15.5	●^{2}⊕° a. ⛈ ↙° d^2
7	------	20.9	100	58	8	3	3.3	≡ a. ⛈° ϖ° d^2 p.
8	------	22.1	99	58	3	3	27.4	≡⊕° a. ⛈^{2} ●^{2} p.
9	------	22.3	99	54	1	3	------	≡ a. ⛈ ϖ° d° p.
10	------	23.2	98	54	10	2	------	≡ a. ⛈ p.
11	------	23.7	100	55	9	7	5.3	d^2 ≡◯° ⛈^{2} ●°
12	------	22	100	57	10	7	3.6	d^2 ◯° ⛈^{2} ⌒° ϖ°
13	------	20.3	100	65	10	7	------	∞°◯° ⛈ ϖ° ⊍°
14	------	20.6	99	54	4	5	.3	Ω°⊕° ⌒° ●° ⚡ ϖ^2
15	------	22.4	97	54	9	4	------	◯° a. ⛈ ⊕° ϖ° p.
16	------	21	97	48	8	5	------	Ω°≡ a. ↙° ⊍^{2} ⚡°
17	------	22.1	98	45	9	6	19.3	Ω°≡ a. ●^{2} ⛈^{2} p.
18	------	22.3	100	65	10	9	31	●^{2} ⛈^{2} a. ◯^{2} p.
19	------	21.3	98	55	3	6	------	Ω° a. ◯° ⛈^{2} p.
20	------	21.7	100	60	4	8	------	Ω^2 ≡ d° ◯° ⛈^{2}
21	------	21.7	96	62	9	7	------	≡ d° a. ⛈ ◯° p.
22	------	22.1	90	69	9	7	17.5	Ω°≡◯^{2} ⛈^{2} ↙ ●^{2}
23	------	21.3	97	66	10	10	------	∞^{2} a. d° ⛈ p.
24	------	22	97	90	6	10	22.1	Ω^2 ≡ ↙° ●^{2} ⛈^{2}
25	------	22.1	99	75	10	10	.3	≡^{2} ⌒° d° a. ⛈ p.
26	------	22.2	97	72	8	9	3	≡◯^{2} ↙° ●° ⛈ d°
27	------	21.6	97	91	10	10	4.6	≡ ↙° ●° a. ⛈ p.
28	------	22.7	89	62	10	10	------	↙° ●° a. ↙ p.
29	------	22.5	90	56	10	9	------	≡ a. ↙° ◯° ⛈ p.
30	------	20.9	96	52	4	6	11.7	Ω°≡◯° ● ↙° ⛈^{2}
31	------	21.3	97	63	10	8	38.4	≡°◯° ↙° ●^{2} ⛈^{2}
Mean	------	21.9	97.1	59.6	7.5	6.5	------	
Total	------	------	------	------	------	------	217.5	

METEOROLOGICAL DATA, ETC.—Continued.

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.6	26.2	81	57	8	1	------	≡ a. T° ϟ p.
2	32.4	25.5	80	61	0	1	------	Ω ≡ a. ↙° ϟ p.
3	32.5	25.5	80	59	8	5	------	Ω ≡ a. ↙° ϟ p.
4	31.9	26.2	82	61	8	1	------	Ω ≡ a. ↙° ϟ p.
5	32.5	26.8	81	58	4	2	------	Ω ≡ ↙° a. T° ϟ
6	32.6	26	76	59	0	1	------	Ω° ≡ a. ↙° T° ϟ
7	32	25.5	76	63	2	4	------	≡ a. ↙° T° ϟ p.
8	32.5	25.2	78	67	3	0	------	Ω ≡ a. ϟ p.
9	32.8	25.5	83	58	0	1	------	Ω ≡ a.
10	32.6	25.9	81	60	0	0	------	Ω ≡ a.
11	32.7	25.9	78	58	4	3	------	Ω ≡ a. ϟ p.
12	32.8	25.4	80	62	2	3	------	Ω ≡ a. ↙° ϟ p.
13	32.9	25.4	78	58	8	4	------	≡ a. ⛈° d p.
14	32.6	25.2	77	60	1	2	------	≡ a. ↙° T° ⌒° d
15	32.4	26.5	80	63	7	6	------	≡ ↙° T° d ⌒² ϟ
16	33	25.5	79	61	1	1	------	≡ a. ϟ p.
17	32.9	25.5	78	62	5	4	------	Ω ≡ a. ϟ p.
18	33.2	25.5	73	53	9	5	------	≡ a. ϟ p.
19	32.8	25.5	77	58	9	4	4.1	⛈ ●° p.
20	32.5	24.6	83	57	4	9	------	≡ a. ⛈ d p.
21	32.5	27	80	66	9	8	15.7	↙° ⛈ ● p.
22	28.5	24.8	87	78	10	10	19.3	● a. p. d ϟ p.
23	30.4	24.7	88	75	10	10	1.5	T° ●° p.
24	30.8	25.5	84	70	10	10	8.1	d a. T° ● ϟ p.
25	31.4	24.9	88	74	8	10	37.3	⛈² ●² p.
26	30.5	24.6	88	74	9	10	------	T° ↙° ●° p.
27	28.5	25.2	89	84	10	10	52.3	d a. ● a. p.
28	26.8	25	88	89	10	10	104.9	↙² ●² a. p.
29	29.5	26	82	76	10	9	------	
30	30.5	24	87	71	1	2	13.7	Ω² ≡² a. ● p.
31	29.5	25.5	80	75	3	10	10.4	≡ a. T° ϟ ●° p.
Mean	31.6	25.5	81.4	65.4	5.6	5	------	
Total	------	------	------	------	------	------	267.3	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.3	24.1	87	53	0	3	------	≡° a.
2	34.2	22	87	55	0	3	------	≡° a. ↙° p.
3	34.1	24	87	56	1	4	------	≡° a. ϟ p.
4	34.4	23.8	87	51	1	3	------	≡ a. ϟ p.
5	33.4	24	83	58	3	6	------	≡° a. T ϟ p.
6	34.9	24	86	53	0	3	------	≡ a. d p.
7	33.7	23.9	84	59	0	4	------	≡° a. T p.
8	34.2	24.3	83	53	0	3	------	≡° a. T ϟ p.
9	33.5	23.9	84	52	0	2	------	≡° a.
10	33.4	24	94	59	1	3	------	≡° a.
11	34.2	24.6	84	58	1	3	------	≡° a.
12	34.4	24	79	50	0	4	------	T ↙° p.
13	34.2	23.8	82	56	2	9	1	≡° a. T ● p.
14	34.3	23.6	86	60	1	4	------	T ϟ p.
15	34.5	24.5	87	63	0	8	.5	≡° a. T ● p.
16	35.1	24.3	90	51	0	3	------	≡° a.
17	34	24.7	88	51	1	3	------	≡° a. ⏀ p.
18	35.1	24.5	87	55	1	4	------	≡° a.
19	34.1	24.8	85	55	2	5	------	≡° a. T p.
20	33.6	24.3	85	65	3	10	1.5	≡° a. T ϟ ● p.
21	34.8	23.4	92	64	1	9	9.9	≡° a. ⛈ ● p.
22	31.3	23.6	93	69	10	10	1.8	● a. p. ⛈ p.
23	33.1	25	91	66	10	10	------	≡° a. ϟ d p.
24	33.2	25.5	88	66	5	9	4.6	≡° a. T ● p.
25	33.3	24.2	92	63	4	7	6.1	T ϟ ● p.
26	33.1	24	93	66	6	10	24.9	T ϟ ● p.
27	27.6	24.3	91	86	10	10	12.7	● a. p.
28	------	------	92	------	10	10	207	↙² ● a. p.
29	------	------	------	------	10	10	27.9	↙² ● a.
30	------	------	------	------	0	3	------	
31	------	------	------	------	4	6	------	≡° a.
Mean	33.7	24.1	87.4	59	2.8	5.8	------	
Total	------	------	------	------	------	------	297.9	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.3	23.8	93	72	1	2	------	Ω² v a. ≡ p.
2	31.1	24.3	92	62	0	0	------	Ω² v a. ≡ p.
3	28.6	23.7	92	81	10	10	4.1	●° ↙° a. d a. p.
4	28	23.3	78	70	10	2	------	↙° a. p. ≡ p.
5	28	23.2	80	68	10	9	------	↙° a. p.
6	28.7	21.8	88	67	2	10	------	≡ a. ↙° Ω p.
7	29.7	22.2	86	76	1	4	.8	↙° ≡ d ⌒ Ω² p.
8	30.5	21.8	93	74	1	1	------	↙° a. Ω² a. p.
9	30.1	21.9	93	69	0	2	------	Ω² v a. ≡ p.
10	30.2	22.7	84	77	2	4	------	↙° a. p. ≡ Ω p.
11	30.6	25.9	86	75	3	4	------	↙° a. p. ≡ d p.
12	27.2	24.8	86	73	10	10	7.5	T° d a. p.
13	27.7	22.6	80	78	10	10	16.5	●° a. ↙° p.
14	30.2	23.7	87	79	5	6	1	●° ↙° a. ≡ p.
15	30.5	26	88	72	2	0	.8	d v a. Ω² p.
16	32	26.5	83	73	4	7	.3	d a. ≡ ⏀° p.
17	30.6	24.8	82	74	1	7	------	Ω a. ↙° p.
18	30.3	25.1	87	71	3	2	2.5	●° a. ≡ ϟ p.
19	32.5	24.2	86	69	3	7	------	Ω² ⌒ p° a. ϟ² p.
20	31.6	24.4	92	69	4	8	3.8	T ●° a. ◯ ↙° ϟ° p°
21	29	23	84	83	9	10	67.1	● a. p. ⛈° p.
22	29	22.7	80	88	10	10	16	d° a. ● T ϟ p.
23	30.6	23.3	88	76	3	8	28.4	↙° a. ●² ⌒ p.
24	28.3	23.2	91	80	10	10	93.5	↙ ●² a. p.
25	28	23.4	83	84	10	10	20.6	↙° ●° a. ↙° ϟ p.
26	30.8	25.7	83	78	10	10	2.5	↙° a. T ● ϟ p.
27	30.4	24.9	88	84	10	10	8.6	T a. ↙° ●° a. p.
28	27.7	24.9	90	90	10	10	57.1	● a. ↙° d a. p.
29	28.8	23.1	98	85	10	10	58.4	↙ ● a. ↙° d p.
30	29.6	23.2	90	71	5	1	------	Ω ↙° a. ≡ p.
31	29.3	23.6	81	73	2	7	------	p° p.
Mean	29.7	23.8	86.8	75.5	5.5	6.5	------	
Total	------	------	------	------	------	------	389.5	

SEISMOLOGICAL BULLETIN FOR MAY, 1908.

By Rev. Miguel Saderra Masó, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

4, 6^h 32^m. **Vigan** (Ilocos Sur.) Earthquake of intensity II.

4, 6^h 58^m. **Batanes Islands.** Oscillatory earthquake. Direction WSW–ENE; intensity IV; duration 5^s.

4, 22^h 9^m 26^s.* **Ilocos and Abra.** Earthquake of intensity III.

5, 14^h 21^m 20^s.* **Isabela** (Basilan.) Oscillatory earthquake. Direction E–W; intensity IV.

6, 19^h 27^m 13^s.* **Leyte and northeastern Mindanao.** Oscillatory earthquake of intensity V. The origin of this disturbance was at a distance of some 700 kilometers from Manila, probably in the Bay of Butuan. At Butuan very strong oscillations were observed, which had a N–S direction and lasted for nearly a minute; while at Surigao, a station northeast of the bay mentioned, the earthquake was less intense and lasted about 48 seconds. On the Island of Leyte the shocks were very feeble and of short duration.

7, 14^h 17^m and 14^h 22^m. **Ormoc** (W of Leyte.) Earthquake of force III and short duration.

8, 3^h 5^m and 23^h 30^m. **Sumay** (Guam.) Earthquake of intensity III.

11, 21^h 47^m 0^s.* **Sumay** (Guam.) Earthquake of intensity II. This earthquake originated probably some 2,400 kilometers east of Manila and 300 west of Guam where other, and more violent, disturbances experienced on the said island had their focus.

12, 18^h 43^m. **Tuburan** (N of Cebu.) Earthquake of intensity IV, accompanied by subterraneous rumblings; duration 6^s.

13, 19^h 3^m. **Iloilo** (E of Panay.) Oscillatory earthquake. Direction NNW–SSE; intensity III; duration 5^s.

14, 8^h 8^m 48^s.* **The Visayas and northern Mindanao.** Earthquake of little intensity, but wide extent, since it was perceptible in eastern Panay, on the Islands of Negros, Cebu, Bohol, Leyte, Samar, and in the northern part of Mindanao, that is, over an area extending some 400 kilometers in the direction east–west, and 350 kilometers from north to south. On none of the islands mentioned the force exceeded IV. The records traced by the microseismographs of the Central Observatory seem likewise to indicate that even within the epicentral region the disturbance was not of great intensity. The focus lay at a distance of 600 kilometers from Manila, probably not far from the west coast of southern Leyte.

14, 21^h 18^m 21^s.* **Jolo and western Mindanao.** Earthquake of intensity VI. The origin of this earthquake appears to have been in the Sulu sea, about 750 kilometers south of Manila. We believe that its position may be stated more precisely as having been in the neighborhood of meridian

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.

121° E and parallel 7° 40′ N, which seems to be the region from which proceeded the violent earthquakes of 1897 and which is responsible for most of the shocks which are being felt in western Mindanao and on the Islands of Basilan and Jolo.

16, 4^h 17^m 57^s.* **Mindoro Island and southern Luzon.** Earthquake of intensity IV, which was felt in Mindoro and in the Provinces of Batangas, western part of Tayabas, Laguna, Rizal, Cavite, and Bataan. Its origin or epicenter must have been about 150 kilometers south-southwest of Manila, probably near the northwestern end of Mindoro.

21, 22^h 38^m 30^s.* **Batanes Islands.** Trepidatory earthquake. Intensity IV; duration 3^s.

26, 8^h 6^m. **Tacloban** (NE of Leyte). Earthquake of intensity III and short duration.

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight=0^h.]

No.	Date.	Component.	Beginning.			Maximum range of motion.			End.	Instrument.	Remarks.
			First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2a.).	Period.			
			h. m. s.	h. m. s.	h. m. s.	h. m. s.	mm.	s.	h. m.		
69	3	NNW-SSE	8 55 41	9 02 05	9 08 42				9 37	V. M.	
		WSW-ENE	8 55 50	9 02 22	9 09 11				9 35	H. P.	
70	4	NNW-SSE	3 10 03						3 24	V. M.	
		WSW-ENE	3 09 57						3 28	V. M.	
		WSW-ENE	3 10 17						3 28	H. P.	
71	4	NNW-SSE	22 09 26		22 10 14	22 10 24	0.12	2.4	22 17	V. M.	Vertical C. 0.08 mm. Earthquake, III in the NW of Luzon.
		WSW-ENE	22 09 22		22 10 08	22 10 21	.14	2.4	22 19	V. M.	
		WSW-ENE	22 09 38						22 19	H. P.	
72	5	NNW-SSE	14 21 20		14 23 24	14 23 53	.75	2.4	15 27	V. M.	Vert. C. 0.09 mm. Earthquake, IV at Isabela (Basilan I.)
		WSW-ENE	14 21 21		14 23 27	14 25 41	.55	2.4	15 30	V. M.	
		WSW-ENE	14 21 18		14 24 01	14 25 44	3.87	7.5	15 48	H. P.	
73	6	NNW-SSE	12 10 00		12 10 13	12 10 26	.05	2.4	12 16	V. M.	Vert. C. 0.03 mm.
		WSW-ENE	12 10 00		12 10 13	12 10 20	.07	2.6	12 16	V. M.	
		WSW-ENE	12 10 00		12 10 34				12 16	H. P.	
74	6	NNW-SSE	19 27 15		19 28 45	19 29 58	.52	2.4	19 55	V. M.	Vert. C. 0.04 mm. Earthquake, VI in Leyte and northeastern Mindanao.
		WSW-ENE	19 27 13		19 28 44	19 30 53	.37	2.4	20 05	V. M.	
		WSW-ENE	19 27 18		19 28 57	19 30 12	.42	10.5	20 25	H. P.	
75	11	NNW-SSE	21 47 00	21 51 43	21 56 04	21 56 32	.01	8	22 17	V. M.	
		WSW-ENE	21 47 00	21 51 21	21 56 02	21 57 20	.01	5.6	22 13	V. M.	
		WSW-ENE	21 47 00	21 51 17	21 56 00	21 58 41	.08	14.1	22 24	H. P.	
76	13	NNW-SSE	4 28 32	4 35 07						V. M.	First shock?
		WSW-ENE	4 28 32	4 35 05						V. M.	
		WSW-ENE	4 28 34	4 35 49						H. P.	
77	13	NNW-SSE	4 42 16	4 48 43	4 53 01	4 53 52	.01	6.4	5 05	V. M.	Second shock?
		WSW-ENE	4 42 06	4 48 08	4 53 43	4 54 41	.01	8	5 07	V. M.	
		WSW-ENE	4 42 21	4 48 28	4 55 18	4 56 45	.07	8.4	5 42	H. P.	
78	13	NNW-SSE	22 04 48		22 05 06				22 09	V. M.	
		WSW-ENE	22 04 49		22 05 05	22 05 06	.05	2.4	22 09	V. M.	
79	14	NNW-SSE	8 08 48		8 10 14	8 10 39	.11	2.4	8 26	V. M.	Earthquake, IV in central and eastern Visayas.
		WSW-ENE	8 08 47		8 09 54	8 10 42	.06	2.4	8 26	V. M.	
		WSW-ENE	8 08 48		8 10 18	8 12 34	.18	9.6	8 30	H. P.	
80	14	WSW-ENE	21 18 21	21 20 59	21 23 13	21 25 07	.01	11.6	21 41	V. M.	Earthquake, VI in Jolo and western Mindanao.—South Sulu Sea.
		WSW-ENE	21 18 20	21 20 57	21 23 07	21 24 36	.32	9.6	22 06	H. P.	
81	15	NNW-SSE			9 02 27				9 05	V. M.	
82	15	NNW-SSE	16 44 00	16 54 00	17 04 00	17 27 44	.01	15.2	17 59	V. M.	
		WSW-ENE	16 44 06	16 54 06	17 04 06	17 25 16	.01	13.6	18 01	V. M.	
		WSW-ENE	16 44 02	16 54 29	17 04 32	17 31 36	.08	13.5	18 15	H. P.	
83	16	NNW-SSE	4 17 57		4 18 15	4 18 54	2.12	2.2	5 09	V. M.	Vert. C. 1.40 mm. Earthquake, IV in Mindoro and southern Luzon.
		WSW-ENE	4 17 58		4 18 13	4 18 49	1.80	2	5 06	V. M.	
		WSW-ENE	4 17 50		4 18 12	4 18 26	1.35	1.2	4 44	H. P.	
84	19	NNW-SSE	16 35 53		16 36 03	16 36 14	.18	2.4	16 43	V. M.	
		WSW-ENE	16 35 55		16 36 01	16 36 10	.12	2.4	16 43	V. M.	
		WSW-ENE	16 35 54		16 36 03	16 36 11	.07	7.2	16 42	H. P.	
85	20	NNW-SSE	15 47 20						16 45	V. M.	
		WSW-ENE	15 47 20						16 45	V. M.	
		WSW-ENE	15 47 17						16 55	H. P.	
86	21	NNW-SSE	7 22 30						8 00	V. M.	
		WSW-ENE	7 22 33						7 58	H. P.	
87	21	NNW-SSE	22 38 30						22 43	V. M.	Earthquake, III in Batanes Islands.
		WSW-ENE	22 38 30						22 44	V. M.	
		WSW-ENE	22 38 33						22 45	H. P.	
88	26	NNW-SSE	22 34 09			22 30 58	.05	2.8	22 47	V. M.	
		WSW-ENE	22 34 10			22 37 30	.04	4	22 47	V. M.	
		WSW-ENE	22 34 33			22 37 09	.12	6.9	22 47	H. P.	

Instrumental constants.—Vicentini microseismograph (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=10.5 seconds; WSW–ENE pendulum, T=10 seconds. Magnification of the record: NNW–SSE, 15 times; WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters which extends many kilometers toward north and south and only four to the east, where volcanic tuff outcrops. To the west there lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS[1].

4, 6^h 32^m. **Vigan** (Ilocos Sur). Temblor de tierra de intensidad II.

4, 6^h 58^m. **Islas Batanes.** Temblor oscilatorio. Dirección WSW–ENE; intensidad IV; duración 5^s.

4, 22^h 9^m 26^s.* **Ilocos y Abra.** Temblor de tierra de intensidad III.

5, 14^h 21^m 20^s.* **Isabela** (Basilan). Temblor oscilatorio. Dirección E–W; intensidad IV.

6, 19^h 27^m 13^s.* **Leyte y NE de Mindanao.** Temblor oscilatorio de intensidad V. El origen de este terremoto se hallaba á unos 700 kilómetros distante de Manila, probablemente en la bahía de Butúan. En esta estación se observaron oscilaciones muy fuertes en la dirección N–S, por espacio de cerca de 1^m; mientras en Surigao, estación situada al NE de dicha bahía, fué el temblor menos fuerte, pero duró unos 48^s: en la Isla de Leyte tuvo muy poca intensidad y duración.

7, 14^h 17^m y 14^h 22^m. **Ormoc** (W de Leyte). Temblor de tierra de intensidad III y de duración corta.

8, 3^h 5^m y 23^h 30^m. **Súmay** (Guam). Temblor de tierra de intensidad III.

11, 21^h 47^m 0^s.* **Súmay** (Guam). Temblor de tierra de intensidad II. Este terremoto probablemente tuvo su origen á unos 2,400 kilómetros al E de Manila y á unos 300 al W de Guam, donde se han originando otros terremotos más violentos experimentados en aquella isla.

12, 18^h 43^m. **Tuburan** (N de Cebú). Temblor de tierra de intensidad IV, con ruido subterraneo; duración 6^s.

13, 19^h 3^m. **Iloílo** (E de Panay). Temblor oscilatorio. Dirección NNW–SSE; intensidad III; duración 5^s.

14, 8^h 8^m 48^s.* **Islas Visayas y N de Mindanao.** Temblor de tierra de poca intensidad y grande extensión, pues fué perceptible en la parte oriental de Panay y en las Islas de Negros, Cebú, Bohol, Leyte, Sámar y en la parte N de Mindanao: lo cual representa un área que se extiende unos 400 kilómetros de E á W, y unos 350 kilómetros de N á S. En ninguna isla su intensidad pasó del número IV. Además parece deducirse de los seismógramas trazados por los microseismógrafos del Observatorio que tampoco en el epicentro debió ser muy intenso. Éste se hallaba á unos 600 kilómetros de Manila, probablemente un poco al W de la parte S de Leyte.

14, 21^h 18^m 21^s.* **Joló y parte W de Mindanao.** Temblor de tierra de intensidad VI. El origen de este terremoto parece hallarse en el mar de Joló á unos 750 kilómetros al S de Manila; creemos que puede situarse en las cercanías del meridiano 121° E y del paralelo 7° 40′ N, hacia donde probablemente se halla el epicentro de los violentos terremotos del año 1897 y de la mayor parte de los perceptibles, en la parte W de Mindanao y en las Islas de Basilan y Joló.

16, 4^h 17^m 57^s.* **Isla de Mindoro y S de Luzón.** Temblor de tierra de intensidad IV, perceptible en la Isla de Mindoro y en las Provincias de Batangas, parte W de la de Tayabas, Laguna, Rizal, Cavite, y Batáan. El origen ó epicentro debe situarse á unos 150 kilómetros al SSW de Manila, probablemente cerca del extremo NW de la Isla de Mindoro.

21, 22^h 38^m 30^s.* **Islas Batanes.** Temblor de tierra susultorio. Intensidad IV; duración 3^s.

26, 8^h 6^m. **Tacloban** (NE de Leyte). Temblor de tierra de intensidad III; duración corta.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120 E de Greenwich.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1890–1907.

EARTHQUAKE CATALOGUE, 1890–1907, MONTH OF MAY.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance.		Intensity. (Rossi-Forel).	Remarks.
				Longer axis.	Shorter axis.		
1890	h. m.			Km.	Km.		
5	15 20	Southern Luzon	Near the S coast	200	180	V	
6	6 19	do	do	120	100	II	
11	16 41	Cuyo Island				IV	
13		Nueva Caceres, Camarines				III	
23	21 55	Southern Luzon	Near Taal Volcano	150	70	III	
1891							
2	4 56	Rizal Province	NW Lake Bay	8	3	III	
3	12 40	Cotabato, S Mindanao	Illana Bay	200	60	IV	
19	19 13	Eastern Luzon	Casiguran Bay	350	130	V	
1892							
1	22 12	Camarines and Albay	SE of St. Miguel Bay	150	80	V	
2	11 0	Rizal Province	NW Lake Bay	8	8	III	
6	13 21	Albay	Near Mayon Volcano	50	40	III	
21	5 58	Western Luzon	Near the Zambales coast	140	60	IV	Repetition at $13^h 30^m$.
24	20 0	City of Manila		6	6	II	
24	22 0	Tamontaca, S Mindanao	Rio Grande Valley			III	
31	21 30	Rizal Province	NW Lake Bay	10	8	III	
1893							
9	0 28	Southeastern Luzon	N of Masbate Island	150	80	V	Indicated at Manila by the Bertelli tromometer.
20	20 58	Northwestern Luzon	Off the NW coast	100	40	III	
27	5 32	Northern Mindanao	Butuan Bay	80	30	III	
1894							
16	3 38	NE Mindanao	Near Lake Mainit	60	20	III	
26	5 11	Northwestern Mindanao	E Sulu Sea	160	80	III	
1895							
1	16 50	Northern Luzon	N Central Range	180	100	V	
3	10 12	Northern Samar	Near the N coast	110	70	IV	Do.
10	11 20	Southeastern Panay	About φ=10° 58′; λ=122° 28′	80	60	III	
12	6 30	Laguna Province	E of Lake Bay	60	30	IV	Repetition at $6^h 41^m$.
14	6 42	Mindoro and Southern Luzon	NE Mindoro	300	200	VII	Repetition at $6^h 49^m$. During the day about 40 aftershocks were felt in northern Mindoro.
14	23 52	do	do	180	100	V	Strong aftershocks on the 15th and 16th.
17	0 3	do	do	300	220	VI	
17	0 49	Northwestern Mindanao	E Sulu Sea	100	60	III	
1896							
2	6 2	Southeastern Mindanao	Near the SE coast	420	150	V	Probably registered in Europe.
2	9 53	do	do	420	150	VI	Do.
2	17 0	do	do	420	150	IV	
3	14 58	Northern Panay	Near the N coast	130	80	V	
9	19 36	Camarines	N of Burias	150	70	V	Indicated at Manila by the Bertelli tromometer.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF MAY—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1896	*h. m.*			*Km.*	*Km.*		
14		Northeastern Mindanao	Off the N coast ?			IV	Three shocks.
17		do	do			III	Two shocks.
21		do	do			III	Do.
26		do	do			III	One shock.
1897							
2	2 51	Cagayan Province (N Luzon)	E Range	80	60	IV	
2	18 21	Northeastern Mindanao	Off the NE coast	100	40	III	
3	5 36	do	do	100	40	IV	
12		do	do			III	
13	19 22	Southeastern Luzon	N of Masbate Island	600	320	VIII	Registered at European observatories.
13	23 26	Jolo Island	S Sulu Sea			III	
15	14 9	Southeastern Luzon	N of Masbate Island	300	200	V	One of the strongest aftershocks felt after the earthquake of the 13th. On the 15th more than 13 shocks have been counted.
17	2 3	do	do	150	60	IV	
17	4 19	do	do	150	60	IV	Minor aftershocks were felt until the 27th.
27	10 56	Northern Luzon	Near the N coast	180	180	V	
30	16 3	Northeastern Mindanao	Near Lake Mainit	60	60	III	
1898							
7	4 21	do	Off the NE coast	100	40	III	
9	6 34	Western Mindanao	SE Sulu Sea	120	50	IV	
12	20 6	Northeastern Mindanao	Off the NE coast	100	40	III	
20	20 0	Western Mindoro	Near the W coast	120	50	III	
20	21 11	Southwestern Mindanao	Illana Bay	300	100	V	
21	13 51	Northeastern Mindanao	Off the NE coast	120	60	III	
25	2 36	do	do	100	60	III	
27	8 40	do	do	100	60	III	
29	2 27	Southwestern Mindanao	Illana Bay	250	50	V	
31	3 46	do	do	200	50	IV	
1899		None					
1900							
24	16 11	City of Manila				III	
1901							
5	4 3	Northeastern Mindanao	SE of Samar	80	40	III	Repeated 5 minutes later.
13	16 42	City of Manila				III	
17	23 8	Northeastern Mindanao	SE of Samar	100	60	IV	Preceded by a noise similar to the report of a gun.
26	21 10	do	do	80	30	III	
29	3 20	Rizal Province	N of Lake Bay	80	30	III	
31	0 5	Northeastern Mindanao	Near Lake Mainit	110	70	III	
1902							
1	4 53	Northwestern Luzon	N Central Range	200	140	IV	Registered at Manila.
1	12 35	Albay Province	Near Mayon Volcano	80	60	IV	Do.
2	13 33	SE Luzon and E Visayas	S of Masbate Island	200	200	IV	Do.
14	4 26	Southeastern Mindanao	SE end of island	130	80	III	
20	5 35	Camarines	SE of St. Miguel Bay	80	50	III	
28	0 5	Western Luzon	Near the Zambales coast	90	60	III	
28	9 26	do	do	90	60	IV	Do.
28	10 50	do	do	180	100	V	Registered at Manila. Repetition at $23^h 12^m$.
1903							
1	18 0	Southern Mindanao	Rio Grande Valley	140	140	III	
2	21 48	Camarines	SE of St. Miguel Bay	80	50	III	
2		Southeastern Mindanao	SE end of island			III	
3		do	do			III	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF MAY—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1903	*h. m.*			*Km.*	*Km.*		
3	3 20	Camarines	SE of St. Miguel Bay	80	50	III	Repetition at 21h 18m.
3	22 16	Western Luzon	Zambales Range	220	90	V	
4		Southeastern Mindanao	Near the SE coast			III	
8		do	do			III	
9	5 50	Samar and Leyte	S Samar	100	80	IV	
9	15 59	Batanes Islands	S of the group			III	
12	9 4	do	do			IV	
15	15 56	Southern Luzon	S of Lake Bay	110	80	III	
24	6 11	Eastern Mindanao	N of Davao Gulf	500	380	VI	Registered at Manila.
29	6 48	Northern Panay	Near the N coast	120	50	III	
29	12 37	Batanes Islands	S of the group			IV	Do.
1904							
1	14 4	Southeastern Mindanao	Near the SE coast	90	40	III	
2	11 52	do	do	100	40	IV	
5	18 13	Southern Leyte	SE end of island	60	60	III	
7	15 0	do	do	60	60	III	
14	23 13	Southeastern Mindanao	Near the SE coast	90	40	III	
26	16 41	do	do	140	120	IV	Registered at Manila.
1905							
3	18 40	Western Leyte	Near the W coast	80	30	III	
4	10 54	Northeastern Luzon	NE end of island	110	40	III	Do.
5	7 53	do	do	110	40	IV	Do.
10	13 42	Ilocos Provinces	Off the Ilocos coast	180	60	IV	Do.
11	4 54	Negros, Panay, and Cuyo	SE Panay	200	180	IV	Do.
13	0 49	Northern Luzon and Batanes Islands.	Off the N coast	170	80	IV	Do.
24	1 45	Northeastern Mindanao	Near Lake Mainit	100	40	III	
26	21 48	Bulacan Province	E Range	80	30	III	
27	1 4	Western Luzon	S Zambales Range	160	130	IV	
31	23 0	Central Luzon	Near Arayat Volcano	50	50	III	
1906							
8	22 10	Pangasinan Province	S Santo Tomas Mountain	80	80	IV	Do.
9	21 27	Northern Cebu	S of Masbate Island	60	20	III	
10	3 15	Camarines	SE of St. Miguel Bay	70	50	III	
10	23 22	Batanes Islands	S of the group			III	
17	19 20	Northeastern Mindanao	Near Lake Mainit	100	40	III	
31	12 30	Western Leyte	Ormoc Bay	100	30	III	
1907							
1		Camarines		100	50	III	Aftershocks on the 4th and 7th–14th.
2	13 27	Eastern Samar	SE Samar	110	60	III	
4	2 30	Albay Province	Near the Mayon Volcano	80	70	III	
4	4 19	Northern Luzon	N Central Range	100	80	III	
4	4 36	do		200	170	V	Repetitions at 5h 17m, 6h 36m, and 22h 1m.
5	1 22	Eastern Panay	SE Panay	80	50	III	
7	1 27	Albay Province	Near Mayon Volcano	70	70	III	
7	8 26	Batanes Islands	S of the group			III	Repeated with greater force at 14h 50m.
10	11 53	Northwestern Luzon	Off the Ilocos coast	210	80	III	Registered at Manila.
11	0 41	Northeastern Luzon	Near the NE coast	100	60	III	
11	10 35	Batanes Islands	Near the group			III	Accompanied by subterranean rumblings.
16	16 5	Eastern Samar	SE Samar	100	60	III	
17	14 7	Southern Leyte	SE end of the island	60	60	III	Registered at Manila. From this date until the 20th more than 50 light aftershocks were felt.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF MAY—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance.		Intensity (Rossi-Forel).	Remarks.
				Longer axis.	Shorter axis.		
1907	*h. m.*			*Km.*	*Km.*		
19	12 46	S Leyte and NE Mindanao	SE end of Leyte	110	70	III	Registered at Manila.
20	15 49	Leyte and adjacent islands	do	300	250	VII	Registered at foreign observatories.
20	16 3	do	do	300	250	VI	Registered at Manila. Many aftershocks.
25	23 40	do	do	100	70	III	
25	23 52	Northern Luzon	N Central Range	550	240	VII	Registered at foreign observatories.
26	9 59	Albay	Near the Mayon Volcano	60	60	III	
27	3 40	Northeastern Luzon	Near the NE coast	100	40	III	
27	11 4	Northeastern Leyte	S Samar	80	80	III	
28	18 55	Northeastern Luzon	Near the NE coast	100	40	III	

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BULLETIN FOR JUNE, 1908.

METEOROLOGICAL BULLETIN FOR JUNE, 1908.

By Rev. José Coronas, S. J.,

Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—As we shall presently see, there was scarcely any important depression during the whole month, as far as the Philippines are concerned. Hence the monthly mean of atmospheric pressure in all our stations, and especially in those of Luzon, was greater than that of June, 1907. The monthly mean of Manila differs from the normal by +0.19 millimeter and from that of last year by +1.13 millimeters. The highest pressures were registered in almost all the stations on the 14th or 15th, and the lowest on the 19th or 20th.

The average of temperature for this month is everywhere, with a few exceptions, a little less than that of last year. The monthly mean of Manila differs from the normal by −0.7 °C.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, JUNE, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from June, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from June, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	758.08	+0.66	759.09	15	756.91	19	27.1	−0.5	33.6	4	22.3	7
Surigao	58.24	+ .52	59.38	14	56.56	19	27.2	− .4	33.7	4	22	30
Cebu	58.21	+ .91	59.33	14	56.83	19	27.1	− .3	32.5	2	22.5	4, 6, 7
Iloilo	58.38	+ .79	59.55	1	57.18	5	27	− .3	33.6	1	21.4	25
Ormoc	58.51	+ .80	59.61	14	57.08	19	25.9	− .9	32	12	21.5	11, 24
Tacloban	58.51	+ .79	59.95	14	56.63	19	26.9	− .6	33.5	4	22	30
Capiz	58.55	----------	59.86	15	57.23	19	27.1	----------	32.9	12	20.2	7
Calbayog	58.58	+ .73	60.02	14	56.77	19	26.4	− .8	34.9	8	21.8	25
Legaspi	58.35	+1.11	60.06	14	56.75	19	27.2	− .6	34.4	4	22.9	29
Atimonan	58.16	+1.14	59.92	14	56.82	19	27.5	− .8	34.7	11	22.6	15, 29
Olongapo	57.97	+1.20	59.39	14	56.44	20	27	+ .2	36.2	13	22.8	29
San Isidro	58.23	----------	59.80	14	56.64	19	27.4	----------	35.1	15	22.5	28, 29
Dagupan	57.76	+1.14	59.36	14	56	20	28.2	+ .4	38.7	16	22.4	29
Vigan	57.95	+1.47	59.71	14	56.27	20	27.8	+ .2	34.5	7	22.7	6
Tuguegarao	57.63	+1.04	59.48	14	55.82	20	28.4	− .5	36.6	19	22.6	17
Aparri	58.16	+1.41	59.85	15	55.96	5	27.9	− .2	34.1	15, 26	22.5	29

Precipitation.—In spite of the few depressions and their slight importance to the Islands, still the total rainfall was generally greater than that of last year, as is seen in the table below, only thirteen stations showing smaller totals than in June, 1907. Nevertheless, if we compare these totals with the normal for June, we would probably find a result quite different. To cite an instance, the total for Manila differs from the normal by −87.8 millimeters, whereas compared with the total for June, 1907, it shows a difference of +10.3 millimeters. See the table of meteorological observations for Manila.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JUNE, 1908.

Station.	Total.	Departure from June, 1907.	Rainy days.	Departure from June, 1907.	Greatest rainfall in a single day.	Day.
	mm.	mm.			mm.	
Jolo	135.7	-------	16	-----	30.5	12
Isabela, Basilan	171	− 12.5	17	−3	47	14
Davao	193.3	− 58.4	7	−1	43.7	9
Dapitan	307.6	+286.3	18	+9	116.3	12
Butuan	149.1	+ 77	19	+6	33.8	15
Yap, W. Carolines	315.7	−139.4	25	+2	50.8	2
Tagbilaran	194.6	+126.7	18	+7	55.1	25
Surigao	228.2	+ 18.4	18	+9	52.1	29
Maasin	277.9	+148.7	12	+2	66	25
Cebu	269.5	+ 91.4	24	+9	54.1	6
Bacolod	247	+ 15.6	17	−1	66.8	18
Iloilo	182.2	− 69.8	21	+7	46	25
San Jose, Buenavista	397.1	− 12.4	21	0	112.3	21
Tuburan	281.2	+201.1	16	+7	105.4	29
Ormoc	186.9	+ 6.6	19	+2	47.8	26
Tacloban	317.6	+226.6	24	+5	67.3	5
Capiz	185.4	-------	16	-----	31.2	29
Borongan	470.4	+357.4	23	+9	59.7	16
Calbayog	103.3	− 2.9	17	−1	24.4	19
Palanoc, Masbate	229.8	+ 82.7	19	+2	35.1	26
Romblon	229.2	+ 31	17	+5	59.7	26
Laoang	282.7	-------	22	-----	52.3	29
Gubat	287.1	+193.1	15	+5	41.9	29
Legaspi	259.5	+ 90.6	21	+7	31	29

Station.	Total.	Departure from June, 1907.	Rainy days.	Departure from June, 1907.	Greatest rainfall in a single day.	Day.
	mm.	mm.			mm.	
Virac	329.8	-------	25	-----	53.8	28
Batangas	122.1	+ 19.9	11	−1	52.1	25
Atimonan	210.3	+ 79.6	16	+2	42.1	30
Silang	414.8	+234.8	17	+7	50.8	12
San Antonio, Laguna	297.3	+156.9	17	+2	63.5	30
Corregidor	216.1	− 78.3	14	+5	45.7	26
Manila	157	+ 10.3	15	+1	61.6	30
Balanga	207.5	− 38.5	18	+4	50	27
Olongapo	244.3	−139.5	19	0	48.4	4
San Isidro	175.4	-------	16	-----	34.5	26
Tarlac	262.7	+ 93.5	15	−4	73.7	26
Baler	438.5	+245.4	18	+5	106.7	26
Dagupan	254.6	− 59.9	17	+2	49.8	13
Bolinao	230.4	− 81.2	19	+1	57.7	26
Baguio, Benguet	176.9	−148.3	13	−4	40.9	27
San Fernando, Union	234.2	− 39.3	18	+3	59.2	7
Echague	111.5	-------	14	-----	42.2	1
Candon	241.9	+ 58.8	17	+1	39.9	23
Vigan	375	+160.3	18	+5	57.9	1
Tuguegarao	91.3	+ 23.4	11	+2	17	5
Laoag	469.9	-------	20	-----	126.5	1
Aparri	99.7	+ 36.5	10	0	30.5	5
Sto. Domingo, Batanes Is.	79.8	−539.5	13	−3	14.9	22

DEPRESSIONS AND TYPHOONS.

The Observatory gave the following information to the local newspapers of Manila in an extraordinary note issued at 5 p. m. June 4:

> The barometers continue falling over the Philippines, especially over southeastern Luzon. There is probably a typhoon over the Pacific east of Luzon. The first typhoon signal has been hoisted this afternoon throughout Luzon and the Visayas Islands.

The ordinary weather notes of the 6th and 7th read as follows:

> 6th., 11.50 a. m.: Pressure is relatively low over the northern part of the China Sea as well as over the Pacific east of northern Luzon and of the Balintang Channel.
>
> 7th., 11.50 a. m.: Pressure continues relatively low over the Pacific east of Luzon and of the Balintang Channel, and over the northern part of the China Sea.

From these notes our readers can easily deduce that the depression which caused a moderate falling of the barometers in the stations southeast of Manila in the afternoon of the 4th was not a well-developed typhoon as it was feared at the time, but rather a simple depression which probably filled up to the east of northern Luzon and the Balintang Channel and did not advance any farther.

DEPRESSION, OR TYPHOON, OF JUNE 16 TO 24.

We call this atmospheric disturbance a depression, or typhoon, because it is not clear if before the 21st it had acquired the development proper to a typhoon or not. After the 21st there can be no doubt that it was a well-developed cyclonic center; so that, while crossing to the west and north of the Meiacosima Islands on the night of the 21st, it caused a very considerable fall in the barometers of Ishigakijima. We do not know exactly the barometric minimum observed in that place, but to judge by the weather map published by the Observatory of Tokio at 10 p. m. of the 21st, the minimum was probably below 745 mm.

The Manila Observatory sent the following cablegram to Tokio, Zikawei, Taihoku, Hongkong, and Phulien at 10.15 p. m. of the 20th:

> Depression NE Manila moving probably northward.

Besides, in the ordinary weather notes for the 19th, 20th, 21st, and 22d the following references were made to this depression or typhoon:

19th., noon: There is a depression over the Pacific east of southern Luzon.

20th., 11.45 a. m.: The depression in the Pacific reached last night its minimum distance from the Archipelago and is moving at present northward or northeastward.

21st., 11.30 a. m.: The depression of the Pacific is moving to the NNW and is now east of the Batanes Islands.

22d., 11.50 a. m.: The depression of the Pacific was situated this early morning over the southern part of the Eastern Sea moving apparently northward or north-northeastward.

In the notes of the 19th, 20th, and 21st another depression was mentioned as situated in the China Sea. It did not seem, however, to acquire full development but rather appeared to be a wide area of low pressure.

The depression in the Pacific was probably formed during the 16th and 17th to the SW of the western Carolines; on the 18th it was located to the east of northern Mindanao; on the early morning of the 19th to the east of Samar; on the 20th, in the afternoon, to the east of northern Luzon and northeast of Manila; and early in the morning of the 21st to the east of the Batanes Islands.

The direction of the progressive motion of this depression was apparently NNW from the 18th until 2 p. m. of the 21st; from that time it began to move to the NE passing very near Ishigakijima on the night of the 21st with all the characteristics of a real typhoon. At midnight of the 22d the vortex crossed very close to the south of Kiushiu Island; during the afternoon of the 23d it traversed the southeastern part of Japan; and in the early morning of the 24th it moved very close to the east of Yezo Island passing away toward the Kurile Islands.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Como veremos luego, apenas se observó en todo el mes depresión alguna de importancia al menos por lo que toca á Filipinas. De ahí que en todo el Archipiélago, y especialmente en la Isla de Luzón, la media mensual de la presión atmosférica haya sido superior á la de Junio 1907. La de Manila difiere de la normal en +0.19 milímetro, y de la del año pasado en +1.13 milímetros. Las mayores presiones se han registrado casi en todas partes los días 14 ó 15, y las menores el 19 ó 20.

La temperatura media mensual es, salvas pocas excepciones, un poco inferior á la del año pasado. La de Manila difiere de la normal de Junio en —0.7 °C.

Precipitación acuosa.—Á pesar de las pocas depresiones observadas este mes y de su poca importancia para Filipinas, todavía la cantidad total de lluvia ha sido generalmente mayor que la del año pasado, según puede verse en la tabla que acompaña el texto inglés. Sólo 13 estaciones dan una suma inferior á la de Junio 1907. Sin embargo, si comparásemos dichos totales con la normal de Junio, probablemente encontraríamos un resultado bastante diferente. Así el total de Manila, por ejemplo, se aparta de la normal en —87.8 milímetros, por más que comparado con el de Junio 1907 difiere de él en +10.3 milímetros. Véase más abajo la tabla de observaciones meteorológicas para Manila.

DEPRESIONES Y TIFONES.

El día 4 á 5 p. m. decía el Observatorio en una nota extraordinaria distribuída á los periódicos locales de Manila:

Continúan bajando los barómetros en Filipinas, especialmente en el sudeste de Luzón. Existe probablemente un tifón en el Pacífico al este de Luzón. Se ha izado la primera señal de temporal en las estaciones de Visayas y Luzón.

En las notas ordinarias del tiempo de los días 6 y 7 se decía lo siguiente:

Día 6, 11.50 a. m.: La presión atmosférica está relativamente baja en la parte septentrional del Mar de China, así como también en el Pacífico al este del norte de Luzón y del canal de Balintang.

Día 7, 11.50 a. m.: La presión atmosférica continúa relativamente baja en el Pacífico al este de Luzón y del canal de Balintang y en la parte septentrional del Mar de China.

De estas notas ya pueden deducir nuestros lectores que la depresión que causó la tarde del 4 una bajada regular de los barómetros en las estaciones situadas al sudeste de Manila, no debió de ser un tifón bien formado, como se temía al principio, sino una simple depresión que probablemente se deshizo, sin seguir más adelante, al este del norte de Luzón y del canal de Balintang.

DEPRESIÓN Ó TIFÓN DE 16 Á 24 DE JUNIO.

Llamamos á esta perturbación atmosférica depresión ó tifón porque no nos consta si antes del 21 había adquirido el desarrollo propio de un tifón. Con todo, desde el 21 no cabe la menor duda de que se trataba de un centro ciclónico bien desarrollado: tanto que, al cruzar por el oeste y norte de las Islas Meiacosima la noche del día 21, causó una bajada muy considerable en los barómetros de Ishigakijima. No conocemos la mínima barométrica allí observada: pero, á juzgar por el mapa del tiempo de 10 p. m. del 21 publicado por el Observatorio de Tokio, hubo de ser probablemente menor de 745 mm.

El Observatorio de Manila envió el siguiente aviso de tifón á Tokio, Zikawei, Taihoku, Hongkong y Phulien, á 0.15 p. m. del 20:

Depresión al nordeste de Manila moviéndose probablemente hacia el norte.

Además, en las notas ordinarias del tiempo de los días 19–22 se dijo lo siguiente referente á esta depresión ó tifón:

Día 19, mediodía: Existe una depresión en el Pacífico hacia el este del sur de Luzón.

Día 20, 11.45 a. m.: La depresión del Pacífico llegó á su menor distancia del Archipiélago la noche pasada y se mueve al presente hacia el N ó NE.

Día 21, 11.30 a. m.: La depresión del Pacífico se mueve hacia el NNW y se halla ahora al este de las Islas Batanes.

Día 22, 11.50 a. m.: La depresión del Pacífico se hallaba esta madrugada en la parte sur del Mar del Este, moviéndose aparentemente hacia el norte ó nornordeste.

En las notas de los días 19, 20 y 21 se indicaba además la existencia de otra depresión en el Mar de China, la cual no nos consta que llegase á adquirir gran desarrollo, antes parece no haber sido más que un área dilatada de baja presión.

La depresión del Pacífico se formó probablemente durante los días 16 y 17 al SW de las Carolinas Occidentales; se hallaba al este del norte de Mindanao á mediodía del 18, al este de Sámar la madrugada del 19, al este del norte de Luzón y NE de Manila la tarde del 20, y al este de las Islas Batanes la madrugada del 21.

La dirección del movimiento progresivo de esta depresión fué próximamente NNW desde el 18 hasta 2 p. m. del 21. Desde entonces empezó á moverse al NE pasando muy cerca de Ishigakijima la noche del 21 al 22 con todos los caracteres de un verdadero tifón. Á eso de media noche del 22 cruzaba el vórtice muy cerca por el S de la Isla Kiushiu; la tarde del 23 atravesaba la región sudesde de Japón, y la madrugada del 24 subía por el este y muy cerca de la Isla Yezo en dirección á las Islas Kuriles.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Temperature. Open air.[2] Mean.	Maximum.	Minimum.	Underground. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity, mean.	Vapor pressure, mean.	Evaporation. Free exposure, total.	Shelter, total.
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	mm.	mm.
1	759.26	27.8	32.5	23.8	27.8	29.5	28	28.6	29	28.8	81	22.2	5.5	2.5
2	59.13	27.5	31.6	24.1	28.6	30.1	28.6	28.9	29.1	28.9	84.1	22.8	5.6	2.8
3	58.41	27.4	31.6	23.7	29	30.3	29	29.2	29	28.7	84.2	22.7	5.2	2.5
4	57.42	26.3	30.7	24.4	29.3	29.6	29.3	29.2	29	28.8	89.5	22.7	3	2.2
5	56.99	27.2	30.7	22.8	28.8	29.9	29.1	29.4	29.1	28.9	84.7	22.6	3.9	1.7
6	57.28	26.6	31.6	23.8	28.9	30	29.2	29.3	29	28.8	87.2	22.4	4.6	2.5
7	58.16	26.2	30.6	23.4	28.7	29.7	29 3	29.3	28.9	28.9	88.7	22.4	3	1.7
8	58.78	27.3	33.2	23.6	28.8	30.1	29.1	29.6	29	28.7	82.5	22.1	3.8	1.9
9	58.46	28.2	34.4	23.5	29	30.9	29.3	29.8	29	28.8	79.2	22.2	5.5	3
10	58.30	28.4	33.8	23.4	29.3	31	29.6	30	29	28.8	77.8	22.2	6	3.5
11	58.82	28.5	34.4	24.5	29.8	31.6	29.8	30.2	29	28.8	80.5	23	6.8	3.8
12	59.05	28.9	35	23.3	29.9	32	29.9	30.5	29	28.8	72.4	20.8	7.5	3.6
13	59.40	27.3	32.8	23.7	30	31.1	30.1	30.3	28.9	28.7	80.7	21.6	6.3	3.5
14	59.66	26.8	33.3	22	29.5	31.1	30.1	30.3	29	28.8	84.1	21.7	5.3	2.9
15	59.43	28.1	34.3	23.2	29.3	32	30	30.2	29	28.8	76.6	21.1	6.9	3.1
16	59.14	27.9	33.8	23.3	29.7	31.2	30.1	30.2	29	28.8	74.2	20.5	8.2	4
17	58.35	28.2	34.4	23	29.8	31.5	30.1	30.4	29	28.8	71.9	20	7.5	3.8
18	57.57	28.4	33.6	24.4	30	31.1	30.3	30.5	29.2	28.9	76.3	21.8	7.4	3.9
19	56.51	28.2	33.9	23.6	29.9	31.6	30.2	30.4	29	28.8	78.7	22.2	5.9	2.9
20	56.39	27.9	32.7	24.1	30	31.5	30.4	30.5	29.1	28.8	82.9	23	6	3.3
21	57.96	27.9	31.6	24.5	30	31.1	30.4	30.6	29.1	28.9	79	22	5.9	2.9
22	58.54	27	31.5	23.6	29.7	30.8	30.1	30.3	29.1	28.8	83.9	22	5.7	2.9
23	57.72	27.4	32.3	22.6	29.3	30.6	30	30.3	29.2	28.8	80.3	21.6	5.2	2.7
24	56.97	27.6	31.7	23.5	29.7	30.7	30.1	30.4	29.2	28.8	81.6	22.2	6.1	3.1
25	56.69	27.5	33.8	23.6	29.6	31.3	30.1	30.5	29.3	28.8	81	21.9	5.7	2.9
26	56.88	25.7	30.2	22.8	29.4	30.1	30	30.2	29.2	28.8	89.5	21.9	3.7	2.1
27	57.52	25.2	28.6	22.7	28.9	29.5	29.7	29.8	29.2	28.8	92.2	22.1	1.1	1
28	58.22	25.7	31.2	22.9	28.4	29.7	29.5	29.7	29.2	28.9	88.9	21.6	2.1	1.2
29	58.10	25.8	31.3	22.3	28.5	29.5	29.5	29.3	29.3	28.8	87.4	21.6	5.8	3.5
30	58.08	24.6	26.1	23.2	28.4	27.4	29.3	29	29.1	28.7	95.3	21.9	.2	.5
Mean	758.11	27.2	32.2	23.4	29.3	30.6	29.7	29.9	29.1	28.8	82.5	22	5.2	2.7
Total													155.4	81.9
Departure from normal	+0.19	—0.7	0.0	—0.6							+1.4	—0.5	—16.4	

Date.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount, mean.	Prevailing form and its direction. Upper.		Lower.		Sunshine.		Rainfall.	Miscellaneous.
		Km.	Km.		0-10.					h.	m.	mm.	
1	SW quad.	134.5	12.5	SW	5.4	Ci.	SW	Cu.		9	20		≡° a. ☈° ☇ p.
2	SW	208	24.5	SW	7.5	Ci.	E by S	Cu.	SW	8	05		Ω ≡° ○° a. ☈ p.
3	WSW	218	24.5	SW	6.3	Ci.-S.	NW	Cu.		4	35		≡ ○² a. ○ ☇ p.
4	N	136.5	27.5	WNW	8.7	Ci.-S.	NE	Cu.-N.	WSW	3	40	3.2	≡ °p a. d ⊤° p.
5	SW	250	23.5	SW	7.7	A.-Cu.	W	Cu.	W	7	05		Ω ≡° a. ☇ p.
6	WSW	195.5	37.5	WNW	7.1	Ci.		Cu.-N.	W	4	00	1.8	Ω° a. ☈ ⩗° ●° p.
7	WSW	101.5	10.5	ENE	9.2	Ci.-S.	NE	Cu.-N.	E	1	05	1	⌒° ○° a. ☈° ● p.
8	SSE, SW	172	15	SSW	7.6	Ci.-S.		Cu.-N.	ESE	6	30		≡° a. ○° ☈° p p.
9	SSW	116	12.5	SE	8.2	Ci.-S.	NE	Cu.	SE	7	30		☈ p.
10	SW	205	17	W by S	4.8	Ci.-S.		Cu.	SE	9	45		
11	S	126	11.5	NW	4.5	Ci.-S.		Cu.	E, SE	8	30		≡° a. ☈ p.
12	ESE	205	18	ESE	3.1	Ci.		Cu.	E	10	10		Ω ≡° a.
13	NE	114.5	15	W	5.8	Ci.-S.		Cu.	E	5	00	.4	☈ p p.
14	NE	133.5	16	W by N	3.6	Ci.		Cu.	E by S	7	30	1.5	Ω ≡° a. ☈ ● p.
15	SE	196	17	SE by S	3.6	Ci.	NE	Cu.	ESE	9	30		☈° p.
16	ESE	205	21	ESE	5.1	Ci.-S.	NNE	Cu.	SE by E	7	45		⊤° ☇ p.
17	ESE	174	17	ESE	4.7	Ci.	E	Cu.	E by S	9	10		≡° a. ☇° p.
18	E quad.	198	20.5	WNW	5.8	Ci.-S.	ENE	Cu.	SE	7	40	.1	d° a. ☈ p.
19	S quad.	198.5	18	S by W	7.5	Ci.-S.	NE	Cu.	ESE, E	5	50		≡° a. d° p.
20	WSW, SE	276	33.5	WSW	8.9	Ci.-S.	E by N	Cu.-N.	SE	6	55	20.6	●² ○° a. ☈ ⩗ p.
21	S quad.	233.5	23.5	SW	9.6	Ci.-S.	SE	Cu.		3	20		○ a. ☈ p.
22	ESE	192	27.5	SW	8.4	Ci.-S.	E	Cu.	SW	3	30	1	≡° ○ a. ☈ ●° p.
23	WSW	264.5	27	WSW	4.7	Ci.-S.	SE	Cu.	SE	9	00		Ω² ≡° a. ☈° p.
24	SW, SE	238.5	26.5	SW by W	8.3	Ci.	NE	Cu.	SSE	7	10	.3	Ω a. d° ●° ⌒ p.
25	SE, WSW	253.5	32	WSW	7.8	Ci.-S.	ENE	Cu.	S	7	45	5.9	≡° ○ a. ☈ ● p.
26	S	159	17.5	N	10	Ci.-S.		Fr.-N.	E	0	00	12.1	Ω² a. ○° ☈ ● p.
27	ESE	145.5	16.5	WSW	9.9	Ci.-S.	E	Cu.-N.	SW	0	45	28.5	d° a. ☈ ● p.
28	ESE, WSW	183	18	SW	9.6	Ci.-S.		Cu.-N.	SW	1	30	13.1	d° ○ a. ☈² ● p.
29	E	115.5	12.5	ENE	7.6	Ci.-S.	E by S	Cu.	E by N	5	10	5.9	☈ d² ● p.
30	W, E	147.5	21.5	WSW	10	Ci.-S.		N.	WNW	0	00	61.6	●² a. ● d a. p.
Mean		183.2	20.5		7					5	56		
Total										177	45	157	
Departure from normal		—53.9			+0.1					+2	20	—87.8	

[1] All the mean values given in this table are deduced from hourly observations.
[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[φ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	759.01	27.9	33	23.2	77.8	NNE	1.3	9	Ci.-S. NE	Cu. E	35.8	○° d a. ☈² ↙° p.
2	58.98	27.4	30.6	22.4	81	SE	1.2	8.5	A.-S.	Cu.-N. E	.8	d ⊤ ☇ p.
3	58.32	27.8	32	24.2	80	SE	1.2	9.5	A.-S.	Cu.-N. W	------	⊤ ☇ p.
4	57.18	28.1	33.6	24.4	78.2	Variable	1.2	8.8	A.-S.	Cu., Cu.-N. W	------	⊤ ☇ p.
5	57.21	27.1	29.6	23.9	79.2	SE	1.5	9.2	Variable	N., Cu. W	11.2	○ ∩ ⊤ ☇² ● p.
6	57.47	26.7	30.3	23.3	82.3	Variable	1.8	9.5	A.-S.	N. W	13.5	⊤ ☇ ● p.
7	58.29	26.4	29.5	22.3	79	N, SE	1.2	8	A.-Cu. E	S.-Cu. E	6.9	● a.
8	58.77	28.1	31.2	24	79.2	SE	1.2	4	------	Cu. E	3	●° a. ☇² ⊤² ↙° p.
9	58.57	27.6	31.2	22.6	77.7	NNE, SE	1	8.8	Ci.-S.	Cu. SW, E	2.3	●° a. ○° ⋓ ☇ p.
10	58.20	27.6	31.5	23.2	75.9	NNE	.8	8	A.-S.	Cu. E	------	⊤ ☇ p.
11	58.43	27.2	30.1	23.9	81.6	NNE, SE	1	9.2	A.-S.	Cu.-N. E	------	⊤ p.
12	58.37	27.7	31.5	24	80.8	NNE	1.2	6.5	Ci.-S.	Variable	9.9	● a. d ∩ ☇ p.
13	58.44	27.6	32.5	24.1	80.7	NNE, NW	1.5	10	A.-S.	Cu.-N. E	.3	d a. ⊤ ○° p.
14	58.93	26.3	31.2	23	84.3	NNE	1	9.8	A.-S.	Cu.-N., N. E	15.7	☈ a. p.
15	59.09	26.8	31	23.1	81.3	SE	1.2	8.8	A.-S.	S.-Cu. E	------	⊤ ☇ p.
16	58.76	26.8	30.7	23.4	82	NNE	1.2	9.8	A.-S.	Cu.-N. ENE, E	10.2	●° ∩ a. ☈ p.
17	58.15	26.6	33	23	82.7	N, SE	1	7.5	A.-S.	Variable	2.7	● ☇ p.
18	57.26	27.4	31.3	23.6	80	SE	1.3	8.5	Ci.-S.	Cu.-N. E,W	------	○°
19	56.91	26.9	30.8	23.8	80.3	SSW	2	9.8	Ci.-S. E	Variable	4.8	● a. ○° d ☇ p.
20	57.28	27	29.5	25.2	77.1	NW	1.5	10	Ci.-S.	S.-Cu. W	------	∩ a. d p.
21	58.60	27.1	28.9	24.9	78.8	SE	1.2	10	Ci.-S.	S.-Cu. W	------	
22	58.90	27.2	31.3	23.4	78.8	SE	1.3	7.8	Ci.-S.	S.-Cu. E	------	
23	58.02	27.6	31.5	23.6	77.1	Variable	1.5	9.5	Ci.-S.	Cu.-N. W	.5	d a. ☇ ⊤² p.
24	57.45	26.9	31.5	23.8	80.8	Variable	1.3	9.2	A.-S.	Cu.-N. W	9.4	d a. ☇ ⊤ ● p.
25	57.05	26.2	29.9	22.5	83.3	SE	1.2	9.2	A.-S., Ci.-S.	N.	55.1	● a. ☈ p.
26	57.50	26.9	29.9	23.1	78.7	SE	1.7	9.5	A.-S., Ci.-S.	Cu. W	------	○°
27	57.68	27.2	32.6	23.2	78.2	NNE, SE	1.5	8.8	A.-S., Ci.-S.	Cu. SW, W	------	○° ☇ p.
28	57.90	26.5	32.6	23.5	82.8	N, SE	1	9.5	A.-S.	N.	11.7	○° ☈ p.
29	57.86	26	27.8	23	82.8	NNE	1	10	A.-S.	N. E	.8	d a. p.
30	57.97	26.7	30	22.4	80.8	NNE, SE	1.5	6.5	Ci.-S. E	Cu. SW, E	------	☇ p.
Mean	758.08	27.1	31	23.5	80.1	------	1.3	8.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	194.6	

SURIGAO.

[φ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	759.09	28.1	33.6	24	83.8	Variable	1.8	5	Ci.	Cu.	1	Ω a. ●° p.
2	58.97	28.1	31.2	24.4	83.5	WNW	1	4.8	Ci.	Cu.	------	Ω ≡° ⊤
3	58.42	27.8	32.4	24	82.7	SW	1.2	8	Ci.	Cu.	------	Ω ≡° ↙°
4	57.28	28.5	33.7	23.5	80.5	WSW	1.7	2.8	Ci.	Cu.	------	Ω ≡° ↙° ☈
5	57.30	27.3	30.4	23.6	83.5	Variable	.8	9.5	Ci.-S.	N.-cf., Cu.	17.3	● a. d p.
6	57.49	27.3	31.8	23.1	80.7	SW, W	2.2	8.8	A.-Cu., Ci.-S.	Cu.	24.4	↙° ●
7	58.28	27.6	31.2	22.3	81.7	Variable	1.2	3.5	Ci.	Cu.	4.3	● a. Ω p.
8	59.02	28.3	32.8	23.7	80.2	Variable	1.8	2.2	Ci.	Cu.	------	Ω ≡°
9	58.89	27.9	31.7	23.4	81.8	NNE	1.2	3.8	Ci.	Cu.	------	Ω ≡° ⊤
10	58.45	27.1	31.6	23.6	86.8	Variable	1.3	7.2	Ci., Ci.-S.	Cu.	------	Ω ≡° a. ⋓ p.
11	59.01	27.2	31.9	23.7	87.8	E	1.3	6.2	Ci.	Cu.	12.4	Ω ≡° ● ↙° ⋓
12	58.86	27.2	29.9	24.2	88.7	SE. E	1.3	7.8	Ci.-S., Ci.	N.-cf.	9.6	● a. d Ω ⋓ p.
13	58.95	27.8	31.4	23.4	83.8	Variable	1.9	8	Ci.	Cu.	------	Ω ≡° a. ⋓ p.
14	59.38	25.8	29.2	23	88.5	SE	1.2	10	Ci.-S.	N.-cf.	21.6	● a. p.
15	59.24	27	31.2	23.2	83.5	SE	1.9	8	Ci.-S.	Variable	9.1	● a. Ω p.
16	58.93	25.9	28.8	23.1	91	SE	1.6	9.8	Ci.S., Ci.	N., Cu.	11.7	● a Ω p.
17	58.14	26.9	31.7	23	84	SE, NNE	1.5	6.8	A.-Cu., Ci.-S.	Cu.	------	Ω ≡°
18	57.19	27.3	31.3	23.5	83.3	WSW	1.7	4.8	Ci.	Cu.	2.5	Ω ≡° a. ☈ p.
19	56.56	27.4	31	23.2	81.5	SW quad	2.1	8.5	Ci.-S.	Variable	------	Ω d
20	57.30	27.4	31.3	24.1	83.8	WSW	1.3	9	Ci.-S.	Cu.	------	Ω ⊤
21	58.90	26.2	29.4	23	86.3	SW	1.1	7	Ci.-S.	Cu.	.8	Ω d
22	59	27.3	31.2	23.1	81.7	Variable	1.4	5.8	Ci.	Cu., Cu.-N.	------	Ω ≡ a.
23	58.06	27.4	31.4	23.9	82.8	SW quad	1.9	7	A.-Cu., Ci.	Cu.	1.8	d a. Ω p.
24	57.32	26.8	30.2	23.3	86.2	SSE, WNW	1.3	8.2	Ci.-S.	Cu., S.-Cu.	2	Ω d
25	57.05	26.5	31.2	22.5	84.3	Variable	1.8	8.5	A.-Cu.	Cu.	50.8	● a. p.
26	57.68	27.3	31.4	23.1	81.5	SSW, SW	1.6	7.2	A.-Cu.	Cu.	6.1	● a. Ω p.
27	58.09	27.2	30.5	23.4	84.4	N	1.2	9.2	Ci.-S.	Cu.	.2	Ω d
28	58.06	26.9	28.9	23.4	83.2	WNW, NW	1.8	8	Ci.-S.	Cu.	.5	d Ω ≡°
29	57.97	25	28.9	22.3	90.7	S	9	10	Ci.-S.	N.	52.1	●² a. d ☇ p.
30	58.32	27	31.4	22	84.3	Variable	1.1	3.2	Ci.-S.	Cu.	------	Ω ≡°
Mean	758.24	27.2	31.1	23.3	84.2	------	1.5	7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	228.2	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	759.07	28.2	32	24.8	78.5	S, E	7.6	4.5	Ci. NE	Cu. N	------	Ω ≡° a. T ⚡ d p.
2	58.89	28	32.5	24.3	78.5	SW quad.	7.2	4.8	Ci.-S.	Cu. NNE	------	⚡ ≡° T
3	58.52	28	31.8	24.8	81.8	NE, SSW	5.2	7.8	Ci.-S. E	Cu. N	2	⚡ T ● ≡°
4	57.38	27.4	32.1	22.5	79.5	S	6.5	4.8	Ci.-S. ENE	Cu. NE, SW	29	Ω ≡° ↙ ●² T ⚡
5	57.25	25.8	30.2	23.2	88.6	S, SSW	6.5	8.5	Ci.-S.	Cu.-N. SW	37.1	⚡ ≡° d a. Γ ↙° p.
6	57.52	26.3	30.4	22.5	84.8	Variable	5.9	7.2	A.-Cu. NNW	Cu.-N.	54.1	Γ² a. p. ≡° ↙°
7	58.20	26.7	31.1	22.5	83.7	S	4.8	5.5	A.-Cu. E, SE	Cu. N, ENE	13	⚡ ≡° a. ∞ p.
8	58.89	28	32	24.7	79.7	ENE	5.8	4	Ci.	Cu. E	------	Ω T ⚡ ≡°
9	58.58	28.2	32	25.5	79.7	SE	5.4	6	Ci.-S. SSE	Cu. E	------	Ω ⚡ ≡° T
10	58.45	27.8	31.1	24.5	78.2	SE, E	6.7	4.5	Ci., Ci.-S.	Cu. E, ENE	2	Ω ⚡ ● ≡°
11	58.79	27.6	31.5	23.9	79.5	E	6.9	6.2	Ci.-S. NNE	Cu. E	9.1	Ω ⚡ ● ≡° a.
12	58.86	28.1	31.8	24.9	77.8	E	10.5	4.8	Ci., Ci.-S.	Cu. E	.8	Ω ⚡ ≡° p a.
13	58.89	28.3	31.1	25.4	76.8	E	8.6	6.8	Ci.-S.	Cu. E	27.4	Ω ⚡ ≡° ⊍ ↙° Γ
14	59.33	27.1	30	24.1	83.5	ENE	10.8	7.8	Ci.-S.	Cu.-N. ENE	.5	⚡ ≡° ○ p T ⊍
15	59.11	27.4	30.7	23.4	82.7	E	6.8	7.2	Ci.-S.	Cu.-N. E	8.1	Ω ● ≡° ↙° Γ
16	58.88	26.8	29.4	23.9	83.9	N, E	9.9	7.2	Ci.-S.	Cu. E, ENE	14	Γ ≡° a.
17	58.16	27.8	31.6	24.1	78	E	5.7	3.8	Ci.	Cu. E	------	Ω ≡° a. ⚡ p.
18	57.28	26.8	30.9	23.6	83.2	SW	6.6	5.8	Ci., Ci.-S.	Cu. E, NNE	1.8	p ≡° ⚡ ●°
19	56.83	27.3	30.9	24.5	79.7	SW	8.3	7	Ci.-S.	Cu. WSW	9.9	● ≡° a. ⚡ p. ○
20	57.39	26.4	30.8	24.4	84.2	SSW, SW	6.8	7.8	Ci.-S. ENE	S.-Cu. W	9.4	⊍ Ω a. Γ ↙° p.
21	58.80	26.4	30.5	23.7	86	W	5	7.8	Ci.-S.	Cu.-N. WSW	1.3	Ω ≡° p a.
22	58.91	27.2	31.5	23	81.5	SW, S	4.7	5.2	Ci.-S. E	Cu.-N. SSW	------	Ω ⚡ ≡°
23	57.95	26.6	31	23.5	80.8	SSE, E	5.7	7	Ci.-S. E	Cu. WSW	.5	Ω d ≡° a. ⚡ p.
24	57.18	26.7	30.8	23.4	83.4	S, W	5.8	7.2	Ci.-S.	Cu.-N. N	3.8	⚡ ≡° ● T
25	57.12	25.6	29.4	23.7	87.8	Variable	6.9	8	Ci.-S.	N. W, NNE	17	Γ a. p. ≡°
56	57.62	26	29.9	23.4	85	Variable	6.9	7.8	Ci.-S.	Cu. WSW	6.4	● ≡° a. Γ° p.
27	58.12	27.1	30.1	23.3	83.2	SSW, ESE	6.1	6.8	Ci.-S.	Cu. WSW, N	7.9	● ≡° ⚡
28	58.15	26.7	30.5	23.2	84.5	E	5	6.8	Ci.-S.	Cu. WSW	8.6	● ≡° a. Γ p.
29	58	25.1	28.1	23.1	88.8	NE, SE	4.8	9.5	------	N.-cf. NE	2	Ω ≡° ●°
30	58.12	27.1	31.3	22.9	82.5	S, SW	5.9	5.5	Ci.	Cu. SW	3.8	●° ≡° ⌒ a. ⚡ p.
Mean	758.21	27.1	30.9	23.8	82.2	------	6.6	6.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	269.5	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	759.55	27	33.6	24.1	81.2	NE	6	6.5	Ci. E	Cu., N.	------	Ω a. Γ p.
2	59.28	26.7	31.5	22.5	83.8	NE	8.2	7	Ci.-S., Ci.	Cu. S	16.3	Ω a. Γ p.
3	58.67	27.1	30.8	24.1	83.7	SW	7.4	8.5	Ci.-S.	Cu.	.8	●° ○° a.
4	57.48	27.6	31.6	24.5	80.7	Variable	6.8	6.5	Ci.-S.	Cu.	1	Ω a. ⚡ ●° p.
5	57.18	27.6	31.6	24.6	80	SW	8.4	8.2	A.-Cu.	Cu.	------	⚡ p. ○² ⊕²
6	57.40	27.5	30.9	25	81.8	W	9.3	7.8	A.-Cu.	Cu., Fr.-N.	------	
7	58.42	26.6	30.4	23.5	86	N	6	9.5	Ci.-S.	N. W	33.3	○° ⊕ a. ●² p.
8	58.99	27.4	31	23	77.8	SW	7.5	4.8	Ci.-S.	N.-cf. SSE	.3	d ⚡ p.
9	58.79	27.6	31.1	24.6	81.8	SW	5.5	9	Ci.-S.	Cu.	------	⚡ a. p.
10	58.47	27.6	31	24.8	82	SW	6	7.5	Ci.-S.	Cu.	------	T ⚡ p.
11	58.90	28	33.2	24.9	77.3	E, N	5.8	8	Ci.-S.	Cu.	------	T p.
12	58.79	28.8	33.5	25	75.7	N	10.3	4.5	Ci.	Cu.	------	⚡° a.
13	59.12	27.7	33	24	80.3	N	10	9.2	A.-S.	Cu. NE	7.6	⊕ Γ p.
14	59.36	27.2	31.1	24.1	82.2	N, NE	9.3	9.2	Ci.-S.	N. ENE	.3	Γ° p.
15	59.36	27.5	33	24	81.7	NE	8.6	9.5	A.-Cu. SE	Cu.	------	T° ⊕ d ⚡ ⊖ p.
16	58.88	27.6	32.5	24.5	79.5	NNE	10.7	8.8	A.-Cu. E	Fr.-N. ENE	.3	⚡ d
17	58.46	27.4	33.5	24	77.2	Variable	8	7.5	Ci.	Variable	19	Γ p.
18	57.75	26.7	31.6	24	85.2	SW	8	8	Ci.-S.	N. SSW	7.8	● a. Γ p.
19	57.23	26.1	28.4	24.4	88	SW	8.8	9.8	Ci.-S.	N.	6.4	T° ● a. ⚡ p.
20	57.39	26.8	30.2	24.5	85.7	SW	13.5	9	Ci.-S.	S.-Cu.	1.8	●° ○° ⊕ ⊖
21	58.78	26.9	30.7	23.4	80.1	SW	11.2	9.2	Ci.-S.	N.	2.8	d° a. ● p.
22	59.20	26.6	30.6	23.4	83.3	SW	7.1	9.5	Ci.-S.	N. W	6.9	≡° ○ ⊕ a. Γ p.
23	58.31	26.1	30.6	23.6	85.5	Variable	6.3	8.2	A.-Cu. E	N.	2.8	d a. ⊕ ⌒ ● p.
24	57.52	26.5	29.9	23.1	82.8	Variable	8	8	Ci. E	Cu.	.5	⊕ T d p.
25	57.24	25.8	30.2	21.4	86	Variable	8.5	8.8	A.-Cu. E	Variable	46	Γ² p.
26	57.59	26.3	28.6	23.5	82.8	SW	15.1	9.5	Ci.-S.	N. SW	.8	d ○ ⊕
27	58.36	26.3	28.5	23.5	82.8	W, SW	9.3	9.2	A.-Cu., Ci.-S.	N. SW	.3	d ○ ⊕
28	58.42	26.4	30	24	82.4	SW	4.9	9.8	Ci.-S.	N.	3.8	●° a. p.
29	58.21	25.1	30.5	22.9	88.4	NW	6.3	9.8	Ci.-S.	N.	23.4	T° ● p.
30	58.27	26.4	30.6	22.7	84.5	SW	8.4	5.8	Ci.-S.	Cu.	------	⚡ p.
Mean	758.38	27	31.1	23.9	82.3	------	8.3	8.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	182.2	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	759.38	26.2	31.4	22.2	84.5	SW, S	4.3	5.2	Ci. E	Cu.-N. ENE, E	------	ϟ d ⊤
2	59.20	26.8	31.5	22.4	83.2	S	5.2	5	A.-Cu. SSE, SE	Cu.-N. ENE	10.2	ϟ a. Γϟ p.
3	58.76	26.8	30.4	23.2	84.2	SSE	4	8.8	Ci.-S. ESE	Cu.	------	ϟ ◯ d ⊤
4	57.62	26.7	30.6	23	83.3	S, ESE	4.4	6.2	Ci.-S.	Cu.-N., Cu.	------	ϟ ⊤ a. p.
5	57.41	25.8	30	23	87.3	S	3.3	9	Ci.-S.	Cu.	15	Γϟ a. p. ◯
6	57.72	26.1	29.5	22.5	85.1	S	3.8	8.8	A.-Cu. E	Cu.-N. SE	------	◯ a. ϟ d p.
7	58.50	26.8	30.5	24	83	Variable	5.6	6.8	A.-Cu. ESE, SE	Cu.	------	d a. ϟ p.
8	59.05	26.7	30.8	22	81.8	S	6.5	1.5	Ci.	Cu.	------	ϟ a. p.
9	58.93	26.4	31.8	21.7	83.8	SW, SSE	5.7	6	Ci.-S.	Cu.	3.8	ϟ a. Γϟ ◯ ᴗ p.
10	58.68	26	30.6	21.7	84.8	NNW, SSW	3.3	6.2	Ci.-S.	Cu. ENE, NE	4.8	ϟ Ω a. Γϟ p.
11	59.09	26.3	31.4	21.5	80.3	SSW, NE	3.7	5.8	Ci.	Cu. E	.5	ϟ Ω a. Γϟ p.
12	59.17	26.5	32	22.5	82.8	S, NNE	4.5	7	Ci.-S., Ci.	Cu. E	1	ϟ ● ⊤
13	59.36	25.8	30.9	23.7	86.5	Variable	3.1	8	Ci.-S.	Cu.-N. E	5.3	Γϟ a. ◯ p.
14	59.61	26	29.7	22.2	81.1	ENE, ESE	3.3	9.5	Ci.-S.	Cu. E	------	ᴗ° d
15	59.59	25.9	30.4	22.8	85.2	N, NE	3.3	10	Ci.-S.	Cu. E	4.3	● a. d ϟ p.
16	59.29	24.9	27.5	23	86	Variable	4.2	8.2	Ci.-S.	Cu.	4.1	●° a. p. ϟ
17	58.55	26.2	31	22.1	83	Variable	3.8	6	A.-Cu. SE	Cu. E	.5	●° a. ϟ p.
18	57.67	25.4	30.3	22.6	89.7	S, SE	3.7	8.5	Ci.-S.	Cu. ENE	20.8	ϟ a. Γϟ p.
19	57.08	26	30.2	22	86.2	Variable	5.1	7.5	Ci. E	Cu. SW	------	ϟ d ⊤
20	57.65	25.2	30.4	23.7	92.2	S, WNW	3.8	9.5	Ci.-S.	Cu.-N. SE	14.2	● a. Γϟ p.
21	58.96	26	29.3	22	85.6	S	5.6	9.2	Ci.-S.	Cu. SE	------	ϟ d a. p.
22	59.21	26.2	31.4	21.8	85.3	S, SW	3.6	4.8	Ci. ESE	Cu.-N. SE	------	⊤ ϟ p.
23	58.48	24.8	30.8	22.5	90.5	NNE	2.8	8.8	Ci.-S. SE	Cu. N	1.5	ϟ ◯ d
24	57.60	24.9	31	21.5	88.2	N	3.5	6.8	Ci. E	Cu.	1.3	ϟ Ω ⊤ ● ≡°
25	57.31	24.7	29.5	22.1	92	S, NNW	2.2	8.2	Ci.	Cu.-N. NW	13	ϟ a. ● ⊤ p.
26	57.80	25.2	28.8	22.8	86.3	S	5	9.8	Ci.-S.	Cu.	47.8	●² a. ϟ p.
27	58.24	26.3	30.3	23.3	85.2	S	5	9	Ci.-S.	Cu.	5.8	● a. ⊤ d ϟ p.
28	58.49	25.4	30.8	23.2	90.3	SW, NNW	3.3	9	Ci., Ci.-S. E	Cu. ENE	23.6	● ◯ a. Γϟ p.
29	58.20	24.6	26.8	22.8	93.7	SSE, NE	2.7	9.5	Ci.-S.	Cu. NW	9.4	● a. d ϟ p.
30	58.57	25.6	29.5	21.8	87	SSE	4.5	7	Variable	Cu.	------	d a. ⊤ p.
Mean	758.51	25.9	30.3	22.5	85.9	------------	4.1	7.5	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	186.9	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 5.5 meters. gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	759.62	28	32.7	25	81.2	SSE, SE	0.3	6.2	Ci.-S. NNE, N	Cu. SSE	------	Ω² a. ⌒ ϟ p.
2	59.13	28.1	32.5	25	82.8	NW, ESE	1.5	7	Ci.-Cu. NE	Cu. S	6.6	↙ ● p.
3	58.70	27.1	32.8	23.5	83.8	E	.8	6.5	Ci. NE	Cu. W	.8	◯² d ⌒
4	57.46	27.9	33.5	24.2	80	Variable	1	5.8	Ci.-S. NNE	Cu. WSW, SW	1.5	●° p.
5	57.39	26.8	32	23.8	83.2	Variable	1	8.2	Ci., Ci.-Cu.	N. NE	67.3	↙ ● a. p. ⊤
6	57.48	26.5	30.2	24	85.2	NE	.7	8	Ci. E	Cu.-N. W, NE	3	◯² ● p.
7	58.54	27.5	31.3	23.8	79.8	SSE	1.2	4	Ci. N, NNE	Cu. SE	.8	d p.
8	59.33	27.9	31.5	24	80.7	ESE	.8	4	------------	Cu. SE	6.9	● a. ⊤ p.
9	59.11	27.1	32.2	23.3	82.8	ESE	.7	5.8	Ci.-S. NNE	Cu. ESE, SSE	25.1	● a. Γϟ p. ϖ°
10	58.80	27.7	31.3	24.6	82.8	NW, ESE	1.2	7.2	Ci. NNW	Cu. SE by E	------	
11	59.36	27.4	31.8	24.3	83.2	ENE	.8	5	Ci.-S. NNW	Cu.-N. SE	10.2	●² ⌒² a.
12	59.50	27.5	31.7	25.3	84.3	NW, NE	1	5.8	Ci.-S.	Cu. ESE	8.3	● ⌒² ⊤
13	59.69	25.9	31	24	88.7	NW	.5	9	Ci.-Cu.	N. SE	11.4	● a. ϖ° p.
14	59.95	26.2	29	24.2	89.2	NW, E	.8	8.3	Ci.-S.	Cu.-N. E	1	ϖ² d
15	59.73	26.8	32	23.7	86.2	NW, E	.8	8	Ci.-S. NNE	Cu.-N. ESE, E	------	
16	59.61	25.6	28.8	23	90	Variable	1	8.3	------------	N., Cu.-N. SE	18	● ↙° a.
17	58.66	27.2	31.3	22.4	82	E	.8	5.8	Ci.-S. W	Cu. E	------	Ω² a. ϟ p.
18	57.58	26.8	32.7	25	84.7	NW	.8	7.8	Ci. NNW	Cu.-N. E	------	◯² a. ⊤ ϟ p.
19	56.63	27.6	32	24.5	81.5	NW	1	7.2	Ci. NE	Cu. W	.5	ᴗ² ◯² ⌒ d ⊤
20	57.48	26	31.3	24.2	86.8	WNW, N	1	9	Ci. ENE	------------	8.6	ᴗ ϖ ◯ Γϟ ⌒
21	58.93	26.5	31.5	23.7	83.7	Variable	.8	7.2	Ci.-S. NE	Cu.-N. S	24.1	● a. p.
22	59.18	27.6	32.2	25	79.8	E	.8	5	Ci.-S. NE	Cu. SE	2	● ϟ p.
23	58.29	26.8	31.8	24.7	84.1	NW	.7	7.2	Ci. NE	Cu.-N. W	5.1	● a. ⌒ p.
24	57.42	26.5	32.7	24.4	86	NW	1	7 5	Ci.-Cu. E	Variable	1.3	≡ a. ●° p.
25	56.95	26	31.7	24.2	89.5	NW	.7	7.5	Ci. E	N. NE	25.4	◯° a. ●² p.
26	57.56	26	31.3	23.7	85.3	N	.7	8.8	Ci., Ci.-S	Cu.-N. ESE, W	19.3	●² p.
27	58.38	26.3	31.1	22.3	83.8	Variable	.5	7.5	Ci.-Cu. E	Cu.-N. NNW	51.5	●² a.
28	58.38	26.7	31.2	22.9	86.3	NW	.8	6.7	Ci.-S. SE	Cu. NNW	3.8	◯° a. ⊤ ● p.
29	57.98	25.2	28	22.8	90.7	N	.5	8	Ci.-Cu. SE	N. N by E	15.1	● a. p.
30	58.37	27.2	31.2	22	80.8	ESE	.7	4.3	Ci.-S. E	Cu. SE	------	
Mean	758.51	26.9	31.5	24	84.3	------------	.8	6.9	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	317.6	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	759.49	27.8	31.7	21.8	85.3	NNE	0.3	5	Ci., Ci.-S.	Cu.-N. NE	------	Ω° a.
2	59.18	27.6	31.8	21.5	84.5	Variable	.5	6.2	Ci.	Cu.-N. S, NW	------	Ω° a.
3	58.61	27,9	31.8	22.2	85.1	Variable	.3	7.8	Ci.-S.	Cu.-N. SW, NE	------	ϟ° p.
4	57.50	27.5	31.7	22.8	85.5	Variable	.5	6	Ci.	Cu.-N. NE, N	6.1	T° ● ϟ° p.
5	57.43	26.8	31.6	21.4	85.8	Variable	.5	8.2	Ci.-S.	Cu.-N. SW, NW	------	Ω° a. ϟ° p.
6	57.41	27.5	31.3	22.2	85.5	NE, NW	.3	5.8	Ci.-S.	Cu.-N. NE, NW	------	⊕² p.
7	58.83	26.3	29.7	20.2	87.3	W	.7	9	Ci.-S.	Cu.-N. SW, NE	16.5	● a. ⊕° ∪² p.
8	59.06	27.8	32.7	20.9	84.2	Variable	.3	6	Ci.-S.	Cu.-N. SE, S	------	T° p.
9	58.85	27.2	30.3	21.9	88.6	N	.5	7.5	Ci.-S.	Cu.-N. N,E	13.7	⌈ a. ● ϟ² p.
10	58.45	27.8	32.4	22.2	87.6	NE	.2	6	Ci.-S.	Cu.-N. NE	------	T ∪ ⊕ ϟ
11	58.97	28.1	31.9	22.2	85.1	NE	.3	5.8	Ci.	Cu.-N. NE	2	T d a.
12	59.02	29.1	32.9	22.9	82.3	E	.8	5.2	Ci.-S.	Cu.-N. E	3.6	T ● ∩ a.
13	59.37	27.8	30.9	23.8	87.1	Variable	0	8.8	Ci.	Cu.-N. E	17	● T a. ϟ p.
14	59.77	27.5	32	22.8	85.7	SE, ENE	.5	6.8	Ci.-S.	Cu.-N. SE, E	5.4	● ∩ ↙°
15	59.86	26.7[1]	30.3	21.4	88.8[1]	ENE	.2[1]	9.2	Ci.-S.	N.	8.4	● a.
16	59.42	27.8[1]	30.2	21.4	81.4[1]	ENE	.4[1]	9	Ci.-S.	Cu.-N. E	24.6	● a. ∪ ⊕
17	58.56	27.8	31.5	21.9	85.2	ENE	.5	5	Ci.-S.	Cu.-N. E	------	ϟ p.
18	57.92	27	30.9	21.4	88.3	E, NE	.3	8.2	Ci., Ci.-S.	Cu.-N. NE	9.9	⌈° a. ϟ p.
19	57.23	27.2	30.3	22.6	89.7	W, N	.2	8.2	Ci.-S.	Cu.-N. W, NW	6.1	⌈ a. p.
20	57.36	26.8	31	21.9	88.8	Variable	.2	7.5	Ci., Ci.-S.	Cu.-N. SE, E	------	Ω a. T p.
21	58.96	27	30.9	22.2	85.8	Variable	.3	7.8	Ci.-S., Ci.	Cu.-N. SE, NE	------	Ω a. T ○ d p.
22	59.44	27.2	30.6	22.3	86.8	S	.3	9	Ci.-S.	Cu.-N. SE, NE	------	ϟ p.
23	58.53	26.5	31	21.6	87.3	Variable	.3	5.8	Ci., Ci.-S.	Cu.-N. SE	2	Ω a. ●° ϟ p.
24	57.71	26.3	31.7	21.3	88.8	Variable	.3	7	Ci.-S.	Cu.-N. S	------	d° ϟ p.
25	57.38	26.6	31.2	20.8	86.2	Variable	.2	8	Ci.-S.	Cu.-N. SE	1.3	d a. p. ϟ
26	57.86	25.3	27.4	21.6	92.3	S	.2	10	------	N.	25.9	● a. p. ϟ
27	58.56	26	30.6	21.2	90.7	S, NNE	.3	9.8	Ci.-S.	Cu.-N. SE	11.7	T ● p.
28	58.82	26.5	29.2	21.6	90.2	NW	.5	9.5	Ci.-S.	Cu.-N. NW	------	d p.
29	58.56	25.3	29.8	21.4	91.5	SE	.7	9.5	Ci.-S., A.-Cu.	Cu.-N. NW	31.2	d a. ●² p.
30	58.44	26.4	30.2	20.9	86.8	NW	.3	6.2	Ci.-S.	Cu.-N. W	------	d° a.
Mean	758.55	27.1	31	21.8	86.9	------	.4	7.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	185.4	

[1] Mean deduced from five observations only.

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	759.66	25.8	32.8	22.8	90.2	N	1	6	Ci.	S.-Cu.	------	p ϟ p.
2	59.12	27.4	34	22.7	85.3	N, W	1	6.8	Ci. SW	S.-Cu. SW	------	T ϟ p.
3	58.61	27	32.5	23.2	87.8	N, W	1	7.5	A.-Cu. SW	S.-Cu. SW	------	T ϟ p.
4	57.80	28.3	34	23.8	82.8	N	.8	6	Ci. N	S.-Cu. SW	------	d ϟ p.
5	57.28	26.6	32.5	24.1	89.2	N, WNW	.8	8	Ci.-S.	Cu.-N., S.-Cu. W	6.4	⌈ a. p. ∪°
6	57.54	26.4	31.5	23	89.5	N, WNW	.8	7.2	Ci. N	S.-Cu., Cu.-N. W	1	d ϟ p.
7	58.49	27.3	34.5	23.2	85.7	N	1	5.5	Ci.	S.-Cu. N	------	T ϟ p.
8	59.36	27.1	34.9	23.6	85.8	N	1.2	5.2	Ci.	S.-Cu. SE	2.3	T p ϟ p.
9	59.19	27	34.5	22.6	84.7	N, W	1	5.8	Ci. E	S.-Cu. Variable	------	d ∪² ϟ ⊕ p.
10	58.94	26.8	33	22.8	86.7	N, W	1	5.5	Ci.	S.-Cu., Cu.-N. E	.5	∩° ⌈° p.
11	59.47	25.8	32.5	23.3	90.3	N	1	5.5	Ci.	S.-Cu. E	1.3	● a. d ϟ p.
12	59.62	25.9	32	22.8	91.3	N	.8	5.5	A.-Cu.	S.-Cu., Cu.-N. E	.8	p ϟ p.
13	59.79	26.5	31	23.9	86.8	N, S	1	6.2	A.-Cu.	S.-Cu. E, SE	------	d a. ϟ p.
14	60.02	25.7	31.6	22.8	87	N	1	7	Ci., Ci.-S.	S.-Cu. E	1.5	p a. ∪ ϟ p.
15	59.89	26.2	31.5	22.3	88	N	1	7	Ci.-S.	S.-Cu. E, SE	2	● ∪ ϟ p.
16	59.65	25.7	30.5	22.8	87.3	N, E	1	7	A.-Cu., Ci.-S.	Cu.-N. E	------	ϟ p.
17	58.72	26.4	33	22	88.2	N	1	7	A.-Cu.	S.-Cu. E	19.8	●² ϟ p.
18	57.64	26.2	32	23.6	91	N	1	6.8	Ci.-S.	S.-Cu. E	18.5	d ○ a. ⌈ p.
19	56.77	26.8	31	23.5	87.3	N, W	1	7.5	A.-Cu.	S.-Cu. E, W	24.4	ϟ ●² p.
20	57.52	26.2	31.5	23.6	90.5	N	1	8	Ci.-S.	S.-Cu. W, SW	4.8	● a. ϟ p.
21	58.93	26.2	31	23	90.7	N, S	1	7.2	A.-Cu. NE	S.-Cu. SE	------	d ϟ p.
22	59.35	26.6	32.9	23	86	N, W	1	6.8	Ci. NE	S.-Cu. SE	------	ϟ p.
23	58.42	25.8	32.5	22.4	89.8	N	1	7.5	Ci. NE	S.-Cu. E, NE	3	●° ϟ p.
24	57.56	25.5	32	22.4	89.2	N	1	7	Ci.	S.-Cu. N	7.1	● ϟ p.
25	57.12	25.6	31.1	21.8	90.5	N	1	8.2	Ci.-S., A.-Cu.	S.-Cu. NE	.3	d ϟ p.
26	57.53	26	30.3	22.7	89.8	N, WSW	1.2	8.5	Ci.-S.	S.-Cu. W	------	ϟ p.
27	58.42	26.5	32	23.1	86.8	N, W	1	7.8	A.-Cu. W	S.-Cu. SW	------	ϟ p.
28	58.54	26.5	30.4	22.8	85.8	N	1	8.2	Ci.-S.	S.-Cu. NE	------	ϟ p.
29	58.08	24.3	26.2	23	95	N	1	9	Ci.-S.	Cu.-N. NE	8.1	●° ϟ
30	58.24	26.4	32.5	22.6	88.7	N, W	1	7.2	Ci.	S.-Cu. SW	1.5	●° a. ϟ p.
Mean	758.58	26.4	32.1	23	88.3	------	1	6.9	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	103.3	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 4.2 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.		Clouds. Prevailing form and its direction. Lower.		Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.					mm.	
1	759.40	27.2	31.8	23	84.5	ENE	4.3	2.2	Ci.	NE	Cu.		------	Ω ○ a. T p.
2	59.03	27	34.1	23.4	83.8	Variable	3.9	5.8	Ci.	SE	Cu.-N.	NW	30.2	Ω a. ⛈^{2} p.
3	58.21	26.6	34	24	87	ENE, SSE	3	8.8	Ci.-S.		Fr.-N.	WNW, W	22.9	○ a. ⛈ p.
4	57.20	27.8	34.4	23.5	83.5	SSE, SSW	4.5	6	Ci.	NW	Cu.	W	2	p ⌒ T ϟ p.
5	56.83	25.8	32.9	23.5	89.7	SW	3.3	6.8	A.-Cu.	N	N.		9.7	ϟ a. ⛈ p.
6	57	27.4	31.9	23.5	83.7	S, SSW	4.2	4	Variable		Cu.	N	15	⛈ p.
7	58.21	26.9	31	23.6	82.5	ENE	4.4	7	Ci.	N	Cu.	SE	.8	T ●° a.
8	59	27.7	32	23.2	82	NE	5.9	1.8	Ci.	N	Cu.	SE	------	⌒ d ϟ p.
9	58.80	28.2	32	24	79.5	ENE, NE	7	1	Ci.	N	Cu.		------	
10	58.58	28	32.1	23.5	79.3	NE, ENE	6.8	1	------		Cu.	NE	------	ϟ° p.
11	59.29	28.4	32.1	24.2	78.2	NE	7.8	1	------		Cu.		2.8	● p.
12	59.61	28.2	32	25	80.3	NE quad.	8.3	2.8	A.-Cu.	ESE	Cu.-N.	ENE	3.3	●° a.
13	59.88	26.7	29.8	24	84.8	NE quad.	6.9	7	Ci.-S., Ci.		N.	ESE	9.4	⛈ a.
14	60.06	27.7	31.7	24.9	80.8	NE quad.	7.5	5	Ci.	NW	Cu.-N.	E	------	d p.
15	59.99	27.7	32	23.6	81.4	ENE	7.3	7	Ci.-S.	SW	Cu.	E	10.7	○^{2} a. ●^{2} p.
16	59.60	27.7	31.7	24.3	81	ENE	9.5	5.2	Ci.		Cu.		20.1	● a. ϟ° p.
17	58.80	27.9	31.7	24.4	79.3	ENE	8.4	1.8	Ci.		Cu.	ENE	10.9	● a. p. ⌒ ϟ
18	58	27.2	31.5	24.4	84.2	NE	8.4	6.2	Ci.	NW	Cu.		14.7	● a. p. ϟ
19	56.75	27.3	32.5	23.5	83.5	ENE	4.1	4.5	Ci.-S.	NW	Cu.-N.	NE	16.8	● ○ a. ⛈ p.
20	56.72	26.5	32.4	23.8	87.7	Calm	4	6.2	Ci.	SE	Cu.	SW	19.8	●^{2} ϟ p.
21	58.52	28.1	34.2	24.5	79	S	4	5.8	Ci.	NNW	Cu.	S	.3	d ϟ^2 p.
22	59.08	26.8	32	24	85.3	ESE, E	4.1	7.8	Ci.-S.	NE	Cu.	SSW	.3	d^2 ϟ p.
23	58.01	27.6	32.7	23.3	82.2	ENE, NE	4.1	5.5	Ci.	W	Cu.	S, SSE	------	ϟ° p.
24	57.40	27.1	32.9	23.5	80.8	ENE, NE	4.1	2.5	Ci.	ENE	Cu.		------	ϟ p.
25	56.84	27.4	32	23	78.8	ENE	4.5	7.2	Ci.-S.	NW, S	Cu.		------	○ a. ϟ° p.
26	57.14	25.8	30.2	24	89.8	Calm	2.4	9.8	Ci., Ci.-S.		Fr.-N.	S	30.7	● a. p. ○^{2}
27	58.25	26.1	32	23.6	88.3	S, W	3.6	9.8	Ci.-S.		Variable		6.1	● ϟ p.
28	58.36	26.5	30.7	24	86.5	ENE, W	3.2	8.5	Ci.-S.	N	Cu.	E	------	T p.
29	58.15	25.5	31	22.9	88.1	NNE, ENE	6	10	Ci.-S.		N.	E	31	p a. ●^{2} p.
30	57.91	26.6	32	23	85.6	SW, SSW	3.9	6	Ci.	E, ENE	Cu.	SSW	2	p a.
Mean	758.35	27.2	32.1	23.8	83.4	------	5.3	5.5	------		------		------	
Total	------	------	------	------	------	------	------	------	------		------		259.5	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 7.8 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.		Clouds. Lower.		Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.					mm.	
1	759.11	27.8	33.5	24	85.3	Variable	5.4	6.2	Ci.	S	S.-Cu.	W	3.6	●° ϟ° p.
2	58.80	28.6	34.6	24.1	82.6	SW, S	7	6	Ci.	SE, E	Cu.	SW	------	⊕ a. ϟ ⊖ p.
3	58.18	27.7	33.5	23.6	87.4	SW	7.2	9.5	Ci.	E	Cu.	SW	------	ϟ ○ d T
4	56.98	27.2	34	24.1	86.8	WSW, W	6.1	8.2	Ci.	NE	Cu.-N.	W	------	ϟ ≡° Ω d
5	56.47	28.1	33.5	22.9	82.5	SW, W	7.4	7	Ci.	ENE, NE	Cu.	SW	3	Ω ⊕ d ϟ ⊖
6	56.83	27.4	34.6	22.7	82	W	8.1	6.2	Ci.	NE	Cu.	WSW	8.7	Ω ⊕ ●° ϟ
7	58.16	26.3	31	23.5	87	SW	8.5	9.8	Ci.		S.-Cu.	SSW	24.1	d a. ⛈ ⊖ p.
8	59.01	27.3	31.8	23.4	86.6	SW	5.8	7.2	Ci.	NE	Cu.	SE, S	------	≡ ϟ Ω ○ d
9	58.69	27.8	32.8	23.2	84.2	SW	6	5.8	Ci.	NE	Cu.	S, SE	2.5	Ω ϟ ●° ⊖
10	58.36	28.4	34.1	23.5	83.2	SW, E	6.8	3	Ci.		Cu.	S	------	Ω ϟ ⊖ T
11	58.96	29.1	34.7	23.7	83.3	SW, E	8	5	Ci.		Cu.	SE	------	ϟ Ω ⊖
12	59.40	29	34.3	24.6	82.8	Variable	9.4	4.5	Ci.		Cu.	N, E	------	Ω ≡° ⊖ ϟ
13	59.64	27.6	34	24.8	88.5	WSW	9	5.8	Ci.	E	Cu.	E	15.5	Ω ϟ ⛈ ⌒ ⊖
14	59.92	28	33	24	84.5	E, SW	7.6	7.2	Ci.	E	S.-Cu.	E, NE	16.3	⊖ Ω ⛈
15	59.69	28.2	33.9	22.6	81.3	SW	7.8	3.2	Ci.		Cu.	E, SE	------	Ω ϟ ⊖
16	59.49	27.3	33.8	24	86.5	SW	8.7	5.8	Ci.	S	Cu.	E, NE	2.3	ϟ ⊖ ○ ●°
17	58.71	28.1	33.6	22.8	83.2	SW, N	9.8	2.8	Ci.		Cu.	E, NE	------	⊖ ≡° Ω ○ T ϟ
18	57.84	27.9	33.3	24.1	86.7	SW	9.5	6	Ci.	SE	Cu.	E	2.5	Ω d T ϟ ⊖
19	56.82	28.5	32.3	24.9	85.3	NNW	8.8	7.2	Ci.	W	Cu.	E	------	⊖ Ω d ϟ
20	56.50	28	34	23.5	85	W	7.5	8	Ci.	E, SE	S.-Cu.		28.5	● ⊕ ○ T ϟ
21	57.82	27.4	31.8	24	88.7	WSW, SW	5.2	8.5	Ci.		Cu.		------	○ ⊕ T d ϟ
22	58.67	27.4	32.5	24.1	89.3	SW	------	9.5	Ci.-S.		Cu.	S	------	⊖ Ω ≡° T d ϟ
23	57.72	28.2	34.1	23.1	83.9	SW	------	5.2	Ci.	SE	Cu.	E, S	------	Ω ϟ
24	56.99	28.1	34.3	23.5	83.8	SW	------	7.2	Ci.		Cu.	S	6.4	Ω T ●° ϟ
25	56.87	27.2	33.4	23.3	87.8	SW	------	6.8	Ci.	E	Cu.	SE	2	Ω ≡° ○ ⊕ T′ ●° ϟ
26	56.89	26.2	30.8	23.7	89.5	N	8.9	10	Ci.-S.		Cu.	N	------	○ T d ϟ
27	57.65	26.6	30.8	23.2	88.8	W, SSW	4.3	10	Ci.-S.		S.-Cu.	S	30.7	● ϟ
28	58.35	26.1	31.8	23.3	90	Variable	4.1	10	Ci.-S.		N.	S, SW	13.2	⛈ p.
29	58.28	26.1	32	22.6	89.7	Variable	6.8	8.8	Ci.-S.		S.-Cu.	NE, N	8.9	● ○ T
30	58.01	24.7	28.5	22.9	96.7	SW	5.3	9.8	Ci.-S.		N.	N, S	42.1	● a. p. T
Mean	758.16	27.5	33	23.6	86.1	------	7.3	7	------		------		------	
Total	------	------	------	------	------	------	------	------	------		------		210.3	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[ϕ=14° 49′ N; λ=120° 16′ E; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.		Clouds. Prevailing form and its direction. Lower.		Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.					mm.	
1	759.10	26.4	29.5	23.5	86.8	SW. quad.	0.5	8	A.-Cu.	W	Cu.		------	d a. ζ p.
2	59.13	27	31.3	23.6	83.8	SSW	.5	6.8	Ci.-S.		Cu.	SW, W	0.1	d ζ p.
3	58.34	27.3	32.5	24.1	80.8	Variable	.8	8.5	A.-Cu.	WNW	Cu.-N.		------	d ζ p.
4	57.28	25.6	31.1	24.1	91.8	Variable	.6	9.5	Ci.-S.		Cu.		48.4	ζ ● ⊤ a. d ⊍ p.
5	56.72	26.1	28.4	23.1	88.3	SSW	.5	7.2	Ci.-S.		Cu.N.	NW, W	------	d ⊤² p.
6	57.08	25.5	28.1	24.4	90.8	Variable	.3	9.8	Ci.-S.		Cu.N.	WSW	25.1	●² ⊤ a. d ⊍ p
7	57.91	25.4	29	22.9	90	Variable	.4	8.8	Ci.-S.	E, ENE	Cu.		10.7	○° a. ⊤ ● p.
8	58.65	26.1	31.5	23.9	90	Variable	.5	7.8	Ci.-S.	N	C.-N.	SE	35.7	● a. p. ⊤
9	58.45	26.6	30.4	23.4	86	SW, S	.4	8.8	Ci.-S.	N	Cu.		.6	d a. ○² ⊤ ⊍ p.
10	58.34	27.2	30.8	24.2	83.2	Variable	.8	5.5	Ci.-S.	E	Cu.		------	ζ a. p. ⊍
11	58.80	27.7	32.1	24.2	78.3	SW	.7	5.2	Ci.-S.	ENE	Cu.		------	d ⊤
12	58.95	29.4	35	24.9	72.5	ENE	.8	3	Ci.-S.		Cu.		------	⊤ ζ p.
13	59.15	28.8	36.2	25.4	74.5	NE	.6	6	Ci.-S.		Cu.	ENE	------	⊤ d p.
14	59.39	29	35.6	23.6	70.6	NE	.7	3.5	Ci.-S.		Cu.		------	ζ p.
15	59.20	28.6	35.3	24.6	75.8	E	.7	5.2	Ci.-S.		Cu.	ESE	8.9	ζ ○ a. ⌈ζ ⌒ p.
16	59.02	27.9	34.6	23.7	76.8	ENE	.4	5.2	Ci.-S.		Cu.	ENE, E	------	ζ a. p.
17	58.24	28.3	34.5	23.5	74.8	NE quad.	.8	5.8	Ci.-S.		Cu.	ESE	------	∞ ζ p.
18	57.50	28.2	35.2	24.2	75.7	NE quad.	.8	6.5	Ci.-S.	E	Cu.	E	8.9	⌈ζ p.
19	56.51	28.2	34.4	23.9	79.3	NE	1.1	8	Ci.-S.	NNE	Cu.	ESE	2	ζ a. ⌈ζ p.
20	56.44	26.7	29.3	24.2	86.2	Variable	.7	8.8	Ci.-S.	NE	Cu.	SSW	26	⌈ζ ○ a. p. ⌒²
21	57.74	27.6	29.1	24.4	82.3	S	1.2	9.5	Ci.-S.		Cu.-N., Cu.	SW	------	○² ⊤
22	58.34	27	29.4	25.1	87.2	SSE	.8	8	Ci.-S.	ENE	Cu.	SE, SSW	7.1	d ○° a. ⌈ζ p.
23	57.67	26.6	28.5	24.1	85.9	Variable	.8	6.8	Ci.-S.		Cu.-N.	SSE	3.1	● ⌒ a. ζ p.
24	56.82	26.8	29.2	23.6	85.5	Variable	.7	8.8	Ci.-S.		Cu.	SSW	3.5	● ○° a. d ⌒ p.
25	56.50	27	29.7	24.3	85.5	SW	.8	8.8	Ci.-S.		Cu., Cu.-N.	SE	2.3	⌈ζ ⌒ p.
26	56.60	26.4	29.7	23.5	87.1	Variable	.7	9.2	Ci.-S.		Cu.-N.	E	10.7	○° a. ⌒² ● ⊤ p.
27	57.28	25.5	28	24.3	90.2	SE	.6	10	Ci.-S.		N.	E, SE	10.7	d a. ↙ ●° p.
28	58.01	24.9	28.9	23.5	93.3	Variable	.8	10	Ci.-S.		Cu.-N., N.	S	23	● a. p. ⊤
29	57.82	26.3	29.7	22.8	84.8	N	.6	7.8	Ci.-S.	NE, E	Cu.		1.1	d a. p.
30	58.09	25	26.9	23.9	94.1	NNE	.3	10	Ci.-S.		Cu.-N.	E, NNE	16.4	● a. d p.
Mean	757.97	27	31.1	24	83.7	------	.7	7.6	------		------		------	
Total	------	------	------	------	------	------	------	------	------		------		244.3	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.		Clouds. Lower.		Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.					mm.	
1	759.27	28	33.1	23.6	81.7	NNE	0.2	7.8	A.-Cu.	SE	Cu.	SW, W	------	d° ≡ a. ⊤ ζ p.
2	59.27	27.6	32.9	25	85	NNE	.2	8.2	A.-Cu.	SE	Cu.-N.	SW, W	14.2	≡° a. ● p.
3	58.53	27.2	33	24	85.2	N, NE	0	7.8	Ci.	SE	Variable		------	Ω² ≡° a. ζ p.
4	57.49	25.6	32.3	23.9	93.2	N	0	7.8	Ci.	SE	N	W	22.4	d ≡° a. ●² ⊤ p.
5	56.92	26.6	31.9	23.5	86.7	SSW	.2	6.5	Variable		Variable		28.7	d ≡° a. ⌈ζ² p
6	57.25	27	32.5	24.2	86.5	SW	0	8.2	Ci.	SE, NW	Cu.-N.	W	------	Ω ≡° a. ⊤ ζ p.
7	58.17	27.2	33.2	24.4	85.3	NNW	.1	8.2	Ci.-S.	N	S.-Cu.	W, SE	2.3	Ω ≡° a. ⊤ ⊕ d ζ p.
8	59	27.3	32	24.5	87.5	NE, S	.2	8.2	Variable		Variable		5.3	d ⊤ ϖ² ζ
9	58.60	28.3	33	24	79.7	ESE	.2	7.8	Ci.-S.	Variable	Cu.	S	------	Ω ○² ⊤ ζ
10	58.39	28.9	34.1	24.2	75.5	SW	.2	4.8	Ci.	SE	Cu.	SE	------	⊤ ζ p.
11	59.03	28.4	35	23.3	76.3	Variable	.2	6	Ci.-S. Ci.	NE	Cu.	SE	5.3	ζ ≡° ⊤ ●°
12	59.43	28.5	34.3	23.4	73.5	N, ENE	.8	3.5	Ci.	NE	Cu.	E	------	ζ Ω² a.
13	59.70	28	34.1	23.6	77.8	NNW	.5	4.8	Ci.-S	E, NE	S.-Cu.	SE	------	Ω a. ⊤ ○° p.
14	59.80	28.5	34.6	23	71.3	NNW, ESE	.3	1.8	Ci.		Cu.	E	------	Ω a. ζ p.
15	59.61	27.9	35.1	23.5	78.1	NNE	.2	6.5	Ci.-S.	NE	Cu.-N.	SE	------	Ω ○° a. ⊤ ζ p.
16	59.42	28.3	33.9	23.4	72.2	NE quad.	.8	4.2	Ci.-S.	SE	S.-Cu., Cu.	E	.8	Ω ≡° a. ●° p.
17	58.67	28.2	33.5	24	71.8	E	.5	5.8	Ci.	NE	Cu.	E	3.3	●° ζ p.
18	57.80	27.8	33.5	23.5	73.6	NW, E	1.1	5.2	Ci.-S.	Variable	Cu.	E	------	d ○² Ω ζ
19	56.64	28.5	35	23.2	73.8	Variable	.4	8	Ci.	SW	Cu.	E	.5	ϖ² ⊕° p ⊤ ζ
20	56.57	27.9	34.2	23.6	77.9	SSE, S	.3	8	Ci., Ci.-S.		Cu.	S	------	ζ Ω ○°
21	57.86	28.1	33.2	24.5	79.2	S	.8	8	Ci.	E	Cu.	S	------	ϖ² a. ζ p.
22	58.50	27.5	34.6	24.1	80.3	SSE	.2	8.5	Ci.-S.	NE	Cu.-N.	S	1	ϖ° Ω a. ⊤ d ζ p.
23	57.73	27.7	34	22.6	76.9	SSE	.7	4.8	Ci.	NE	Cu.	SSE, S	------	Ω a. ζ p.
24	56.99	28.4	34.5	24	75.3	SSW	1.2	6.5	Ci.	E, NE	Cu.	S	------	Ω a. ζ p.
25	56.75	27.6	35	23.7	81.5	NNW, S	.6	6.8	Ci.	NE, E	Variable		8.1	Ω a. ⌈ζ p.
26	57.08	25.4	28.9	23.6	92.2	NNE	.5	9.5	A.-S.		N.	E, NE	34.5	d a. ●² p.
27	57.72	24.4	28	22.6	94.2	SSW, S	.1	10	A.-S.		N.	SE, N	10.2	≡ a. ⌈ζ p.
28	58.32	25.2	32	22.5	87.7	NNE, SE	.3	9.5	Ci.-S	E	N.	S	14.2	● p.
29	58.24	26.6	32.6	22.5	83.5	SE	.1	7.2	Ci.-S.	E	N.	SW, S	2.5	≡° Ω a. ⊤ ● p.
30	58.24	24.6	26.2	23.6	94.2	ESE	.1	10	A.-S.		N.	SE, NE	22.1	d a. ● ⊤ p.
Mean	758.23	27.4	33	23.6	81.3	------	.4	7	------		------		------	
Total	------	------	------	------	------	------	------	------	------		------		175.4	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	758.99	28.1	33.4	23.5	79	NW	8.4	8.5	A.-Cu.	S.-Cu.	------	ϟ p.
2	59.19	27	33.8	23.8	87	NW	8.7	8.5	A.-Cu.	S.-Cu.	41.1	⊤° ●² p.
3	58.31	26.7	33.5	23.7	89	Variable	9.1	8.2	A.-Cu.	S.-Cu.	5.3	● ϟ p.
4	57.11	26.5	33.4	23	90	Variable	6	9	Ci., A.-Cu.	S.-Cu.	49.5	● ⊤° a. p.
5	56.44	28	33.4	23.5	84	Variable	6.6	7.2	A.-Cu.	S.-Cu. WNW, WSW	8.1	● ⊤° a. ϟ p.
6	56.79	28.3	34.4	24	83.3	SE, N	7.5	7.8	Ci.	Cu., S.-Cu.	1	p a. d ⌣ ϖ p.
7	57.69	27.7	35.6	23.9	86.3	SE	7	8.2	Ci.	S.-Cu.	10.9	⛈ p.
8	58.44	28.3	36.2	24.2	84.5	SE	7.2	8.8	A.-Cu.	S.-Cu.	1.3	●° a. ⊤ d ∩ ϟ ϖ
9	58.14	28.8	37.1	24.5	80.5	SE	9	5.5	Ci.	Cu.	------	⊤° ϖ ϟ p.
10	58.18	28.4	35	23.1	82	NW	9.9	8	Ci.	S.-Cu.	24.1	⛈ a. p.
11	58.74	29.3	36	24.6	79	NW	10.4	4.8	Ci.	Cu.	------	⌣ p.
12	58.93	29.7	38.2	24.9	77	SE	12.6	2.2	Ci.	Cu.	------	
13	59.26	28.6	38	23	82.2	S	8.3	4.2	Ci.	Cu.	49.8	d a. ⛈² p.
14	59.36	29.2	38.1	23.3	78.2	SSE, S	7.5	2.8	Ci.	Cu.	------	ϖ a. ⌣ p.
15	59.16	29.2	38.4	23.9	75.8	SE, SSE	10.8	3.2	Ci.	Cu.	------	ϖ a. ⊤ ϟ p.
16	58.84	28.8	38.7	23.9	76.3	SSE	9.4	4.2	Ci.	Cu.	.8	ϖ ϟ ⊤
17	58.24	29.8	37.8	23.7	69.7	SE	8.7	6.5	Ci.	Cu.	------	ϖ a. ϟ p.
18	57.65	29	37.4	23.9	73.7	Variable	10.2	5.8	A.-Cu.	S.-Cu., Cu.	------	ϟ ⊤
19	56.23	29.2	38.2	24	76.8	S	10.9	7.8	Ci.	S.-Cu., Cu.	12.7	ϖ a. ⛈ p.
20	56	28.2	34.8	23.5	80.8	SE, W	7.2	9.2	Ci. NW	S.-Cu. SE	1	ϖ a. ⊤° d ϟ p.
21	57.15	28.6	36.8	24.3	80.3	SE	9.2	8.8	Ci.	S.-Cu. SE	------	ϖ ϟ ⊤
22	57.68	29	37.4	24	77.5	SE	12.3	6.5	Ci., A.-Cu.	S.-Cu.	------	ϖ a. ϟ p.
23	56.99	29	36.7	23.8	75.2	SE	12.4	7	Ci.	Cu., S.-Cu.	------	d ϟ p
24	56.30	28.1	37	23.5	78	SE	11.9	8.5	Ci.	S.-Cu.	------	ϟ p.
25	56.03	29	38.4	23.5	77.2	SSE	12.4	7.2	Ci.	Cu., S.-Cu.	16	⛈ p.
26	56.58	27.6	34.5	23.7	83.2	SE	11.1	9	Ci.	S.-Cu.	13.7	⊤ ● p.
27	57.03	25.6	30.5	23.4	89.8	SE	11.4	10	A.-Cu.	S.-Cu. SE	6.9	● a. d p.
28	57.57	25.6	33.4	22.6	88.2	SE	14.2	9	A.-Cu.	N. SW	3.8	● p.
29	57.75	28.2	36.2	22.4	77.8	SE	10.1	6.8	A.-Cu.	S.-Cu., Cu.	------	∩ a. ϟ p.
30	57.88	27	32.4	24.1	87.3	NW	9.5	9.5	A.-Cu.	S.-Cu., N.	8.6	⛈ p.
Mean	757.76	28.2	35.8	23.7	81	------------	9.7	7.1	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	254.6	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

	mm.	°C.	°C.	°C	P. ct.		0–12.	0–10.			mm.	
1	759.46	26.3	29.4	23.8	86.5	SE quad.	1	9.8	A.-Cu.	S.-Cu. SSW	57.9	●² a. ϟ° p.
2	59.30	26.2	29.7	24.3	85.6	S	1	8.8	A.-Cu.	Cu.-N. WSW	49.8	● a. p.
3	58.44	26.6	33.7	24.7	85	S, SW	.7	7.8	A.-Cu.	Cu.-N. WSW	.5	d a. p.
4	57.03	26	30.1	25	91.5	S	.7	6.8	A.-Cu.	N. S, SW	41.7	● a. d p.
5	56.42	27.1	32.5	24.8	83.2	S	1.7	5.5	A.-Cu.	Cu. SW by S	4.1	●° a. p.
6	56.74	27.3	32.5	22.7	84.3	Variable	1.3	8.2	Ci.-S.	Cu.-N.	24.6	● a. p.
7	57.88	27.9	34.5	23.9	81.2	SW	.7	4.2	Ci.-S.	Cu.	3.8	⛈° p.
8	58.67	28.2	34.1	24.8	80.3	Variable	.8	2.5	Ci.	Cu.	.5	ϟ d° ϖ p.
9	58.34	28.3	33.1	25.9	77.8	SW quad.	1	1.5	Ci. NE by N	Cu. SW by S	------	ϟ d ⊤ p.
10	58.34	28.2	33.9	25.4	80.8	Variable	1.3	3.5	Ci., Ci.-S.	Cu. SW	1.5	d a. ϟ° ⌣° p.
11	58.93	28.6	34.1	26.1	75.8	Variable	1	.5	Ci.-S. NNE	Cu.	------	○ ϟ° ϖ p.
12	59.13	28.7	31.7	25.2	77.3	Variable	1.2	1.8	Ci.	Cu. WNW	------	Ω a. ϖ p.
13	59.49	28.8	32	26.2	75.2	Variable	1.3	2.2	Ci.-S. NE	Cu. W by N	------	Ω° a. ⛈° ϖ p.
14	59.71	28.2	31.9	25.6	76.8	WSW, NE	1	3	Ci.	Cu.	------	⊤ ∩ d ϟ° p.
15	59.58	28.2	32.7	25.1	76.1	Variable	1.5	2.2	Ci., Ci.-S.	Cu.	------	ϟ p.
16	59.09	28.6	31.6	24.7	72.2	Variable	1	1.8	Ci.	Cu.	1	⛈° p.
17	58.51	28.8	32.8	25	79.3	Variable	.8	1.2	Ci.-S. NE	Cu.	------	○° ϟ p.
18	57.81	28.6	32.4	26.2	77	Variable	1.2	2.8	Ci.-S.	Cu. ENE, W	------	∩ ⊤ ϟ p.
19	56.47	28.9	31.9	26.2	73.8	Variable	1	3.5	Ci.-S.	Cu.	------	ϟ p.
20	56.27	28.8	33.4	25.9	76.5	Variable	1	4.8	Ci.-S. NE	Cu. WSW, NW	------	○ ϟ° p.
21	57.29	28.3	31.5	25.4	80.5	S	1.3	4.8	Ci.-S.	Cu. SSW, SW	47.2	⛈ a. p. ∩
22	58.17	27.9	30.9	25	81.2	Variable	1.2	3.8	A.-Cu.	Cu.	6.6	⛈ p.
23	57.18	27.8	30.8	25.1	79.8	S, SSW	1.5	6	Ci.-S. NE by N	Cu. S by W	7.4	⛈ p.
24	56.52	27.1	32.4	25.4	84	SE	1	3.2	Ci.-S. ENE	Cu.	36.8	⛈ p.
25	56.47	27.6	31.1	24.7	80.3	Variable	1.3	3	Ci.-S. ENE	Cu. SW by W	10.9	○ ⛈ p.
26	56.80	27.6	31.7	24.9	84	Variable	1.2	5.8	Ci.	Cu. NW	------	⛈° p.
27	56.93	26.8	30	24.6	86.4	S	1.5	10	A.-Cu., Ci.-S.	N.	57.1	● a. p. ϟ
28	57.41	26.5	31.3	23.8	86.4	Variable	1	4.8	Ci.-S.	Cu., N.	23.1	⛈ p.
29	58	27.2	32.7	23.5	79.5	Variable	.8	3.5	A.-Cu., Ci.-S	Cu.	------	d p.
30	58.10	27.7	32.5	24.5	79.8	W	.8	6.2	A.-Cu.	Cu.	.5	⊤ d p.
Mean	757.95	27.8	32.1	24.9	80.6	------------	1.1	4.4	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	375	

METEOROLOGICAL DATA, ETC.—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.82	26.4	29.8	23.6	88.2	E	0.2	7.5	------	N. SW, SE	15.7	● a. d p.
2	58.43	27.5	32.3	24.8	84.8	NW	.5	8	Ci.-S.	Cu.-N. SE, NW	------	
3	57.62	27.3	34.1	23.9	83.8	SE	.2	7.2	Ci. NW	Cu.-N. SE, NW	8.4	[⚡ ⌒ p.
4	56.45	25.9	33.1	23.2	88.5	SE	.3	8	A.-Cu. W	N. SE	10.4	d a. [⚡ p.
5	55.88	26.6	33.8	23.1	85.3	SE	.7	7	Ci. NW	Cu. NNW, S	17	[⚡ p.
6	56.57	26.6	33	23.1	85.3	NW	.2	7.2	Ci. N	Cu. SE	------	
7	57.94	26.6	30.8	23.1	84.7	SW	.5	8.5	Ci.-S.	Cu.-N. S, SW	------	○² ⚡ p.
8	58.31	29.2	34	24.1	77.6	SE	.2	6.8	Ci.	Cu. S, SE	------	Ω a. ◡ ⚡ p.
9	57.84	29.3	35.1	24	76	Variable	1	3.5	Ci. SE	Cu.-N. SW	------	
10	57.77	28.6	35.7	25.2	76.2	SE	1	6	Ci. NE	Fr.-Cu. S	------	⚡ p.
11	58.73	28.9	35.6	25.3	76.8	Variable	1.2	7	Ci.	Cu. SW, SE	------	┼ ⚡ p.
12	58.99	------	------	------	------	------	------	------	------	------	------	
13	59.16	30.1	36.1	25	71.7	SE	.5	5.5	Ci.	Cu. SE	------	⊤ p.
14	59.48	30.4	36.1	25.2	65.9	SE, ESE	.3	3.8	Ci. SW	Cu.	------	
15	59.35	29.6	36	24.2	69.5	Variable	.7	2.2	Ci.	Cu., Cu.-N.	------	Ω a. ⊤ ⚡ p.
16	59.28	29.4	35.9	23.5	69.8	SE	1	6.8	Ci.	Cu. SE, S	------	⊤ p.
17	58.88	29.2	35.5	22.6	67.7	S, SE	1	5.8	Ci. N, NW	Cu.	------	
18	57.48	29	36	24	74.3	SE	.7	4.8	Ci.	Variable	5.1	Ω a. [⚡ p.
19	56.19	29.9	36.6	25.1	70.7	NW	.7	6	Ci.	Cu. N, SE	------	○° p.
20	55.82	29.1	35.5	24	71.7	NW	.5	8.2	Ci. SE	Cu. N	------	○° ⚡ p.
21	56.83	28.7	36.4	24.5	70.9	SSE	.8	7.2	Ci.	Variable	------	┼ p.
22	57.98	28.7	35.7	23.1	71.8	Variable	.8	7.8	Ci.-S.	Variable	------	○° d ⊤ p.
23	56.60	30	36.5	23.2	66.8	SE	1.2	6	Ci. NE	Fr.-Cu., Cu.-N.	8.1	[⚡² p.
24	56.36	28.6	35.4	24.1	79	S, W	.5	6	Ci.	Cu. S, SE	5.1	d a. [⚡ p.
25	56.19	29.2	35.4	24.6	73.8	Variable	1.2	6.5	Ci.	Fr.-Cu. S	------	[⚡° p.
26	56.67	29.2	35.4	24.1	73	S, SW	.3	7	Ci.	Cu. E	------	Ω a. [⚡° p.
27	57.53	26	28	24.5	91.5	SE	.5	9.5	------	N. SE	10.4	● a. d ⚡ p.
28	57.61	26.9	31.8	23.6	84.2	S, SSE	.5	7	Ci.-S. SE	Cu.-N. SE, S	3.3	●° a. [⚡° p. ○²
29	56.81	28.1	35.7	23.2	77.8	S	.7	3.2	Ci. SE	Cu. S	5.3	[⚡ p.
30	57.90	27.8	34.3	23.6	81.5	SW	.2	6	Ci. SE	Cu. E, SE	2.5	Ω a. [⚡° p.
Mean	757.63	28.4	34.5	24	77.2	------	.6	6.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	91.3	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	759.36	25.6	27.7	23.4	93	SW, NE	6.1	10	Ci.-S., A.-Cu.	N. SW	27.9	● ⚡ p.
2	59.04	26.4	29.9	23.9	90.1	Variable	6.6	9	Ci.-S. W	S.-Cu. SW, W	------	
3	58.08	26.5	30.8	24	90.2	S	8.1	9.2	A.-Cu. W	S.-Cu. S, W	------	⊤ ⚡ p.
4	56.61	25.6	30.5	23.4	91.8	S, E	8.8	7	A.-Cu. W	Variable	8.4	[⚡ p.
5	55.96	26.8	32.4	24.4	90.8	S	9.7?	9.5	A.-Cu. W	S.-Cu. SW, W	30.5	[⚡ p.
6	55.87	26.6	31.4	23.6	89	SW, S	9.8	8.2	Ci.-S. E	Variable	2.8	[⚡ p.
7	58.20	26.8	30.5	23.5	89.1	S, E	8.6	9.2	Ci.-S. E	S.-Cu.	------	┼ ⚡ p.
8	58.75	28.3	32.1	24.5	86.5	Variable	7.8	5.8	Ci. E	Cu.-N. S	------	┼ ⚡ ◡ p.
9	58.53	28.6	33	25	83.5	SW, N	8.9	2	Ci.	Cu.-N.	------	⊤° ⚡ p.
10	58.31	28.1	33.1	24.8	85.7	Variable	8	4.5	Ci.	Cu.-N. S, N	4.1	[⚡ a. p. ⌒
11	59.32	28.3	33.6	25	87.2	Variable	8.1	8	Ci.-S., Ci. E	Cu.-N. S, N	------	○ ⊤ ⚡ ⌒
12	59.65	29.2	34	24.5	81.7	Variable	10.9	.5	Ci. E	Cu. S	------	
13	59.67	29.5	33.6	25.4	81.5	Variable	8.1	6	Ci. SSE, N	Cu.-N. S	------	⚡ p.
14	59.82	29.3	33.5	25.7	81.7	S, NE	10.4	1.8	Ci. NE	Cu.-N.	------	
15	59.85	28.3	34.1	24.6	82.2	Variable	------	.5	------	Cu.-N.	7.4	Ω a. [⚡ p.
16	59.64	28.3	33.1	23.6	81.5	SW, S	11	3.8	Ci. NE	Cu.-N. S	------	⚡ p.
17	58.86	28.4	32.9	24.8	80.7	S	10	4.5	Ci. E	------	------	⚡ p.
18	58.07	28.7	33.1	24	81	S, E	9.3	.2	------	Cu.-N.	------	⚡ p.
19	57	28.6	33.1	24.5	80.2	S, NE	12.4	7	Ci.-S., Ci. E	Cu. S	------	⚡ p.
20	56.34	28	32	24.4	85.7	N, NE	7.8	8.8	Ci. E	Cu.-N.	------	○ ⚡ p.
21	57.36	27.7	33	23.5	86.3	Variable	8.8?	5.2	Ci.-S. SW	Cu.-N. S	4.1	[⚡ ↙ ●° p.
22	58.30	27.6	33.5	23.5	84.2	Variable	10.3	5.2	Ci. E	Cu.-N. S by E	.8	┼° ⌒ p ⚡ p.
23	57.31	28.2	33.2	23.8	83	Variable	12.3	5.5	Ci. E	Cu.-N. S	------	┼ ⚡ p.
24	56.69	28.5	34	24	82.4	Variable	10.1	5.5	Ci. E	Cu.-N. S, N	------	┼ ⚡ p.
25	56.69	28.9	33.5	25	80.5	S, N	11.5	6.5	Ci.	Variable	------	⊤ ⚡ p.
26	57.19	28.8	34.1	24.7	80.7	Variable	10.8	4.2	Ci. E	Cu.-N. S	------	○ ⚡ p.
27	58.80	26.2	30	23.4	88	S, SE	10.4	9.8	A.-Cu.	N. SE	13.2	● ⌒
28	57.91	27.1	31.6	23.5	87.9	S	10.3	9	A.-Cu. E	S.-Cu. E	.5	d ⌒ ⚡ ⊤°
29	58.25	28.1	33.4	22.5	82.2	SW, S	10.3	1	A.-Cu., Ci.	Cu.-N., S.-Cu.	------	⚡ p.
30	58.34	28.6	33.5	23.5	81.3	S, NE	9.2	4	Ci. E	Cu.-N. S	------	⊤ ⚡ p.
Mean	758.16	27.9	32.5	24.1	85	------	9.5	5.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	99.7	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	23.8	97	73	10	7	29.2	☈ ●² a.
2	30.8	23.6	97	77	10	8	7.9	● ⊤ d a.
3	31	23.4	97	76	8	9	------	○² p.
4	31.1	23.9	96	78	9	9	------	⊕ p.
5	32.3	23.1	95	72	6	7	------	Ω° a. ⊤ ⊕ p.
6	31	23.4	97	80	6	10	------	Ω a. ◡² p.
7	31.5	24.3	90	89	8	9	3.3	Ω° ● a. d p.
8	30.7	22.9	96	87	7	9	6.4	Ω ● ⊤ a.
9	31.6	22.2	96	74	6	8	------	⚡ Ω² a. ☈ p.
10	31.4	22.6	96	81	6	8	------	Ω d a. ☈ p.
11	31.8	22.6	96	73	5	9	1	Ω² ● a. ⊤ p.
12	31.9	23	96	79	4	6	30.5	Ω a. ● ☈ p.
13	28.5	23.5	97	90	10	10	22.6	● a. p. ⊤ p.
14	30.3	23.3	94	80	9	9	12.7	● ◡ p.
15	31.2	23.4	97	70	10	9	------	d a.
16	31	22.7	96	86	4	9	------	☈ p.
17	31.1	22.8	98	74	4	7	1	Ω ● a.
18	31.3	22.6	97	68	6	8	2.3	Ω a. ● p.
19	30.8	22.6	96	73	8	9	------	☈ p.
20	32.1	22.6	97	76	7	9	------	Ω a. ⚡ p.
21	31.8	22.8	97	71	9	9	2.8	● a.
22	29	23	95	71	8	9	4.3	Ω a. ↙° ● p.
23	31	23.3	95	78	10	8	7.6	● a. p.
24	30	23.4	97	68	9	8	2.3	↙° ● a.
25	32.3	23.3	93	75	6	7	------	Ω a. d p.
26	31.7	24.7	96	68	9	6	------	⚡ p.
27	31.8	24.5	96	79	7	8	1	Ω a. ↙° ●° ⚡ p.
28	31.2	24.3	96	79	7	8	------	Ω a. d p.
29	32.7	23.2	97	66	6	7	.8	Ω a. ●° p.
30	31.6	22.2	93	70	6	6	------	Ω a.
Mean	31.2	23.2	95.9	76	7.3	8.2	------	
Total	------	------	------	------	------	------	135.7	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	23	97	78	------	------	9.1	d a. ● p.
2	------	23	97	71	------	------	1.5	d a.
3	------	23	96	85	------	------	------	Ω° a.
4	------	23	100	87	------	------	.8	≡° Ω a. d ⊤ p.
5	------	23	96	81	------	------	------	Ω a. ↙° p.
6	------	23.2	97	74	------	------	------	≡° a.
7	------	22	96	88	------	------	1.5	Ω a. d ⊤ ⚡ p.
8	------	22	98	88	------	------	16.8	Ω ≡° d a. ● d
9	------	22	96	75	------	------	------	≡° Ω a.
10	------	22	96	85	------	------	7.4	≡° Ω a. ● d p.
11	------	22.5	96	76	------	------	------	≡° Ω a.
12	------	22.5	96	81	------	------	4.6	d ☈ p.
13	------	22	100	76	------	------	44.4	d ● a. p.
14	------	22.3	96	75	------	------	47	d a. ● p.
15	------	22	96	78	------	------	1.3	d a.
16	------	22.6	96	78	------	------	------	Ω a.
17	------	22.1	96	92	------	------	6.1	≡° Ω a. d p p.
18	------	22	98	88	------	------	2	d a. p p.
19	------	22	98	84	------	------	------	≡° a.
20	------	21.8	96	65	------	------	5.1	Ω d a.
21	------	22	96	77	------	------	------	Ω° a.
22	------	23	96	66	------	------	15.2	Ω ● a. ● p.
23	------	22	96	76	------	------	6.9	d a. ↙° ● p.
24	------	22	96	85	------	------	.5	Ω a. ↙° ●° p.
25	------	22	95	64	------	------	.8	d a. p.
26	------	23.4	98	79	------	------	------	⊤° a. d p.
27	------	22	96	75	------	------	------	⊤ p.
28	------	22.5	96	76	------	------	------	Ω a.
29	------	22.5	96	74	------	------	------	Ω a.
30	------	22.5	96	75	------	------	------	Ω a. ⊤° p.
Mean	------	22.4	96.6	78.4	------	------	------	
Total	------	------	------	------	------	------	171	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	24.4	92	87	9	8	(1)	● p.
2	30	23.5	85	76	4	3	------	
3	29.2	24.1	87	80	8	10	------	
4	29.1	24	84	77	7	8	------	
5	29	23	86	80	4	9	------	
6	29	23.9	88	82	6	9	------	
7	31.6	23.3	90	64	5	6	------	
8	30	23	91	62	7	6	------	
9	30.6	22.5	90	71	3	8	------	
10	31.1	23.4	89	67	9	9	------	
11	28.5	24	83	89	8	9	------	☈ p.
12	30	23.5	87	76	6	9	------	☈ p.
13	26	22.9	85	90	3	10	------	d p.
14	30.1	23.5	91	75	5	9	------	
15	29	23.4	86	76	10	5	------	●° a.
16	30	22.5	85	74	3	9	------	
17	29	23.4	85	75	4	10	------	● p.
18	27.7	23.5	91	84	9	9	------	● p.
19	28.9	23	86	79	5	9	------	⊤° p.
20	30.5	22.5	88	71	3	5	------	
21	29	23.6	89	72	7	9	------	⊤° p.
22	28.1	24.8	83	73	10	9	------	● p.
23	28.8	21.9	88	74	10	7	------	● p.
24	28.9	22.8	84	77	6	10	------	● p.
25	29	22.5	86	79	7	7	------	● a.
26	28	21.8	83	74	10	8	------	● a.
27	29	23.4	87	76	5	9	------	
28	29.1	23.5	90	75	4	9	------	
29	29.5	23	92	77	10	9	------	d p.
30	29	22.9	83	79	4	9	------	
Mean	29.2	23.2	87.1	76.4	6.4	8.2	------	
Total	------	------	------	------	------	------	------	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.1	22.1	97	63	6	7	------	
2	34.2	22.2	97	67	5	7	------	
3	33.6	23	97	67	6	6	------	≡ a.
4	33.1	22.6	93	65	7	6	------	⊤ a. ⚡ p.
5	32.9	22.3	99	65	5	7	------	
6	31.8	23	97	72	6	8	41.1	● a. p.
7	32.1	22.4	97	74	6	5	------	
8	33.2	23.1	95	71	6	7	------	≡ a.
9	32.3	23.1	98	74	5	5	43.7	● p.
10	33.1	23.3	98	69	7	6	------	
11	33.6	22.6	94	70	8	7	------	
12	32.5	23	97	65	5	6	------	⊤ p.
13	33.3	22.3	97	69	7	6	------	
14	33.7	22.6	90	68	5	7	------	☈ p.
15	33.9	22	92	68	5	6	------	
16	30.3	22.5	99	78	6	9	22.4	● p.
17	31.5	22.9	97	74	7	8	14.5	● p.
18	32.3	22	98	65	5	7	------	
19	33.1	22.3	96	65	6	7	------	
20	33.7	21.9	98	68	6	5	------	≡ a.
21	31.4	22.6	99	72	7	7	------	⊤ p.
22	32.1	22.2	92	71	6	6	------	
23	32.2	22.3	97	67	5	7	------	⚡ p.
24	31.7	22.4	96	78	6	9	19.3	● p.
25	29.7	21.9	97	79	8	9	35.3	● p.
26	31.9	22.3	96	70	5	7	------	
27	33.5	22.1	95	68	7	6	------	⊤ p.
28	33.7	22	97	69	5	7	------	
29	34	22.4	97	67	6	5	17	● p.
30	33.6	22.3	98	71	7	6	------	
Mean	32.7	22.5	96.3	69.7	6	6.7	------	
Total	------	------	------	------	------	------	193.3	

[1] No rain-gauge.

METEOROLOGICAL DATA, ETC.—Continued.

DAPITAN.

[$\phi=8°\ 40'$ N; $\lambda=123°\ 25'$ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.8	25.1	96	64	9	6	6.6	● a. p. ☈ p.
2	33.8	22.3	97	66	7	2	------	≡ a.
3	34.5	24.8	96	63	10	6	------	☇ p.
4	33.4	24.4	97	68	6	8	3.8	● ○ a. ↙° d ☇
5	33.7	23.9	97	75	10	9	------	○ p.
6	33.9	23.8	96	66	9	8	56.6	● a. ●² ☇ p.
7	33.8	22.8	97	62	10	6	------	≡² a. ☇ p.
8	34.3	23.6	97	61	9	5	1.8	● ⊕ a. ⊖ ☇ p.
9	33.8	23.6	95	69	9	7	------	⌓ a. ⌒ p.
10	33.4	24	97	70	9	8	1.5	● a.
11	30.6	22.9	96	83	9	9	3.8	⌓ ● a. ○ p.
12	33.6	24.1	97	69	8	7	116.3	●² ☈ a. p.
13	33.7	24	99	69	8	9	------	☇ ⊍ p.
14	33.6	23.6	91	75	10	10	26.2	● ☈ p.
15	33.4	22.8	96	67	10	8	5.1	⌒ ● ☈ p.
16	31.3	23	95	75	10	10	?	≡ ● a. ☇ d p.
17	32.8	23.5	97	88	10	10	2.8	● p.
18	31.6	22.2	97	76	5	8	------	⌓ a. ☇ ●° p.
19	28.9	22	95	79	10	10	30	● a. p. ↙° p.
20	31.8	22.2	98	75	9	8	12.7	↙° ● a. p.
21	32.1	23.3	96	64	10	8	2.5	● a. ☇ p.
22	33.7	23.2	97	68	9	7	------	☇ p.
23	33.3	23.1	95	71	9	8	?	⌒ ● ☇ p.
24	32.6	22.5	96	64	9	8	3.3	● ☇ p.
25	32.2	22.6	97	72	9	8	1.8	● a. ☇ ↙° ● p.
26	32.8	22.5	96	64	10	7	26.2	● a. ☇ p.
27	33.4	22.3	96	63	6	6	------	⌓ a. ☇ p.
28	33.4	22.9	97	65	4	5	3.6	● a.
29	30.1	23	97	70	10	10	3	● a. ○ p.
30	33.8	22	96	64	8	3	------	☇ p.
Mean	32.9	23.2	96.3	69.5	8.7	7.5	------	
Total	------	------	------	------	------	------	307.6[1]	

BUTUAN.

[$\phi=8°\ 56'$ N; $\lambda=125°\ 32'$ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35	23.7	89	78	6	7	------	⌓ a. d p.
2	34.6	23.2	93	86	9	10	2.5	∞ a. ● ⊤ p.
3	33.2	23.4	97	61	10	7	------	⌓ ∞ a. ☈ p.
4	32.6	24.6	92	63	6	3	12.2	⌓ a. ● ☈ p.
5	31.1	23.9	92	69	10	9	1.5	⌓ a. ⊕ ● p.
6	31.6	23.4	91	69	7	9	5.3	⌓ ⊕ a. ● p.
7	34.3	23.7	93	68	9	5	------	d a.
8	35.6	23.3	94	64	1	6	2.5	⌓ a. ● ☈ p.
9	33.3	23.5	96	78	2	9	------	p° a. ⊤ p.
10	32.6	23.7	96	57	7	7	------	⌓ p° a. ⊤ p.
11	33.7	24.1	91	87	8	8	12.2	↙° a. ● ☈ p.
12	32.7	24.4	93	83	4	8	1.8	↙° p a. ⊍ p.
13	32.9	24.3	95	70	8	9	16.5	⌓ p° a. ⊤ ●² p.
14	30.5	22.8	96	91	7	10	14	● a. p.
15	32.6	23	96	91	7	9	33.8	↙° ● p.
16	31.5	23.5	99	78	9	8	------	≡² a.
17	32.2	24.1	94	82	7	7	4.6	● a. p.
18	31.5	23.6	95	67	3	7	.3	⌒ ●° p.
19	30.6	24.1	95	70	7	8	------	⌓ a. p° p.
20	32.4	24.1	95	57	10	7	------	⌓ a. ○ ⊤ p.
21	30.7	23.7	93	73	10	9	------	⊤ p° p.
22	31.6	23.8	93	68	9	9	------	
23	31.5	23	93	71	8	8	.8	● a.
24	30.8	23.4	96	86	9	10	6.1	∞ a. ● p.
25	29.1	23.3	97	75	10	9	11.4	● a. p.
26	30.8	23.3	97	63	7	6	1.3	⌓ a. ⊤ ● p.
27	32.1	23.4	94	72	7	9	1.5	● p.
28	30	22.8	97	75	9	8	------	
29	27.6	22.6	97	75	10	8	16	● a.
30	34.8	23.1	95	58	2	5	4.8	● d p.
Mean	32.1	23.6	94.5	72.8	7.3	7.8	------	
Total	------	------	------	------	------	------	149.1	

YAP (Western Carolines).

[$\phi=9°\ 29'$ N; $\lambda=138°\ 08'$ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.1	24.5	96	------	10	9	12.2	
2	28	23	88	------	9	10	50.8	
3	33.5	22.2	96	75	8	7	24.9	
4	32	23.3	92	75	6	5	------	
5	33.4	24.6	93	------	5	9	45.7	
6	31.5	23.1	91	73	6	4	.5	
7	32	22.4	80	72	3	4	------	
8	31	23.6	94	73	6	9	2	
9	31	23.5	93	71	6	6	11.4	
10	30.4	23.2	95	------	9	8	2.5	
11	30.9	22.5	89	73	6	7	------	
12	30.5	24	87	71	6	5	3.8	
13	30.5	23.5	88	76	6	5	1	
14	30	24	90	89	10	10	10.2	
15	28.5	23	84	81	10	10	17.8	
16	30.1	23	96	91	10	9	19	
17	31.5	22.3	95	81	8	6	------	
18	32	23.1	90	78	6	4	------	
19	30.5	25.2	91	74	8	4	4.8	
20	30.5	23.2	92	75	5	6	2.3	
21	30.4	22.8	91	83	7	8	11.7	
22	28.3	22.6	89	81	4	8	2.5	
23	29.8	22.7	------	74	8	6	2.3	
24	28.1	22.5	87	85	7	9	17.8	
25	29.1	22.5	92	80	5	10	15.2	
26	33.3	24.9	90	------	6	10	3.8	
27	32.2	23	95	75	8	4	7.6	
28	29.3	22.8	86	84	7	8	6.4	
29	31.5	23.2	83	88	4	10	38.1	
30	32.8	23.2	92	77	4	5	1.3	
Mean	30.8	23.2	90.5	78.2	6.8	7.2	------	
Total	------	------	------	------	------	------	315.6	

MAASIN.

[$\phi=10°\ 08'$ N; $\lambda=124°\ 50'$ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	24.3	91	77	10	9	------	d ☈ p.
2	31.7	24.5	89	79	7	8	------	d ☈ p.
3	32.9	23.3	92	74	10	10	6.1	● ☈ a. ☇ p.
4	32	24.6	93	81	6	7	58.2	☈ d ↙° ●² p.
5	32.5	23.3	96	80	10	9	6.6	↙° ●° p.
6	30.5	24.3	91	78	10	9	41.7	d ⌒² ☈ ↙° ●² p.
7	30	23.4	92	78	8	10	------	⊖ ☇ ⊍ p.
8	31.2	23.4	92	79	3	2	------	☇ ⊖ ⊍ p.
9	32.6	24.5	91	80	6	8	------	☇ ⊍ ⊖ p.
10	30.8	24	90	69	10	8	------	
11	31.5	24	88	80	10	10	------	☈ ⊖ ⊍ p.
12	32	24.5	96	74	10	8	------	⊤ a. ☇ ⊍ ⊖ p.
13	31.6	24.7	87	64	10	8	------	☇ ⊍ ⊖ p.
14	31.8	25	92	74	10	10	------	d a. ↙° ☇ ⊍ ⊖
15	30.9	24.8	91	79	10	9	------	
16	31	23.4	94	77	10	10	------	↙° p.
17	32.6	23.5	92	77	7	8	------	
18	33	23.4	85	77	6	7	------	d ☈ p.
19	31.5	23.5	95	79	10	9	6.1	d ⌒ ≡² a.
20	31	25.5	88	83	10	10	------	
21	32	24	90	85	10	10	------	d a.
22	29.6	23.8	88	79	10	7	------	☈ p.
23	32.4	23	95	76	10	8	7.9	↙° ● ☈ ≡² a.
24	32.2	23.2	96	88	10	10	34	☈ ↙° ● p.
25	29	22.8	97	84	10	10	66	☇ ↙ ●² p.
26	29.5	22.8	96	81	10	10	2.5	↙ ☇ ● p.
27	32.4	23.8	94	76	10	10	6.4	↙° ● ☈ p.
28	30.1	22.6	95	72	10	8	35.8	≡² a. d ⌒ ☇ ●
29	30	23.3	95	83	10	10	6.6	d ≡² ⊤ a. d ☇
30	29	23	89	77	7	8	------	
Mean	31.3	23.8	92	78	9	8.7	------	
Total	------	------	------	------	------	------	277.9	

[1] 28 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

BACOLOD.

[ϕ=10° 41′ N; λ=122° 56′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	23.1	95	76	3	6	------	⌈↯ ↙° p.
2	32.6	24.1	93	70	8	6	------	⌈↯° p.
3	31.5	23.6	95	80	10	7	------	◯ a. ⌈↯ p.
4	32.3	24.1	92	72	5	6	1.3	⌈↯ ●° p.
5	32.1	24	92	71	10	5	------	◯^{2} a. ⌈↯ d° p.
6	32.1	24.8	94	81	6	8	------	↙° ⌈↯ d° p.
7	30.3	24	91	82	9	10	------	d° ↯ p.
8	32.7	22.5	92	72	6	7	------	≡° a. ↯ ⌓ p.
9	32.6	23.3	93	70	8	6	------	⊤° a. p. ↯ ◡ p.
10	31.6	23.8	94	82	5	7	------	⌈↯° a. ⌈↯ ⌓ p.
11	33.6	24	92	65	8	7	------	⌈↯ ⌓ p.
12	33	24	92	70	3	5	20.3	↙° ● ⌈↯ ⌓ p.
13	31.7	24.3	86	88	6	10	4.6	↙° ● ⊤ ↯ ⌓ p.
14	30.8	23.3	93	75	6	7	------	⊤ ⌒ d° p.
15	31.1	24.3	88	81	8	10	2	↙° ●° ⊤° ↯ p.
16	31.5	23.7	90	80	8	10	1	d. ⊤° ↯ p.
17	31.1	22.7	90	77	4	7	8.4	d° a. ↙° ● p.
18	30.3	23.8	97	88	7	7	66.8	●° a. p. ⌈↯ ●^{2} p.
19	29.5	23.5	95	81	10	8	.5	d ⊤° a.
20	30.6	23	97	78	9	7	7.6	● a. ↯ p.
21	30.3	23.8	94	77	8	7	------	⌈↯ d° p.
22	30	23.3	95	82	9	7	25.9	●^{2} ⌈↯ p.
23	31.3	22	97	79	9	7	3	⊤° ●° ↯ p.
24	31.1	21.8	94	70	7	6	7.4	↙° ● ↯ ⊤ p.
25	31	23.3	96	75	7	7	45.7	◯^{2} a. ↙ ● ↯ ⊤°
26	28.5	22.7	97	87	10	10	8.4	● a.
27	29.5	23.4	94	80	10	8	3	●° a. ⊤° ↯ p.
28	31	23.8	93	79	9	8	34.5	⊤ ● ↯ p.
29	29.1	22.2	96	79	10	10	6.6	●° a. d° p.
30	30.7	21.5	94	69	4	4	------	↯ p.
Mean	31.2	23.4	93.4	77.2	7.4	7.3	------	
Total	------	------	------	------	------	------	247	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	23.7	89	79	2	7	------	⌈↯ a. ↯ p.
2	32	23.9	86	72	10	4	1	●° ↯ p.
3	31.8	23.8	91	77	10	10	------	↯ p.
4	32	23.9	89	75	10	10	3.3	⊤ ↯ ● p.
5	31.6	23.9	90	72	10	5	------	p° ↯ ⌓ p.
6	31.6	23.9	87	90	4	10	4.6	●° a. p. ⊤° v p.
7	29.5	23.7	89	94	10	10	31.2	d a. ● p.
8	31	22.6	91	72	3	3	------	↯ ⌓ p.
9	31	24.1	94	76	10	10	3,6	● ⊤ a. ◡ ↯ p.
10	30.9	24.4	92	78	4	10	------	♎ ⌈↯ a. ↯ ◡ p.
11	32	24.2	90	74	10	10	------	↯ ⌓ p.
12	32.9	23.9	96	68	4	7	------	⌈↯ p.
13	31.6	24.2	89	90	4	10	26.9	⌈↯ ● p.
14	30	23.4	90	75	10	10	1	●° ⌈↯ p.
15	31.4	23.4	93	86	10	10	16.3	⌈↯ ● p.
16	31.4	24.2	92	89	10	10	10.4	● ⊤ p.
17	31.7	22.8	95	69	2	7	4.6	♎ a. ●° ⌈↯ p.
18	29.5	23.8	92	86	10	10	1.8	⊤ ●° a. ⊕ ↯ p.
19	28.1	23.6	90	85	10	10	4.3	d ● a. d ↯ p.
20	31	23	97	78	10	10	13.2	● a. ↯ ⊤ p.
21	31	22.7	96	69	10	8	112.3	● a. ⊕ d. ↯ ● p.
22	30	23	96	73	10	10	5.1	● a. ↯ p.
23	30.5	23.8	96	75	10	7	6.1	● a. ↯ p° p.
24	30.9	23.3	86	72	10	8	------	↯ d p.
25	30.8	22.5	93	74	10	7	107.7	● a. p. ⊤ p.
26	28.9	23	96	80	10	10	18.3	d a. ● p.
27	25.7	23	96	93	10	10	11.9	●° a. p.
28	30.5	22.8	96	73	10	10	3.3	●° p.
29	30.5	22.8	88	86	10	10	10.2	●° ⊤° p.
30	30.1	22.6	91	75	10	2	------	↯ p.
Mean	30.7	23.5	91.9	78.5	8.4	8.5	------	
Total	------	------	------	------	------	------	397.1	

TUBURAN.

[ϕ=10° 45′ N; λ=123° 50′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	24	94	74	6	8	7.4	● ⊤^{2} ⌒^{2} d p.
2	32.2	23.8	92	73	8	9	------	⊤^{2} d ↯^{2} p.
3	31.5	24.7	94	74	10	9	5.1	●° a. ◯° ↯^{2} p.
4	32.2	24	92	68	7	5	36.1	⊤ a. ●^{2} ⌈↯^{2} p.
5	32.4	23.8	93	61	10	5	2.5	⊤° a. ⌈↯^{2} ●° p.
6	32.1	24.1	95	66	9	8	7.6	◯^{2} a. ● p.
7	30.1	23.5	94	82	10	9	2.5	⌒ a. ● ⌓^{2} p.
8	31.6	23.6	92	73	9	7	------	⌈↯ ⌒ a. ↯^{2} p.
9	32.1	24	90	70	9	8	------	⌒ a. ⊕^{2} d ◡ ⌈↯
10	31.8	23.9	92	71	4	9	------	d° ◡^{2} ↯^{2} p.
11	32.1	23.9	92	68	9	8	------	⌒ a. ↯^{2} ◡^{2} p.
12	34.4	23.9	94	52	5	8	------	◯° ↯^{2} p.
13	33.7	24	92	57	9	8	7.4	⌒ ●° a. ↯^{2} ◡^{2} ●°
14	32.5	24.2	94	67	10	9	2	⊤ ●° p.
15	29.9	23.8	95	83	10	10	11.9	⌈↯^{2} ●^{2} p.
16	30.5	23.7	96	67	9	10	------	↙° a. ◯^{2} p.
17	31.1	22.9	96	70	7	5	------	d ↯^{2} p.
18	31.3	23.4	93	72	9	8	40.1	●° a. ⌒^{2} ●^{2} ⌈↯ p.
19	31.1	23.8	95	67	10	8	------	⌒ a. ◯° ↯ p.
20	31.6	23.9	88	75	10	10	------	◯^{2} a. ↙° ⊤^{2} p.
21	30.9	23.2	91	74	10	9	4.3	⊤^{2} ●° ↯^{2} p.
22	30.5	23.2	93	73	10	7	6.4	d ● p.
23	30.6	23.1	95	79	10	9	------	d ↯^{2} p.
24	30.6	22.9	94	69	9	9	6.4	◯^{2} ● ⌈↯ p.
25	31.1	23.6	95	66	9	9	------	◯^{2} d ⊤° ↯^{2} p.
26	30.6	22.7	95	68	10	9	14.5	●^{2} a. ◯^{2} ↯ d p.
27	31.1	23.6	91	66	10	9	21.6	●^{2} ⌈↯^{2} p.
28	30.1	22.6	95	73	10	9	------	◯^{2} a. ⌈↯ ↙° ●° p.
29	28.7	22.3	96	91	10	10	105.4	●^{2} d a. ● ⊤° p.
30	31	21.7	95	70	3	8	------	⊤° ●° ↯^{2} p.
Mean	31.4	23.5	93.4	70.6	8.7	8.3	------	
Total	------	------	------	------	------	------	281.2	

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.7	------	92	66	2	2	------	
2	31.8	------	91	72	7	2	1	
3	32.2	------	88	74	7	4	.3	
4	31.7	------	83	73	4	3	------	
5	31.3	------	82	72	9	5	------	
6	31.7	------	89	68	6	7	4.8	d a. ↯ p.
7	29.4	------	93	77	10	3	8.1	
8	30.5	------	94	70	6	5	------	
9	31.2	------	89	77	4	8	8.1	● a.
10	31.6	------	93	73	5	4	------	
11	32.1	------	93	75	4	3	1.5	
12	32.5	------	92	72	6	3	------	⊤ a. ↯ p.
13	31.3	------	91	78	8	8	------	⊤ a. ↯ p.
14	31.8	------	93	69	4	7	------	
15	30.5	------	91	81	9	7	.8	d a.
16	31.8	------	92	83	6	9	1.3	d a.
17	30.5	------	93	78	7	7	8.1	⌒ a.
18	30.4	------	93	79	9	8	13.2	● a.
19	30.3	------	87	84	10	9	1.3	
20	29.8	------	90	78	8	7	------	
21	29.8	------	81	73	9	8	24.4	d a. ● p.
22	30.8	------	92	73	10	7	------	
23	30.5	------	86	70	6	2	------	
24	30.4	------	80	74	6	5	.8	
25	31.5	------	89	75	9	7	39.9	
26	31.4	------	91	78	10	5	54.1	
27	------	------	94	93	10	10	42.2	● a. ●° p.
28	29.7	------	95	81	8	8	------	
29	------	------	93	76	6	7	.8	
30	28.9	------	94	83	9	5	5.1	● a.
Mean	31	------	90.1	75.8	7.1	5.8	------	
Total	------	------	------	------	------	------	215.8	

METEOROLOGICAL DATA, ETC.—Continued.

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	23.8	96	72	8	8	4.6	≡ ●° a. ϟ ● p.
2	32	23.3	97	74	4	5	30.5	≡ ⌓ a. ⊤ ●² p.
3	31.9	22.5	96	74	6	9	1.8	≡ ●° ○ a. ⛈ p.
4	33.1	23.3	96	77	7	8	14	≡ ⌓ ○ a. ⛈ ● p.
5	31.6	22.7	96	77	10	7	14.2	● a. ⛈ p.
6	32.3	22.3	96	68	10	5	5.3	≡ a. ⊤ ● ϟ p.
7	31.4	22.1	96	72	8	4	------	⌓ a. ϟ p.
8	32.3	23.2	96	73	5	7	------	⌓ a. ϟ p.
9	32.3	23.2	96	69	6	4	------	⌓ a. ϟ p.
10	31.8	23.1	97	72	5	9	10.4	⌓ ● ○ a. ϟ p.
11	32.2	23.2	97	72	8	6	2.5	≡ ⌓ ○ a.
12	31.6	23.9	93	77	9	8	41.1	● a. ●² p.
13	29.3	22.3	96	80	10	8	37.1	● ⛈ a. ● ϟ p.
14	25.9	23	97	93	10	10	29.2	● ⊤ a. ● ⊕ p.
15	31.2	22.8	98	78	10	10	24.9	● ○ a. ● ϟ p.
16	27.2	22.9	97	86	10	10	59.7	●² a. ● p.
17	31.3	22.5	98	72	8	9	21.3	≡ ● a. ϖ ● ϟ p.
18	31.4	23.4	97	71	10	4	27.7	●² ⊤ ○ ↙° ϖ ϟ
19	32.9	23.2	97	74	9	9	22.1	○ a. ● ⛈ p.
20	30.7	22.9	98	93	10	10	9.4	≡ ● ○ a. ⛈ p.
21	32.2	22.3	96	75	10	8	------	≡ ⌓ a. ϟ p.
22	32.4	23.5	96	69	4	7	6.9	⌓ ○ a. ● ⛈ p.
23	31.9	23.3	94	71	8	6	------	≡ ⌓ a. ⊤ p.
24	32	23.7	95	72	5	7	------	⌓ ○ a. ⛈ p.
25	31.8	22.1	95	80	8	10	1.8	∞ ○° a. ●° ϟ p.
26	31.3	22.2	97	84	9	10	50.3	≡ ⌓ ○° a. ●² ⛈
27	30.4	22.7	96	80	10	10	1	●° a. ⊤ p.
28	30.6	22.7	96	79	9	9	1.8	≡ ●° a. ⊤ ϟ p.
29	24.7	22.2	98	94	10	10	52.8	●² a. ● p.
30	32.3	20.5	98	67	2	7	------	≡ ⌓ a. ↙° ϟ p.
Mean	31.1	22.8	96.4	76.5	7.9	7.8	------	
Total	------	------	------	------	------	------	470.4	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	24.3	96	70	4	4	------	
2	32.8	24.6	96	69	4	5	------	
3	33.7	25.7	93	70	10	9	------	ϟ p.
4	33.2	25.8	86	63	7	4	7.9	● ⛈ p.
5	31.8	24.9	94	66	7	4	------	
6	33.7	25.8	86	58	4	6	------	ϖ a. ⛈ ↙° p.
7	31.7	23.2	94	76	10	8	24.6	● a. ○ ϟ p.
8	30.9	23.9	94	70	7	7	------	ϟ p.
9	32.7	24.4	94	73	6	5	------	
10	33.2	24.3	95	71	4	8	------	⌓ a. ϟ p.
11	34.7	24.9	86	59	9	3	.5	●° a.
12	33.9	26.3	79	73	3	3	4.6	p a. ↙° p.
13	33.9	27.9	85	78	8	8	2	p a.
14	34	27.5	80	75	6	4	5.3	⌒ a. ↙ ● ⊤ p.
15	34.3	24.6	94	58	9	6	------	⊤ a. ϟ p.
16	32	25.2	91	69	10	5	9.9	● a. ϟ p.
17	33.8	26.7	78	65	4	7	------	ϟ p.
18	32.8	25.8	84	65	7	3	26.2	⛈ ● p.
19	31.5	24.2	94	72	10	9	27.7	● a. p. ϟ p.
20	32.9	24.8	92	70	7	6	------	● a. ↙° p.
21	31.8	26.3	86	71	8	7	------	
22	31.3	25.6	83	70	9	9	.3	●° a. ϟ p.
23	33	25	85	71	6	6	.3	p a. ↙° p.
24	33.4	25.7	87	69	7	7	------	⛈ p.
25	34.7	24.7	92	66	10	9	7.1	● ⛈ p.
26	29.2	24.6	95	88	10	10	59.7	● a. p.
27	30.4	23.4	95	83	10	10	11.7	● a. p.
28	30.9	23.8	94	72	10	10	.8	
29	32.4	24.7	95	72	8	10	12.2	↙ ● ⛈ p.
30	29.9	23.9	91	76	10	5	28.4	●² a.
Mean	32.6	25.1	89.8	70.3	7.5	6.6	------	
Total	------	------	------	------	------	------	229.2	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	23.4	100	88	3	6	1	
2	31.4	23.1	100?	83	5	4	------	
3	31.7	23.5	100?	78	1	4	------	
4	33.1	23.7	99	74	3	3	13.7	●² p.
5	33.8	24.4	98	74	6	4	------	ϖ p.
6	33.9	23.4	99	83	4	6	35.6	●² p.
7	30.7	22.8	99	82	5	5	------	
8	32.2	23.5	99	77	1	2	1.5	● a.
9	30.1	23.4	99	80	2	4	1.8	
10	31.7	23.6	100	75	1	5	------	⊤ p.
11	31.6	23.5	98	79	2	5	------	
12	31.6	23.4	96	80	5	6	16	● ⌒ a.
13	30.2	24.5	99	81	8	9	1	⊤ a.
14	28.3	23.8	93	98	4	10	8.9	● a. p.
15	30.5	23	100	92	4	10	12.4	●² a.
16	27.9	23.1	92	84	8	6	11.2	● a. ●° p.
17	30.5	23.1	100	79	7	4	13.7	● p.
18	30.6	24.2	98	78	7	4	9.4	● p.
19	30.7	23.6	98	83	8	8	------	
20	30.8	23.5	96	96	6	9	15.2	● a. ●² ⊤ p.
21	31.1	23.7	98	77	5	7	46.2	●² p.
22	30.3	23.8	98	88	6	5	4.1	
23	30.4	22.9	98	90	8	6	.3	
24	31	24	99	76	8	4	------	
25	30.3	23.2	99	94	7	8	.8	●° p.
26	30.6	23.5	100	100	6	9	11.7	●² p.
27	30	23.3	98	83	4	7	.5	●° p.
28	29.8	24.5	98	83	8	7	23.4	● a. p.
29	24.8	22.9	96	100	9	10	52.3	● a. p.
30	30.1	22.6	99	83	2	8	2	● p.
Mean	30.7	23.5	98.2	83.9	5.1	6.2	------	
Total	------	------	------	------	------	------	282.7	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.4	22.8	98	57	5	4	------	⊤ p.
2	33.6	22.2	97	65	10	5	------	⛈ p.
3	32.6	23.4	89	72	10	10	2.5	⛈ p p.
4	34.5	22.4	97	60	6	5	2	d a. ⛈ ● p.
5	33	23.8	96	73	10	10	30.5	⛈ ● ↙° p.
6	32.5	21.4	97	87	6	10	3	↙° ●° ⛈ p.
7	32.6	23.7	94	63	5	6	------	⛈ d p.
8	33.7	22.4	96	63	2	4	------	
9	34	22.5	95	60	3	4	------	
10	34.3	23.5	93	61	2	2	------	ϟ p.
11	34.5	24.2	90	55	4	3	------	
12	32.8	23.5	97	61	9	6	19.8	● a. p.
13	33.9	23.9	91	75	10	10	40.6	⊤ ●² a.
14	33	22.3	96	73	5	10	36.8	● a. p. ⛈ p.
15	33	22.2	96	69	8	10	5.1	d ● p.
16	32.1	23.3	96	73	6	5	------	d p.
17	32.6	21.8	96	64	5	6	29.5	● ⌒ a. d ●² p.
18	32.7	23.2	94	79	8	8	19.1	↙° ● ϟ p.
19	32.5	23	97	64	10	9	------	ϟ p.
20	32	23.5	93	70	10	10	31.2	● a. ●² ⌒ ϟ p.
21	33.4	23.1	96	71	9	10	------	d ⛈ p.
22	33.2	22.5	98	65	10	5	------	ϟ p.
23	33.6	22.4	96	71	8	8	------	ϟ p.
24	33.4	23	98	66	8	7	------	
25	31.3	22.4	97	71	10	10	20.8	d ● p.
26	31.5	22.5	97	75	10	10	2	● a. d p.
27	31.5	22.2	97	76	8	10	------	d a. ϟ p.
28	31.5	22.1	97	77	10	10	------	
29	29.9	22.2	97	88	10	10	41.9	↙° ● a. p.
30	30.9	22	98	70	3	9	2.3	● a. d p.
Mean	32.8	22.8	95.6	69.1	7.3	7.5	------	
Total	------	------	------	------	------	------	287.1	

METEOROLOGICAL DATA, ETC.—Continued.

SUMAY, GUAM (Ladrones Islands).

[ϕ=13° 24′ N; λ=144° 38′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. et.	P. ct.	0–10.	0–10.	mm.	
1	29.7	23.4	88	74	5	5	12.4	● a.
2	29	26.3	90	88	8	9	8.9	
3	29.6	25.6	84	71	1	3	4.6	
4	30	24.7	84	71	5	4	------	
5	29.7	23.9	85	75	5	5	.5	● p.
6	30.2	25.7	92	71	2	3	.3	
7	30.6	26	92	72	4	3	.5	
8	30.3	24.7	86	72	1	4	1.5	
9	30.5	26.3	84	75	1	4	.3	
10	30.4	24.6	91	88	9	5	3.3	● a. p.
11	30.6	23.8	92	70	3	5	5.3	● a.
12	29	24.9	87	85	9	8	.3	● a.
13	30.3	26.2	83	70	5	5	1.5	
14	29.9	26.6	82	81	2	6	.3	
15	29.6	25.4	87	81	7	8	.3	● a. p.
16	28.3	23.9	83	92	10	10	9.4	ϟ ● a.
17	28.8	23.3	95	85	9	7	6.4	● a.
18	30.1	25.8	84	74	5	6	9.9	● ⌒ p.
19	30	23.7	84	73	2	5	------	
20	29.8	24.6	88	75	8	6	.3	
21	30.3	27.1	85	71	3	5	.3	
22	30	26	90	79	9	7	34.5	↙° ● a.
23	27.1	23.7	97	84	10	9	------	
24	29.2	24.2	91	78	6	5	.8	⌒ a.
25	30.7	24.2	92	89	6	7	6.1	⌒ ● a. ϟ p.
26	29.5	24.4	89	74	3	4	------	
27	29.9	25.7	86	75	4	6	1.3	● a.
28	30	23.8	90	77	9	7	10.4	
29	30.4	25.9	85	77	3	4	3	
30	30.1	25.1	90	80	9	2	2	● ☈ a. ϟ p.
Mean	29.8	25	87.9	77.6	5.4	5.6	------	
Total	------	------	------	------	------	------	124.4	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	24.1	97	79	5	5	2	● ≡ a. ϟ p.
2	32.8	24.2	95	75	8	8	?	≡ a. ⊤ ○ ϟ ● p.
3	32.3	23.6	92	79	9	9	.5	☈ ● p.
4	34.6	------	95	60	5	4	48.3	● ☈ p.
5	31.7	------	97	72	9	9	.8	d a. ● ⌒ ϖ ϟ p.
6	32.1	------	95	77	3	7	1.8	≡ ☈ a. d ● p.
7	30.7	------	97	76	9	7	24.1	ϖ ψ ϟ ● p.
8	32.1	------	95	72	7	6	10.4	●^{2} a. ϖ ϟ p.
9	32.1	------	90	70	2	3	------	ϟ p.
10	31	------	96	75	8	3	4.1	● ⌒ ≡ a. ∞ ϟ
11	33	------	96	65	5	1	2.5	● a.
12	33.5	------	94	67	4	4	8.1	● a. p. ⌒ ↙° p.
13	32.3	------	96	86	9	8	3.6	⊤ a. ↙° ● a. p.
14	32.7	------	96	91	5	9	13.2	⌒^{2} a. ↙° ● p.
15	32.5	------	97	72	9	7	16.3	● a. p. ϟ ϖ ψ p.
16	31.6	------	96	80	4	6	10.7	⌒ a. ↙° ● a. p.
17	31.8	------	97	87	6	8	18.5	↙° ● a. p. ☈ p.
18	32.8	------	96	73	8	4	5.8	● a. ⌒^{2} d p.
19	32	------	96	85	4	7	.3	∞ d° a. d ϟ p.
20	33.2	------	94	74	9	7	.5	⊤ ϟ ● p.
21	33.2	------	96	76	9	8	------	○ ϟ p.
22	32	------	97	74	9	5	32.3	☈^{2} ●^{2} a. ϟ p.
23	31.8	------	94	76	7	7	26.7	● a. ⊕ ○ ϟ p.
24	31.4	23.5	94	72	8	5	------	ϟ p.
25	32.2	23.4	96	74	8	9	13.2	●° a. ϟ ↙° ●^{2} p.
26	32.2	24.4	98	83	10	10	2.5	● a. p. d p.
27	30.3	25.1	83	76	9	9	------	ϟ ●° p.
28	30.9	23.7	97	81	10	8	53.8	●^{2} ☈ a.
29	32	22.5	97	93	10	10	29	● a. p. d ⊤° p.
30	31.2	23.8	97	80	10	7	.8	●° ☈ d a. ∞ p.
Mean	32.1	23.8	95.2	76.7	7.3	6.7	------	
Total	------	------	------	------	------	------	329.8[1]	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.7	22.8	95	71	7	6	0.3	d a. ☈ p.
2	31.8	23.5	96	66	5	5	------	
3	31.3	23.2	97	74	7	8	------	○ ☈ p.
4	31.4	23.4	97	66	6	7	1	● a. ☈ p.
5	32	23.5	95	66	7	6	------	○ ☈ p.
6	32.7	22.9	97	60	4	6	------	
7	30.8	23.3	95	79	8	9	16.5	☈ d ● p.
8	33.2	22.7	97	58	6	5	------	⌒ a.
9	33.8	22.4	96	61	6	6	------	☈ p.
10	33	22.3	94	66	3	3	------	
11	34.3	22.3	93	55	2	6	------	☈ p.
12	35.1	22.2	95	56	7	3	------	⊤ d a.
13	34.2	22	95	83	4	7	1.3	☈ d ⌒ p.
14	33.8	21.7	87	56	5	5	------	☈ p.
15	34.8	23	93	49	5	5	------	
16	33.4	23.2	85	56	7	6	------	⊤ a.
17	34.6	23.6	92	51	4	5	------	
18	35	23.4	87	49	6	6	------	d° ⌒ a. ⊤ p.
19	34	23.1	87	57	7	7	------	☈ a. ○ p.
20	33.3	22.7	93	61	7	7	------	⊤ ϟ p.
21	32.8	24.2	89	65	7	9	------	☈ p.
22	31.6	22.9	91	82	7	7	3.8	● ☈ p.
23	32.2	21.6	96	68	2	6	------	⊤ a. ☈ ⌒ p.
24	33.3	21.4	97	58	3	6	------	
25	32	23	92	68	6	7	52.1	○ a. ☈ ●^{2} p.
26	31	21.4	98	79	7	9	13	d ⊤ ● p.
27	29.9	22.7	97	78	10	9	10.4	d a. ● a. p.
28	31.4	22.3	97	89	7	10	10.7	● p.
29	31.3	21.6	95	79	4	7	8.9	⊤ ⌒ ●° p.
30	27.7	22.8	97	86	10	10	4.1	● a.
Mean	32.6	22.7	93.8	66.4	5.9	6.6	------	
Total	------	------	------	------	------	------	122.1	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	20	98	64	3	9	------	d ⊤° p.
2	30.5	19.8	98	64	7	7	------	⊤ p.
3	30.6	19.6	98	63	5	6	------	Ω d a.
4	29.2	20.1	98	71	7	8	14.7	Ω a. ● p.
5	29.6	19	98	67	5	8	22.9	●^{2} a.
6	29	18.1	97	70	3	7	24.4	≡ a. ●^{2} p.
7	30.4	19.2	98	65	7	7	------	d a.
8	30.6	20.1	98	63	5	5	------	≡ a.
9	30.7	19.8	96	65	2	6	------	
10	30.9	19.8	97	64	5	7	------	ϟ p.
11	31.5	19.5	97	63	7	9	------	d p.
12	28.8	19.5	98	74	7	8	50.8	Ω a. ●^{2} ⊤^{2} p.
13	29.8	20.4	89	71	3	5	------	
14	30.2	19.2	97	62	6	8	------	Ω ≡ a. ⊤ p.
15	30.9	19.4	98	67	2	8	43.9	●^{2} ⊤ p.
16	29	20.2	98	70	7	5	------	Ω ≡ a. ϟ p.
17	29	19.5	98	70	6	8	5.8	Ω a. ● ⊤° p.
18	29.9	19.9	98	70	3	3	------	
19	29.1	19.7	97	71	5	6	13	● a.
20	29.5	20	97	70	7	8	27.9	●^{2} ⊤ p.
21	30.2	20.1	98	67	5	7	3.6	≡ a. ●° p.
22	30	19.9	98	68	3	6	------	⊤ ϟ p.
23	30.2	19.8	98	69	6	8	45	d a. ●^{2} p.
24	29.9	19.6	98	67	8	8	28.7	Ω a. ● ☈ p.
25	29.8	19.6	97	69	6	7	17.8	● ⊤ p.
26	29.1	19.3	98	71	5	8	20.8	⊤° a. ● ⊤ p.
27	29.5	19.5	98	71	8	8	4.3	d a. ● ⊤ p.
28	29.9	19.8	98	71	6	7	22.4	≡ a. ● ⊤° p.
29	29.9	19.8	98	65	5	6	39.6	●° p
30	28.2	19.2	98	74	8	9	29.2	d ●^{2} a.
Mean	29.9	19.6	97.4	67.9	5.4	7.1	------	
Total	------	------	------	------	------	------	414.8	

[1] 29 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

SAN ANTONIO.

[ϕ=14° 22′ N; λ=121° 32′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	20.4	97	62	9	3	------	
2	30.8	20.6	99	73	10	6	------	
3	30.9	21	99	65	10	6	1.8	
4	30	22.6	98	89	10	9	23.6	
5	30	21.2	91	79	9	8	------	
6	30.8	20.2	99	76	7	8	------	
7	28.2	21	99	89	8	9	4.1	
8	31.5	21.5	100	65	8	7	3.8	
9	32.5	21	99	73	2	6	------	
10	32	20.5	98	65	2	7	------	
11	33	20.5	98	56	1	4	------	
12	31.6	21	94	63	1	2	------	
13	31.3	22.6	95	89	2	9	2.3	
14	30.6	21	95	69	1	6	4.8	
15	31.6	21.3	99	63	2	2	12.7	
16	30.2	21	91	69	7	6	22.9	
17	30.2	22.1	93	62	1	2	------	
18	30.8	21.1	93	70	6	7	26.4	
19	31.4	21.4	89	64	8	2	------	
20	32.5	20.8	98	60	8	6	------	
21	30.1	21.2	98	81	10	8	------	
22	31	20.6	99	72	9	10	6.4	
23	31.5	19	100?	71	1	9	------	
24	31.5	19.1	97	63	9	8	1	
25	31.6	19.6	99	61	8	10	50.8	
26	28.8	19.8	99	74	10	10	25.4	
27	29.5	20.5	99	87	10	9	18.5	
28	28.5	20.6	96	97	10	10	6.4	
29	30.2	20.3	99	68	3	10	22.9	
30	26.5	20.7	99	98	10	10	63.5	
Mean	30.7	20.8	97	72.4	6.4	7	------	
Total	------	------	------	------	------	------	297.3	

CORREGIDOR.

[ϕ=14° 23′ N; λ=120° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	24.3	89	78	10	10	6.4	● a.
2	31	24.2	84	75	10	10	------	
3	31	25	85	72	10	7	------	
4	30.1	24.9	84	76	10	10	3.3	● a.
5	30	23.7	87	87	10	10	22.4	● a.
6	31	23.6	88	70	10	10	8.1	● a.
7	31	23	86	72	10	10	------	d p.
8	31	23.9	90	81	10	10	17.8	● a. p. ⊤ p.
9	31.5	24.3	90	72	10	10	------	
10	31.7	23.9	86	66	10	2	------	
11	32.5	25	75	64	2	2	------	
12	33	24.5	80	60	4	4	------	
13	32.7	25.2	88	59	10	10	2	⊤ ● p.
14	32.4	24.5	83	62	2	2	------	
15	34.3	22.4	82	60	8	2	------	d ⌒ p.
16	34.4	24	82	61	10	10	------	○ a.
17	33.5	24.4	84	63	10	4	------	
18	33.7	23	86	66	8	3	------	☈ p.
19	34.2	24.1	91	66	10	8	10.9	☈ ● p.
20	33.5	25	94	72	10	3	------	
21	33.1	24.4	89	73	10	10	------	
22	32.1	24.3	88	77	8	10	3.8	☈ ● p.
23	32	23.8	90	66	10	2	------	
24	33.8	23.5	81	64	8	8	2	● a. ☈ p.
25	33	23	94	78	10	10	17.8	● ☈ p.
26	31.3	22	97	75	10	10	45.7	●² ☈ p.
27	29.5	22.5	94	85	10	10	21.8	● a. p.
28	30.7	21.6	98	90	10	10	29.2	⊤ ● p.
29	32.7	21.9	94	70	10	10	------	
30	26.5	22.9	96	96	10	10	24.9	● a.
Mean	31.9	23.8	87.8	71.9	9	7.6	------	
Total	------	------	------	------	------	------	216.1	

BALANGA.

[ϕ=14° 41′ N; λ=120° 32′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	23.5	92	69	10	7	0.5	d a. ☇ p.
2	32.8	23.2	89	66	5	7	------	☇ p.
3	32.4	23.2	91	70	10	8	------	d° a. ⊤° ☇ p.
4	30.2	23.8	91	90	9	10	12.4	d a. ⊤ ● p.
5	31.2	22.5	92	75	6	6	.5	d a. ☇ p.
6	31.1	23.8	90	82	9	10	1.5	d a. ⊤ ☇ p.
7	32.9	22.5	93	88	10	10	5.8	● ⊤ ☇ p.
8	32.5	23.6	92	68	10	8	19.1	● a. ☇ p.
9	32.8	22.7	91	64	10	10	------	☈ d° p.
10	33.4	23.5	92	63	6	5	------	⊤ a. ☇ p.
11	34.5	23.3	91	61	6	4	14.7	☈² ● p.
12	33.9	22.3	92	61	2	1	14.5	● a. ⊤ p.
13	34.8	25.3	90	63	1	9	------	⊤ p.
14	34.1	23	91	56	1	2	------	⊤ ☇ p.
15	33.8	24.6	91	59	8	2	------	☈ p.
16	34.2	23.8	92	59	9	7	------	⊤ ☇ p.
17	34.1	23.6	87	58	6	2	------	☇ p.
18	34	23.4	92	60	7	4	11.4	d² a. ☈ ● p
19	33.6	23.5	92	61	9	9	------	☈ p.
20	33.5	24.1	88	67	6	9	3	d a. ● ☇ ↙° p.
21	31.5	23.7	94	75	9	10	5.1	● a. d° ☇ p.
22	32.6	23.4	92	70	8	10	.8	⊤° ⌒ d ☇ p.
23	32.5	23	91	65	4	4	------	⊤° ☇ d° p.
24	32.8	23.4	92	69	9	6	------	d° a. ☇ p.
25	32.5	23.4	89	68	10	10	.8	●° ☈² p.
26	29.5	23.1	91	78	10	10	1.3	d ☈ p.
27	28.6	23	91	81	10	10	50	● d a. ● ⊤ p.
28	30.5	22.9	91	89	10	10	33.8	d a. ⊤ ● p.
29	32.3	22.3	93	64	9	9	2.8	d² ⌒ p.
30	25.5	23.5	92	92	10	10	29.5	● d² a. p.
Mean	32.4	23.4	91.2	69.7	7.6	7.3	------	
Total	------	------	------	------	------	------	207.5	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.8	23.2	96	90	10	8	2.3	●° p.
2	33	23.7	97	78	8	6	26.9	○ a. ●° ☈ p.
3	33	23.3	97	76	7	10	31	≡ a. ●° ☈ p.
4	31.9	23.6	97	94	8	10	6.6	☈ a. p. ● p.
5	31.9	22.8	97	78	10	6	------	≡² a. ●° p.
6	33.6	22.6	97	74	5	10	------	Ω ≡° a. ☈ ψ p.
7	34.3	23.1	97	60	5	7	15.7	Ω² ≡ a. ☇° p.
8	33	24	97	90	10	7	1.3	Ω ≡° ●° a. ☈ p.
9	34	23	96	65	10	6	------	
10	35.4	23.7	96	54	5	5	------	Ω a. ⊤ p.
11	35.9	24	96	49	3	3	33	Ω a. ☈ ●² p.
12	35.3	23	97	52	0	3	------	
13	36	24.4	96	54	7	6	------	Ω a. d° ↙° p.
14	35.5	22.9	97	53	1	1	------	Ω a. ☇° p.
15	36	23	95	55	0	4	.3	Ω a. ☈ ●° p.
16	35	23.2	96	53	1	4	------	≡ a. ↙° p.
17	34.5	23	94	63	8	6	------	Ω a. ↙° ☇° p.
18	33.7	22.5	95	67	5	5	------	Ω a.
19	35.3	22.8	96	54	4	5	------	Ω ≡° a. ☈° p.
20	33.9	23.5	92	59	4	8	17.3	Ω ≡ a. ○ ☈ ● p.
21	33.8	23.4	97	61	9	7	------	≡² ○² a. ☇° p.
22	34.8	23.2	96	61	4	6	------	Ω² ≡ a. d° ☇° p.
23	34.8	23.4	94	59	10	5	------	↙° a. p. ⊤ p.
24	35.2	22.9	88	58	4	4	------	Ω ≡ a. ↙° p.
25	35	23.2	98	56	10	4	1	Ω ≡² a. ☈ ●° p.
26	29.5	23.2	96	88	10	10	73.7	≡ a. d° ●² p.
27	28.1	22.5	98	87	10	10	31	● a. ↙° ● ⊤ p.
28	31.6	21.7	99	71	9	7	12.4	● ☈ p.
29	33.8	22.3	99	63	9	7	.3	≡ a. d p.
30	30	23.7	97	85	10	10	9.9	⌒° a. ●° p.
Mean	33.7	23.2	95.9	66.7	6.5	6.3	------	
Total	------	------	------	------	------	------	262.7	

METEOROLOGICAL DATA, ETC.—Continued.

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	23.8	91	72	10	2	2.5	d a.
2	33.7	24.6	95	63	6	6	------	Ω p.
3	31.9	24.1	96	71	7	8	------	
4	33.7	24.2	92	70	2	3	------	⌒ p.
5	34.5	24	87	56	2	0	------	
6	34	25	86	71	3	8	------	⌒² p.
7	31	23.4	93	74	10	5	47.5	● p.
8	30.9	24.8	95	72	10	2	------	⌒² p° a. ⊍ Ω p.
9	31.7	23.5	91	75	8	8	------	
10	33.4	24	91	68	1	3	------	
11	32	24.6	91	65	5	0	------	
12	32.4	24	91	70	1	2	.8	
13	32.4	23.3	92	77	0	9	------	p° p.
14	31.8	23	92	62	0	0	.3	d° p.
15	31.6	23.5	97	65	8	0	7.9	d ⌈ϟ p.
16	31.5	23.5	80	71	9	5	31.2	● a.
17	31	23.4	95	69	7	1	54.6	● a.
18	31.2	23.5	93	72	10	0	27.2	● a.
19	31.8	23.7	93	69	10	8	4.1	● p.
20	33.9	23	92	66	4	5	------	
21	32.5	24.4	96	72	4	10	1.8	d ⌈ϟ p.
22	31	24.6	92	75	10	10	2	d p.
23	33.8	23.6	93	69	0	1	2.3	d p.
24	31.4	24.5	92	74	0	1	5.3	●° p.
25	32.4	23.5	93	72	8	3	47.5	● p.
26	30.5	23.9	93	86	10	10	106.7	● a. p. ↙ p.
27	29.2	23.5	89	87	10	10	14.7	●° a. p. ↙ p.
28	27	23	96	92	10	10	------	p° a. p.
29	30.8	22.5	97	73	4	1	31.5	● p.
30	30	23.8	95	92	9	10	50.8	● a. p. ↙ ⌈ϟ p.
Mean	31.8	23.8	92.3	72.3	5.9	4.7	------	
Total	------	------	------	------	------	------	438.7	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	24.7	92	74	10	10	3.6	d a. ⊤° ϟ p.
2	31.4	24.6	91	77	8	10	8.1	ϟ p.
3	30.8	24.7	92	78	9	10	31.5	ϟ p.
4	31.6	23.8	93	80	7	10	7.1	p p.
5	31.8	24.1	92	72	8	9	1.5	⌒ ● a. ↙° ◯² p.
6	32.5	24.3	91	75	10	10	------	●° ⌒² a. ϟ p.
7	33.2	23.8	92	70	3	10	11.7	⊤° ◯² p.
8	33.5	24.4	93	67	8	6	6.1	⊤° ●° ϟ p.
9	32.1	23.6	92	72	6	8	.8	⌒° ϟ p.
10	31.5	24.8	91	83	9	10	------	⊤° a. ϟ p.
11	32.7	23.6	91	69	0	2	------	↙° ϟ p.
12	34.8	24.6	88	68	1	3	------	ϟ p.
13	35	27.8	88	59	6	0	15.2	⊤° ● p.
14	34.8	25.4	88	61	2	4	------	ϟ p.
15	33.6	25.5	89	63	0	6	19.8	⌈ϟ p.
16	33.8	24.2	94	66	0	3	15.2	●² ⊤² ϟ p.
17	34.4	23.5	91	63	2	4	5.8	●° ⌈ϟ p.
18	34	25	88	64	0	2	------	ϟ p.
19	32.8	25.7	89	68	10	8	7.4	⊤° ϟ² ●° p.
20	32.9	24.6	88	72	6	10	16.5	●² p.
21	33.8	25.6	91	65	8	6	------	
22	33	25.7	88	73	0	10	13	●² ⌈ϟ² p.
23	32.8	25.2	91	66	6	8	------	↙° ϟ p.
24	32.8	24.9	86	66	7	6	------	↙° p.
25	33.8	25	87	72	0	8	------	
26	32.4	25.5	88	73	8	9	57.7	●² ⌈ϟ² p.
27	31.7	23.8	95	76	10	10	4.3	d° a. ⊤° p.
28	33.3	23.4	92	79	4	10	1.8	p p.
29	34.3	23.7	91	65	6	4	3.3	⌒² a.
30	30.8	26	87	74	9	10	------	●° a. ⊤° p.
Mean	32.9	24.7	90.3	70.3	5.4	7.2	------	
Total	------	------	------	------	------	------	230.4	

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	21.6	15.6	99	80	10	8	------	
2	21.5	14.7	96	99	7	10	11.4	d ● p.
3	21	15	98	99	5	10	9.7	● p.
4	21.6	15	99	98	10	10	25.1	● a. p.
5	21.1	15.1	99	99	10	10	22.4	● p.
6	22.1	15.4	98	89	7	6	------	
7	21.3	14.2	94	91	3	10	------	
8	24.2	15.3	99	71	6	9	3	●° ⌈ϟ p.
9	25.4	16.1	96	56	6	4	------	
10	24	15.3	94	80	9	6	1	d a.
11	23.8	14.6	96	99	3	10	------	
12	24.1	15.6	93	83	2	5	------	
13	25.7	14.1	99	72	2	7	19.8	● p.
14	24.7	13.7	93	79	4	7	------	
15	25.3	13.8	92	83	5	8	------	⌈ϟ p.
16	25.5	15.1	94	82	3	5	------	
17	24.2	14	95	86	4	6	------	
18	25.6	13.5	98	89	4	9	------	
19	25.3	14.8	96	92	3	10	------	
20	23	14.9	99	90	3	10	15.7	● p.
21	23.7	15.5	98	80	10	7	------	
22	25.4	16.4	97	63	8	6	12.7	● p.
23	25.6	15.5	95	62	4	5	------	
24	25.5	15.8	91	72	6	5	------	
25	25.2	16.6	90	85	2	7	5.6	● p.
26	25.3	15.3	84	93	5	9	------	≡ p.
27	22.5	16.1	98	75	10	7	40.9	● a. d p.
28	24.3	15.6	94	71	5	4	8.1	● p.
29	24.4	15	89	84	6	5	------	
30	21	15.1	95	95	6	10	1.5	●° p.
Mean	23.8	15.1	95.3	83.2	5.6	7.5	------	
Total	------	------	------	------	------	------	176.9	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.2	23.2	97	82	6	8	------	Ω a.
2	32.6	23	81	92	6	10	4.3	● a.
3	30.4	22.8	90	85	6	6	6.4	Ω ● a.
4	31.2	23	90	59	6	6	------	Ω ⌒ a.
5	32	22.8	92	62	8	6	1.8	Ω a. ●° p.
6	32.2	22.6	81	72	6	8	------	Ω a. ⊍ p.
7	32.4	22.3	97	68	4	6	59.2	Ω a. ⌈ϟ² ●² p.
8	34	22.3	93	87	6	8	11.4	⊤ ● p.
9	33	22	97	70	4	6	6.1	⌈ϟ ⌒ ● a.
10	33.5	23	97	78	6	8	------	Ω a.
11	33.6	23.6	97	69	4	6	------	Ω a. ⊤ p.
12	34	23.6	97	66	3	6	------	Ω a. ⊤ p.
13	33.4	23.6	97	69	2	4	7.9	Ω a. ⌈ϟ² ● p.
14	33	22.8	97	74	3	4	------	Ω a. ⊤ p.
15	33.2	23.2	89	74	6	8	8.6	Ω a. ⌈ϟ² ● p.
16	34.2	22.6	87	65	3	8	------	Ω a. ⊤ p.
17	33.2	22	81	69	4	3	2.5	Ω a. ⌈ϟ ● p.
18	33	23	97	52	2	6	1	Ω a. ●° p.
19	34	22.8	87	48	4	4	2	Ω a. ⊤ ●° p.
20	32	23	97	74	4	3	19.3	Ω a. ⌈ϟ ● p.
21	33.4	22	97	75	6	6	------	Ω a.
22	33	22.8	95	74	3	6	1.3	Ω a. ●° ⊤ p.
23	33.8	23.3	89	71	3	3	------	Ω a. ⌈ϟ° p.
24	33.8	22.6	93	68	2	6	------	Ω a. ⊤ p.
25	34	21	85	64	2	3	22.4	Ω a. ⌈ϟ² ● p.
26	34.4	21.4	88	70	2	6	40.6	Ω a. ● p.
27	32.2	20.2	82	79	10	6	6.4	Ω a. ↙° ● p.
28	31.8	21	88	------	6	6	8.1	Ω a. ⌈ϟ² ● p.
29	33.2	21.3	88	66	3	3	------	Ω a. ⊤ p.
30	31.8	23	91	74	6	8	24.9	Ω a. ⌈ϟ² ● p.
Mean	32.8	22.5	91.2	70.9	4.5	5.9	------	
Total	------	------	------	------	------	------	234.2	

METEOROLOGICAL DATA, ETC.—Continued.

ECHAGÜE.

[φ=16° 41′ N; λ=121° 39′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	22.1	97	70	10	8	42.2	◯°a. ⌈↯^{2}↙°●^{2}p.
2	------	22.4	97	61	8	9	1.8	●^{2} ◯° a. ⌈↯ p.
3	------	22.2	97	68	9	10	.8	◯^{2} a. ⌈↯ ●° p.
4	------	21.6	100	56	9	6	13.7	≡^{2} a. ↙ ●^{2} ⌈↯^{2}p.
5	------	20.7	99	60	9	6	1.8	≡^{2}⊕°⌈↯^{2}↙°●°⌒^{2}
6	------	21.1	99	62	10	10	19	≡^{2}↙° ●^{2}⌈↯^{2} ◯°
7	------	21.3	98	65	8	10	------	≡^{2}a. ◯^{2} ⌈↯ ⌓°p.
8	------	21.9	97	66	9	6	------	≡°◯°a. ⌈↯ ⌓° p.
9	------	21.7	96	54	9	4	------	Ω^2 ◯° a. ⌈↯⌓°p.
10	------	22.6	95	52	6	4	------	Ω^2 a. ↙° ⌈↯^{2} p.
11	------	22.6	94	55	3	4	1.5	Ω^{2}a. ⌒°⌈↯●°⌓°
12	------	22.4	95	55	3	4	------	↙° p.
13	------	21.7	96	52	3	4	------	Ω^2 a. ⌈↯ ↙° p.
14	------	21.1	97	50	2	2	------	Ω^{2}a. ↙° ⌈↯ ⌓°p.
15	------	21.4	93	54	3	3	------	Ω^2 a. ⌈↯↙° ⊍°p.
16	------	20.9	96	51	3	6	------	Ω^{2}a. ↙°●° ↯°p.
17	------	20.5	97	54	4	6	------	Ω^2 a. ↙° ↯° p.
18	------	20.5	95	55	4	5	------	Ω^2 a. ⌈↯° p.
19	------	21.1	96	53	7	9	------	Ω^2 ◯° a. ⌈↯ p.
20	------	21.4	96	52	8	10	------	Ω^2 ◯° a. ⌈↯ p.
21	------	22.1	94	48	9	10	------	◯^{2} ⌈↯ p.
22	------	21.3	95	55	9	8	.8	●°a. ⊕° ⌈↯⌒°p.
23	------	21.5	96	46	6	7	18.5	Ω°◯° ⌈↯^{2}↙°●°
24	------	22.3	97	54	7	7	------	◯° a. ⌈↯ p.
25	------	21.3	96	53	5	7	------	Ω^2 ◯° a. ↯° p.
26	------	21	95	55	5	9	3.8	Ω^2◯°a. ⌈↯●°p.
27	28.7	22.6	98	87	10	10	5.3	●° a. p. ⌈↯ p.
28	29.6	21.7	98	80	9	9	1.5	●°⌒°a. ⌈↯◯°p.
29	35.1	20.7	97	56	8	4	.3	Ω^2 a. ⌈↯ ●° p.
30	32.1	21.1	98	67	7	9	.5	Ω^2◯° ● a. ⌈↯ p.
Mean	31.4	21.6	96.5	58.2	6.7	6.9	------	
Total	------	------	------	------	------	------	111.5	

CANDON.

[φ=17° 12′ N; λ=120° 26′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.4	25.4	88	78	10	10	------	d a. p.
2	28.8	25.5	87	81	9	10	8.9	Ω ≡ a. ●° a. p.
3	29	24.5	91	84	8	10	2.5	●° a. p.
4	29.1	24.5	90	81	9	9	1.5	↙° ●° a.
5	30.7	25.6	89	71	10	4	1.8	●° a. ⊤° p.
6	30.9	26.4	85	72	8	9	------	⊤° ↙° a. ↯ p.
7	30.6	25.8	85	74	5	8	27.4	Ω^2≡ a. ⌒●^{2} ⌈↯°
8	30.5	25.1	89	70	8	5	------	⊤° ↯ p.
9	30.7	25.8	85	72	4	5	2.5	Ω^2≡^{2}a. ⊤° ●°p.
10	30.7	26.7	86	74	4	5	------	⊤° a. p. d ↯ p.
11	30.6	25	88	65	3	6	------	Ω^2 ≡^{2} a. ⊤° p.
12	31.2	25.5	88	70	2	1	------	Ω^2 ≡^{2} a. ⊤° p.
13	31.9	26.4	84	67	7	2	1.3	Ω ≡ a. ⌈↯° ●°p.
14	31.4	25	87	67	6	1	------	Ω ≡° a. ⊤° ↯ p.
15	31.7	24.9	83	64	1	2	------	Ω≡a. ⊤° ⌒° d p.
16	31.7	25.5	82	66	1	2	------	Ω^2 ≡^{2} a. ⌈↯° p.
17	31.6	25.4	84	65	4	7	------	Ω ≡^{2} a. ⌈↯° p.
18	31.9	25.4	84	66	2	1	------	Ω^2 ≡^{2} a. ⌈↯ d p.
19	31.9	26	84	65	9	7	------	Ω ≡ a. ⌈↯° d p.
20	31.6	26.4	81	65	9	6	------	Ω ≡ a. ↯ p.
21	32.8	26.1	83	60	5	6	25.4	Ω ≡ a. ●^{2}⌒°⌈↯^{2}
22	31.1	26.5	86	69	2	4	39.1	●^{2} ⌈↯ p.
23	30.6	24.8	88	74	9	9	39.9	⌈↯^{2} ●^{2} p.
24	30.5	25.2	88	72	8	10	23.6	↙° a. ● ⌈↯^{2} p.
25	30.4	24.4	87	71	7	8	24.1	● ⌈↯° ↙° p.
26	30.5	24.4	88	74	4	8	3.8	●° a. p. ⌈↯° p.
27	29.2	25.9	88	74	10	9	10.9	d a. ●° ⊤° p.
28	29.6	24.8	88	75	4	9	26.4	d ● ⌈↯° p.
29	30.3	24	87	64	8	1	1.3	⊤° ●° ↯ p.
30	30.3	25	87	69	4	10	1.5	Ω ≡ a. ⊤° ●°p.
Mean	30.7	25.4	86.3	70.6	6	6.1	------	
Total	------	------	------	------	------	------	241.9	

LAOAG.

[φ=18° 12′ N; λ=120° 35′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	------	------	------	10	10	126.5	● a. p.
2	------	------	------	------	10	10	13.5	● a. p.
3	------	------	------	------	9	8	2.8	● a. p. ⌈↯ p.
4	------	------	------	------	6	10	69.3	● a. p.
5	------	------	------	------	6	10	6.1	
6	------	------	------	------	10	10	3.3	● a. d p.
7	------	------	------	------	3	6	6.4	⊤ ⌒ ● p.
8	------	------	------	------	2	4	1.3	⌈↯ ● p.
9	------	------	------	------	3	7	54.4	⌈↯ ● p.
10	------	------	------	------	8	7	------	⊍ p.
11	------	------	------	------	3	4	------	
12	------	------	------	------	1	4	------	
13	------	------	------	------	2	5	1.8	● p.
14	------	------	------	------	2	------	------	
15	------	------	------	------	0	3	2.3	⊤ ● p.
16	------	------	------	------	1	4	------	⊤ d p.
17	------	------	------	------	2	6	------	⌈↯ p.
18	------	------	------	------	1	5	------	⌈↯ p.
19	33.7	25	91	65	5	6	40.6	● ⌈↯ p.
20	32.5	24.6	92	70	8	9	------	⊤ d p.
21	33.2	24.6	92	69	2	6	3	⌈↯ ⌒ ● p.
22	33.6	23.5	93	70	10	5	66	● ⌈↯ p.
23	33.3	22	91	70	6	5	7.1	≡° a. ● ⌈↯ p.
24	31.8	24	92	66	3	6	------	≡° a. ⌈↯ d p.
25	32.3	23.9	92	69	5	4	6.4	⊤ ● p.
26	32.4	24.1	93	68	4	5	------	⊤ ⌒ d ↯ p.
27	31.7	25	91	74	8	10	24.6	d a. ● ↯ p.
28	32.8	23.9	96	71	1	9	8.1	● ⌈↯ p.
29	32.9	23.8	93	64	1	4	1.3	⊤ ● p.
30	32.7	24	91	67	1	7	25.1	● ⌈↯ p.
Mean	32.7	24	92.2	68.6	4.4	6.5	------	
Total	------	------	------	------	------	------	469.9	

SANTO DOMINGO.

[φ=20° 28′ N; λ=121° 59′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.5	23.7	86	92	10	10	3.5	● ↙° a. d a. p.
2	28.7	22.8	94	81	10	7	------	↙° v a. ≡ Ω p.
3	29.5	23.2	92	78	2	2	1.3	v a. ≡ ↙° ●° ⊍
4	29.5	24.2	92	87	3	10	13.2	d a. ↙° ● ⊍ p.
5	29.1	25.6	87	87	10	10	10.9	↙° ●° a. ↯ p.
6	30.1	24.2	88	83	10	10	8.6	↙° a. d ● p.
7	29.5	24.2	92	79	10	5	11.9	●^{2} a. Ω p.
8	30.9	25.3	91	81	6	9	------	v a. Ω^2 p.
9	31.5	26.4	94	82	10	4	2.7	●° a. ≡ ↯° Ω^2 p.
10	30.5	24.4	87	79	4	6	------	↙° a. ≡ ⊍ Ω^2 p.
11	30.7	26.1	91	79	3	0	------	v a. Ω p.
12	31.5	23.1	93	71	0	0	------	Ω^2 v a. ≡ Ω^2 p.
13	31.6	24.2	95	76	4	7	------	Ω^2 a. ≡ ⊍ p.
14	31.9	25.5	87	69	2	0	------	v a. ≡ Ω p.
15	32.5	26.2	89	71	4	0	------	↙° a. ≡ ↯ p.
16	32.4	27.3	80	70	2	4	------	↙° p.
17	32.2	27.2	76	68	5	2	------	↙° a. p. ≡ p.
18	31.6	27	76	64	2	1	------	≡ a. p. ↯ p.
19	31.7	26.8	84	70	8	4	------	↙° ≡ p.
20	30.3	24.4	86	84	7	9	1.8	p° ⌒ a. d p.
21	31.5	25.7	88	74	10	8	------	↙° a. p. ↯ p.
22	31.9	25.2	93	71	9	7	14.9	≡ d° a. ● ↯ p.
23	32	26.6	89	69	2	1	4.6	↙° ●° a. ↯ Ω p.
24	31.7	25.2	93	72	8	8	------	Ω^2 a. p° ↯° p.
25	32.6	26.2	82	69	6	4	------	↙° a. ↯° p.
26	31.6	27.2	82	69	2	1	------	↙° a. p. p° p.
27	31.1	26.7	78	74	1	4	.5	d ⌒a. ≡ ↙° ↯ p.
28	31.3	26.2	80	74	8	0	3.2	↙° ●° a.
29	32.2	27.1	84	70	5	2	------	v a. ↙° ≡ p.
30	32.3	27.1	83	72	3	4	2.7	↙°a. ↙°●°↯^{2}⊤°
Mean	31	25.5	87.1	75.5	5.5	4.6	------	
Total	------	------	------	------	------	------	79.8	

SEISMOLOGICAL BULLETIN FOR JUNE, 1908.

By Rev. Miguel Saderra Masó, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, $2^h\ 49^m$. **Northeastern Mindanao.** Oscillatory earthquake of intensity III. Felt from Surigao to Butuan; its center appears to have been in the western part of Butuan Bay.

1, $3^h\ 6^m$. **Surigao** (NE of Mindanao). Oscillatory quake. Direction NE–SW; intensity IV; duration 16^s.

4, $9^h\ 30^m\ 20^s$.* **Southern Leyte and northeastern Mindanao.** Earthquake of force IV; apparently proceeding from the focus situated underneath Butuan Bay.

6, $5^h\ 29^m\ 47^s$.* **Northeastern Mindanao.** Earthquake of force III; due to the same center as the preceding.

7, $14^h\ 38^m\ 40^s$.* **Butuan** (N of Mindanao). Earthquake of force III. Same center as preceding.

9, $10^h\ 11^h$. **Butuan** (N of Mindanao). Earthquake of force III and very short duration.

10, $12^h\ 45^m$. **Sumay** (Guam Island). Earthquake of force III.

16, $4^h\ 49^m\ 30^s$.* **Northeastern Mindanao.** Oscillatory quake. Direction NE–SW; intensity III: felt in the whole region E and S of Butuan Bay.

16, $12^h\ 55^m$. **Sumay** (Guam Island). Earthquake of force IV.

19, $0^h\ 30^m$. **Santo Domingo** (Batanes Islands). Trepidatory earthquake of force IV, accompanied by subterraneous rumblings.

22, $13^h\ 19^m$. **Ormoc** (W of Leyte). Earthquake of force II; duration 20^s.

25, $21^h\ 20^m$. **Sumay** (Guam Island). Earthquake of intensity V.

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight $=0^h$.]

No.	Date.	Component.	Beginning.			Maximum range of motion.			End.	Instrument.	Remarks.
			First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2 a.).	Period.			
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
89	1	NNW-SSE			0 21 44				0 24	V. M.	
		WSW-ENE			0 21 44				0 24	V. M.	
90	3	NNW-SSE	1 24 12		1 24 30	1 24 55	0.07	2.4	1 31	V. M.	Vertical C. 0.04 mm.
		WSW-ENE	1 24 10		1 24 31	1 25 00	.14	2.4	1 32	V. M.	
		WSW-ENE	1 24 19		1 24 42				1 30	H. P.	
91	4	WSW-ENE	0 05 18						0 48	V. M.	
		WSW-ENE	0 05 18						1 08	H. P.	
92	4	NNW-SSE	9 30 20	9 32 30	9 34 26	9 35 27	.03	10.8	10 34	V. M.	Earthquake, VI S of Leyte and NE of Mindanao.
		WSW-ENE	9 30 19	9 32 15	9 34 11	9 35 31	.05	8	10 28	V. M.	
		WSW-ENE	9 30 20	9 31 49	9 33 48	9 35 12	1.99	9.9	11 15	H. P.	
93	6	NNW-SSE	5 29 40		5 31 30	5 31 58	.01	2	6 02	V. M.	Earthquake, III NE of Mindanao.
		WSW-ENE	5 29 40		5 31 28	5 31 56	.02	2.4	5 58	V. M.	
		WSW-ENE	5 29 47		5 31 38	5 32 59	.15	9	6 19	H. P.	
94	7	WSW-ENE	14 38 38	14 40 36	14 42 06	14 42 28	.02	8	15 36	V. M.	Earthquake, III at Butuan (N of Mindanao).
		WSW-ENE	14 38 41	14 40 23	14 41 55	14 42 37	.27	9.9	15 41	H. P.	
95	9	NNW-SSE	8 16 09						9 20	V. M.	
		WSW-ENE	8 16 08						9 08	V. M.	
		WSW-ENE	8 16 09						9 40	H. P.	
96	11	WSW-ENE			1 16 30				1 18	V. M.	
97	16	NNW-SSE	4 49 30						5 02	V. M.	Earthquake, III NE of Mindanao.
		WSW-ENE	4 49 26						5 19	V. M.	
		WSW-ENE	4 49 54						5 19	H. P.	
98	24	NNW-SSE	11 45 13						12 12	V. M.	
		WSW-ENE	11 45 13						12 12	V. M.	
		WSW-ENE	11 45 14						12 10	H. P.	
	27		22 28								Slow oscillations during about 1^h, beginning at about $22^h 28^m$.
99	29	NNW-SSE			6 03 15				6 06	V. M.	V. C. 0.03 mm.
		WSW-ENE			6 03 14	6 03 20	.04	2.2	6 08	V. M.	
100	30	NNW-SSE	10 21 14						11 43	V. M.	
		WSW-ENE	10 21 18						11 45	V. M.	
		WSW-ENE	10 21 18	10 30 52	10 39 58	10 43 50	.03	9	11 49	H. P.	

Instrumental constants.—Vicentini microseismograph (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=9.2 seconds; WSW–ENE pendulum, T=10.8 seconds. Magnification of the record: NNW–SSE, 15 times; WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters which extends many kilometers toward north and south and only four to the east, where volcanic tuff outcrops. To the west there lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

1, 2^h 49^m. **NE de Mindanao.** Temblor de tierra oscilatorio, intensidad III. Sentido desde Surigao á Butúan; el centro parece se hallaba en la parte W de la bahía de Butúan.

1, 3^h 06^m. **Surigao** (NE de Mindanao). Temblor oscilatorio, dirección NE–SW, intensidad IV, duración 16^s.

4, 9^h 30^m 20^s.* **S de Leyte y NE de Mindanao.** Temblor de tierra de intensidad IV. El centro parece se halla en la bahía de Butúan.

6, 5^h 29^m 47^s.* **NE de Mindanao.** Temblor de tierra de intensidad III, procedente del mismo centro que el anterior.

7, 14^h 38^m 40^s.* **Butúan** (N de Mindanao). Temblor de tierra de intensidad III; procedente del mismo centro que los dos precedentes.

9, entre 10^h y 11^h. **Butúan** (N de Mindanao). Temblor de tierra de intensidad III, duración muy corta.

10, 12^h 45^m. **Súmay** (Isla de Guam). Temblor de tierra de intensidad III.

16, 4^h 49^m 30^s.* **NE de Mindanao.** Temblor oscilatorio; dirección NE–SW, intensidad III: sentido en toda la parte E y S de la bahía de Butúan.

16, 12^h 55^m. **Súmay** (Isla de Guam). Temblor de tierra de intensidad IV.

19, 0^h 30^m. **Santo Domingo** (Islas Batanes). Temblor de tierra susultorio; intensidad IV; acompañado de ruido subterráneo.

22, 13^h 19^m. **Ormoc** (W de Leyte). Temblor de intensidad II, duración 20^s.

25, 21^h 20^m. **Súmay** (Isla de Guam). Temblor de tierra de intensidad V.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspodiente que contiene una lista completa de estos registros.

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[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120° E de Greenwich.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1890–1907.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF JUNE.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1890	*h. m.*			*Km.*	*Km.*		
2	9 1	Albay Province	N of Masbate Island	100	80	IV	Indicated at Manila by the Bertelli tromometer.
4	19 10	Eastern Luzon	S of Casiguran Bay	130	60	IV	
6	9 1	Southern Luzon	S of Lake Bay	100	70	IV	Repetition at 13h 10m.
24	12 40	Ilocos Sur	Off the Ilocos coast	120	30	III	
1891							
1	12 00	Southeastern Mindanao	Davao Gulf	80	60	III	
2	11 40	do	do	80	60	III	
4	18 0	do	do	200	110	V	
8	4 38	Northwestern Luzon	Off the NW coast	100	60	III	
8	21 22	City of Manila		10	8	III	
21	16 45	Southeastern Panay	SE Panay	70	70	III	
25	20 10	Southern Mindanao	Near the Apo Volcano	190	170	V	
1892							
5	4 7	City of Manila		8	8	III	
16	6 0	Southern Mindanao	E Illana Bay	150	40	III	
30	11 0	Northeastern Luzon	Near the NE coast	160	80	IV	Indicated at Manila by the Bertelli tromometer.
1893							
1	14 40	Central Luzon	About $\varphi=16° 20'$; $\lambda=121° 8'$	100	100	III	
1	20 19	do	do	120	100	V	Repeated a few minutes later.
2	17 0	Western Mindanao	W Illana Bay	150	60	III	
3	6 23	do	do	400	230	VI	Aftershock at 13h.
3	14 58	Camarines	SE of St. Miguel Bay	80	60	III	
4	1 6	Central Luzon	Nueva Vizcaya	100	90	III	
4	2 49	Albay Province	E of Mayon Volcano	100	80	IV	Indicated at Manila by the Bertelli tromometer.
4	16 4	Northern Luzon	N Central Range	160	110	IV	
6	14 21	Southwestern Mindanao	Illana Bay	170	80	IV	
7	0 11	Central Luzon	Nueva Vizcaya	100	90	III	Repeated 15m later.
8	8 51	do	do	100	90	IV	Repeated with greater intensity at 11h 31m.
9	8 14	do	do	150	120	V	Preceded by subterraneous rumblings.
9	23 21	Northeastern Mindanao	Near the NE coast	60	40	III	
12	15 1	Albay Province	Near the Mayon Volcano	70	50	III	Repeated 20m later.
19	13 8	Northern Mindanao	Butuan Bay	90	40	IV	
21	14 50	Eastern Mindanao	S Agusan River Valley	800	700	X	Followed by a great number of aftershocks during the rest of the month.
21	23 9	Southern Samar	Near the S coast	80	60	III	
22	16 58	Northeastern Mindanao	Near the NE coast	40	30	III	
25	5 8	do	do	40	30	III	
25	9 27	Camarines	Near the N coast	100	40	III	
25	18 42	Albay Province	Near the Mayon Volcano	60	50	III	
30	21 41	Camarines	Near the N coast	100	40	III	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF JUNE—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origen of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1894	h. m.			Km.	Km.		
2	8 18	Negros and Panay	Near the Canlaon Volcano	160	150	IV	Moderate eruption of the volcano.
8	1 16	Northwestern Mindanao	About Φ=8° 20′; λ=123° 30′	90	70	III	
12	10 44	Southern Mindanao	E Illana Bay	60	40	III	
15	8 56	Northwestern Mindanao	About Φ=8° 20′; λ=123° 30′	90	70	III	
29	2 57	Eastern Mindanao	S Agusan River Valley	460	350	IX	Strong repetitions at 3^h 37^m, 3^h 52^m, 4^h 22^m and 23^h 8^m. Very numerous slight aftershocks.
30	5 50	do	do	290	250	VI	
30	20 8	do	do	300	270	VII	Frequent aftershocks.
1895							
4	2 13	SE Luzon and E Visayas	N of Samar	350	240	V	Light repetition 5^m later.
7	21 56	Mindoro Island	Central Mindoro	200	140	VII	Subterraneous rumblings.
8	4 0	do	do	200	140	V	Repetition at 6^h 26^m.
17	4 18	Negros Island	Near the Canlaon Volcano	140	80	IV	
23	19 41	Central Luzon	Nueva Vizcaya	220	190	V	Indicated at Manila by the Bertelli tromometer.
1896							
4	15 50	Northern Luzon	N Central Range	170	80	IV	
4		Eastern Mindanao	Near the E coast	200	60	IV	
7		do	do	150	30	III	
17		do	do	200	60	IV	
20	15 29	Southern Mindanao	E Illana Bay	250	80	IV	
22		Eastern Mindanao	Near the E coast	160	40	III	
27		Southern Mindanao	E Illana Bay	230	80	IV	
1897							
1	19 46	Albay Province	Near the Mayon Volcano	70	50	III	
2	19 21	do	do	80	60	III	
4	11 21	SE Luzon and E Visayas	Near Masbate Island	300	120	IV	
7	22 56	Northern Luzon	N Central Range	180	100	III	
11	14 58	Northeastern Mindanao	Near the NE coast	80	30	III	
15	4 50	Eastern Mindanao	S Agusan River Valley	200	150	IV	
20	16 58	Northeastern Mindanao	Near the NE coast	80	40	III	
25	22 19	Southeastern Panay	Near the SE coast	70	70	IV	
29	0 40	Northern Luzon	N Central Range	180	100	IV	
30	8 50	do	do	180	100	IV	
1898							
13	11 52	Western Mindanao	SE Sulu Sea	180	40	III	Repeated 20^m later.
18	15 54	do	do	180	40	III	
20	5 21	Southeastern Mindanao	Near the SE coast	100	50	III	
23	4 31	Northeastern Mindanao	Near the E coast	200	80	IV	
23	8 6	Rizal Province	N of Lake Bay	70	50	III	Repetitions at 8^h 35^m and 8^h 57^m.
26	7 37	Western Mindanao	SE Sulu Sea	100	50	III	
1899							
16	14 50	Panay and Negros	N Negros	150	100	V	Indicated at Manila by the Bertelli tromometer.
19	19 59	Rizal Province	N of Lake Bay	80	50	III	
20	3 6	do	do	80	50	III	
1900							
4	23 48	City of Manila		8	4	III	
5	1 4	do		8	4	III	
21	7 28	do		8	4	III	
1901							
1	0 20	Northeastern Mindanao	Near Lake Mainit	100	50	III	
29	3 5	do	do	100	50	III	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF JUNE—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origen of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1902	*h. m.*			*Km.*	*Km.*		
6	11 4	Western Luzon	S Zambales Range	150	70	III	Registered at Manila.
11	10 34	Southeastern Mindanao	SE end of island	160	80	III	
13	6 30	Northern Luzon	Near the N coast	180	60	IV	Do.
16	8 33	Southeastern Mindanao	E Gulf of Davao	190	120	IV	
29	19 15	do	do	170	66	III	
29	22 15	Southeastern Panay	About φ=11° 6′; λ=122° 25′	40	40	III	
1903							
3		Southeastern Mindanao	Near the SE coast	100	40	III	
3	8 45	Northern Panay	Near the N coast	120	50	III	
7	17 8	Batanes Islands	Formosa			IV	Do.
8	2 15	Southern Mindanao	E Illana Bay	140	60	III	
10	19 40	Camarines	SE of St. Miguel Bay	80	60	III	
11	3 31	do	do	80	60	III	
13	4 16	Southeastern Mindanao	Near the SE coast	80	40	III	
13	10 16	Southern Mindanao	E Illana Bay	100	40	III	
18	6 25	SE Bulacan Province	Eastern Range	80	40	III	
20		Southeastern Mindanao	Near the SE coast	140	60	IV	
27		do	do	120	40	III	
29	2 20	Northeastern Luzon	NE end of island	120	80	IV	Do.
30	23 26	Camarines	SE of St. Miguel Bay	100	50	IV	Registered at Manila. Repeated 8ᵐ later.
1904							
1	5 30	Romblon Island				III	
5	19 13	Southern Luzon	N of Marinduque Island	230	200	V	Repetitions at 19ʰ 32ᵐ, 21ʰ 12ᵐ, and 5 or 6 during the rest of the night.
6	13 35	Cebu Island	S of Masbate Island	140	40	III	
22	18 42	Southeastern Luzon	NW of Burias Island	210	80	IV	Registered at Manila.
22	19 2	do	N of Masbate Island	300	120	V	Registered at Manila. Aftershock at 22ʰ 34ᵐ.
22	19 12	Southern Mindanao	E Illana Bay	140	60	III	
27	20 25	Western Leyte	Near the W coast	90	40	III	
29	7 32	SE Bulacan Province	Eastern Range	80	30	III	
1905							
1	2 24	Luzon	Off the W coast	550	280	IV	Registered in Europe.
2	4 25	Western Luzon	do	130	70	III	Repeated at 6ʰ 25ᵐ.
8	18 40	Western Leyte	Near the W coast	80	30	III	
10	14 14	SE Luzon, Samar and Leyte	E of Masbate Island	400	350	IV	Registered at Manila.
21	12 0	Northern Mindanao	Butuan Bay	180	40	III	
22	3 44	Batanes Islands	S of the group			III	
25	0 38	do	do			IV	Repeated at 0ʰ 42ᵐ.
26	19 44	Northeastern Mindanao	Near the NE coast	80	40	IV	
1906							
1	16 8	Western Leyte	Near the W coast	80	30	III	
5	19 36	SE Luzon, Samar and Leyte	Near the N coast of Samar	400	320	V	Registered at Manila.
9	6 16	Batanes Islands	S of the group			III	
10	6 1	do	do			IV	Do.
19	19 23	N Luzon and Batanes Islands	Near the N coast of Luzon	520	300	VI	Registered at Manila. Light aftershocks.
20	1 23	do	do	360	280	IV	Aftershocks at 3ʰ 7ᵐ, 9ʰ 45ᵐ, and 11ʰ 42ᵐ.
21	5 38	do	do	200	130	III	
22	1 0	Ilocos Sur	Near the Ilocos coast	80	30	III	
22	6 15	Southeastern Luzon	N of Masbate Island	190	110	III	Registered at Manila.
23	3 15	do	do	200	110	IV	Do.
24	13 40	Northern Luzon	Near the N coast	150	60	IV	Do.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF JUNE—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1907	m. h.			Km.	Km.		
3	22 30	Western Mindanao	SE Sulu Sea	80	40	III	
5	1 8	Eastern Panay	SE part of Island	70	70	III	Registered at Manila.
5	2 23	Eastern Samar	Near the E coast	80	30	III	
5	23 21	Northeastern Luzon	NE end of Island	90	40	III	
7	8 38	Rizal Province	N of Lake Bay	70	40	III	
9	18 30	Western Mindanao	SE Sulu Sea	80	40	III	
11	11 12	Northeastern Luzon	Off the N coast	100	60	III	Registered at Manila and Zi-kawei.
13	12 20	Eastern Mindanao	S Agusan River Valley	300	220	V	Registered at Manila.
13	16 34	Western Panay	Near the W coast	150	40	III	
13	23 56	Southeastern Mindanao	Near the SE coast	100	60	III	
14	11 29	Southern Leyte	SE end of island	60	40	II	
15	16 14	Southern Mindanao	S Illana Bay	260	50	IV	Do.
22	14 30	Southeastern Mindanao	Near Apo Volcano	80	70	II	
23	2 10	do	do	80	70	II	
25	7 29	Albay Province	Near the Mayon Volcano	40	30	III	
26	1 58	Southern Mindanao	Celebes Sea	200	60	IV	Registered at Manila and Batavia.
28	0 28	do	E Illana Bay	100	30	III	

BULLETIN FOR JULY, 1908.

METEOROLOGICAL BULLETIN FOR JULY, 1908.

By Rev. José Coronas, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—In all the stations of the Weather Bureau the monthly means of atmospheric pressure have been somewhat higher than those of July of the preceding year. The mean for Manila differs from the normal by —0.30 mm. The maximum pressures in the Philippines were registered on the 3d and 4th. The minimum was registered everywhere on the 31st owing to a typhoon in the Pacific, which will be discussed in the Bulletin for August.

The mean monthly temperature differs very little from the normal and likewise from that of July, 1907.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, JULY, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from July, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from July, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	758.05	+0.55	759.72	4	755.12	31	27.1	—0.3	32.8	4	21.6	25
Surigao	58.17	+ .52	59.94	3	55.06	31	27	— .3	32.6	17	22.2	7
Cebu	58.11	+ .83	59.91	4	55.02	31	26.5	— .1	32	2	21.9	24
Iloilo	58.34	+ .59	60.18	4	55.02	31	26.4	+ .1	31.1	27	22.5	27
Ormoc	58.41	+ .72	60.18	4	55.31	31	25.8	— .4	31.1	23	20.7	7
Tacloban	58.17	+ .67	60.01	4	54.96	31	27.1	+ .1	33.5	23	22.6	31
Capiz	58.29	+ .95	60.22	4	54.50	31	26.5	— .3	32.3	4	19.9	2
Calbayog	58.27	+ .58	60.21	4	55	31	27	+ .2	34.2	2	21.8	9
Legaspi	57.79	+ .71	59.88	3	54.44	31	27.3	+ .2	35	20, 23	22.1	28
Atimonan	57.48	+ .56	59.62	8	54.26	31	27.3	— .3	35.6	4	22.1	27
Olongapo	57.57	+ .68	59.74	3, 4	54.11	31	25.8	----------	32.7?	28	22.1	3, 27
San Isidro	57.78	+ .62	59.84	3, 4	54.26	31	26.5	+ .1	34.7	7	21.9	6
Dagupan	57.35	+ .59	59.54	3	53.76	31	26.7	— .7	36.7	8	21.7	7
Vigan	57.29	+ .66	60.05	3	53.99	31	26.9	— .1	33.2	9	21.5	27
Tuguegarao	56.62	----------	59.20	8	53.80	31	27.5	----------	36.5	2	22.3	13
Aparri	56.95	+ .27	59.70	8	54.02	31	27.7	— .3	34	1, 5	21.4	2

Precipitation.—The total amount of rainfall in some stations has been greater and in others less than that of July of the preceding year. That of Manila differs from the normal by —98.6 mm.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JULY, 1908.

Station.	Total.	Departure from July, 1907.	Rainy days.	Departure from July, 1907.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from July, 1907.	Rainy days.	Departure from July, 1907.	Greatest rainfall in a single day.	Day.
	mm.	mm.			mm.			mm.	mm.			mm.	
Jolo	186.8	— 18.1	17	+ 3	36.6	23	Sumay, Guam Lad. Is.	367.9	—144	25	— 1	61.2	31
Isabela, Basilan	321.3	+ 50.7	26	+ 9	90.9	28	Legaspi	237.5	— 49.8	14	— 4	109	28
Zamboanga (1)	41.8	-------	10	------	12.2	10	Virac	190.7	-------	14	------	31	29
Davao	130.8	—173.2	5	— 6	41.1	22	Batangas	72.6	— 95.7	10	—10	18.8	4
Dapitan	135.2	— 3	9	—11	68.1	4	Atimonan	205.5	+117.1	15	+ 1	55.6	29
Butuan	136.5	+ 42	15	+ 3	24.1	9	Silang	640.7	+289.7	21	+ 4	72.6	30
Yap, W. Carolines	252.1	— 22.6	23	0	52.6	22	San Antonio, Laguna	161.8	— 67.1	16	0	89.1	27
Tagbilaran	230.7	+ 66.9	16	+ 3	65.5	28	Corregidor	312.8	—316.2	14	— 4	83.1	16
Surigao	146	— 9.7	12	+ 1	40.9	28	Manila	290.6	—213.4	23	0	49.2	16
Maasin	347.5	+184.9	14	+ 2	56.1	27	Balanga	393.7	— 7.6	26	+ 4	156.5	16
Cebu	239.6	+ 47.7	22	+ 2	49.5	10	Olongapo	631.4	—247.4	28	+ 6	118.8	16
Bacolod	370.7	+137.4	21	— 2	55.4	15	San Isidro	363.3	+ 67	23	+ 3	69.1	6
Iloilo	276.3	+ 59	21	0	45.9	28	Tarlac	486.5	+133.8	23	0	86.9	16
San Jose Buenavista	697	+101.3	23	0	97.5	10	Baler	164.9	+ 66.2	17	+ 2	56.1	9
Tuburan	135.2	— 29.2	10	— 4	56.4	4	Dagupan	462.9	+ 75.5	27	+ 7	90.9	6
Cuyo	494.3	+218.8	24	+ 2	80.8	25	Bolinao	597	+197.3	23	+ 4	109.7	15
Ormoc	362	+ 6.7	20	+ 1	65.5	15	Baguio, Benguet	406.3	—109.4	27	+ 1	48.5	15
Tacloban	163.6	— 53.3	21	+ 3	70.1	28	San Fernando, Union	338.3	— 81.1	22	+ 8	46.2	3
Capiz	252	—200	14	— 1	88.2	28	Echague	88.8	-------	15	------	26.2	31
Borongan	200.2	+ 57.6	21	0	44.4	28	Candon	230.6	-------	21	------	52.8	26
Calbayog	189.7	— 24	16	— 5	44.2	10	Vigan	431.5	+127.7	24	+ 6	103.9	3
Palanoc, Masbate	153.8	—101	21	+ 1	30	29	Tuguegarao	326	— 39.8	16	+ 3	76.7	5
Romblon	226.4	— 87	18	+ 6	71.4	29	Laoag	559	-------	22	------	104.1	3
Laoang	125.8	-------	11	------	48	28	Aparri	164.1	— 1.7	11	0	49.8	26
Gubat	148.1	— 12.6	13	+ 2	47.8	28	Sto. Domingo, Batanes Is	232.8	— 43.4	19	+ 5	66	22

[1] 29 days only.

DEPRESSIONS AND TYPHOONS.

The depressions and typhoons of this month have not been of great importance for the Philippines, although one of them played considerable havoc in the neighboring colony of Hongkong.

On the afternoon of the 20th a small depression appeared in the Pacific to the southeast of the Meiacosima group of Islands moving toward the north or north-northwest and on the afternoon of the 22d was situated in the southern part of the Eastern Sea, as can be seen in our weather map of 2 p. m. on that day.

During the last days of the month the Manila Observatory announced a typhoon in the Pacific to the east of the Philippines and a depression in the China Sea. However, these will be discussed in the BULLETIN for the next month. At present we will give some details about the Hongkong Typhoon.

THE HONGKONG TYPHOON, JULY 21 TO 29, 1908.

This typhoon in its leading characteristics and also in its path was very like to that of September 18, 1906. However, the area of the storm was somewhat larger in the present case, seemingly in the proportion of 5 to 3, and besides, the center passed closer to Aparri; it was undoubtedly due to these circumstances that the Manila Observatory was able to announce the existence of the storm in the Balintang Channel on the morning of the 26th, as we shall presently see.

On this occasion it was once more clearly seen how useful it would be in such cases to have telegraphic communication with the meteorological station of Santo Domingo, situated as it is about half way between southern Formosa and northern Luzon. For this reason and because of the extraordinary intensity with which the typhoon struck the neighboring colony of Hongkong, we believe our readers will be interested if we study at some length the path of the storm.

Origin of the typhoon.—The Director of Hongkong Observatory, Mr. F. G. Figg, begins his report on this typhoon, dated August 8, with the following remarks referring to its origin:

The typhoon which struck the colony on the night of the 27th to 28th July last was possibly formed on the 25th to the eastward of the Balintang Channel. But as this typhoon must undoubtedly be classed as one of small area, in the absence of any data from the Pacific, this can not be certainly affirmed. There is, in any case, no evidence whatever of its existence prior to the 25th. On this day a slight fall of the barometer took place in Luzon and S. Formosa, although pressure remained slightly above the normal over both areas.

We would have nothing to add to these remarks if the data that we have received from the Western Carolines and the Ladrone Islands did not give us on the 21st some slight indications of the existence of a typhoon to the northwest of Guam. It is to be regretted that we do not possess a greater number of observations from the Pacific, which would enable us to determine more accurately the place of origin or formation of this typhoon. Those made at Sumay, Guam, from the 20th to the 23d of July are given in the following table:

METEOROLOGICAL OBSERVATIONS AT SUMAY, GUAM, LADRONES ISLANDS, JULY 20 TO 22, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.	Rainfall (daily total).
			Direction.	Force.		
July 20:	*mm.*	*mm.*		*0-12.*		*mm.*
6 a. m	758.16	—1.81	E	0	o	
2 p. m	57.45	+0.04	ESE	0	c	
6 p. m	57.88	+0.14	SSE	0	o	1.4
July 21:						
6 a. m	57.26	—0.90	SSW	1	o	
2 p. m	56.61	—0.84	SW	2	o	
6 p. m	58.22	+0.34	SW	1	o	53.3
July 22:						
6 a. m	57.78	+0.52	S	1	o	
2 p. m	57.47	+0.86	SE	2	o	
6 p. m	57.61	—0.61	SSE	2	o	0.5

The negative difference of the barometer noted at 6 a. m. of the 20th was perhaps owing to a somewhat extraordinary rise, which seems to have taken place early in the preceding morning and was possibly due to some rains or showers observed from 5.30 to 7.05 a. m. of that day, according to the report of the observer at that station. Whatever it may have been, it is certain that there was in that place a slight fall in the barometer on the 21st with winds from the SSW and SW, which backed to the S and SSE on the 22d. Moreover, the weather was rainy almost the whole afternoon of the 21st, the pluviometer recording an amount of rainfall of 53.3 millimeters.

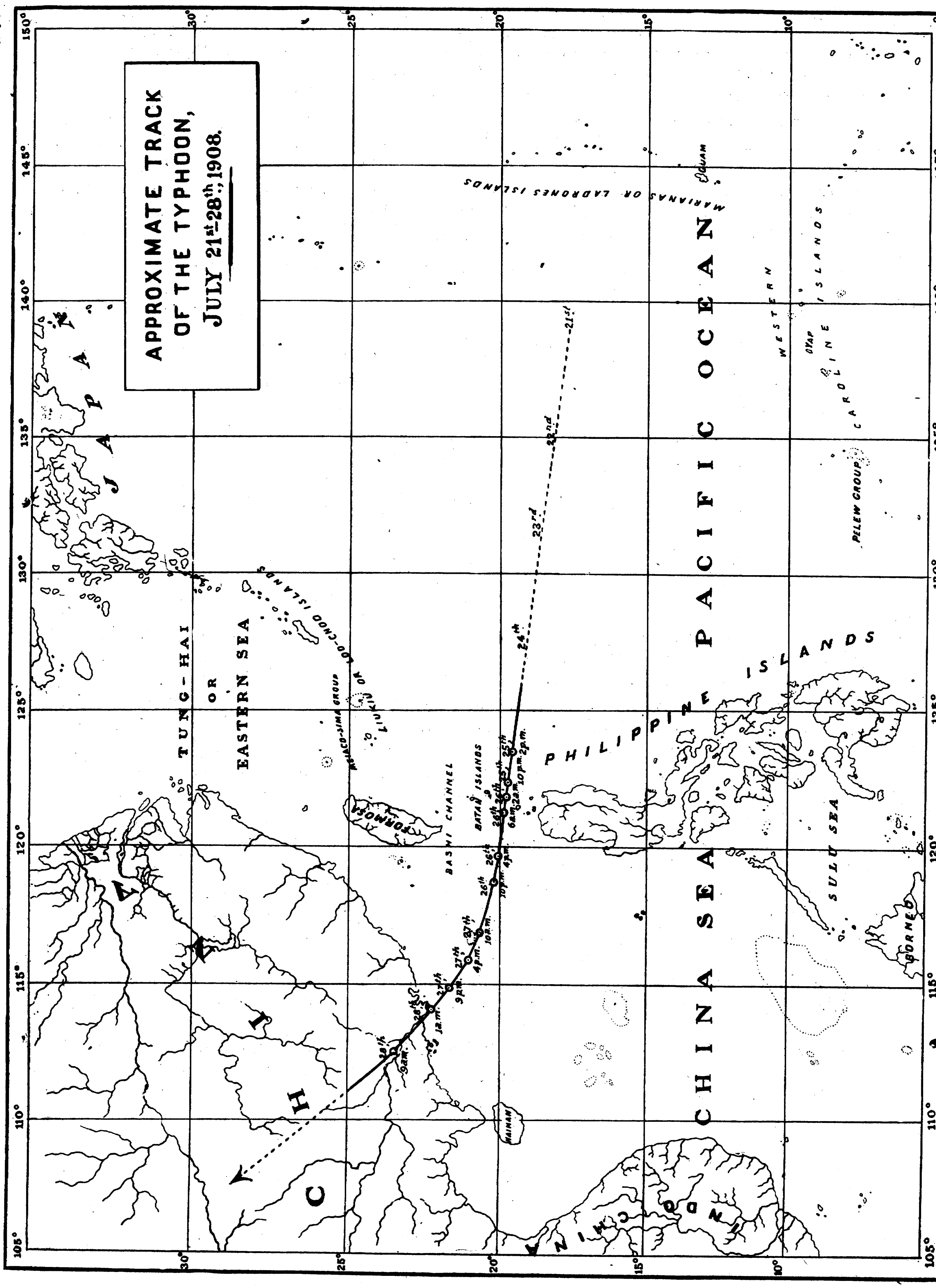
In Yap, Western Carolines, there were also winds from the S and SW from the afternoon of the 23d to the morning of the 25th, and the rain gauges collected 52.58 millimeters during the 22d.

These data seem to indicate, although not in a very convincing manner, the presence of a typhoon on the 21st to the NNW or NW of Guam moving westward.

We wish to offer another reason here which will make somewhat more probable the existence of this typhoon prior to the 25th, and hence give greater force to the indications afforded us by the observations of Guam and Yap just mentioned. We refer to the sea swell from the NE, which was observed on the 23d, 24th, and 25th in Borongan, a station on the eastern coast of Samar entirely open to the Pacific. This swell must have been of some importance as the observer there decided to telegraph it to the Central Observatory in the afternoon of the 24th and again in the morning of the 25th.

For these various reasons, in plate V which shows the track of this typhoon, the 21st appears as the date of the beginning, although we can only give probable values to the portion between the 21st and 24th inclusive.

Plate V.


APPROXIMATE TRACK
OF THE TYPHOON,
JULY 21st-28th, 1908.
JAPAN
TUNG-HAI
OR
EASTERN SEA
LOO-CHOO ISLANDS
FORMOSA
BASHI CHANNEL
BATAN ISLANDS
PHILIPPINE ISLANDS
PACIFIC OCEAN
CHINA SEA
SULU SEA
BORNEO
HAINAN
INDO CHINA
CHINA
MARIANAS OR LADRONES ISLANDS
GUAM
WESTERN CAROLINE ISLANDS
PELEW GROUP
YAP
21st
22nd
23rd
24th
25th
26th
27th
28th

The typhoon in the Balintang Channel.—The following table contains the meteorological observations taken from the 25th to the 27th in Koshun (southern Formosa), Laoag (northwestern Luzon), Aparri (northern coast of Luzon) and Santo Domingo (Batan Islands).

Koshun.					
Date.	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.
	mm.	mm.		0–12.	
July 25:					
5 a. m	757.7	+0.5	N	4	c
1 p. m	57.5	— .5	N	4	c
9 p. m	56.9	—1.8	N	2	
July 26:					
5 a. m	54.7	—3	NE	6	c
1 p. m	56.7	— .8	E	6	
9 p. m	56.5	— .4	E	4	
July 27:					
1 p. m	57.5	+ .8	E	6	r
9 p. m	58.7	+2.2	E	4	

Laoag.						
Date.	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Rainfall (daily total).	Weather.
	mm.	mm.		0–12.	mm.	
July 25:						
6 a. m	757.53	—0.70	ESE	1	-------	o
2 p. m	56.66	—1.09	WSW	1	92.2	o
6 p. m	56.30	-------	-------	-------	-------	-------
10 p. m	57.10	-------	-------	-------	-------	-------
July 26:						
2 a. m	55.90	-------	-------	-------	-------	-------
6 a. m	55.08	—2.45	SSE	1	-------	r
2 p. m	55.31	—1.35	E by S	1	56.9	r
6 p. m	55.20	—1.10	-------	-------	-------	-------
10 p. m	56.80	— .30	-------	-------	-------	-------
July 27:						
2 a. m	55.80	— .10	-------	-------	-------	-------
6 a. m	55.17	+ .09	E	1	-------	b
2 p. m	55.78	+ .47	SW	4	8.1	oq
6 p. m	56.70	+1.50	-------	-------	-------	-------
10 p. m	58.50	+1.70	-------	-------	-------	-------

Date.	Aparri. Pressure.	Aparri. Difference in 24 hours.	Aparri. Wind. Direction.	Aparri. Wind. Force.	Aparri. Rainfall (daily total).	Aparri. Remarks.	Santo Domingo. Pressure.	Santo Domingo. Difference in 24 hours.	Santo Domingo. Wind. Direction.	Santo Domingo. Wind. Force.	Santo Domingo. Rainfall (daily total).	Santo Domingo. Remarks.
	mm.	mm.		0–12.	mm.		mm.	mm.		0–12.	mm.	
July 25:												
2 a. m	758.03	—0.05	SW	1	-------	Veil of A-S in the morning; rain with gusty S winds during the night.		-------	-------	-------	-------	Thunders toward NE at 5 p. m.; slight rain with gusty winds at times, and lightning in the SE and SW quadrant at night.
6 a. m	57.47	— .89	SW	1	-------		756.74	—1.72	NW	3	-------	
2 p. m	56.86	—1.35	S	1	-------		55.35	—2.41	NW by N	3	13.7	
6 p. m	55.15	—2.76	SW	2	-------		53.60	-------	N	-------	-------	
10 p. m	55.49	—3.61	S	3	20.3		53.90	-------	NE	-------	-------	
July 26:												
2 a. m	54.39	—3.64	S	4	-------	Somewhat squally during the early morning; weather improving at night.	51.90	-------	-------	-------	-------	Wind from E, force 5-6 in the early morning, from SE moderating in the morning; rain in the afternoon and night.
6 a. m	54.25	—3.22	S	3	-------		53.81	—2.93	SE	3	-------	
2 p. m	55.21	—1.65	SW	2	-------		55.66	+ .31	SE	1	16.5	
6 p. m	55.14	— .01	S	0	-------		55.70	+2.10	-------	-------	-------	
10 p. m	56.52	+1.03	SW	1	49.8		56.80	+2.90	-------	-------	-------	
July 27:												
2 a. m	56.22	+1.83	SW	1	-------	Lightning in the SW quadrant at night.	56.20	+4.30	-------	-------	-------	Drizzle early in the morning; lightning in the SE and NW quadrant at night.
6 a. m	56.43	+2.18	SE	1	-------		56.81	+3	SE by E	2	-------	
2 p. m	56.54	+1.33	NE	1	-------		57.03	+1.37	SSE	2	1.	
6 p. m	56.54	+1.40	NE	0	-------		56.90	+1.20	-------	-------	-------	
10 p. m	59.21	+2.69	W	1	-------		58.90	+2.10	-------	-------	-------	

The observations of Santo Domingo indicate most clearly the existence of a cyclonic center to the east of the Balintang Channel on the 25th. Those of Aparri, even taken alone and without reference to those of other stations in Luzon and Formosa, show so unmistakably the passage of a typhoon by the north of that station that the observer, Mr. Manuel Delgado, did not hesitate to send the following telegram to the Central Observatory on the morning of the 26th:

Marked fall (of barometer). South winds. Continuous rain during night. Second Signal hoisted.[1]

[1] This signal indicates that a typhoon is passing by the north at a considerable distance.

As soon as the Manila Observatory received the observations of Formosa and Luzon taken at 5 a. m. and 6 a. m., respectively, on the 26th, the following typhoon warning was sent to Japan, Formosa, the China coast and Indochina:

July 26, 9.50 a. m.: Typhoon in or near the Balintang Channel, direction unknown.

Before noon we received from Hongkong Observatory this other telegram which confirmed the Manila warning:

July 26, 10.55 a .m.: Typhoon near the Balintang Channel, direction unknown.

The veering of the winds observed in the station of Santo Domingo from the afternoon of the 25th to the afternoon of the 26th was so complete and gradual that had the observations of that station been received in Manila or sent to Hongkong there would have been no room for doubting the existence of a well-developed cyclonic center,[1] which coming from the Pacific, crossed south of the Batan Islands in a westerly direction. It is, indeed, a pity that up to the present we have not been able to secure telegraphic communication with a station of such an importance on account of its geographical position.[2]

The first three small maps of plate VI show the isobars and the position of the cyclonic center at 2 p. m. and 10 p. m. of the 25th and at 6 a. m. of the 26th.

The typhoon in the China Sea.—The weather map for the morning of the 27th seemed to indicate quite clearly the existence of a typhoon in the northeastern part of the China Sea to the west of the Balintang Channel and moving in a westerly direction. Accordingly the Manila Observatory sent a second typhoon warning to Japan, Formosa, the China coast and Indochina, as follows:

27th, 11 a. m.; Typhoon west of the Balintang Channel, moving west.

This warning was likewise confirmed by a telegram from Hongkong Observatory:

27th, noon: Typhoon SE of Hongkong moving west.

[1] We say this, because the Director of the Hongkong Observatory did not think there was question of a severe typhoon, but rather of a depression, until the afternoon of the 27th. We copy here a part of the daily weather notes issued by that Observatory on the 26th and 27th:

On the 26th at 11.45 a. m.: "The barometer has fallen moderately over Formosa and Luzon owing to the appearance of a depression in the neighborhood of the Balintang Channel."

On the 27th at 12.15 p. m.: "The depression, which at present gives no indication of being a severe disturbance, has moved westward. It appears to be situated about 300 miles to the SE of Hongkong."

The Manila Observatory gave out the following information referring to this typhoon in the daily weather notes for the 26th, 27th and 28th:

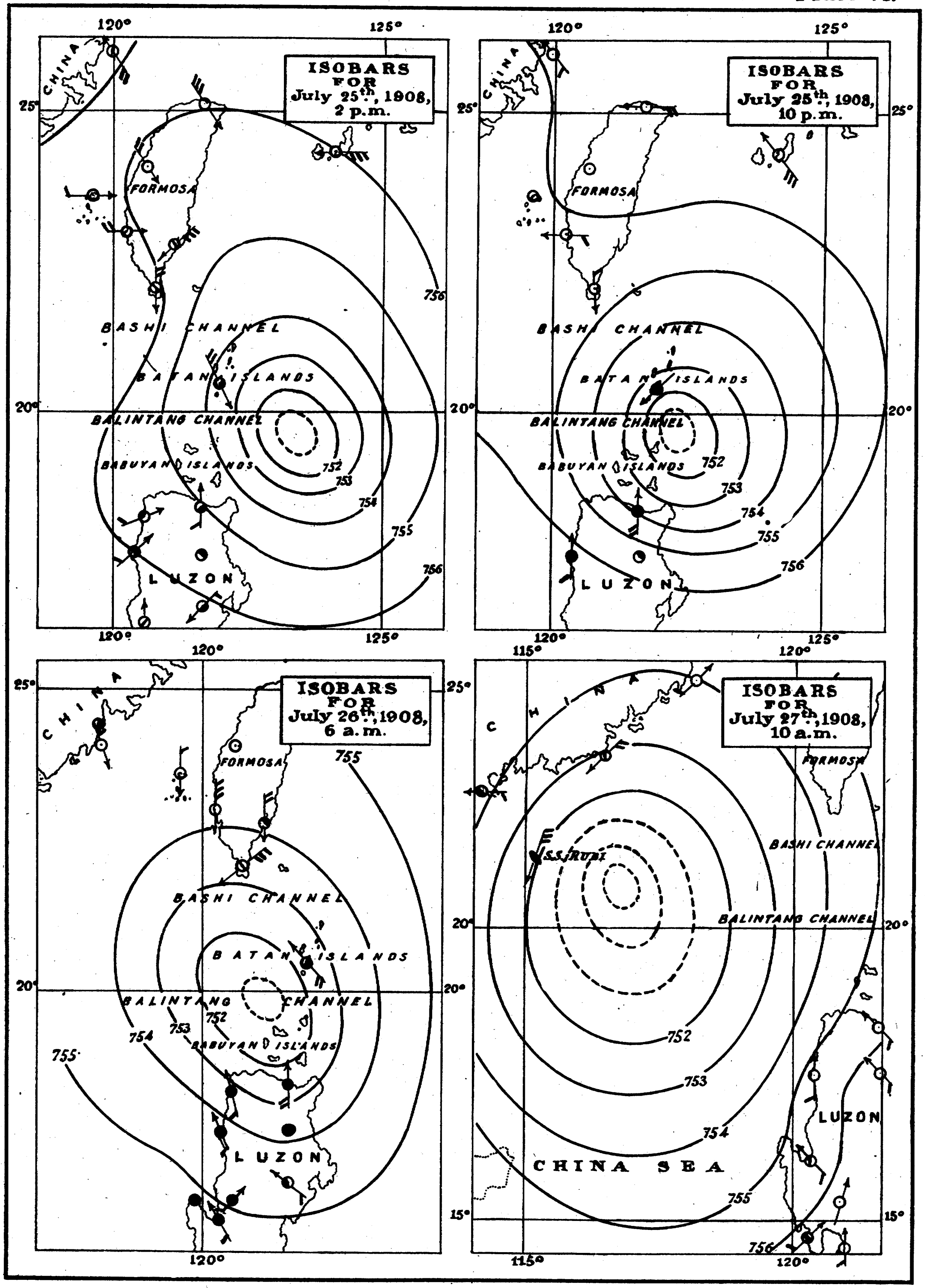
"July 26, 12.20 p. m.: Pressure is lowest over the Balintang Channel. * * * A typhoon seems to have been developing since yesterday evening near or over the Balintang Channel: its direction, however, can not yet be ascertained."

"July 27, 12.15 p. m.: Pressure is lowest over the northern part of the China Sea. The typhoon situated yesterday over the Balintang Channel seems to have moved away westward."

"July 28, 12.20 p. m.: It seems that the typhoon of the preceding days entered the Continent last night not far from Hongkong."

[2] As a result of the typhoon we are now discussing, the Governor-General of Hongkong wrote to the Governor-General of the Philippines suggesting to him that information from the Batan Islands would be of great value both to Manila and to Hongkong, and urging in favor of the establishment of a wireless station at Santo Domingo de Basco. The Governor-General of the Philippines after having obtained the favorable opinion of the Director of the Weather Bureau took up the matter with the Insular postal authorities and replied to the Governor-General of Hongkong stating that he hoped there may be sufficient money available to carry into effect the project suggested by His Excellency and that, in case there was no money available for the purpose, he would apply for an appropriation to the Legislature at its next session.

Plate VI.



N. B.-The barometric readings have been corrected to standard gravity

We regret that we have so few observations from the China Sea, made during the passage of this typhoon. The only records that have come into our hands are those of the steamer *Rubi*, which sailed from Manila for Hongkong at 10 a. m. of the 25th, and therefore felt the influence of the storm, although she anchored in Kowloon Bay five hours and a half before the vortex passed south of Hongkong. These observations are given in the following table:

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "RUBI," JULY 25 TO 27, 1908.

(Captain, Mr. R. Almond.)

Date.	Position.		Pressure.	Wind.		Weather.	Remarks.
	Latitude N.	Longitude E.		Direction.	Force.		
July 25:	° ′	° ′	*mm.*		*0–12.*		
10 a. m	14 35	120 59	758.68	Calm	------	o	Leaving Manila for Hongkong.
4 p. m	----------	----------	57.92	SW	1	o	
10 p. m	----------	----------	57.92	W	2	o	Heavy rain at times.
July 26:							
10 a. m	----------	----------	56.14	WSW	4	--------	Westerly swell.
Noon	17 58	117 40	--------	W to NNW	4	--------	Dull with rain.
4 p. m	----------	----------	54.37	W	3	--------	Continuous rain.
10 p. m	----------	----------	54.62	NW	3	--------	Lightning; NE swell.
July 27:							
10 a. m	----------	----------	53.60	NNE	5	--------	Rain; easterly swell.
Noon	21 34	114 48	--------	----------	------	--------	Rough confused sea.
4 p. m	----------	----------	51.83	NNE	6	--------	Swell from ESE, also heavy bank to the E.—Barometer rose 0.76 mm. from 4 p. m. to 7 p. m.

The fourth small map of plate VI represents the isobars and the position of the typhoon at 10 a. m. of the 27th.

The typhoon in the neighborhood of Hongkong.—If the typhoon had continued its movement of translation westward, there would have been no fear that Hongkong would have suffered much from the cyclone. But, unfortunately for the neighboring colony, a quite remarkable change took place in the direction of this movement in the afternoon of the 27th. The typhoon was moving W by N in the morning of the same day, but it inclined more toward the north in the afternoon, so that, by the evening, it was moving in a NW by W direction. See in plate VII the isobars and the position of the cyclonic vortex at 10 p. m. of the 27th.

The Hongkong Observatory continued watching carefully the progress of the storm, and gave out the following timely warnings and orders from 6 p. m. of the 27th:

On the 27th at 6 p. m.: Orders given to hoist the Black S. Cone and Drum (indicates a typhoon SE of colony within 300 miles).

At 9.30 p. m.: The typhoon appears to be moving toward the coast in the neighborhood of Hongkong.

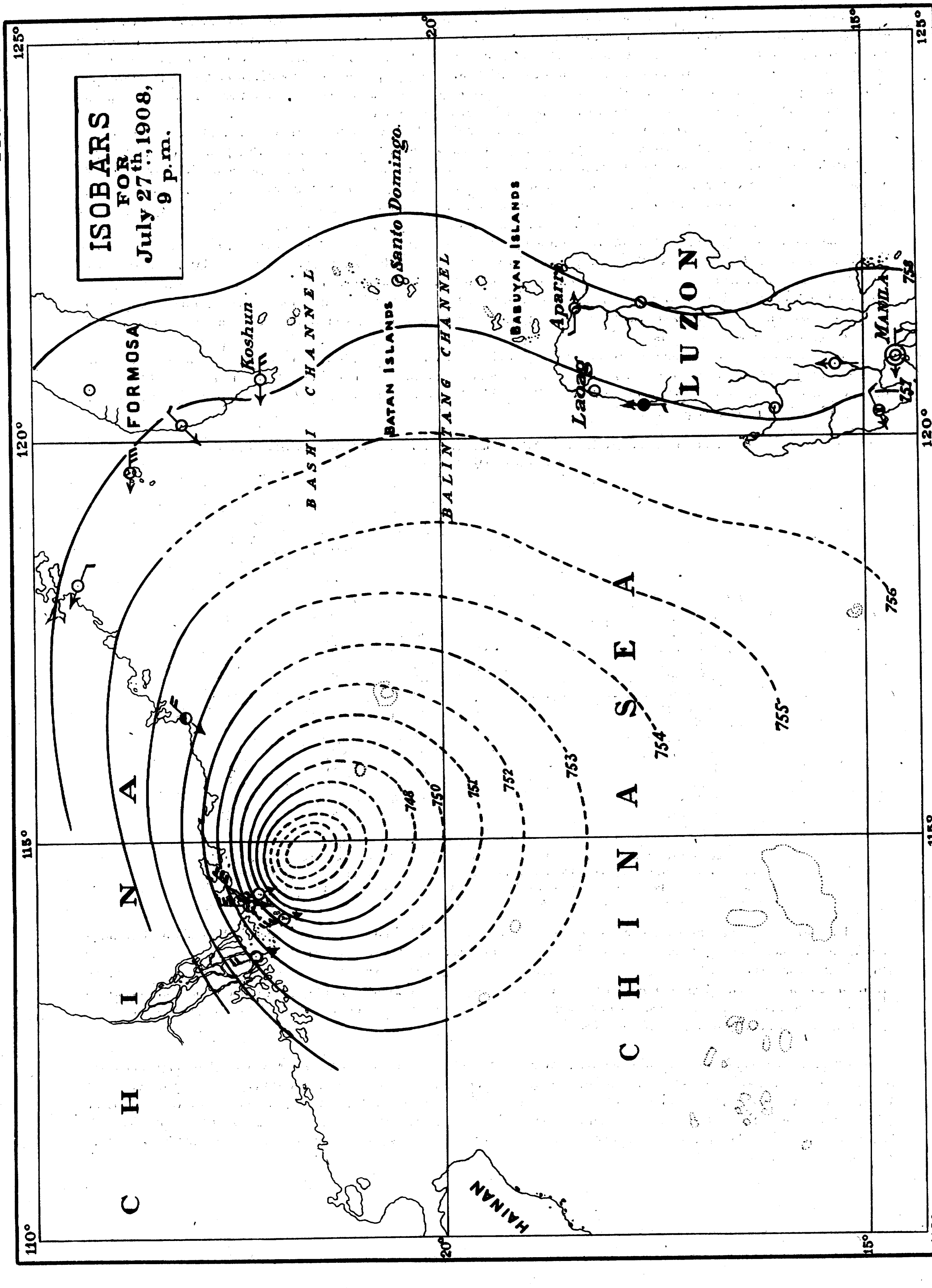
At 11.15 p. m.: Order issued to hoist No. 3 night signal and fire three bombs.

The cyclonic center passed south of Hongkong Observatory at a distance of less than 10 miles at 1 a. m. of the 28th. We give here part of the report mentioned above of the Director of Hongkong Observatory:

The morning observations of the 27th showed a moderate increase of pressure in Luzon (Aparri 29.78, wind SE, a light air, clear sky). The observations from Koshun did not reach the Observatory, but at Swatow the barometer read 29.71, wind NE, force 1. In Hongkong, where pressure had given way two-hundredths of an inch only, during the past 24 hours, and was below the normal by the same amount, the barometer at 10 a. m. read 29.75, wind E, force 1. At Gap Rock a gentle breeze blew from NE. These observations faintly indicated the existence of the depression but gave no clue whatever as to its severe character. It was believed to be situated at that time about 300 miles to the SE of the Colony and notice to that effect was given, and Red signals were hoisted at 12.15 p. m.

* * * * * * *

Plate VII.



N.B.-The barometric readings have been corrected to standard gravity.

Perhaps the best evidence of the existence of the typhoon was furnished by clouds. The morning broke fine, the sky being almost cloudless. Shortly after noon a bank of clouds of the cirro-stratus type was observed bearing SE by E, its advancing edge being at an altitude of about 30°. At 4 p. m. this pall had covered nearly the whole sky except just above the NW horizon where it was still clear. A few patches of alto-cumulus below it were seen to be coming from NE by E in the afternoon. The direction however was backing, a significant fact. At 6 p. m. they came from NE by N and it was then that the Black signals were hoisted.

The barometers, still only 0.02 inch below the normal at 4 p. m., now began to fall and the wind, which had been chiefly a light breeze from E during the day, shifted to the North. Gap Rock at 4 p. m. reported "slight swell from SE," the wind there at the time being a gentle breeze from NE. At the same hour Waglan reported a moderate breeze from ENE. At 7 p. m. it blew a fresh breeze from NNE at Waglan, and a gentle breeze from N at Gap Rock, the swell still being reported from the latter station as "slight from SE." It thus appears that sea swell in this instance had not outrun the advancing storm to any considerable distance.

The following observations show the conditions prevailng at 9 p. m. Observatory barometer 29.64, wind north, force 5, Waglan 29.58, NNW, 7, Gap Rock 29.57, NNW, 6. The swell reported by the latter station was now "moderate from ESE." These observations appeared to indicate the probability of the typhoon center reaching the coast in the neighborhood of the Colony, and I then wired a message to that effect to Hongkong for distribution. The barometer at the Observatory still read only 0.12 inch below normal, but the gradient between here and the lighthouses was increasing.

The barometer now commenced to fall quickly and the wind to rise and at 11.15 p. m. (standard time) No. 3 night signal, accompanied by the firing of the three bombs was made. This indicated that the gale then blowing was likely to increase to full typhoon force. The following observations are from Observatory records, the time being given in Hongkong mean time.

METEOROLOGICAL OBSERVATIONS MADE AT HONGKONG OBSERVATORY JULY 27 TO 28, 1908.

Date.	Pressure.	Wind.	
		Direction.	Velocity (miles per hour).
July 27:	*mm.*		
6 p. m	753.10	N	8
7 p. m	53.10	N	12
8 p. m	52.59	N	17
9 p. m	52.84	N	26
10 p. m	51.83	N	39
11 p. m	49.03	N	53
Midnight	42.68	NE by N	75
July 28:			
1 a. m	34.81	ESE	[a]72
2 a. m	44.21	SSE	81
3 a. m	48.78	SSE	54
4 a. m	51.32	S by E	42
5 a. m	52.59	S by E	36
6 a. m	53.60	S	23

[a] The record of wind velocity is not reliable probably from midnight. The spindle carrying the cups snapped just above the supporting arms at some time during the night. The cups however continued to revolve; but loss of speed during the high velocities is certain to have occurred.

The barometric minimum, 28.85, occurred at 1.03 a. m. The wind moderated somewhat at about 1 a. m.—the direction was veering quickly toward SE and S—but rose again a few minutes later and blew with greater fury than before, the squalls being not only terrific but also of long duration between 1.15 a. m. and 1.45 a. m. At about 2 a. m. the wind began to moderate. It is probable that the greater part of the damage on shore occurred during this interval. In the Observatory compound nearly all the damage was caused by the SSE wind, trees and other debris falling toward NW and NNW.

* * * * * * *

Observations subsequently received from Waglan and Gap Rock show that it blew with full typhoon force at the former station, from NE at midnight and from ENE at 1 a. m., the barometer falling to 28.70 at the latter hour. At Gap Rock typhoon force was not recorded. The lowest barometer reading, 29.24, occurred at 1 a. m. with the wind a whole gale (force 10) from west, and subsequently at 2 a. m. and 3 a. m. from SW, when it began to moderate. The gradient between the Observatory and Waglan at midnight was equivalent to just over half an inch in 15 miles.

The captain of the steamer *Rubi* has favored us with the following observations made aboard his ship during the passing of the storm:

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "RUBI," JULY 27-28, 1908.

(Captain, Mr. R. Almond.)

Date.	Position.	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Remarks.
July 27:		mm.		0-12.		
7.27 p. m	Kowloon Bay	----	----	----	----	Barometer fell 0.76 mm. from 7 p. m. to 8 p. m.
10 p. m	do	751.57	NE	7	q	Continuous rain.
11 p. m	do	48.52	NE	9	q	Do.
Midnight	do	41.67	NE	12	q	Hurricane force.
July 28:						
1 a. m	do	35.32	E to SE	12	q	Wind shifted from E to SE blowing with terrific force. Typhoon center would be at that time about 8 miles away between Waglan and Gap Rock. At the height of the squall took both aneroid and typhoon barometers both quivering between 715.00 mm. and 722.62 mm. but as cabin was shaking a good deal did not take them as a reading, but a few minutes afterwards got them both at 735.32 mm. steady.
2 a. m	do	40.40	SE	12	q	Hurricane force.
3 a. m	do	50.56	SSE	9	q	Wind force decreasing: frequent squalls.
4 a. m	do	51.06	SSE	7	----	Weather clearer.
5 a. m	do	52.33	SSE	5	q	Squally with rain and decreasing.
6 a. m	do	53.60	SSE	4	q	Do.
7 a. m	do	53.86	S	3	q	Do.
8 a. m	do	55.38	S	3	q	Do.
10 a. m	do	56.14	S	1	----	Weather clearing up.
4 p. m	do	57.16	SW	2	----	Continuous light rain.

It is not our intention to offer here a list or summary of the damages and losses of life caused by this typhoon both in the city and in the harbor of Hongkong. We will only copy a few lines from a local newspaper in order that our readers may have an idea of the severe intensity of the storm:

> The typhoon which visited the colony on Monday night was a more severe one than that of the 18th of September, 1906; but happily we have not the same sad tale of disaster to chronicle. It caused more damage ashore than the 1906 typhoon, but far less afloat. This was due solely to the fact that the Observatory on this occasion gave the community timely warning of its approach and so enabled adequate precautions to be taken.

In Plate VIII can be seen reproductions of two barographic records obtained aboard the steamer *Tean* (at anchor in the port of Hongkong)[1], and in the vicinity of Mount Kellet in the Island of Hongkong about 1 or 1½ miles south of Victoria.[2]

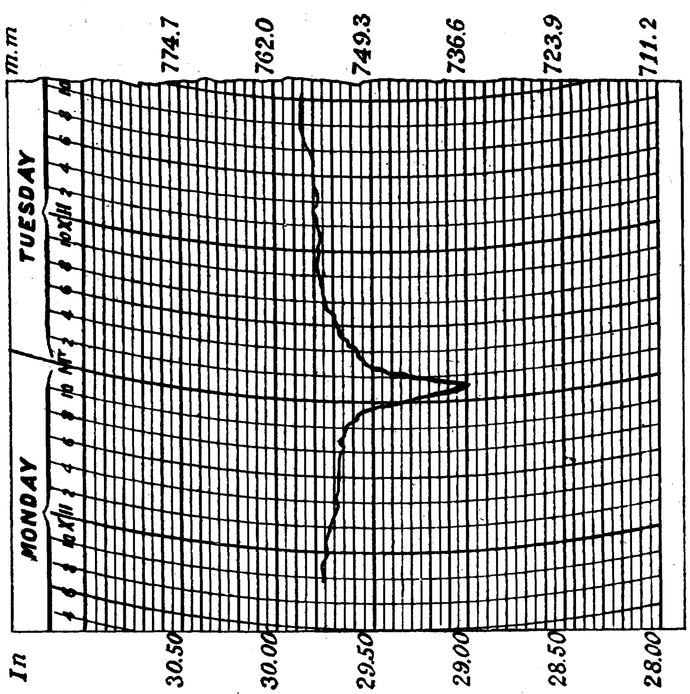
[1] We are indebted to Capt. D. W. Outerbridge for the original of this curve. Another similar curve obtained aboard the S. S. "Fausang" was furnished to the Manila Observatory by Captain Malkin through the kindness of Mr. Stuart J. Fuller, American Vice-Consul General at Hongkong.

[2] This is a copy of a reproduction published by the "South China Morning Post" August 8, 1908.

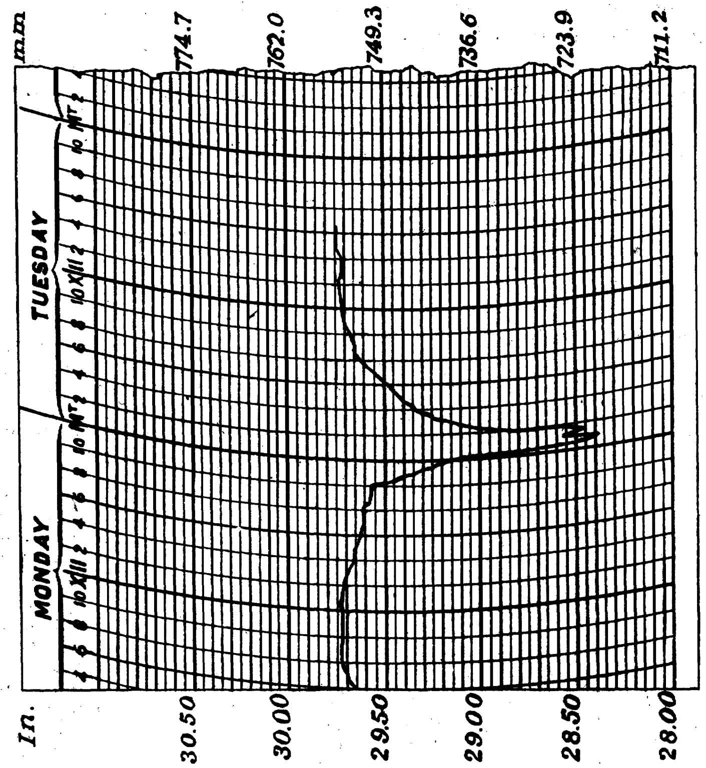
Plate VIII.

THE HONGKONG TYPHOON JULY 27–28, 1908.

BAROGRAPHIC RECORDS.



S.S. "TEAN" HONGKONG HARBOUR.



ISLAND OF HONGKONG, ABOUT 1 OR 1½ MILES SOUTH OF VICTORIA.

The typhoon passed NE of Macao and was nearest to that city at 2 a. m. of the 28th when the barometric minimum 741.99 millimeters was registered there with westerly winds of hurricane force. The observations made on the 27th and 28th in the Observatory of that port are included in the following table:

METEOROLOGICAL OBSERVATIONS MADE AT MACAO OBSERVATORY, JULY 27 TO 28, 1908.

Date.	Pressure.	Wind.		Weather.
		Direction.	Force.	
July 27:	*mm.*		*0–12.*	
4 a. m	754.68	SE	0–1	c
10 a. m	55.00	SE	0–1	c
1 p. m	54.89	ENE	1	c
4 p. m	53.36	Calm	------	o
10 p. m	52.84	NNW	2–3	od
Midnight	50.00	NNW	2–3	oqrl
July 28:				
0.30 a. m	49.47	NW	5–6	oqrl
1 a. m	46.98	NW	10	oqrl
1.30 a. m	43.65	NW by W	11–12	oqrl
2 a. m	41.99	W	11	oqr
2.30 a. m	42.09	W by S	11	oqr
3 a. m	43.29	WSW	10–11	oqr
3.30 a. m	44.58	S	10	oqr
5 a. m	48.87	S	8	oqr
8 a. m	54.02	S	7	opq
10 a. m	55.44	SW	5–6	oq

The typhoon on the Continent.—Early on the 28th the typhoon was on the Continent, its center passing south and west of Canton. The following statement of its effects at that city is taken from "The Hongkong Daily Press:"

The damage done by the wind and rain is heavy and unprecedented. Over two hundred houses have collapsed, in some cases, with loss of life. The telephone, electric lightning, and telegraph lines are down in every street and the regular service will take a few days to restore. It is dangerous to move about the city just now as the walls that have been damaged are coming down now and then with a crash * * *.

Some remarks on this typhoon.—The typhoon increased in speed in the China Sea, the rate of velocity being about 8½ miles per hour when it crossed south of the Batan Islands, and about 14½ miles per hour when it struck Hongkong. It seems that it increased likewise in depth after it left the Balintang Channel; but once in China, it soon began to fill up gradually as is generally the case in the typhoons which land in the Asiatic Continent.

According to the Director of Hongkong Observatory, when the typhoon passed close to that colony, "the radius of the area over which strong gales blew does not appear to have exceeded 35 miles in average." The area over which winds with full typhoon force were recorded seems to have been of less that 20 miles radius.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La media mensual de la presión atmosférica ha sido en todas las estaciones del Weather Bureau algo superior á la de Julio del año próximo pasado. La de Manila difiere de la normal de este mes en +0.30 mm. Las máximas presiones se observaron generalmente en Filipinas los días 3 y 4. La presión mínima de todo el mes fué registrada en todas partes el día 31: fué debida á un tifón del Pacífico de que hablaremos en el boletín del mes de Agosto.

La temperatura media mensual difiere poco de la normal de este mes así como también de la media de Julio, 1907.

Precipitación acuosa.—La cantidad total de lluvia de este mes ha sido en unas estaciones superior y en otras inferior á la de Julio del año pasado. La de Manila se separa de la normal en –98.6 mm.

DEPRESIONES Y TIFONES.

Las depresiones y tifones de este mes no han sido de grande importancia para Filipinas, aunque sí lo fué uno de ellos para la vecina colonia de Hongkong.

La tarde del día 20 apareció una pequeña depresión en el Pacífico hacia el SE del grupo de Meiacosima, la cual cruzó por entre Naha é Ishigakijima, moviéndose al N ó NNW y vino á hallarse la tarde del 22 en la región meridional del Mar del Este, según puede verse en nuestro mapa del tiempo de 2 p. m. de aquel día.

Durante los últimos días del mes el Observatorio de Manila anunció un tifón en el Pacífico al este de Filipinas y una depresión en el Mar de China. Mas, de ellos hablaremos en el boletín del mes próximo. Ahora nos fijaremos únicamente en el tifón de Hongkong.

EL TIFÓN DE HONGKONG, 21 Á 29 DE JULIO, 1908.

Este tifón fué en su carácter y en su trayectoria muy semejante al de 18 de Septiembre, 1906. Sin embargo, era de diámetro algún tanto mayor, al parecer en la proporción de 5 á 3, y además pasó algo más cerca de Aparri; y á estas circunstancias se debió, sin duda, que pudiese el Observatorio de Manila anunciar su existencia en el canal de Balintang, la mañana del 26, según veremos luego.

Con esta ocasión se vió una vez más lo útil que sería para tales casos el tener comunicación telegráfica con la estación meteorológica de Santo Domingo, situada próximamente á igual distancia del sur de Formosa y del norte de Luzón. Por este motivo y por la extraordinaria intensidad con que desfogó este tifón en la vecina colonia de Hongkong, creemos será del gusto de nuestros lectores que estudiemos su trayectoria con alguna detención.

Origen de este tifón.—El Director del Observatorio de Hongkong Mr. F. G. Figg empieza su report sobre este tifón, fechado el 8 de Agosto, con estas observaciones referentes á su origen:

> El tifón que desfogó en esta colonia la noche del 27 al 28 de Julio último es posible que se hubiese formado el 25 al este del canal de Balintang. Mas, en la ausencia de observaciones del Pacífico, no puede esto asegurarse con certeza, ya que este tifón debe sin duda clasificarse entre los de área reducida. En todo caso no tenemos al presente evidencia alguna de su existencia antes del día 25. En dicho día se notó una ligera bajada de los barómetros en Luzón y sur de Formosa por más que la presión atmosférica se conservaba aún algo superior á la normal en ambas regiones.

Nada tendríamos que añadir á estas observaciones, si los datos que hemos recibido de Carolinas y Marianas no nos diesen el día 21 algunos indicios, aunque á la verdad muy ligeros, de la existencia de un tifón hacia el noroeste de Guam. Sentimos no poseer más datos del Pacífico para poder precisar con más seguridad el punto de origen ó formación de este baguio. En el texto inglés damos las observaciones hechas en Sumay, Guam, del 20 al 23 de Julio. La diferencia negativa del barómetro anotada á 6 a. m. del 20 parece ser debida probablemente á un ascenso algo extraordinario que tuvo lugar la madrugada del día anterior, efecto tal vez de las lluvias ó chubascos observados de 5.30 á 7.05 a. m. de dicho día, según hizo constar en su report el Jefe de aquella estación. Sea de esto lo que fuere, lo cierto es que hubo allí una ligera bajada barométrica el día 21 con vientos del SSW y SW, los cuales rolaron al S y SSE el día 22. Además, el tiempo estuvo lluvioso casi toda la tarde del 21 recogiéndose en los pluviómetros 53.3 milímetros de agua.

En Yap, Carolinas Occidentales, soplaron también vientos del S y SW desde la tarde del 23 hasta la mañana del 25 y se recogieron en los pluviómetros 52.6 milímetros durante el día 22.

Estos datos parecen indicar, aunque no de una manera muy convincente, que un tifón demoraba el 21 hacia el nornoroeste ó noroeste de Guam moviéndose al oeste. Otro hecho queremos consignar aquí que viene á hacer algo más probable la existencia de este tifón antes del 25 y á dar por lo tanto alguna mayor fuerza á los indicios que nos dan las observaciones que acabamos de mencionar. Nos referimos á la recalada del NE que se observó el 23, 24 y 25 en Borongan, estación enteramente abierta al Pacífico en la costa oriental de Sámar. Esta recalada hubo de ser importante desde el día 24, pues movió al Observador á telegrafiarlo al Observatorio central la tarde de dicho día 24 y otra vez la mañana del 25.

Por todas estas razones nos hemos resuelto á publicar la trayectoria de este tifón comenzándola desde el 21, aunque sólo podemos dar un valor algo probable á la porción comprendida desde el 21 hasta el 24 inclusive.

El tifón en el canal de Balintang.—En el texto inglés pueden verse las observaciones meteorológicas del 25 al 27 hechas en Koshun (sur de Formosa), Laoag (noroeste de Luzón), Aparri (costa norte de Luzón) y Santo Domingo (Islas Batanes). Las de Santo Domingo son las que más claramente indican el 25 la existencia de un centro ciclónico al este del canal de Balintang. Las de Aparri, aun tomadas aisladamente y sin relacionarlas con las de otras estaciones de Luzón ó de Formosa señalaron de un modo tan evidente el paso de un tifón por el norte de aquella estación que el Observador D. Manuel Delgado no dudó en poner el siguiente telegrama al Observatorio central la madrugada del 26:

Descenso (barométrico) marcado. Viento sur. Lluvia continua durante noche. Izada segunda señal.[1]

El Observatorio de Manila en cuanto hubo recibido las observaciones de Formosa y de Luzón, hechas respectivamente á 5 a. m. y 6 a. m. del 26, envió á Japón y Formosa y á la costa de China é Indochina el siguiente aviso de tifón:

Julio 26, 9.50 a. m.: Baguio ó tifón en el, ó cerca del, canal de Balintang; dirección desconocida.

Antes de mediodía recibimos del Observatorio de Hongkong este otro telegrama que vino á confirmar el aviso de Manila:

Julio 26, 10.55 a. m.: Tifón cerca del canal de Balintang; dirección desconocida.

El role de vientos observado en la estación de Santo Domingo desde la tarde del 25 hasta la tarde del 26 fué tan perfecto y gradual, que, á haber sido recibidas en Manila ó telegrafiadas á Hongkong las observaciones de aquella estación, no hubieran dejado lugar á duda de que se trataba de un centro ciclónico bien desarrollado[2] que, procedente del Pacífico, cruzaba por el sur de las

[1] Esta señal significa que pasa un tifón algo lejos por el norte.

[2] Decimos esto porque el Director del Observatorio de Hongkong no creyó se trataba de un verdadero tifón, sino más bien de una depresión, hasta la tarde del 27. Copiamos aquí parte de las notas diarias del tiempo dadas por aquel Observatorio los días 26 y 27:

"Día 26, 11.45 a. m.—Los barómetros han bajado moderadamente en Formosa y Luzón debido á la aparición de una depresión en los alrededores del canal de Balintang."

"Día 27, 12.15 p. m.—La depresión, que al presente no da indicaciones de ser una perturbación de importancia, se ha movido hacia el oeste. Parece estar situada á unas 300 millas al SE de Hongkong."

El Observatorio de Manila dió al público la siguiente información sobre este baguio en las notas del tiempo de los días 26, 27 y 28:

"Día 26, 12.20 p. m.—La presión atmosférica se halla muy baja en el canal de Balintang. * * * Parece haberse desarrollado desde ayer tarde un tifón en ó cerca del canal de Balintang: sin embargo, no se puede precisar aún su dirección."

"Día 27, 12.15 p. m.—La presión atmosférica está muy baja en la parte NE del Mar de China. El tifón situado ayer en el canal de Balintang parece haberse alejado hacia el W."

"Día 28, 12.20 p. m.—Parece que el tifón de los días anteriores penetró la noche pasada en el Continente no lejos de Hongkong."

Islas Batanes y se movía hacia el oeste. Lástima que no nos haya sido aún dado ver satisfechos nuestros deseos de tener comunicación telegráfica con una estación de tanta importancia por su situación geográfica.[1]

En los tres primeros mapitas de la lámina VI (plate VI) van las isobaras y posición del centro ciclónico á 2 p. m. y 10 p. m. del 25 y 6 a. m. del 26.

El tifón en el Mar de China.—El mapa del tiempo de la mañana del 27 parecía indicar con bastante claridad que el tifón demoraba en la parte nordeste del Mar de China hacia el oeste del canal de Balintang y que se movía hacia el oeste. En vista de esto, el Observatorio de Manila envió este segundo aviso de tifón á Japón, Formosa, costa de China é Indochina:

Día 27, 11 a. m.: Baguio ó tifón al Oeste del canal de Balintang, moviéndose al oeste.

Este aviso fué también confirmado poco después por este telegrama recibido del Observatorio de Hongkong:

Día 27, mediodía: Tifón al SE de Hongkong, moviéndose al oeste.

Sentimos no poseer apenas observaciones hechas en el Mar de China durante el paso de este tifón. Las únicas que han llegado á nuestras manos son las del bapor *Rubí* que había salido de Manila para Hongkong á 10 a. m. del 25 y, por lo tanto, sintió bien su influencia, aunque logró fondear en la bahía de Kowloon unas cinco horas y media antes de que cruzase el vórtice por el sur de Hongkong. Publicamos estas observaciones en un cuadro que acompaña el texto inglés.

El cuarto mapita de la lámina VI (plate VI) representa las isobaras y posición del centro ciclónico á 10 a. m. del 27.

El tifón en los alrededores de Hongkong.—Si el tifón hubiese continuado su movimiento de traslación hacia el oeste, no hubiera sido de temer que se hubiese dejado sentir mucho en Hongkong. Pero desgraciadamente para la vecina colonia tuvo lugar un cambio bastante notable en dicho movimiento desde mediodía del 27. El baguio se movía la mañana de dicho día al W $\frac{1}{4}$ NW; pero durante la tarde se fué inclinando más al norte, de suerte que por la noche se movía próximamente al NW $\frac{1}{4}$ W. Véanse en la Lámina VII (Plate VII) las isobaras y posición del vórtice ciclónico á 10 p. m. del 27.

El Observatorio de Hongkong seguía vigilando con cuidado la marcha del temporal dando las siguientes oportunas órdenes y avisos desde 6 p. m. del 27:

Día 27, 6 p. m.: Se ordena izar el cono negro S y el cilindro negro (indican un tifón al SE de la colonia á una distancia menor de 300 millas).

Día 27, 9.30 p. m.: El tifón parece moverse hacia la costa en los alrededores de Hongkong.

Día 27, 11.15 p. m.: Se ordena izar la señal de noche No. 3 y disparar tres cañonazos.

El centro ciclónico pasó por el sur del Observatorio de Hongkong á una distancia menor de 10 millas á eso de 1 a. m. del 28. En el texto inglés copiamos parte del report que, con motivo de este tifón, escribió el Director de aquel Observatorio, según indicamos al principio de esta relación.

[1] Como resultado del tifón que estamos discutiendo, el Gobernador General de Hongkong escribió al Gobernador General de Filipinas, sugiriendo que telegramas de las Islas Batanes serían de gran valor así para Manila como para Hongkong, y urgiendo en favor del establecimiento de una estación de telegrafía sin hilos en Santo Domingo de Basco. El Gobernador General de Filipinas, después de haber obtenido la opinión favorable del Director del Weather Bureau, trató el asunto con el Jefe de Correos de las Islas y contestó al Gobernador General de Hongkong diciéndole que confiaba habría fondos suficientes para llevar á efecto el proyecto sugerido por su Excelencia y que, si acaso los fondos no bastasen, pediría una consignación especial para este objeto en la sesión próxima de la Legislatura.

El Capitán del vapor *Rubí,* fondeado en la bahía del Kowloon, como queda dicho arriba, desde las 7.27 p. m. del 27, nos facilitó las observaciones hechas á bordo de dicho vapor durante el paso de este tifón. Las reproducimos íntegras en el texto inglés. Allí mismo puede verse en la lámina VIII (plate VIII) la reproducción de dos curvas barográficas obtenidas respectivamente á bordo del vapor *Tean* (fondeado en el puerto de Hongkong),[1] y en las cercanías del monte Kellet, en la Isla de Hongkong, á 1 ó 1½ millas al sur de Victoria.[2]

Omitimos el referir aquí los daños y víctimas causados por este tifón así en la ciudad como en el puerto de Hongkong. De un periódico local tomamos las siguientes líneas que dan una idea general de su extraordinaria intensidad:

> El tifón que visitó la colonia la noche del lunes fué más intenso que el de 18 de Septiembre, 1906, pero por fortuna sus efectos han sido menos desastrosos. Causó, es verdad, más daños en tierra que el tifón de 1906, pero menos en el mar. Fué esto debido únicamente al hecho de que en esta ocasión el Observatorio dió con tiempo oportunos avisos y así se pudieron tomar las debidas precauciones.

El tifón pasaba por el NE y á la menor distancia de Macao á las 2 a. m. del 28, hora en que se registró allí la mínima 741.99 mm. con vientos huracanados del W. En el texto inglés incluímos un cuadro con las observaciones hechas del 27 al 28 en el Observatorio de aquel puerto.

El tifón en el Continente.—Al amanecer del 28 el tifón se hallaba ya en el Continente viniendo á pasar por el S y W de Cantón. Tomamos del "Hongkong Daily Press" la siguiente información sobre la intensidad con que se sintió el temporal en dicha ciudad de Cantón:

> Los daños causados por el viento y la lluvia son muy grandes y sin precedente. Fueron destruídas más de doscientas casas, en algunos casos con pérdida de vidas. Las líneas de teléfonos, de luz eléctrica y de telégrafos fueron echadas al suelo y se necesitarán algunos días para restablecer el servicio regular. Es muy peligroso caminar por la ciudad por ahora, pues las paredes que están resentidas se vienen abajo á lo mejor con estruendo. * * *

Algunas observaciones sobre este tifón.—El tifón aumentó en velocidad en el Mar de China, pues habiéndose movido á razón de unas 8½ millas por hora cuando pasaba por el sur de las Islas Batanes, al cruzar sobre Hongkong andaba unas 14½ millas por hora. Parece que se profundizó asimismo después de haber dejado el canal de Balintang; pero una vez dentro de China pronto empezó á rellenarse gradualmente, como suele suceder en el caso de tifones que penetran en el Continente Asiático.

Según el Director del Observatorio de Hongkong, cuando el tifón pasaba cerca de aquella colonia "el radio del área en que soplaron vientos violentos no parece haber excedido de 35 millas." El área en que se observaron vientos huracanados parece haber sido menor de 20 millas de radio.

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[1] Agradecemos al Capitán, Mr. D. W. Outerbridge, el habernos facilitado los originales de esta curva. Muy parecida á ésta es otra curva obtenida á bordo del vapor "Fausang" la cual fué remitida á este Observatorio por el Capitán Malkin por medio de Mr. Stuart J. Fuller, Vice-cónsul Americano en Hongkong.

[2] Esta es copia de una reproducción publicada por el "South China Morning Post" 8 de Agosto, 1908.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Temperature. Open air.[2] Mean.	Temperature. Open air.[2] Maximum.	Temperature. Open air.[2] Minimum.	Underground. 0.25 meter. 8 a. m.	Underground. 0.25 meter. 2 p. m.	Underground. 0.50 meter. 8 a. m.	Underground. 0.50 meter. 2 p. m.	Underground. 1.50 meters. 8 a. m.	Underground. 2.50 meters. 8 a. m.	Relative humidity, mean.	Vapor pressure, mean.	Evaporation. Free exposure, total.	Evaporation. Shelter, total.
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	mm.	mm.
1	758.54	25.8	28.8	22.5	27.4	28	28.6	28.6	29.1	28.8	91.6	22.6	1.1	1.2
2	58.58	27.1	31.5	23	27.7	29.2	28.6	28.9	29.1	28.8	83.9	22.2	4.5	1.8
3	59.81	27.9	32.3	23.4	28.4	30	28.8	29.2	29.1	29	80.2	22.2	1.8	.9
4	59.69	27.3	32.3	23.4	29	30.3	29.3	29.7	29.2	28.9	85.4	22.9	7.1	3.7
5	58.28	26.8	31.8	22.9	29.2	30.6	29.6	29.9	29.1	28.9	85.1	22.1	5.1	2.9
6	57.84	26.5	31.4	22.6	29.2	30.3	29.7	29.7	29.1	28.8	84.8	21.8	4.5	2.3
7	58.59	26.9	33.1	23.3	29	30.7	29.6	29.9	29	28.9	85.5	22.3	4.9	2.5
8	59.52	27.4	31.8	24	29.2	30.7	29.8	30	29.1	28.9	83.1	22.3	4.7	2.3
9	58.82	26.4	32.2	23.3	29.2	30	29.7	29.7	29.1	28.9	87.6	22.3	3.2	2.1
10	57.41	26.1	31	22.8	28.7	29.7	29.6	29.6	29	28.9	88.9	22.2	3.2	2
11	56.94	26.6	31.5	23.3	28.7	29.8	29.3	29.6	29	28.9	87	22.3	3.6	1.7
12	57.39	26.9	31.4	22.8	29	29.9	29.5	29.7	29	28.9	83.4	21.8	3.4	1.9
13	57.64	27.6	31.8	24	28.8	30	29.3	29.7	29	28.8	80.5	22	6.2	3.3
14	57.08	26	29.1	22.6	28.7	28.9	29.4	29.5	29	28.7	88.2	21.9	2.8	1.7
15	56.33	26	29.3	22.9	28.3	28.4	29.2	29	29	28.8	88.8	22.2	3.4	2.2
16	56.28	25.2	29.5	22.8	27.4	27.8	28.5	28.5	29	28.8	92.7	22	1.4	1.2
17	56.49	26.9	31.3	23.4	27.2	28.8	28.2	28.9	29	28.8	85.1	22.2	3.3	1.3
18	57.53	26.9	30.5	24.1	28	28.8	28.5	28.7	29	28.8	83	21.9	5.6	2.7
19	57.88	27.5	31.5	23.3	28.3	29.4	28.7	28.9	29.1	28.8	82.2	22.3	6.3	3.1
20	58.22	27.9	31.8	24	28.7	30.2	28.8	29.3	28.9	28.8	81.2	22.6	6.5	3.2
21	57.92	28.2	31.5	25.1	29.1	30.3	29.2	29.4	29	28.9	81.6	23	6.9	3.4
22	57.34	27.5	30.7	24.6	29.2	30	29.3	29.7	29	28.8	84	22.9	5.5	3
23	57.99	27	31.1	23.7	29	30	29.3	29.8	28.9	28.8	84.4	22.3	4.8	2.3
24	58.78	27.4	32.2	23.4	29.2	30.7	29.5	29.8	29	28.9	81.4	21.9	6.1	3.1
25	58.02	25.5	30.1	22.6	29.4	30.2	29.6	29.8	29	28.9	88.2	21.3	4.7	2.5
26	57.16	25.6	29.4	22.8	28.5	29	29.4	29.4	29	28.9	88.1	21.4	2.2	1.1
27	57.50	26.3	31.7	22.4	28.2	29.9	29.1	29.4	29	28.8	86.3	21.7	4.4	2.1
28	57.65	25.8	29.2	22.5	28.9	29.1	29.3	29.2	29	29	89	21.8	2.8	1.5
29	56.48	25.2	29.1	23	28.3	29.2	29	29.1	29	28.8	92.2	21.9	1.7	1.3
30	54.99	25.3	29.1	23	28	29.1	28.9	29	28.9	28.7	91.7	21.9	1.2	.9
31	54.21	26.3	29.6	22.7	27.8	29.1	28.8	28.9	28.9	28.8	87.2	22	2.8	1.9
Mean	757.64	26.6	30.9	23.2	28.6	29.6	29.2	29.4	29	28.8	85.9	22.1	4.1	2.2
Total													125.7	67.1
Departure from normal	+0.30	—0.6	+0.1	—0.5							+1.3	—0.4	—14.3	

Date.	Wind. Prevailing direction.	Wind. Total movement.	Wind. Maximum hourly velocity.	Wind. Direction at the time of the maximum velocity.	Clouds. Amount, mean.	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Sunshine.	Rainfall.	Miscellaneous.
		Km.	Km.		0-10.			h. m.	mm.	
1	SSW	161	27	WSW	8.2	A.-Cu. SW by S	Cu.-N. W	4 20	6.3	Ω² ● a. d ⊤ ⌒ p.
2	WSW, SE	254.5	23	W by S	7.9	Ci.-S. NE	Cu. SSW	5 05		Ω a. ⊕ p.
3	W quad.	262.5	25	SW by W	4	Ci.-S. NE	Cu. SW	10 25		Ω a. ⛈° ⊰° p.
4	NW, SW	228	23.5	SW	5	Ci.-S. E	Cu. ESE	7 55	.7	⛈ ●° ⊤ ⌒ p.
5	SW	194	29.5	SW by W	6.9	Ci.-S. SE	Cu. W by N	8 50	.2	Ω a. ⛈² p ⌒ p.
6	SW	266.5	26.5	SW	5.4	Ci.-S.	Cu. NW	7 45		Ω ≡° a. ⛈° ⌒ p.
7	W, SSW	179.5	17	W	6	Ci.-S.	Cu. E	7 05	4.6	Ω a. ⛈² ↯ ● p.
8	WNW	152	13.5	WSW	8.7	Ci.-S. NE by E	Cu. E by S	5 10	2.4	d a. ⛈° ⌒ ● p. ◯
9	NNW	216	19	WSW	7.1	Ci.-S.	Cu.-N. E	6 30	38.7	≡° a. ⛈² ●² p.
10	Variable	169	16.5	WSW	8.2	Ci.-S. E	Cu.-N. NE	5 40	.2	Ω a. ⛈ d² ⌓² p.
11	Variable	146.5	21	SW	8.7	Ci.-S. E	Cu.-N. SW by S	5 35	2.6	● a. ⛈° ⊕ d² p.
12	SSW	253.5	27.5	WSW	8.8	A.-Cu. WSW	Cu. S	4 45	2.2	p a. ⌒ ⌓ ● p. ⛈°
13	SW	335	34	WSW	8.2	A.-Cu. WSW	Cu. SW	4 10	.3	d a. ↯° p.
14	SW	298.5	31.5	SW by W	10	Ci.-S.	Cu.-N. WSW	0 20	24.4	● d a. ⊤ ↯ ●° p.
15	SW	375.5	37	WSW	9.7	A.-Cu. NW by W	Cu.-N. WSW	0 25	42.7	⊤° a. ↯ ● a. p.
16	WSW	299.5	27.5	SW by S	9.9	A.-Cu. WNW	Cu.-N. SW	0 35	49.2	↯ ● a. p.
17	SW	391.5	31	SW by W	8.8	Ci.-S. ENE	Cu.-N. SW by W.	4 35	7.6	⊤° ◯² a. ● a. p.
18	WSW	432.5	39	WSW	9.2	A.-Cu. SW	Cu. SW by W	2 30	2	d ◯² a. ● p. ↯°
19	WSW	297	32	WSW	7.5	Ci. E by N	Cu. WSW	6 35		◯² a. p. ⛈° p.
20	WSW	329.5	26	WSW	6.6	Ci. NE	Cu.	8 35		Ω² ≡ a. ◯ p.
21	WSW	386	26.5	WSW	9.3	Ci.-S. E by N	Cu.-N. WSW	4 25		p° a. ◯ p.
22	WSW	359.5	27	WSW	9.2	Ci.-S. NE by E	Cu. W by S	5 35	5.5	● ◯ a.
23	WSW	285	33	WSW	7.3	Ci.-S. E	Cu. W by S	7 05	41.7	● a. ⊕ p ⊰° ⌒ p.
24	WSW	241.5	24.5	WSW	7.2	Ci.-S.	Cu. W by N	7 00		Ω² ≡² ◯° ⛈° p.
25	SW, W	205.5	42	W	10	Ci.-S.	N.	0 00	19.6	≡° ◯° a. ↯ ● p.
26	SSW	208.5	22.5	WNW	9.9	Ci.-S. SE	Cu.-N.	2 15	4.6	◯° p° a. ● p.
27	WSW	200.5	27.5	SW by W	4.8	A.-Cu. SW by W	Cu. SW by S	9 05	3.6	≡² a. ⛈ ● p.
28	E	99.5	10	WNW	8.4	Ci.-S. S	Cu.-N. E	3 25	8.2	Ω² a. ◯ ● ⌒ ⛈ p.
29	N	131	12	NNE	10	Ci.-S.	N. E	0 00	12.2	≡° d a ● p.
30	E	99.5	14.5	E	9.8	Ci.-S. SE	Cu.-N. E	1 35	11.1	≡° a. ⛈ p. ●
31	WSW	186.5	24.5	SW	8.3	Ci.-S. NE	Cu.-N. WSW	5 30		⊕ d° p. ⛈ a. p.
Mean		246.6	25.5		8			4 56		
Total								152 45	290.6	
Departure from normal		—29			+0.4			—3 48	—98.6	

[1] All the mean values given in this table are deduced from hourly observations.
[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.60	27.4	29.7	23.9	79.4	SE	1.5	8.8	Ci.-S. NE	Cu.-N. SW	14.7	○° ⌈ϟ p.
2	58.66	27.3	30.4	22.6	77.8	SE	1	5.2	A.-Cu. SW	Cu. E	7.1	● ○ a.
3	59.49	27.8	32.7	24.5	79.7	NW	1.2	8	Ci.-S.	Cu. E, W	.6	⊤ ϟ² d a. p.
4	59.72	27.3	32.8	23.4	77.6	SE	1.3	9.5	Ci.-S. E	Cu. NE, W		○°
5	58.73	26.4	29.8	24.3	82.3	Variable	1.2	10	A.-S.	N. SW, NE	2.8	d a. ● p.
6	58.26	26.7	30.5	23.4	80.2	Variable	1	10	Variable	Cu.-N. E, W	.9	d a.
7	59.08	27	29.5	22.5	80.5	NNE, SW	1.5	9.2	Ci -S.	Cu.-N. SW, E	6.6	●° a. p. ○°
8	59.34	27	31	23.5	81.7	NNE	1.2	8.2	A.-S.	Cu. W		ϟ p.
9	59.34	25	27	23	88.2	Variable	2	10	A.-S., Ci.-S.	N. W	48.2	● a. ⍦ p.
10	58.22	26.2	29.5	24	81.2	SSW	1.8	9.8	Ci.-S., A.-S.	Cu.-N. W, SW		
11	58.22	26.8	29.5	24.5	79.8	SW	2.8	9.8		Cu.-N. SW	.5	d a. p. ↙°
12	58.80	27.5	30.1	25.4	75.2	SW	2.3	9	Ci.-S.	Cu. SW		↙° ⍦
13	58.45	27.9	30.9	23.1	74.8	SW	1.8	8	A.-S.	Cu. W		↙°
14	57.81	28	30.5	25	77.6	SE	1.7	9	A.-S.	Cu. SW		ϟ ⍦² p.
15	57.10	27.8	32.3	24.4	76.8	SW	1.5	8.8	Ci.-S., A.-S.	Cu.-N. WSW		
16	57.44	28	31.5	25.9	78.7	SW	1.8	9.5	A.-S.	Cu. SW		
17	57.83	28.2	31	25	77.7	SSE	1.5	8.5	Ci.-S.	Cu. SW		
18	58.16	28	30.8	24.4	78.2	NNE, SSE	1.3	8.8	Ci.-S. NE	Cu. SW		
19	58.32	27.5	30	24.6	79.8	SE	1.3	10	A.-S. NE	S.-Cu.	8.3	● ○ a.
20	58.57	27.5	30.2	23.6	79.1	NNE, SE	1.3	9	Ci.-S.	Cu.-N. SW, E		⍦ ○ a.
21	58.24	27.4	30.1	23.4	79.8	SE	1.5	8.2	Ci.-S.	Cu.-N. SW	6.2	● a.
22	57.63	27.9	31.4	23.6	77.2	N, SE	1.3	4.8	Ci.-S. E	Variable		
23	57.73	28	31.2	24.6	77.1	SE	1.3	5	Ci.-S. E	Cu.-N. SW, W		ϟ² p.
24	58.73	26.8	30	22.9	79.7	SE	1.2	10	A.-S.	N. WNW, W	49.5	● a. ⌈ϟ p.
25	58.27	25.6	28.9	21.6	81.8	SE, NNE	1.5	9.2	A.-S.	Cu. SW, W	4.1	● ⊤ p.
26	57.53	26.4	29.6	22.4	81.7	NNE, SE	1.5	8	Ci.-S. NE	Cu.-N. W	2.5	⌈ϟ p.
27	57.18	26.4	32.4	23.4	84	NNE	1.3	8.8	Ci.-S., A.-S.	Cu.-N., N. E	5.3	⌈ϟ° p.
28	56.65	25.2	28.5	22.5	86.3	Variable	1.3	10		N. NW, E	65.3	●² a. p.
29	56.59	26.2	29.1	22.4	81.7	SSW	2.8	9	Ci -S. NE	Variable	8.1	● a. ↙° p.
30	55.67	26.8	29.5	24.6	79.5	SW	2.5	9	A.-Cu.	Cu. SW, W		d° a. ϟ p.
31	55.12	27.6	30.7	24.4	77	SW	2.7	8.2	Ci.-S. NE	S.-Cu. SW		ϟ d p.
Mean	758.05	27.1	30.4	23.8	79.5		1.6	8.7				
Total											230.7	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.94	27.8	30.3	24	88.3	Variable	0.5	9.8	Ci.-S.	N.-cf. SSW	10.2	Ω ●° a. p. ϟ
2	59.05	27.9	31.7	22.9	84.2	ENE	1	2.8	Ci.-S.	Cu. E, NE		Ω ≡° ϟ
3	59.84	27.8	31.7	23.7	84.5	Variable	.8	5	Ci.-S. SSE	Cu. SE, NE	.8	Ω² ≡° a. ●° p.
4	59.77	27.6	31	23.2	85.7	SSW, WSW	1	7.5	A.-S. ENE	Cu. SW		Ω ≡° a d ϟ p.
5	58.62	27.4	30.6	22.3	83	WSW	1.2	9.5	Ci.-S. SSE, NE	Cu. SW, W	2.8	●° Ω² a. ○ p.
6	58.32	26.8	30.8	23.2	81.5	WSW, SSW	1.1	8	Ci.-S. E	Cu. SW, W		Ω d a. ⊕ Ω² p.
7	58.96	25.7	30.6	22.2	84.2	Variable	.7	8.8	Ci.-S. ENE	Cu. WSW	24.4	Ω² ≡° a. ⌈ϟ² p.
8	59.40	26.3	30.7	22.7	83.5	SW, W	.5	7.2	A.-Cu. ENE	Cu. SSW, WNW		Ω ≡°
9	59.37	25.8	28.8	22.7	84.2	SSW, W	.7	9.2	Ci.-S.	N.-cf. WSW, W	20.6	● ≡° a. ↙° Ω ⍦ p.
10	58.34	27.2	30.4	23.5	78	SW	.8	9.5	Ci.-S. NNE	Cu.-N WSW		Ω° a. ↙° d p.
11	58.22	27.1	31.5	23.1	80.5	SW, W	.7	5.8	Ci NNE	Cu. W, WSW	3.6	Ω² ●° a. d p.
12	58.75	27	31.5	22.8	79.7	W	.7	7.5	Ci.-S. NNW	Cu. WSW		⍦ Ω° p.
13	58.77	27.5	31.4	23.1	82.2	W	.7	6.8	A.-Cu. ENE	Cu. WSW, W		Ω ≡° a. ∞ ϟ Ω p.
14	57.85	26.4	31	23.2	86.6	SW, SSW	.3	10	Ci.-S. NE	Cu.. WSW	7.6	Ω ϟ ≡° ● a. ⍦ p.
15	57.28	27.4	32	22.8	76.6	W, SW	.9	7.2	Ci.-S. NNE, E	Cu. SW		⍦ Ω° ≡°
16	57.72	27.6	31.6	23.5	80.8	SW	1.5	8.2	Ci.-S. NNE	Cu. SW		⍦ Ω° ≡° ϟ
17	58.01	27.4	32.6	23.2	78.3	SW	1.1	8.2	Ci.-S. E, NNE	Cu. SW		⍦ Ω ≡° ○
18	58.29	27.3	32.3	23.2	78.8	SSW, WSW	.8	8.5	Ci.-S. NE	Cu. SW		Ω° ≡°
19	58.66	26.9	31.9	23.2	82.8	NW, WSW	.7	8.8	Ci.-S. NE	Cu. W		Ω ≡°
20	58.72	26.6	30.6	22.6	83.5	Variable	.6	8.8	Ci.-S. ENE	Cu. S		Ω ⍦ ○ ∞ ϟ
21	58.45	26.8	31.7	22.7	82.7	WSW	1.2	5.2	A.-Cu. NNE, N	Cu. SW		Ω ≡°
22	57.81	27.2	31.8	23.2	80	SSW, W	1.7	2.5	Ci.-S.	Cu. SW		Ω²
23	57.94	26.9	32.2	22.5	82.2	SW	1.8	5.8	Ci.-S. E	Cu. WSW		Ω a. ϟ p.
24	58.92	26.2	29.5	23.3	85.2	SW, S	.4	9.8	Ci.-S. E	Cu.-N.	6.4	● a. Ω ϟ p.
25	58.19	27.2	31.4	23.3	80.3	W	1.6	7.8	Ci -S. NE, ENE	Cu. WSW		Ω ϟ a. p.
26	57.66	27	31.5	22.8	82.2	SW	.9	5.8	A.-Cu. N	Cu. W		Ω ∞ d°
27	57.51	25.5	30.2	22.8	89.2	SSW, N	.6	9.2	A.-Cu. ENE	N. NNW	19.8	●° Ω ≡° a. ⌈ϟ p.
28	56.65	24.6	26.5	22.8	92.5	Variable	1.5	10	Ci.-S. ESE	N. W	40.9	●² a. d p.
29	56.41	27.3	31.4	23.2	79.7	SW	2.4	6.8	Ci. SSE, E	Cu. SW	2.5	d ↙°
30	55.82	28.1	31	23.2	72.8	SW	2.7	8.8	A.-Cu.	Fr.-Cu. SW		↙° ϟ a. p.
31	55.06	28.4	32	24.1	76.2	SW	2.8	9.2	A.-Cu. SE, NE	Fr.-Cu. SW	6.4	● a. ↙
Mean	758.17	27	31	23.1	82.3		1.1	7.7				
Total											146	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	758.88	27.1	31.2	24.1	85	SE	4.8	7	Ci.-S.	Cu.-N. NE, SW	3.3	Ω ☈ ≡°
2	58.95	27.1	32	22	80.3	SW	5.3	4.8	Ci.	Cu. E	27.2	☈ ↙° ≡°
3	59.87	27.2	31.5	24.3	82.8	N	6	5.8	Ci.	Cu.-N. ENE	.8	☇ ⊤ p ≡°
4	59.91	27.1	31.9	23.4	80.5	Variable	5.9	7	Ci.-S.	Cu. ENE, WSW	3.8	Ω ≡° ☈ ↙°
5	58.80	25.8	28.9	23	87	SW	5.8	8.2	A.-Cu. ESE	Cu.-N. WNW, N	9.1	☇ ● ≡°
6	58.47	25.7	29	23.1	86.7	E	4	8	Ci.-S.	N.-cf. ENE	------	Ω ≡° p.
7	59.10	26.6	31	23.4	82.5	SE	6.6	7.2	Ci.-S.	Cu.-N. ENE	8.4	Ω d p ☈ ↙°
8	59.57	25.6	30.5	22.9	85.3	Variable	6.7	6.5	Ci.-S.	Cu. SW, ENE	2	Ω ≡° p
9	59.22	25	28	22.8	87.5	SW	7	8.5	Ci.-S.	Cu.-N. SW, W	20.8	☇ ● ≡° ○° ⋓
10	58.14	25.6	30	22.8	81.5	SW	8.3	7.2	Ci.-S. ENE	Cu. W	49.5	Ω ⋓ ☈² ↙°
11	58.11	25.9	29.9	23.4	87.2	W, S	7.9	6.5	Ci.-S.	Cu.-N. SW, WSW	13	Ω ≡° ↙ ●° ☈
12	58.58	27	30	23.5	80.5	SW	8.8	5.8	Ci., Ci.-S.	Cu. SW	5.1	⊤ ● ≡° ○ Ω
13	58.43	26.9	30.6	22.4	82.4	Variable	7.3	4	Ci.	Cu. SW, WSW	24.9	Ω ≡° ☈ ↙°
14	57.66	27.4	30.5	24.1	81.2	SW	7	7	Ci.-S.	Cu. WSW, SW	1.3	Ω d ≡° ○ ⋓
15	57.16	27	30.5	24	83.2	SSW, WSW	7.8	6.8	Ci.-S.	Cu. SW	------	Ω ϖ ≡° d ☇
16	57.38	26.9	31	24	83.2	SW	7.2	7.5	Ci.-S.	Cu. WSW	------	Ω ϖ ≡° ⋓
17	57.84	27.7	31.1	23.5	78.5	SW	9	5	Ci., Ci.-S.	Cu. SW	------	Ω ≡° ϖ
18	58.33	27.2	30.7	23.4	80	SW	7.5	7	Ci.-S.	Cu. WSW, SW	------	Ω° ≡° ○ ☇ ⊤
19	58.60	26.9	31.2	23.6	83	SSW	6.1	7	Ci.-S. E	Cu. SW, WSW	------	Ω ≡° ☇
20	58.76	27.2	31	23.9	82.3	SSW, S	5.5	7.2	Ci.-S. E	Cu. SW	------	Ω ≡° ○ ☇
21	58.40	26.1	31.5	22.9	84.4	S	6.4	6.5	Ci.-S.	Cu. SW	16.8	☇ ⊤ ● ≡° ↙°
22	57.80	27	31.5	23.2	83.1	S	6.5	4.2	Ci. NNE	Cu. SSW	------	Ω ☇ ≡°
23	58.05	26.6	31.4	23.9	84.3	S	6.1	4.5	Ci.	Cu. SSW	1.8	Ω ≡° ☈°
24	58.92	25.7	29.5	21.9	86.6	SSW	6.9	8.5	A.-Cu. S	Cu. NNW	5.6	Ω ϖ ≡° ☈ ↙°
25	58.25	25.9	30.2	23	83.5	S, SSW	6.3	7.2	Ci.-S.	Cu. W, WSW	4.3	Ω ≡° p ☇
26	57.67	27	31	23	85.5	S	4.7	5.5	Ci.	Cu. WSW	------	Ω ≡°
27	57.33	26	31	22.4	84.2	E, ENE	5.8	6	Ci. ENE	Cu. W	22.4	Ω ≡° ☈ ↙°
28	56.71	24.7	27.4	22.9	89.8	SW, WSW	3.9	8.8	Ci.-S.	Cu.-N. NNE	12.2	Ω ≡° ●
29	56.07	26.2	29.9	23.4	84	WSW	8.1	7	Ci.-S. NE	Cu.-N. W, SW	1	Ω² ≡° ○ p ☇.
30	55.46	26.7	29.9	24.5	79.6	SW	9.6	6.5	A.-Cu., Ci.-S.	Cu.-N. WSW	2	Ω ≡° ↙ ●° ☇
31	55.02	26.5	30	24.3	82.7	W	11	8	A.-Cu. W	Fr.-Cu. WSW	4.3	Ω ≡° ↙ ●° ☇
Mean	758.11	26.5	30.4	23.3	83.5	------	9.8	6.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	239.6	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	759.01	26.2	30	23.6	83.8	SW	5	8.2	Variable	N.	1.3	Ω d ⊤ a. ⊕ ●° p.
2	58.94	27.1	31	23.5	80	SW	6.2	7.5	Variable	Variable	------	☇ p.
3	60.11	27.5	30.1	24.6	82.9	SW	8	8	Ci.-S. NE, E	N.-cf.	------	☇ Ω² d
4	60.18	26.6	29.6	24.4	84	SW	8.8	9	Ci.-S.	Cu.	5.4	d ⊕ a. ● p.
5	59.06	25.8	30.5	22.8	84	SW	9	9.8	Variable	N.	8.9	☈ p.
6	58.44	26.6	29.4	24.1	79.7	SW	6.8	9.8	Ci.-S.	Fr.-N.	------	⊕ d° a.
7	58.98	26	29.6	23	84.6	Variable	6.5	8	Ci.-S.	Cu. E	9.1	Ω a. ○ ⊕ ☈ p.
8	59.81	26.1	29.5	23.5	85.4	SW, N	8.2	9.2	Variable	N. SW	7.6	●° a. p. ⊕
9	59.46	25.6	27.5	23.3	86	SW	11.9	9.8	A.-S., Ci.-S.	N. SW	------	
10	58.10	26.5	29.4	24.4	81.8	SW	13	9.2	A.-Cu. SE	Cu., N.	2.5	●° ϖ p.
11	58.30	25	28.4	23.1	89.4	SW	13.7	9.8	A.-Cu.	N. SW, SSW	23.1	● ↙°
12	58.88	26.5	29	23.6	81.2	SW	15.6	9.2	Variable	N. SSW	26.2	● a. d ϖ p.
13	58.76	26.8	29.1	25	80.8	SW	15.6	8.8	Variable	Cu.	16	● a. ϖ p.
14	57.99	27.3	29.5	24.6	78.8	SW	16.8	8.8	A.-Cu. E	Cu.	------	⊕² ⋓ ϖ
15	57.48	26.6	28.8	25	83.1	SW	16.6	9.5	Ci.-S.	N. SW	2.6	⊤ ●°
16	57.70	26	28.5	23.5	85	SW	14.9	9.8	A.-S.	Fr.-N.	19.6	● a. p.
17	58.12	26.7	29	23.3	82.2	SW	16.8	8.8	Ci.-S. E	Cu. SW	20.1	● ○° ⊕ a. d p.
18	58.58	27.5	29.5	24.9	81	SW	14.5	9.5	Ci.-S. E	Cu. SW	1.5	d a. ○² ⊕
19	58.71	27.8	30	25.5	81	SW	12.5	8.8	Ci.-S. E	Cu.	------	⊕
20	58.95	26.8	29.6	24.9	84.2	SW	10.2	9.5	A.-S., Ci.-S.	Cu.	------	p ○² ⊕
21	58.78	26.4	29	23.9	81.6	SW	9.5	8.8	Ci.-S.	Cu.	------	ϖ ○° ⊕ Ω
22	58.04	27.1	30.2	24.4	81.2	SW	12.6	7.2	Ci.-S.	Cu.	------	Ω ⊕
23	58.25	27.2	30.4	24	81	SW	11.2	6	Ci., Ci.-S.	Cu. SW	------	Ω ○° a. ☇ d p.
24	59.24	26.1	29.4	24	85	SW	6.6	10	A.-S., Ci.-S.	Variable	2.5	● p. ○² ⊕²
25	58.37	25.8	30.1	23.5	84.6	Variable	5.6	9.8	A.-S.	N.	1.3	⊕ ● p.
26	57.86	26.3	30.3	23.1	85.3	Variable	8.1	7.5	Ci.-S. E	Cu.	.3	●° a.
27	57.70	25.8	31.1	22.5	81.2	Variable	6.2	7.2	Ci.-S. ESE	Cu., N.	27.9	Ω a. ☈° p.
28	57.25	25.5	30.5	23.2	90.2	NE	6.5	9.8	A.-S., Ci.-S.	N.	45.9	●² a. p. ○° ⊕²
29	56.57	25.2	28.4	23	87	SW	11.3	9.8	Ci., Ci.-S.	N.	10.4	● a. ⊕ d p.
30	55.75	25.7	29	23.4	88.8	SW	17.8	9.2	A.-Cu.	N. SW	22.6	● a. p. ⊕
31	55.02	26.7	29.7	23.5	83.8	SW	24.8	9.5	A.-Cu.	N. SW	21.5	↙ ● a. p. ☇
Mean	758.34	26.4	29.6	23.8	83.5	------	11.7	8.9	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	276.3	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	759.32	25.3	29.7	21.5	88.3	S	3.3	8.2	Ci.-S.	Cu. NE	------	○ a. ⊤ d ☇ p.
2	59.10	26.5	30.4	22.2	83.1	Variable	5.7	5.5	Ci. SSW	Cu.	9.1	● a. ⊤ ☇ p.
3	59.99	25.7	30.9	21.7	85.3	S	4.4	4	Ci.	Cu.	1.5	☇ d
4	60.18	25.5	29.6	22.3	88	S	4	8.5	Ci.-S.	Cu.-N. NNW	10.4	☈ a. ⌒ ☇ p.
5	59.08	25.2	29.5	22.9	87.3	S	3.7	9.8	Ci.-S.	Cu.-N. NW, NE	4.3	☇ a. ○° ● p.
6	58.71	25	29.1	22.3	86.2	SSW, SSE	3.9	9	Ci.-S.	Cu. SW	------	⊤ ☇ p.
7	59.21	25.2	29.7	20.7	86.3	S	5	7.2	Ci.-S.	Cu.	5.8	Ω ○ a. ☈ p.
8	59.89	24.6	29	21.7	90	Variable	3.3	7.5	Ci. E	Cu. NW	17.8	● a. d p.
9	59.51	24.1	27.3	21.4	92.3	SSW, ESE	3.4	10	Ci.-S.	Cu.-N. SSW	30.5	● a. d p.
10	58.47	25.7	29.4	22.5	86.5	SSE	7.5	9	A.-Cu. E	Cu. ENE	27.7	⊤ ↙ ● ☇
11	58.62	25.1	29.7	22.7	88.7	Variable	7.9	8.8	Ci.-S.	Cu. SW, S	33.5	● a. ☈ p.
12	59.03	26.2	29.9	22.4	84.9	S, E	7.1	8.5	A.-Cu. SSW	Cu. S, SW	5.8	● a. ⊖ p.
13	58.66	26.4	30.7	22.5	81.5	S	6.7	4	Ci. E	Cu. SW	35.3	Ω a. ☈ p.
14	58.18	26.1	29.3	22	82.5	SSE	5.4	8.5	Ci.-S.	Cu.	------	⩊ ⊤ ☇ p.
15	57.32	26.7	30	22.7	83.5	S, SSE	7.1	8.2	Ci.-S.	Cu. S	65.5	○° ☈ p.
16	57.78	26.8	30.1	22.8	83.3	SSE	6.6	8.8	Ci.-S. NNW	Cu. SW	3.3	☇ ● p.
17	58.08	27.8	30.6	24.2	79	SE	8.1	6.5	Ci. NE, E	Cu. SW, S	------	☇ d p.
18	58.56	26.9	30.2	24	80.7	S, SSE	6	7.8	Ci. E, ENE	Cu.	------	○ ☇ p.
19	58.84	26.4	30.5	22.2	84.7	S	6.5	7.5	Ci.-S.	Cu.	------	Ω a. ⊤ p.
20	58.94	26.3	30.8	22.5	85.8	S	4.2	7.5	Ci. E	Cu.	------	⊤ ☇ d p.
21	58.66	25.9	30.4	22.9	86.2	SSW, NNW	3.3	6.8	Ci.	Cu. S	------	⊤ d p.
22	58.14	26.1	30.7	22	83.7	SSW, S	3.8	5.5	Ci.	Cu.	6.1	● a. ⊤ ☇ p.
23	58.20	25.8	31.1	22.2	86.3	S	3.8	3.5	Ci.	Cu.	------	Ω° a. ⊤ d ☇ p.
24	59.24	25.8	29	22.4	86.2	Variable	3.7	9.8	Ci.-S.	Cu.	------	○ a. ⊤ ☇ p.
25	58.66	24.8	28.7	22.2	86.2	W	3.3	7	Ci., Ci.-S.	Cu. SW	1	d a. ⊤ ☇ p.
26	57.97	25.8	30.3	21.5	82.9	S	3.2	4.5	Ci. ESE	Cu.	------	⊤ ☇ p.
27	57.50	25.8	30.8	22.2	85.4	WSW, SE	3.5	6.2	Ci., Ci.-S.	Cu. ENE	16	☈ p.
28	57.04	24.3	28.6	22.5	92.7	Variable	3.1	9.5	Ci.-S.	Cu.	63	● a. ☈ p.
29	56.53	25.5	28.8	22.3	88	SE	8	9.2	Ci.-S.	Cu.-N.	17.5	● a p. ⊤
30	55.93	26.3	29.9	24.6	85.8	Variable	9.1	7.2	Ci., Ci.-S.	Cu. SW	4.1	⌒ a. ☈ p.
31	55.31	26.8	30.5	23.8	83.2	S	13	8.2	A.-Cu. SW	Cu. SW, WSW	3.8	↙ ●° ⊤ p.
Mean	758.41	25.8	29.8	22.4	85.6	------------	5.4	7.5	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	362	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.15	27	31.7	24.5	86.7	E	0.5	7	Ci.-S.	Cu.-N. SE, S	7.6	● ⌒^{2} a. ☈ p.
2	59.28	27.6	31.8	24	82	SE	1.2	5.2	Ci.-S. NW, N	Cu. SE	2.5	☈° ○^{2} a. ☇ p.
3	59.97	27.8	31.7	24.4	80.8	E, SE	.3	5.2	Ci.-S. NNE	Cu. SE	1	⊤ a. ●° ☇ p.
4	60.01	27.5	32.4	24	82.5	NW	1	8	Ci. ENE	Cu. NNW	.5	⊤° ○^{2} ☇ d
5	58.71	26.6	31.5	23.6	82.1	Variable	.5	8	Ci.	Cu. NNE, N	5.3	☇ ○° ●
6	58.38	26.6	30.4	23.6	82.3	WNW	.7	8	Ci.	Cu.-N. W	------	○° ⊖^{2}
7	59	27.1	31.8	24.2	81.2	NW, E	1.2	7.2	Ci. S	Cu.-N. SE	2	Ω ○^{2} a. ☈° p.
8	59.65	26.8	30.7	23.6	83.7	NW	.8	6.5	Ci.-S. E	Variable	3.6	● p.
9	59.09	26.2	29	23.2	83.6	NW	.7	8	Ci.-S., Ci.	Cu.-N. W	2.5	d a. ● ⊖^{2} p.
10	58.27	26.4	30.5	24	83.6	E, N	.3	8.2	Variable	Variable	------	○° ⩊^{2} ⊖
11	58.17	26.4	31	23.9	86.2	NW	.7	8	Ci.-Cu. NE	Cu.-N. SW	4.6	Ω^2 ●
12	58.57	27.3	31	23.3	80.8	W, NNW	.5	7.2	Ci. NE	Cu. SW, WSW	------	Ω^2
13	58.52	27.6	32	23.8	79	WNW	1	4	Ci. NE	Cu. W	3	● a. ☇ p.
14	57.85	27.6	31.8	24.3	78.8	NNW	1	7.5	Ci. NE	S.-Cu.	------	⩊^{2}
15	57.06	27.2	32.3	23.8	83.8	SE	.5	7.8	Ci. E, ENE	Cu. SW	3.8	⩊^{2} Ω a. ● p.
16	57.43	27.6	31.8	23.6	80.8	ESE	.5	7.5	Ci.	Cu. WSW	------	⩊^{2} ⊖^{2} ○^{2} ☇
17	57.68	27.9	32.5	24	79.5	ESE	.8	6	Ci.-S. NE	Cu. SW	4.1	⩊^{2} ⊖^{2} Ω^2 a. ☈° p.
18	58.28	28	32.2	24	81.1	ENE, SSE	.5	7.2	Ci.-S. NE	Variable	1.5	☇ ●° p.
19	58.61	28	32	25	81.9	Variable	.7	7.5	Ci.-S. ESE, E	Cu. WSW, SW	------	○°
20	58.78	27.9	32.2	24.3	80.3	E	.8	6.2	Ci., Ci.-S. E by S	Cu. W	------	⩊^{2} ⊖^{2} a. ⊤ p.
21	58.58	26.8	32	24.7	84.2	NW	.8	7.2	Ci.-S. NE	S.-Cu. WSW	4.3	● ⊤°
22	57.85	27.5	33.2	24.5	82.3	WNW, NE	1.2	6.2	Ci. NNE	Variable	------	Ω^2 ⊤°
23	58.14	27.4	33.5	24.3	80.5	Variable	.7	5.8	Ci. ESE	Cu. W	------	Ω
24	58.92	27.3	32	24.5	80.8	NW	.7	7.8	Ci.	Cu. WSW, W	6.6	○^{2} ☈ p.
25	58.28	26.1	30.4	23.5	87.8	NW	.7	7.5	Ci. ESE	Variable	8.1	↙ ●° ⊤ a.
26	57.59	27.2	32	23.7	79.2	ESE	.7	6.5	Ci. E	Cu. SW, SSW	------	Ω^2 a. p° p.
27	57.62	26.3	32.3	23.8	83.8	WNW	.7	6.2	------ ------	Cu. SE	10.2	Ω^2 a. ☈ ● p.
28	57.01	25.4	29.5	23.3	87.6	NW	1.5	9	------------	Cu.-N. NE, E	70.1	↙ ● a. p.
29	56.07	26.2	30	22.8	86.3	Variable	.5	7.8	Ci.	Cu.-N. S, SW	14	● a. d ☇ p.
30	55.87	26.3	31.5	23	84.5	Variable	1	7.2	Ci. ENE	Cu.-N. WSW	5	Ω a. ↙ ●° ⊤^{2} p.
31	54.96	27.2	33	22.6	83.3	WNW, E	1	7.8	Ci.-Cu.	Cu.-N. W	3.3	●° p.
Mean	758.17	27.1	31.6	23.9	82.6	------------	.8	7.1	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	163.6	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.22	25.7	30.7	20.6	87.4	SSW	0.8	6.8	Ci.-S.	Cu.-N.	------	Ω a. ↙° ϟ p.
2	59.21	26.6	30.9	19.9	88.7	Variable	.3	7	Ci., Ci.-S.	Cu.-N.	------	Ω a. ϟ p.
3	60.11	26.7	30.7	21.3	88.3	Variable	.3	6.8	Ci.-S.	Cu.-N.	------	≡° Ω a. ⊤ ϟ p.
4	60.13	27.4	32.3	21.8	83.2	Variable	.5	6.8	Ci., Ci.-S.	Cu.-N.	2.5	● a.
5	59.22	26.6	30.7	21	85.8	Variable	.5	8	Ci.-S.	Cu.-N.	.8	d a. ⊤ ⊕ p.
6	58.70	26	29.7	21.7	89.3	SSE	.2	9.2	Ci.-S.	N., Cu.-N.	1	d a. p. ⊤
7	59.12	26.7	30.9	20	84.8	E, NE	.2	5.5	Ci.	Cu.-N.	------	Ω a. ⊤ ⊕ ψ ϟ p.
8	59.81	26.8	30.5	21.5	88.2	SE	.5	8	Ci.-S.	Cu.-N.	5.1	⛈ a. p. ⌒
9	59.42	26	28.9	21.5	90.7	SSW	.3	9	Ci.-S.	Cu.-N.	8.1	● a. d ⊕ ϟ p.
10	58.25	25.9	30.2	20.8	89.7	Variable	.2	7.8	Ci., Ci.-S.	Cu.-N.	------	⊤ ⊕ p.
11	58.38	25.4	30.6	21.3	93.5	SSW	.2	8.5	Ci.-S.	Variable	15.3	● ↙° ⊤ ψ p.
12	58.78	26.6	30.2	21.2	86.2	SW	.7	9	Ci.-S.	Cu.-N.	------	⊤ ⊕ p.
13	58.65	27	31.9	21.7	86.5	SE	.3	6.2	Ci., Ci.-S.	Cu.-N.	------	Ω a. ⊤ ψ p.
14	57.87	27	32.2	20.9	86.7	S	.3	5.8	Ci., Ci.-S.	Cu.-N.	------	ψ p.
15	57.35	27	31.8	22.2	86.8	SE	.2	7	Ci., Ci.-S.	Cu.-N.	------	Ω a. ψ p.
16	57.48	26.8	31.7	22.6	87.3	SE	1	8.8	Ci.-S.	Cu.-N.	33	Ω a. ⛈² p.
17	57.76	27	32.2	20.8	87.5	SE	.5	6.5	Ci.	S.-Cu.	20.8	Ω a. ⛈ p.
18	58.50	26.8	32.2	22.2	87.7	SW	.5	8.8	Ci.-S.	Cu.-N.	22.6	Ω a. ⛈ p.
19	58.74	26.4	31.7	21.3	89.5	SSW	.5	6.2	Ci., Ci.-S.	Variable	.8	⛈° p.
20	59.05	26.7	32.2	21.3	84.8	Variable	.3	6	Ci.	Variable	------	Ω a. ⊤ d p.
21	58.85	26.7	30.6	21.6	85.5	Variable	.3	6.2	Ci., Ci.-S.	Cu.-N.	------	Ω a. ⊤ d p.
22	58.20	26.6	30.4	20.8	85.2	Variable	.5	6.5	Ci., Ci.-S.	Cu.-N.	------	Ω a.
23	58.44	27	31.2	21.2	84.2	SW	.5	5.2	Ci.	Cu.-N.	------	Ω a. ϟ p.
24	59.27	26.7	31.2	20.7	87.2	SW, NNE	.2	7.8	Ci.-S.	S.-Cu.	------	ϟ p.
25	58.63	25.9	30.3	21.2	88	Variable	.5	9	Ci.-S.	N.	2	⊤ d p.
26	57.88	26.3	31.8	21	86.7	SW	.7	5	Ci.	S.-Cu., Cu.-N.	------	Ω a. ⛈° p.
27	57.39	26.8	30.9	20	83.8	NNW	.5	5.2	Ci.	Variable	------	Ω a. d. p.
28	57.09	25.4	27.7	20.5	92	NW	.5	9	Ci.	N.	88.2	⛈² a. ●² p.
29	56	25.4	28.7	21.5	94	Variable	.2	10	Ci.-S.	N., Cu.-N.	38.3	●² a. p.
30	55.11	26	30.6	20.8	91	SSW	.2	7	Ci., Ci.-S.	S.-Cu.	13.5	⛈ ↙° p.
31	54.50	27.1	30.5	21.9	88.2	W, N	.3	7.8	Ci.	Cu.-N.	------	d a.
Mean	758.29	26.5	30.8	21.2	87.7	------------	.4	7.3	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	252	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.80 mm.]

	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.32	26.3	31.4	22.8	89.7	N, W	1	5.8	Ci.	S.-Cu. E	------	d ϟ p.
2	59.23	27.2	34.2	23.1	85.3	N, W	1	6.8	Ci. SW	S.-Cu. S	------	ϟ p.
3	60.07	26.6	33.4	23.5	86.2	N	1.2	6.8	Ci. E	S.-Cu. S, SE	------	⊤ ϟ p.
4	60.21	26.6	32	22.2	85	N, W	1.2	7.2	Ci. N, E	S.-Cu. NE, NW	2	⛈ p.
5	58.85	26.8	32	22.2	83.8	N, W	1,2	8.5	A.-Cu. NW	S.-Cu. W	------	d ⊤ ⌒ ϟ p.
6	58.42	27	32.5	23.1	84	W, N	1.2	7.5	Ci.-S.	Cu.-N. SW, W	9.9	● a. p. ϟ
7	59.28	25	31.6	22.4	90.2	N, W	1	7.5	Ci.	Cu.-N. NE, S	18	⛈ ↙° p.
8	59.89	25.2	29.8	22	89.5	N	1	7.5	Ci.-S.	S.-Cu., Cu.-N W	23.9	● ϟ ψ p.
9	59.34	24.4	29.8	21.8	94.5	N, W	1	8	Ci.-S.	Cu.-N. SE, W	14.5	⛈ p.
10	58.29	26.2	30	23	89.3	W	1	7.8	Ci.-S.	Cu.-N. W	44.2	● a. ⛈² ↙° p.
11	58.20	26	31.8	22.6	89	W	1.3	7.5	A.-Cu. W	S.-Cu. W	6.9	●° ϟ p.
12	58.62	27.2	31	23.6	83.7	WSW	1.8	8	A.-Cu. W	S.-Cu. W	.3	ϟ ψ° p.
13	58.58	27.6	32.5	23.8	78.8	WSW	1.5	7	Ci.	S.-Cu. SW	------	ψ ϟ ⊕ p.
14	57.78	28.2	31.8	24.2	80.2	WSW	1.7	8.2	Ci. NE	S.-Cu. W	------	ϟ ψ° p.
15	57.12	28.4	32	26.4	80.8	WSW	1.7	7.5	Ci. N	S.-Cu. SW	------	d a. ϟ p.
16	57.41	28.9	33.5	27	75.5	SW	2	7.5	Ci.-S.	S.-Cu. SW	------	○ a. ϟ p.
17	57.85	28.6	33	24.6	75.7	WSW	1.7	7.8	Ci. NE	S.-Cu. SW	------	ϟ p.
18	58.46	28.5	33.4	24.9	78.3	W, N	1.3	7.5	Ci., Ci.-S.	S.-Cu. SW	------	○ ϟ p.
19	58.67	27.6	33.5	23.3	81.2	N, W	1	7.5	Ci. NE	S.-Cu. W	------	ϟ p.
20	58.91	27.5	34	23.2	84.7	N, W	1	7.5	Ci. NE	S.-Cu. W	------	ϟ p.
21	58.63	27.3	33	23.3	82.7	N, W	1	7	Ci. NE	S.-Cu. W	------	d a. p. ϟ
22	58.04	27.2	32.8	23.5	85.3	N, W	1	7	Ci. NE	Cu.-N.; S.-Cu., W	5.6	● a. ϟ p.
23	58.22	27.5	34	22.8	81.5	N, W	1	7.5	Ci. NE	S.-Cu. W	------	⊤ ⌒ ϟ p.
24	59.05	26.8	31.5	22.2	84.8	N, W	1.2	8	Ci.-S.	S.-Cu. W	2.5	d a.
25	58.30	26.8	31	24.1	84.2	WSW	1.2	8.2	Ci.-S.	Cu.-N. W	------	↙ a. ϟ p.
26	57.91	26.7	32.2	22.3	83.8	N, W	1	6.8	Ci. NE	S.-Cu. W	11.9	● a. ϟ p.
27	57.54	26.3	32.6	23	86.3	N, W	1	6	Ci. NE	S.-Cu. W	10.9	⛈ p.
28	57.10	25.9	31	22.9	88.3	N, NNW	1.2	7.8	Ci.-S.	S.-Cu. NE	23.1	● a. p. ↙° ϟ
29	56.46	25.9	29.5	23.3	89	WSW	1.2	8.5	Ci.-S.	Cu.-N. SW	1	○° a. ϟ p.
30	55.65	28.2	32.5	25.4	79.7	WSW	1.8	8	A.-Cu. NW	S.-Cu. W	1	↙ ●° ϟ
31	55	27.1	31.2	22	83	SW	2	8	Ci.-S.	S.-Cu. SW	14	↙ ● ⛈
Mean	758.27	27	32.1	23.4	84.3	------------	1.3	7.5	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	189.7	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 4.2 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	758.91	26.8	31.9	23	84.7	ENE, E	4.2	3.5	Ci.	Cu.-N. SW	------	ϟ p.
2	58.79	27.2	32.9	22.6	82.5	ENE	3.2	4	Ci. NW	Cu.	------	○ a. ϟ p.
3	59.88	27	33.2	23	85.5	S, E	3.4	6	A.-Cu. S	Cu.-N. S	5.8	d a. ⌈ϟ° p.
4	59.61	26.6	32.6	23.1	83.1	ESE, E	3.8	4.8	Ci. E	Cu.	2.8	p ⊤ ϟ p.
5	58.28	27.2	33.5	22.5	52.8	SW, S	4.5	6.8	Ci.-S.	Variable	------	d ϟ p.
6	58	26.4	32.4	23.4	85.5	SSW	4.5	9.5	Ci.-S. ESE	N.	------	d ⊤ p.
7	58.81	27.4	32.5	22.5	80.8	SE	5.2	3.5	Ci. SSE	Cu.	------	○ a. ϟ p.
8	59.48	26.9	32	23.5	80.8	Variable	4.8	7	Ci.-S., Ci. NE	Cu.	30.5	○² a. ●² p.
9	58.84	25.1	31.9	22.4	91.3	W	4	8.2	Ci.-S. E	N.	18	●² p.
10	57.76	26.8	33	22.6	82.7	SSW	3.4	7.8	Ci. E	Cu. W	1.3	⊤ ●° p.
11	57.71	26.4	32.5	23.5	85.9	SW, W	4	7.8	Ci.-S. N	Cu. S, SW	6.1	● p.
12	58.10	27.2	32	24	83	SW	5.5	6.2	A.-Cu. W	Cu. SW	.8	d a.
13	58.05	27.7	33.4	23.6	79.4	W	6.6	6.8	Variable	Cu.-N. W, WSW	3	d a. ϟ° ⊍ p.
14	57.17	28	32	24.8	78.7	W	7.4	7.2	A.-Cu., Ci.-S.	Cu.-N. WSW, W	------	d° a. p.
15	56.35	27.5	31.5	25.1	80.5	W	8.2	8.5	Ci.-S. NE	Cu. W	1	d a. ○² p.
16	56.51	28.4	33.1	25.9	75.4	WSW	8.5	7	A.-Cu. NW	Cu. SW, WSW	------	⊍ p.
17	57.03	28.6	33	24.6	75	WSW	7.1	5.8	Ci. NE	Cu. WSW, SW	------	ϟ p.
18	57.80	28.2	34	24.8	77.9	WSW	6.5	6	Ci. E	Cu. WSW	------	○ a.
19	58.12	28.4	34.1	24.9	77.3	W	6.4	5.2	Ci. NE	Cu. SW	------	⊕ p.
20	58.30	28.6	35	24	76.6	WSW, W	5	4.5	Ci. NE	Cu. SSW, SW	------	≡° a. ϟ p.
21	58.16	27.7	33.1	24.3	80.8	WSW	4.6	4.8	Ci. NE	Cu.-N. WSW	3.8	● a.
22	57.48	28.1	33.5	24.3	77.2	W	5.2	7.5	Ci.-S. NE, N	Cu. S, WSW	------	○ p.
23	57.76	28.5	35	23.5	75.9	WSW	4.1	3.8	Ci. N	Cu. WSW, W	------	ϟ p.
24	58.51	28	33.5	24.5	78.8	WSW	4.6	8.2	Ci.-S.	Cu. SSW	------	ϟ p.
25	58	26.2	31.9	22.9	81.8	WSW	6.6	10	Ci.-S.	Variable	10.4	● a. p. ○
26	57.35	27.3	33.1	22.7	77.8	SW	5	2.2	Ci.	Cu. SW	------	d° a.
27	57.55	27.6	32.5	23	79.8	E	4.6	3.8	Ci. ENE, ESE	Cu.	------	ϟ° p.
28	57.49	26.2	31.2	22.1	85.8	NE	7.3	8.8	Ci.-S.	N.	109	●² a. p. ⌒ ϟ°
29	56.19	26.1	29.9	24	90.6	ENE	3.4	9.8	Ci.-S.	Fr.-N. ESE	43.2	● a. p. ⌈ϟ
30	55.15	27.4	32.4	23.5	81.7	SW	5.7	4.5	Ci. NE	Cu.-N. WSW	------	ϟ° p.
31	54.44	26.7	32.2	24	86.7	W, SW	6.6	7	Ci. ENE	Fr.-N. SW	1.8	○ a. ●° ϟ p.
Mean	757.79	27.3	32.7	23.6	81.5	------------	5.3	6.3	------------	------------	237.5	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	------	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 7.8 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	758.49	27.3	32.9	22.5	86.7	SW	5.5	7.2	Ci.	S.-Cu. S	------	≡° Ω a. ϟ p.
2	58.50	27.4	34	23.4	88.9	SW, S	6	5.5	Ci.	Cu. S, SW	------	Ω a. ϟ p.
3	59.54	28.2	34.4	23	84.7	SW	8.2	4.2	Ci. SE	Cu. SW	------	Ω° a. ϟ p.
4	59.28	27.9	35.6	23.4	85.2	WSW	7.8	5.8	Ci. E	Cu. S	------	⊕ ⌈ϟ° ϖ
5	58.05	27.4	33.7	22.8	85.8	SW, W	8.3	7.8	Ci. E	Cu. SW	------	⊕ d ϟ
6	57.47	25.6	32.9	23	91	W	8.5	8	Ci. NE	Cu.	31.5	⌈ϟ ϖ p.
7	58.62	26.8	32.3	22.8	89.2	SW	8.9	6.8	Ci. SE	S.-Cu. NE	20.3	d ⊕ a. ⌈ϟ ϖ p.
8	59.62	27	32.8	23.3	88.5	WSW	5.7	8.2	Ci. E	S.-Cu. SE	8.4	⌈ϟ° a. ϟ ϖ ≡° p.
9	58.83	27.2	31.8	23.3	86.3	Variable	6.2	6.5	Ci. E	Cu. E	2.3	≡° Ω a. ⌒ d ϖ p.
10	57.64	26.7	33	22.9	88.5	W	6.8	8.2	Ci. E	Cu.	------	≡° Ω a. ⊤ d ϖ ⊍ ϟ
11	57.03	26.7	32	23.3	87.5	WSW	6.2	8.8	Ci., Ci.-S.	S.-Cu. S	------	d° Ω ≡° ○ ⊕ a. ϖ p.
12	57.41	27.3	32	23.4	86.2	SSW, SW	7.1	9.8	Ci.-S., Ci.	S.-Cu. SSE, SW	8.9	● a. ϟ ϖ p.
13	57.56	27.1	33.5	23.4	88	W	----------	6.5	Ci., Ci.-S.	Cu. S	6.1	Ω d a. ⌈ϟ° p. ϖ
14	56.64	27.6	32.3	23	84.5	W	----------	8.2	Ci.	S.-Cu. SW, W	------	ϖ a. p.
15	56.04	27.8	32.3	24.4	82.7	WSW	11.2	8.5	Ci.	S.-Cu. SW	------	ϖ a. p.
16	56.09	28.4	33.3	25.3	78	SW	8.6	9.8	Ci.	S.-Cu. SW	------	d p.
17	56.24	28.2	33.4	24.7	83.1	SW, WSW	6.7	8.8	Ci.-S., Ci.	S.-Cu. S, SW	20.8	ϖ ●² a.
18	57.11	27.8	33.4	24.5	85.7	W	8.4	9	Ci.	S.-Cu. S, W	3.8	ϖ a. p ϟ p.
19	57.65	27.8	33	23.1	83.2	SW	----------	8.8	Ci. E	Cu. S	------	ϖ Ω a.
20	58.12	28.1	34.3	23.2	83.5	WSW	----------	6.5	Ci. ENE	Variable	------	ϖ Ω a.
21	57.73	27.9	33.9	22.9	82.6	WSW	----------	8	Ci. ENE	Cu. W, SW	------	ϖ Ω a.
22	57.02	28.4	33.8	24.1	80.2	WSW	9.5	8	Ci. NE	Cu. SW	------	ϖ a.
23	57.62	28	34.8	22.5	82	W, WSW	7.6	7.5	Ci. NE, E	Cu. W	------	ϖ Ω a. ⊤ ϟ p.
24	58.33	28.2	35.3	23.2	82.2	W	7.5?	8	Ci., Ci.-S.	Cu. W	------	⊕ a. ⊤ ϟ d p.
25	57.45	26.4	32.7	23	86	W	6.2	10	Ci.-S., Ci.	S.-Cu. W, SW	8.6	ϟ d ○ a. ● p.
26	57.03	26.5	32.3	22.5	85.7	SW	10	8.2	Ci.-S., Ci.	S.-Cu. SW	3	ϟ ○ ⊕ a. ● p.
27	57.23	27.6	34.5	22.1	84.5	WSW	7	5.8	Ci.	Variable	3	Ω a. ⌈ϟ° p.
28	57.64	26.6	29.4	23.4	90	Variable	8	9	Ci. SE	S.-Cu. NE	11.6	●° a. ⌈ϟ° p.
29	56.45	25.8	27	23.7	89.8	N	8.3	10	Ci., Ci.-S.	N. NE	55.6	● a. ϟ p.
30	55.12	26	30	23.8	91.6	SW, W	3.4	10	Ci.-S.	S.-Cu. ENE, SE	14.5	≡° ○ a. ●² p.
31	54.26	26.2	31.3	23.3	88.7	SW	4	7.5	Ci., Ci.-S.	Cu. SW	7.1	○ ⊕ a. ⌈ϟ° p.
Mean	757.48	27.3	32.8	23.3	85.8	------------	7.4	7.9	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	205.5	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[ϕ=14° 49′ N; λ=120° 16′ E; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	758.40	25.2	28.4	24	93.8	Variable	.5	9.8	Ci.-S.	Cu.-N. E	2.6	d a. p. ϟ
2	58.51	25.7	28.9	23.2	88.7	Variable	1	8.5	Ci.-S.	Cu.-N. SW	.1	d a. ϟ p.
3	59.74	26.2	29.4	22.1	84.8	N, SSW	1.2	4.5	Ci.-S.	Cu.	------	ϟ p.
4	59.74	26.4	30.2	23.4	85.3	N	1	7.2	Ci.-S. E	Cu.-N. W	2	d ϟ p.
5	58.28	26.6	31.4	22.6	83.2	NE, WSW	.8	7.5	Ci.-S. E	Cu.-N. NW	------	d° ⊤ p.
6	57.84	26	29.4	23.4	85.9	NE	.8	6.5	Ci.-S. E	Cu.-N. WNW	1.1	d p.
7	58.45	26.4	31.7	23.1	86.5	Variable	.8	7.8	Ci.-S. E	Cu., Cu.-N. E	------	d ⊤ p.
8	59.48	27	30.9	24.9	85.4	NE, S	.8	8.8	Ci.-S. ENE	Cu.-N. SE	1.5	d ○ ϟ
9	58.74	26.2	29.1	23.9	87.5	N	.9	7.5	Ci.-S.	Cu.-N. SSE	6.9	⛈ a. p. ○
10	57.45	26	30.1	23.1	87.2	Variable	.8	7.8	Ci.-S. ENE	Cu.-N. ENE, W	.1	d ϟ p.
11	56.83	25.8	29	23.8	91.4	NE	1.1	9.2	Ci.-S. SE	Cu.-N. S	40.9	d ↙ a. ●² ⊤ p.
12	57.18	25	27.7	23.4	92.8	Variable	1.1	10	Ci.-S.	N. S, SSW	47	d a. ↙ ● ⊤ p.
13	57.52	25.9	27.9	23.7	91.6	SSW	1.5	9.8	Ci.-S.	Cu.-N., N. SW	60	↙ ● a. p. ⊤
14	57.04	25.3	28.2	23.2	94.5	SW	1.2	10	Ci.-S.	N. SW	48.4	⊤ ≡ ↙ ●
15	56.01	26.2	28.1	22.9	91.3	SSW	2.3	10	Ci.-S.	N. SW	104.4	↙ ●² a. p. ⛈ ⌒
16	56.21	24.2	27.9	22.9	96.3	SW	1.9	10	Ci.-S.	N. SW	118.8	↙ ●² a. p. ⛈
17	56.36	25.6	27.9	23	94	SSW, S	1.6	10	Ci.-S.	Cu.-N. SW	56.8	⛈ ↙ ●²
18	57.41	25.4	26.9	22.9	92.7	SW, WSW	1.4	10	Ci.-S.	N. SW	15.7	↙ ●
19	57.87	26.1	28.7	24.3	91	SW	.7	10	Ci.-S.	N. SW	5.4	● ◯ ↙°
20	58.18	27.1	28.6	24.9	86.6	SW	1.1	8.5	Ci.-S.	Cu. SW	1	d a. ◯
21	58.02	26.4	28.8	24.1	88.2	ENE	1	8.8	Ci.-S. NNE	Cu.-N. W by S	2	●° ⌒ ◯²
22	57.32	26.6	28.4	24.2	88.3	SW	.9	9.2	Ci.-S.	Cu -N. W	5	↙ ●° a. d p. ○
23	58.08	25.3	28.6	23.9	89.8	Variable	.8	8.8	Ci.-S.	Cu.-N. W, WSW	18.6	● ↙° ⌒
24	58.80	26.2	29.9	22.3	85.3	Variable	.8	8.2	Ci.-S. E	Cu.-N. NW	.3	⌒ a. ⊤ d ϟ p.
25	58.25	25.2	29.9	23.7	87.1	Variable	1	10	Ci.-S.	Cu.-N. NW	6.2	d a. ⛈ p.
26	57.07	24.6	26.4	23.2	92.8	Variable	.6	10	Ci.-S.	Cu.-N. W, SW	31	d a. ●² ⊤ p.
27	57.21	25.2	28.2	22.1	91.2	ENE	1.2	8	Ci.-S.	Cu.-N. SW, S	3.2	d a. ⛈° ⌒ p.
28	57.46	26.4	32.7	23.1	86.7	NE quad.	.9	7.8	Ci.-S. SSE	Cu., Cu.-N. E	1.1	◯° ⛈ p.
29	56.37	26	31.6	23.3	86.8	ENE	.8	9.8	Ci.-S.	Cu. NE	1.5	d a. p.
30	54.69	25.4	31.7	22.6	89.5	NE	1.2	9	A.-Cu. ESE, SE	Cu. E	18.3	⛈ p.
31	54.11	24.5	27.2	23.1	94.2	Variable	.6	10	Ci.-S.	N. S, SW	31.5	●² a. p. ⌒²
Mean	757.57	25.8	29.2	23.4	89.4	------------	1	8.8	------------	------------	------	
Total	--------	------	------	------	------	------------			------------	------------	631.4	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	758.53	26.6	32.4	23.4	85.1	S quad.	.8	6.8	Ci. NE, E	Cu.-N. SSW, SW	------	d° ≡ a. ↙° ϟ p.
2	58.63	27.6	32.5	23.8	81.7	SSW	.6	8.2	Ci.-S., Ci. NE	Cu. S	1.3	Ω a. d p.
3	59.84	27.2	33.7	23.5	82.7	Variable	.2	5.8	Ci. NE	Cu. SW	.8	⊤ ϟ a. p. Ω d
4	59.84	26.8	33.4	22.8	81.3	Variable	.0	5	Ci. NE	Cu. NW	2	Ω a. ●° p.
5	58.42	26.8	34.2	23.4	83.3	Variable	.2	5.2	Ci.	Cu. NW, W	1.8	≡° Ω a. ●° ϟ p.
6	58.01	26.2	34.4	21.9	84	NNW	.1	6	Ci. NE	Cu. W	69.1	Ω² a. ●² p.
7	58.76	27.1	34.7	22	83.8	Variable	.1	6	Variable	Variable	8.6	Ω a. ⛈ p.
8	59.76	27.8	33.1	24	81.2	N	.2	7.8	Ci. SE	Cu.-N. NE, W	------	Ω ◯²
9	58.98	27.2	33	22.7	83.8	Variable	.2	6.5	Ci. E	Variable	57.4	Ω d a. ●² p.
10	57.75	26.4	33.2	23	88.8	NNW	.0	6.5	Ci. E	Cu. N	60.7	●² a. p. ⊤
11	57	27.1	33.1	23.6	83.9	SSE	.3	8.2	Ci.-S. NE	Cu. S	------	≡ a.
12	57.57	26.6	31.9	23	86.3	SSW	.8	9	A.-S. N	N. S	7.1	● p.
13	57.85	25.8	30	24	89.9	SSE	.2	9.5	A.-Cu. SW	N. S	4.6	●° ⊍° p.
14	57.20	25.9	29.8	23.5	89.2	Variable	.2	9.5	A.-Cu. SW, W	N. SW	18.3	● ⊍° p.
15	56.63	24.8	28.4	23.5	94.2	SSW	.1	10	A.-S.	N. W, SW	19	d a. p.
16	56.65	24.4	27	23	95.8	SSW	.6	10	A.-S.	N. WSW, SW	37.3	● a. p.
17	56.51	25.8	31.1	23	90.5	S	1.2	9.5	Ci.-S. NW	N., Cu.-N. SW	7.1	d a. ● p.
18	57.54	26.4	30.5	23.8	85	S	.6	9.8	A.-S.	N. SW, W	1.5	⊍² d a.
19	58.06	26.2	31.7	23.5	86.3	ESE, NW	.1	9	Ci.-S. NE	N. SW	------	⊍² Ω a. ⊤ p.
20	58.46	27.2	33.2	23.7	85	S, NW	.3	7.5	Ci.	Cu. SW, S	------	Ω ≡ ⊕ a. ⊤ p.
21	58.08	27.5	32.9	24.4	83.3	SSW, W	.1	8.8	Ci.-S. NE	Variable	------	Ω ≡° ◯° a.
22	57.37	27.2	32.2	24	84.6	SW, SSW	.4	8.2	Ci. E, NE	Cu. SSW, S	6.9	Ω ◯² a. ⊤ ● p.
23	58.04	27.6	33.2	24	81.7	SW	.5	6.8	Ci. NE	Cu. S	1.5	⊍² Ω ≡ a. ⌒ ⛈° p.
24	58.98	27	34	22.4	83.8	NE	.2	7	Ci. N	Cu. W, NW	21.6	Ω ≡° a. ●² ⊤ p.
25	58.19	25	30.5	22.3	87.8	S	.3	10	A.-S.	N. NW, W	1.8	d a. p p.
26	57.18	25.4	31.4	22.4	87.8	Variable	.7	9.5	Ci.-S. NE	Cu. W	4.1	Ω ≡ ◯² a. ●° p.
27	57.54	26.2	32.2	22	84.2	SSE	.1	6.5	Ci.	Cu. W, S	2.8	Ω ≡ a. ⛈° p.
28	57.83	27	31.7	23.4	82.2	ESE	.2	8	Ci., Ci.-S. NE	Cu. S, NE	------	Ω ≡ a.
29	56.65	25.4	31	23	87.8	Variable	.1	8.2	Ci.-S. E, SE	Cu.-N. S, N	25.7	● Ω a.
30	55.09	25.4	29.3	22.8	90.3	S	.0	8.5	A.-S.	N. NE, SE	2.3	≡ Ω a. d p.
31	54.26	26.6	31	23.9	85.2	Variable	.5	7.2	Ci. SE	Cu. NE, E	------	Ω² a.
Mean	757.78	26.5	32	23.2	85.8	------------	.3	7.9	------------	------------	------	
Total	--------	------	------	------	------	------------			------------	------------	363.3	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force. (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	757.92	28.2	34.8	24.3	82.4	SE	9.2	8.5	Ci.	S.-Cu. S, SE	3.6	○ a. p ↯ p.
2	58.40	27	34.3	24	88	SE	8.1	7.8	Ci.-S., A.-Cu.	S.-Cu. SSE	13.5	d a. ● ↯ p.
3	59.54	27.6	34.8	23.3	79.7	Variable	9.4	8	Ci.	Cu.	1.3	↯ a. p. d
4	59.42	27.1	32.8	22.2	83.3	NW	10.6	5.2	Ci.	Cu., S.-Cu.	.5	↯ ↙° d ⦶
5	58.25	27.8	33	23.4	83	Variable	8	6.5	Ci.	S.-Cu. W	------	d° p.
6	57.66	26.1	33.1	22.8	87	Variable	8.5	6.8	Variable	S.-Cu.	90.9	☈ p.
7	58.41	27.1	34.4	21.7	83.8	NW	7.9	7.5	A.-Cu.	S.-Cu. ESE, SE	.5	d ↯ p.
8	59.41	28.8	36.7	23.6	80	SE	10.9	8.5	Ci.-S.	S.-Cu. SE	------	↯ a. p. ⦶
9	58.63	27.8	33.3	24	82.7	NW	9.4	8.5	A.-Cu.	S.-Cu. NW	1.3	d² ↯ ⦶ p.
10	57.19	26.5	33.5	22.4	87.5	SE, NW	9.1	7.8	Variable	S.-Cu. SE, NW	22.1	☈ p,
11	56.60	26.6	34.5	22.2	87.8	SE	9.7	8	A.-Cu.	S.-Cu. SE	14	☈ p.
12	56.92	25.3	33.2	23.3	92.7	SE	9.5	9.2	Ci., A.-Cu.	S.-Cu. SE	42.2	● a. ☈ p.
13	57.28	25.6	34.4	23.9	92	SE	9.9	9.8	A.-Cu.	S.-Cu., N. SE	4.1	●° p.
14	56.84	25.6	31.4	23.3	94.2	SE	5.3	10	A.-Cu.	N. SW	43.9	d a. ● p.
15	56.08	24.2	25.5	23.3	98.2	SE	7.5	9.8	A.-Cu.	N. SW	70.1	● a. p.
16	55.99	24	25.2	23	98.2	SE	7.9	10	------	N. SSW	58.4	● a. p.
17	55.87	25.7	30.4	22.6	92.3	SE	7.7	10	A.-Cu.	N. SSW, SW	22.4	● a. p. ⌒
18	56.90	26.6	32.4	23.9	86.3	SE	9.9	10	A.-Cu.	N. SW, SSW	1.5	d a. p.
19	57.63	26.4	33.6	23.4	88.1	SE	7.8	9.8	A.-Cu.	S.-Cu. SW	17.5	☈ p.
20	57.98	27.3	33.2	23.3	82.5	SE	5.9	9.5	A.-Cu.	S.-Cu. SSW, S	1.3	○ a. ●° p.
21	57.64	28.1	33.6	23.9	80.3	W	5.7	9.5	Ci.-Cu., Ci.	S.-Cu.	------	
22	56.94	27.8	33.2	23.9	80.2	Variable	4.9	9.8	Ci.	S.-Cu.	.3	d p.
23	57.78	27.4	34	23.9	85.8	SE, SSE	5.8	7.8	Ci.-S.	S.-Cu.	2.3	● ↯ p.
24	58.63	27.5	32.5	23.6	85.2	NW	8.6	9	Ci.	Cu.	4.6	● ↯ p.
25	57.81	26	28.6	22.7	89.3	Variable	9.8	10	A.-Cu.	S.-Cu. NW	22.4	● a. p. T
26	56.89	24.6	29.9	22	92.5	Variable	7.9	10	A.-Cu.	S.-Cu. W	16.8	○ a. ● T° p.
27	57.02	26.6	34.6	21.9	83.3	SE	9.3	8.2	A.-Cu., Ci.	S.-Cu. SE, SW	------	↯ p.
28	57.46	27.2	34.4	23	83.7	S	6.9	8	Ci.	S.-Cu. SE	4.6	☈ p.
29	56.40	26.9	33.9	23.6	84.8	Variable	6.7	9	Ci.-S.	S.-Cu. SW, ENE	1.8	T° ↯ d p.
30	54.64	26.9	33.6	22.9	84.7	SE	6.8	7.5	Ci.	S.-Cu. E, ESE	.5	T° d p.
31	53.76	27	34.2	23.9	86.3	SE	7.7	7.8	Variable	S.-Cu. SE	.5	d p.
Mean	757.35	26.7	32.8	23.2	86.6	------	8.1	8.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	462.9	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force. (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	757.94	27	31.5	24.2	82.4	SSW	1.7	3.2	Ci. NNE	Cu. SW by S	11.7	☈ p.
2	58.42	27.2	30.8	24	82.5	Variable	.8	9.5	A.-Cu., Ci.-S.	Cu.-N. SW	3.3	d a. ☈ p.
3	60.05	26.5	30.7	22.4	82.8	Variable	1	4.8	A.-Cu. N	N.	103.9	☈ a. p.
4	59.61	26.5	30.5	23	79	S	1	5	A.-Cu.	S.-Cu., Cu.	.3	d ⌒ ↯° p.
5	58.09	27.3	30.8	24.4	81	S	1.2	4.5	Ci.-S.	Cu. SW	------	d p.
6	57.77	27.2	30.3	24.7	82.4	S	1.3	7	Ci.-S.	Cu.-N. SSW	4.8	● a. ⌒ d p.
7	58.67	27.4	31.3	24.3	80.8	Variable	1.2	5	Ci.-S. ENE	S.-Cu., Cu.	------	d° ↯ p.
8	59.61	28.1	31.2	25.1	79	Variable	1.3	1.2	Ci.-S.	Cu. SW	------	↯ ⦶ p.
9	58.73	28.2	33.2	25.2	81.5	NW	1.3	4.8	Ci.	Cu. N	2.5	☈ p.
10	57.46	27.5	31.3	24.6	83.2	E, SW	.8	4	Ci. E by S	Cu.	.8	☈° ⦶ p.
11	56.66	27.3	31.3	24.9	83.3	S	.8	5.5	Ci.-S. E	Cu.	4.3	☈ ⦶ p.
12	56.77	26.7	30.6	24.6	83.8	SSW	1.3	3.8	Ci.	Cu. SSW	9.1	☈ p.
13	56.88	27	30.5	24.7	82.5	S, SSW	1.5	8.2	Variable	S.-Cu.	6.4	⌒ ● ↙°
14	56.43	26.8	29.1	23.8	82.1	SSW	2.5	9.8	Ci.-S.	Cu.-N. SSW	11.9	↙ ●° a. p.
15	55.47	25.3	28.6	23.3	91.5	S	2.8	10	A.-Cu.	N. SSW	44.2	↙ ● a. p.
16	55.22	26.2	29	23.2	85.2	S	2.8	9	A.-Cu. W by N	Cu. SSW	7.4	↙° ●
17	55.42	26.4	29	22.9	88.3	S	2.5	8.2	A.-Cu. W	N. SSW	68.6	●² a. p. ↙°
18	56.57	26.7	29.1	24.5	85.3	S	2.7	10	Ci.-S.	S.-Cu. SSW	7.4	↯ ↙° ●
19	57.12	27.4	30.4	24.8	81.7	S	1.8	9.5	Ci.-S.	S.-Cu. SW, S	------	d° a. p.
20	57.76	27.9	30.7	25.9	77.7	S	1.2	7	Ci.-S.	S.-Cu.	------	
21	57.64	27.2	30.3	24.7	85	S	1.5	9.8	Ci.-S.	N. SW	1.3	d. a. ● p.
22	56.81	26.9	29.6	24	86	S	1.7	10	Ci.-S.	S.-Cu.	12.2	● a. p.
23	57.61	27.5	30.7	24.7	80.8	SE, S	1.2	5	Ci.-S. NE	Cu. SSW	.3	d ↯ p,
24	58.95	27.4	30.4	24.8	80.5	S	1	4.8	Ci.-S. E	Cu. S, SSW	------	○ p.
25	57.93	26.2	31.6	23.5	85.2	S, SW	1.3	9.8	Ci.-S.	S.-Cu.	15.7	● p.
26	56.64	23.9	26.6	21.6	91	S	1	10	Ci.-S.	N. S, SSW	90.7	● a. p.
27	57.05	25.8	29.8	21.5	83.7	S	1.5	3	Ci.-S. NE	Cu.	6.1	○° a. ⌒ ↯ ● p.
28	57.68	26.8	31.1	23.8	83.8	Variable	1	3.5	Ci.-S.	Cu. W by S	1.5	● T p.
29	56.27	27.7	31.5	25	83.7	NW, S	1.2	6.2	Ci.-S.	Cu. NNE	------	↯ p.
30	54.75	26.6	31.6	24.8	86.2	SSW	1	7.8	A.-Cu., Ci.-S.	Cu. NE by N	16.3	☈ p.
31	53.99	26.7	31	24.6	85.2	S	1	5.5	Ci.-S. WNW	Cu. S, SW	.8	T ●° ⌒ p.
Mean	757.29	26.9	30.5	24.1	83.5	------	1.4	6.6	------	------		
Total	------	------	------	------	------	------	------	------	------	------	431.5	

METEOROLOGICAL DATA, ETC.—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.41	29.7	35.2	24.5	72.2	Variable	0.7	5.8	Ci. E	Variable	------	⌓ a. ○² ↯ p.
2	57.53	28.2	36.5	23.5	76.2	S, SW	.8	7	Ci. SE	Cu.,Cu.-N. SW	------	↯ p.
3	59	26.9	36.1	22.5	78.8	Variable	.7	5.8	Ci.-S.	Cu. Variable	64.5	⌓ a. ⌈↯² p.
4	58.87	27.8	34.5	22.5	78.7	S, W	.5	5.8	Ci.	Cu. SW	------	↯ a. p.
5	57.71	26.4	35.3	22.9	82.5	SE, NW	.8	7.2	Ci.	Variable	76.7	↯ a. ⌈↯² p.
6	57.27	27.5	34.2	22.7	77.7	SW, WNW	.3	7	Ci. SE	Cu. S	1	● a. ⌒ p.
7	58.24	27.9	34.8	24.6	79.9	SE	1	7	Ci. NE	Cu. S	8.9	⌓ a. ⌈↯² p.
8	59.20	29	34.3	22.6	73.5	Variable	.7	4.8	Ci.-S. E	Cu.	------	⌓ ≡° ○² a. ↯ p.
9	58.28	28.6	33.8	24.3	80.8	SE	.3	6.2	Ci. ESE	Cu. S, SE	------	↯ a. p. ⌓
10	56.88	28.5	35.3	24.3	81	E, SE	.3	5.8	Ci. E, NE	Cu.-N. SE, SW	------	⌓ a. T² d ⌒ p.
11	56.63	27.2	33.5	24.2	80.9	SE	.8	8	Ci. NE	Cu. S	49.8	⌈↯² p.
12	56.48	26.5	34.5	22.8	84	Variable	.8	7	Ci. ESE, SE	Cu. SE, S	25.9	⌈↯² ∪ p.
13	56.64	25.4	32.2	22.3	87.4	SE, SW	1	9	A.-Cu. S	N. SW	8.9	≡ a. ⌈↯ ↙ p.
14	55.39	27.2	32.7	22.6	82.5	SE	.2	9.5	Ci.-S.	Cu.-N. SW	1	●° a. T ⊖ p.
15	54.36	26.8	32.6	23.9	85.7	SSE, SW	.5	9.2	Ci.-S. S	Variable	11.4	⌈↯ p.
16	54.02	27.1	33.9	23.2	83.9	S, NE	.5	8	Ci.	Variable	31.8	⌈↯² p.
17	54.42	27.8	34.6	23.6	82.2	Variable	.5	7	Ci.	Cu. SE	1.3	T ● p.
18	55.59	27.7	33.4	23.5	83.2	Variable	1.2	7.2	Ci., Ci.-S. E	Variable	22.9	○² a. ⌈↯² ↙ p.
19	56.29	27.3	32.7	23.2	83.7	NW	.2	7.2	Ci.-S. W, WSW	N.-cf. NW	6.1	○² ⌈↯ p.
20	56.73	27.6	31.4	23.4	84.3	SE	.5	9.5	Ci.-S. NW	Cu. S	------	○°
21	56.23	28.7	33	24.9	80.8	SE	.2	8.8	Ci.-S. SW	Cu. E	------	d p.
22	55.67	28.3	32.2	25.4	82.9	SW, NW	.3	9	Ci.-S.	Cu. SW	------	
23	56.53	28.6	34.1	23.7	79.1	SW	.7	7	Ci., Ci.-S.	Cu. S	------	⌓ a.
24	58.07	28	33.4	24.2	80.7	Variable	.7	7.2	Ci.	Cu.-N. NE	------	⌓ ○° a. T ↯ p.
25	56.78	25.1	26.8	23.6	93.3	Calm	------	9.5	Ci.-S.	N. S, SE	1	d a. ●° p.
26	55.09	26.6	31	23.5	83.2	SE	.3	9.5	Ci.-S.	Cu. SE	1.8	●° ○ a.
27	56.57	27.8	34.9	23	78	SE, S	.3	4	Ci. E	Cu. NE	------	⌓ a. T ↯ p.
28	57.64	28	33.9	22.9	77.5	NW	.5	3.2	Ci.-S.	Cu. SE	------	⌓ a.
29	56.86	27.6	33.7	22.7	81	NE, NW	.3	6.5	Ci.	Cu.-N. NE	------	↙² T ⌒ ↯ p.
30	55.13	26.8	31.1	23.1	86.3	SE	.5	8.2	Ci.-S., Ci.	Cu.-N. NE, NW	------	T a. ↯ p.
31	53.80	27.3	33.7	23.2	82.5	SE, NW	.8	7.2	Ci.	Cu.-N. Variable	13	⌈↯ ↙ ⌒ p.
Mean	756.62	27.5	33.5	23.5	81.4	------	.5	7.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	326	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*Km.p.h.*	*0–10.*			*mm.*	
1	757.83	28.8	34	23.5	84.7	SW, S	------	6.2	Ci. E	Cu.-N. S	3.3	⌈↯ p.
2	58.04	26.8	32.8	21.4	85.7	SW, N	10.4?	7	Ci. E	Cu.-N. S, N	38.6	⌈↯² p.
3	59.55	26.6	32.2	21.5	84.8	Variable	10.9	6	Ci. E	Variable	3	↯ T d p.
4	59.14	27.8	32.9	23.5	83.2	S	11	3.5	Ci. E	S.-Cu.	------	↯ T p.
5	57.85	27.5	34	24.3	85.8	S, SW	13	4	Ci. E	Cu.-N. N	------	T° ↯ p.
6	57.65	28	33	23.5	80.5	S, NE	9.9	5	Ci. E	Cu.-N., S.-Cu.	------	T° p.
7	58.60	28.6	33.4	24.4	82.3	SW, NE	10.3	3.5	Ci.-S.	S.-Cu. S	------	↯ p.
8	59.70	29	33.9	24.5	78.5	Variable	11.4	2.2	Ci. E	Cu.-N. N	------	↯ p.
9	58.94	29.1	33.7	25	82.2	N, E	9.6	1.2	Ci. E, S	Cu.-N.	------	↯ p.
10	57.51	28.8	33.2	25.4	82.3	SW, NE	10.5	4.2	Ci. E	Cu.-N. S	------	↯ p.
11	56.72	27.9	33.4	24.5	87.2	S	12.1	5.2	Variable	S.-Cu.	------	T° ↯ p.
12	56.87	27.6	33.4	24	85.7	Variable	11.9	4	Ci.-S.	Cu.-N. SE, N	1	⌓ a. d T ↯ p.
13	56.73	26.6	32.9	22.4	85.8	S	------	8.2	Ci. E	N. SW	8.9	○ a. ⌈↯ p.
14	55.54	27.7	32.2	23.5	83.8	S	12.6	9.2	Variable	S.-Cu. W	------	○
15	54.60	26.3	32.6	23.3	90	SW	11	9.8	Ci. E	S.-Cu. W	12.7	○ ↙ ● ↯ T p.
16	54.31	26.6	32.8	22.9	86.2	S	10.8	6	Ci. E	S.-Cu.	19.6	○ ↙ ● ⌈↯ p.
17	54.69	27.6	32.2	24	85.2	S	13.3	7	A.-Cu. S	Cu.-N. S, W	------	T ↯ p.
18	55.84	28	31	25.1	84.5	SW, S	12.2	10	A.-Cu., Ci.-S.	S.-Cu. SW	------	↯ a. p.
19	56.46	27.9	32.7	24	86	S	12	10	Ci. E	S.-Cu.	6.4	↙ ●° ↯ T p.
20	56.95	28.4	31.9	24.5	84.3	S	11.5	10	A.-S.	S.-Cu.	------	
21	56.47	28.8	32.5	25.6	83	S	10.9	10	Ci.-S. W	S.-Cu.	------	
22	55.93	28.2	30.2	25.6	84.2	SW, S	8.8	10	A.-S.	S.-Cu.	------	↯ T°
23	56.93	28.3	32.8	24.4	81.8	S, NE	9.7	8.5	Ci. N	Cu.-N. E	------	○ ↯ p.
24	58.46	28.4	33	24	80.8	SW, NE	9.4	9	Ci. E	Variable	------	○ ↯ p.
25	56.80	25.2	26.6	24	92.3	SW	13.8	10	A.-S.	S.-Cu. NW	20.3	↙ ● p.
26	55.17	25.7	28.1	23	91.3	S	15.3	10	Ci.-S., A.-S.	S.-Cu.	49.8	●² a.
27	57.01	27.9	32.5	23.4	82.3	SE, NE	12.4	1.8	Ci. E	S.-Cu.	------	⌒ ↯ p.
28	58.20	28.5	32.5	24.1	82.5	W, NE	7.9	.5	Ci. S	Cu. S	------	↯ p.
29	57.42	28	32.5	23.7	84.8	NE	9.9	2.2	Ci.-S. SW	Cu.-N. E	------	T° ↯ p.
30	55.54	27.5	31.1	24.4	89.4	Variable	6.2	6.2	Ci.-S. SE	Cu.-N.	.5	T a. d ↯ p.
31	54.02	27.8	32.1	24	86	S, N	7.9	.8	Ci.-S.	Cu. S	------	↯ p.
Mean	756.95	27.7	32.3	23.9	84.7	------	10.9	6.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	164.1	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.2	22.4	92	76	5	9	------	Ω a. d p.
2	32.7	22.6	92	75	6	4	2.3	Ω a. ● p.
3	32.3	23.6	95	72	6	9	------	Ω a. ϟ p.
4	31.8	22.6	94	82	6	9	------	Ω a. ↙° d p.
5	31.1	23.8	91	65	8	7	------	Ω a. ↙° ○ p.
6	29.9	22.4	94	72	9	6	5.3	d ● a. ϟ p.
7	30.2	22.3	96	74	9	9	8.1	● d° p.
8	27.3	23.8	92	82	9	10	12.4	● a d p.
9	28.9	22.3	94	76	10	9	2	●° a. p.
10	32.3	22.7	97	64	10	9	13.7	d ● a
11	28.8	22.3	97	78	10	9	24.9	● a. p.
12	31.5	22.1	94	65	9	8	------	⊕ ⊖ p.
13	31.8	22.8	98	64	5	6	------	
14	32.3	22.4	96	65	7	6	------	Ω a.
15	32.2	22.6	95	71	8	9	------	Ω a.
16	31.2	22.7	96	75	7	9	1.5	Ω a. ●° ⊤ p.
17	31.5	23.4	95	69	9	9	------	Ω a. ○ p.
18	31.8	23.9	92	68	4	7	------	
19	30.5	23.6	94	73	9	8	28.4	ψ° a. ● p.
20	29.5	23	97	76	10	10	16.8	↙°.d ● p.
21	31.1	21.8	96	84	3	8	.5	●° p.
22	30.7	21.6	95	73	4	9	4.8	d ● ϟ p.
23	30.9	22.3	97	90	3	8	38.6	d a. p. ● p.
24	30.3	23.4	95	86	9	10	5.1	● ϟ p.
25	30.6	21.5	97	73	9	6	2.5	● p.
26	30.5	22.6	98	72	8	7	------	
27	31.3	22.4	98	69	10	8	10.2	● a. p. Γϟ p.
28	30.5	22.7	87	79	10	10	11.7	↙° ● a. ↙° d p.
29	31.3	23.2	96	68	10	8	------	d a.
30	32	23.3	95	59	9	8	------	Ω a.
31	32.1	23.2	97	62	8	7	------	Ω a.
Mean	31	22.8	94.9	72.8	7.7	8.1	------	
Total	------	------	------	------	------	------	186.8	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	23	91	77	------	------	7.6	d a. ● p.
2	------	21	97	66	------	------	------	Ω a.
3	------	23	96	96	------	------	28.4	d a. ● p.
4	------	22.5	96	82	------	------	13.2	Ω a. ● p.
5	------	20.7	95	70	------	------	------	Ω a. ↙° p.
6	------	21.5	95	80	------	------	2.5	Ω p° a. ⊤ p° p.
7	------	21.9	96	74	------	------	.5	d a.
8	------	22	95	79	------	------	4.1	d a. p° p.
9	------	21.5	97	80	------	------	4.1	d a. p. ↙° p p.
10	------	21.2	96	92	------	------	12.2	d a. p. ● p.
11	------	21	95	70	------	------	22.4	● ⌒ a. ↙° p p.
12	------	20.6	96	71	------	------	.5	Ω a. p° p.
13	------	22	95	84	------	------	1.8	Ω p a. d p.
14	------	22	96	74	------	------	.5	Ω d a. ψ p.
15	------	22	96	78	------	------	4.3	Ω a. p d p.
16	------	22	96	69	------	------	------	Ω ≡° a. ⊤ p.
17	------	21.5	96	82	------	------	2.5	Ω a. ⊤ p d p.
18	------	21.4	98	83	------	------	6.1	Ω a. ● ⊤ ⌒ p.
19	------	21.5	96	93	------	------	.8	Ω a. p p.
20	------	21.5	96	73	------	------	.5	Ω a. p p.
21	------	20.6	95	88	------	------	.5	Ω a. ⊤ p p.
22	------	20.5	95	71	------	------	------	Ω a. p° ⌒ p.
23	------	21	97	74	------	------	.8	Ω a. ⊤ ⌒ p p.
24	------	22	96	77	------	------	.8	Ω a. d ⊤ p.
25	------	22	96	96	------	------	11.2	↙° ● a. p.
26	------	22	96	74	------	------	15.2	Ω a. ↙° ● p.
27	------	23	96	88	------	------	81.3	↙° ● a. p.
28	------	21.5	87	91	------	------	90.9	↙° ● a. p.
29	------	21.5	96	83	------	------	8.1	p° a. ↙ ● ⊤ p.
30	------	21	98	68	------	------	.5	d a.
31	------	21.5	96	65	------	------	------	Ω a.
Mean	------	21.6	95.5	79	------	------	------	
Total	------	------	------	------	------	------	321.3	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.1	23.9	87	76	8	9	------	
2	29.5	22	85	82	3	6	------	
3	29.6	23.5	85	84	9	4	------	
4	28.6	23.4	86	79	9	9	------	d p.
5	28	22.9	84	80	5	10	------	
6	28.6	22.1	89	75	6	9	------	
7	29	22	90	79	9	10	------	
8	28	22.3	86	97	10	10	8.6	↙ ● p.
9	27.2	22	82	82	10	10	3.6	●° a. p.
10	26	22.6	83	81	8	10	12.2	● a.
11	28	21.9	88	84	10	9	1.5	● a.
12	29.1	22.4	82	73	3	9	------	
13	------	23.5	83	77	3	7	------	
14	------	------	------	------	------	------	------	
15	------	------	------	------	------	------	------	
16	------	------	------	74	------	9	------	
17	29.5	23	89	83	10	9	------	
18	29.7	23.2	88	72	2	3	------	
19	29	22.8	88	81	3	9	3.6	● p.
20	28.2	22.4	92	80	10	9	9.7	● a.
21	29.1	23.4	88	81	3	3	------	
22	30	23.2	91	78	4	3	------	
23	30	22	88	78	2	4	------	
24	29.2	22.5	83	77	3	9	.3	●° p.
25	27.5	22.3	87	92	9	10	.8	●° p.
26	28.9	22.4	90	81	8	9	------	
27	28.5	24	88	83	9	9	1	●° a. p.
28	27.3	21.4	83	80	9	10	------	↙° p.
29	27	21	81	78	9	10	.5	d a. ↙° p.
30	29.6	23	86	74	4	5	------	
31	30	23	87	78	4	7	------	
Mean	28.7	22.6	86.4	80	6.5	7.9	------	
Total	------	------	------	------	------	------	41.8?	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E.]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	22.3	97	71	6	7	------	
2	33.2	22	96	65	5	7	21.1	● p.
3	33.1	22.5	93	69	6	7	------	⊤ p.
4	32.6	22.1	97	71	5	6	------	Γϟ p.
5	32.9	22.1	96	66	7	5	------	
6	33.1	22.2	97	69	7	6	13.5	● ⊤ p.
7	33.1	22.5	98	68	5	7	------	
8	33.1	22.3	97	63	6	6	------	Γϟ p.
9	33	22	97	63	5	7	------	
10	31.2	21	99	69	6	8	------	⊤ p.
11	32	21.8	96	66	6	7	------	
12	32.1	21.8	99	66	5	6	------	
13	33.1	22.5	97	69	6	7	------	
14	33	22.2	97	66	7	6	------	
15	32.6	22.4	99	63	7	5	------	
16	32.2	22.6	98	67	6	7	36.1	● p.
17	32.4	23.1	94	63	7	6	------	
18	32.7	22.1	97	70	5	8	------	
19	31.2	22.1	96	75	6	8	------	
20	32	22	97	71	7	7	------	
21	33.1	22	96	68	5	7	------	
22	32.1	21.5	98	76	5	5	41.1	● ⊤ p.
23	32.6	22	97	71	7	8	------	
24	31.6	22	97	75	5	7	------	ϟ p.
25	32.1	21.6	96	67	6	7	------	
26	32.3	22.3	97	70	6	7	------	Γϟ p.
27	32	22.3	90	67	6	8	------	
28	33.1	22.1	96	68	5	7	------	Γϟ p.
29	31.2	22.2	96	72	5	8	------	
30	32.9	22.1	97	66	6	5	------	
31	33.1	22.3	97	71	7	6	19	● p.
Mean	32.4	22.1	96.6	68.4	5.9	6.7	------	
Total	------	------	------	------	------	------	130.8	

METEOROLOGICAL DATA, ETC.—Continued.

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.1	22.8	97	86	6	10	2.3	Ω a. ⊤° ● p.
2	33.6	22.1	96	68	8	7	------	Ω a. ⚡ p.
3	34.4	22.9	96	71	4	7	2	Γ ● p.
4	32	22	97	71	9	8	68.1	●² a. ⚡ p.
5	32.7	22.6	95	72	10	6	------	↙° a. p. ⊖ ⌣ p.
6	31.8	23.5	92	72	9	9	------	d ⊤° p.
7	32.2	22.2	96	73	7	9	------	Ω a.
8	32.9	22.9	95	68	5	9	3.6	d ● a. ⚡ p.
9	27.7	22.8	91	77	10	10	49	● a. ↙ ● p.
10	30.2	22.1	95	87	10	10	------	d° a.
11	32.4	21.6	95	70	4	6	------	⊖ ⌣ p.
12	33.4	22	96	69	4	4	------	Ω a. Γ p.
13	34.6	22.9	96	65	3	6	------	
14	------	23	------	63	------	5	------	⌣ p.
15	34	22.6	96	65	4	6	------	⌣ p.
16	33.6	21.9	96	67	10	5	------	Ω a. ⚡ p.
17	33	23.2	96	71	8	9	------	Ω a. ○ ⚡ p.
18	34.1	22.4	97	64	8	8	------	Ω a. ○ p.
19	32.6	23	95	62	10	9	------	Ω a. ○ ⚡ p.
20	33.9	22.6	96	74	9	9	1	⊤° ● ⚡ p.
21	34.4	21.8	97	65	4	6	------	Ω a. ⚡ ●° p.
22	34	22.9	96	64	5	6	------	Ω ≡ a. ⚡ p.
23	34.6	22.3	94	59	4	4	------	Ω a. ⚡ p.
24	32.5	23.3	94	92	10	10	2.8	● a. p. ⚡ p.
25	32.4	22.6	97	68	9	8	.8	● p.
26	33.5	22.4	98	74	5	6	------	○ ⚡ p.
27	33.1	22.1	96	76	7	7	?	● Γ p.
28	28.4	22.1	97	82	10	10	5.6	● a. p.
29	32.7	22	96	71	7	9	------	
30	34	22.1	89	67	4	7	------	⚡ p.
31	34.1	22.6	93	63	10	5	------	d ⚡ p.
Mean	32.9	22.5	95.3	70.8	7.1	7.4	------	
Total	------	------	------	------	------	------	135.2[1]	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	22.6	97	74	9	7	------	Ω a.
2	35	23.6	95	61	3	6	19.3	Ω a. ⌒ Γ ● p.
3	32.6	22.6	95	62	2	8	10.4	Ω a. ⌒ Γ ● p.
4	29.5	22.5	95	78	8	10	------	Ω a. ⊤ p° p.
5	30.3	23	92	65	9	8	.8	Ω ⊤ a. ●° p.
6	28.7	22.7	96	72	7	9	------	
7	26.3	22.8	97	84	9	10	------	≡ a. p° p.
8	30.1	22.7	96	80	4	10	3.6	Ω ↙° a. ● p.
9	27	22.9	96	80	10	10	24.1	●² a. d a. p.
10	30.1	22.6	97	69	9	9	?	Ω a. p° ● ⌒ p.
11	31	22.6	93	70	2	8	5.6	Ω a. Γ ● p.
12	32	22.5	91	61	9	9	------	⌣ Γ p.
13	31.6	22.8	94	77	2	10	------	Ω ⊕ a. d p.
14	31	23.2	95	65	10	7	------	
15	32.3	23.9	91	68	8	8	------	
16	31.5	23.4	92	65	8	7	------	Ω a. Γ p.
17	31.3	23.4	94	64	10	8	------	
18	32.3	22.8	91	63	2	9	------	Ω a. ○ ⊤ p.
19	30.8	23	96	88	10	10	.8	Ω a. ●° p.
20	30.5	23.6	92	69	10	9	------	Ω a.
21	33.1	23.1	92	70	2	8	------	⊤ p.
22	32.2	23.1	91	58	7	4	------	⊤ p.
23	32.5	23.5	89	60	2	7	1.3	● Γ p.
24	28.2	22	96	74	10	10	------	≡ a. p° p.
25	31.3	22	92	60	4	5	20.8	Ω a. Γ ● p.
26	32	22.6	91	58	2	7	3	Ω ↙° a. ⌒² ● p.
27	28.8	22.9	94	90	7	10	10.7	Ω a. d ● p.
28	28.5	22.9	94	76	10	8	21.6	● a. p.
29	31.5	23.4	93	63	6	7	7.6	Ω a. Γ ● p.
30	32.5	24.1	94	68	8	9	1.8	⚡ ● p.
31	32.1	23.3	92	58	8	9	5.1	Γ ● p.
Mean	30.9	23	93.6	69.4	6.7	8.3	------	
Total	------	------	------	------	------	------	136.5[1]	

YAP (Western Carolines).

[ϕ=9° 29′ N; λ=138° 08′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10	0–10.	mm.	
1	31.2	23.5	96	70	6	6	6.4	
2	30.7	23	92	70	10	6	8.1	
3	31.6	23.5	93	70	7	6	13.5	
4	30.9	23.1	96	74	9	8	.8	
5	31.3	22.8	89	78	2	4	------	
6	32.6	22.9	85	91	8	8	.8	
7	28	22.7	92	90	9	10	22.9	
8	29.5	22.5	91	89	10	9	9.7	
9	31.8	22.5	92	90	10	10	30.5	
10	29	22.5	84	78	6	4	------	
11	32.8	22.9	87	77	4	4	------	
12	30.5	23.7	84	76	5	4	1.5	
13	31	23.7	89	91	8	2	6.6	
14	31.6	23.2	90	80	5	6	------	
15	32	24.3	89	74	3	5	5.3	
16	32.3	23.5	87	82	5	4	5.6	
17	32.4	23.4	90	85	?	5	12.7	
18	32.8	22.8	90	80	6	3	4.3	
19	32.6	22.5	88	73	4	6	------	
20	32.8	22.4	97	75	6	6	12.7	
21	32	22.5	94	81	8	7	6.4	
22	31.5	22.5	92	82	5	5	52.6	
23	33.3	22.5	94	69	5	9	1.8	
24	32.1	22.6	93	81	8	6	------	
25	30.2	22.5	93	73	5	7	7.4	
26	31.7	24	86	90	6	10	.8	
27	30.1	22.8	95	75	8	6	10.7	
28	32.1	22.6	92	80	5	10	1.8	
29	29.5	22.6	92	80	6	5	29.2	
30	34.3	22.4	86	75	10	6	------	
31	34.2	22.4	88	72	5	4	------	
Mean	31.6	22.9	90.5	79.1	6.5	6.2	------	
Total	------	------	------	------	------	------	252.1	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.1	24.3	92	84	8	10	------	≡² d° a. ⊤ p.
2	32.5	23.6	94	81	8	3	11.2	p² a.
3	32	24	89	83	7	8	------	↙ ⊤² ⚡ p.
4	31.5	23	92	71	10	10	45.2	d a. ⊤ ↙ ●² p.
5	31.4	22.9	92	86	10	10	11.7	d ≡ a. ⊤² ⚡ ↙ ●
6	29.5	22.8	97	82	10	10	14.5	● a.
7	30.4	23.2	95	83	10	10	33.5	p a. ● p.
8	29.7	22.4	87	78	10	9	------	d ⚡² ⌣ ⊖ p.
9	29.8	23.1	97	74	10	10	34.3	● Γ a. ↙ ● ⊖ p.
10	28.8	23.5	92	87	10	10	8.1	p d a.
11	29.6	24.5	84	76	9	8	------	d Γ ⊖ p.
12	30	23.5	96	79	10	9	------	⚡² ⌣ ⊖ p.
13	30.5	23.3	88	79	2	8	------	⌣ ⊖ ●° Γ² p.
14	31	23.4	91	84	10	10	------	⚡ ⊖ p.
15	29.6	24.4	88	75	10	10	------	d ⊤ ⚡² ⊖ ⌣ p.
16	31	24.4	95	78	10	10	10.9	p² p.
17	30.3	24.3	90	82	10	8	------	○ a.
18	31.1	24.6	95	83	10	10	------	⚡ p.
19	31	24.7	96	83	10	8	------	d a. ⊤ p.
20	30.5	24.4	92	77	10	10	------	
21	31.4	24.5	92	80	10	7	3	Γ² ●° a. ⚡² p.
22	33	24.2	96	77	10	5	37.3	● ⚡ a.
23	33.5	24.5	95	82	6	7	------	⌒ d Γ p.
24	33.1	24	93	82	10	10	15.7	d a. p. ● p.
25	29.5	23.1	92	76	10	8	------	
26	31.4	24	93	74	9	8	------	⌒ a.
27	31	24.2	88	86	7	10	56.1	● a. p. Γ p.
28	28.9	22.3	96	95	10	10	46.7	● a. p. ≡² ⚡² p.
29	28	22.8	90	79	10	8	------	d ⌒ ≡² a. ⚡² p.
30	29	24.3	91	79	2	9	------	Γ p.
31	29.5	24.4	88	80	10	10	19.3	Γ ↙ ● p.
Mean	30.6	23.8	92.1	80.5	9	8.8	------	
Total	------	------	------	------	------	------	347.5	

[1] 30 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

BACOLOD.

[ϕ=10° 41′ N; λ=122° 56′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	23	89	74	6	7	1.5	⌈ϟ ●° p.
2	31.5	22.9	95	74	10	8	.5	d a. ⌈ϟ p.
3	30.7	23.8	95	76	7	6	------	⌈ϟ p.
4	30.4	23.3	94	78	8	7	8.1	↙ ● a. ⌈ϟ ●° p.
5	30.3	23	94	84	6	10	45.5	⊤° ↙ ●² p.
6	28.1	22	95	84	8	10	------	ϖ p.
7	31	22	95	80	3	7	6.1	⊤ ●° ϟ p.
8	29.6	23	95	89	8	10	5.1	●° p.
9	26.7	22.9	95	87	9	10	10.4	●° a. ● p.
10	29.7	22.7	95	83	7	8	7.6	⌈ϟ ●° p.
11	27.2	22.6	96	95	10	10	27.4	●° a. ● p.
12	29.7	22.2	96	78	10	9	19	● a. ϖ p.
13	29.7	22.7	92	77	7	6	5.8	↙ ● a. ϟ p.
14	30	23.7	95	78	6	7	------	⊍ p.
15	28.7	22.8	96	97	9	10	55.4	●° ⊤° a. ● p.
16	29.7	22.4	95	77	9	8	52.6	● a. ↙ ● p.
17	29.6	22.8	92	78	7	6	------	
18	30.2	22.8	93	75	6	9	------	
19	31.1	23	95	75	8	6	------	⊤ ϟ p.
20	30.9	23	94	78	9	9	------	⊤° p.
21	30.6	22.6	95	86	6	9	------	⌈ϟ d° ⌒ p.
22	30.7	22.4	94	73	6	7	------	
23	31.1	22.5	94	74	4	6	------	ϟ p.
24	29.7	23.1	92	75	8	9	8.1	⊤° ●° ϟ p.
25	29.6	23.3	94	76	10	9	9.4	⊤° ● p.
26	30.2	21.4	96	76	8	7	50.8	●² ⌈ϟ p.
27	30.7	21.9	95	76	6	7	12.2	⊤° ● ϟ p.
28	28.6	22.7	93	91	10	10	6.6	●° a. p.
29	28.3	23.2	96	79	10	7	2	●° a. d° ϟ p.
30	28.6	22.7	95	84	6	9	9.4	●° a ↙ ● ⊤° ϟ p.
31	29.1	23.1	89	86	8	9	27.2	↙ ● a. p.
Mean	29.8	22.8	94.2	80.4	7.6	8.1	------	
Total	------	------	------	------	------	------	370.7	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	22.8	91	81	2	10	------	
2	32.5	22.6	89	70	8	9	------	⌈ϟ d° p.
3	32	23.9	89	71	6	10	------	ϟ d p.
4	31	24	92	75	10	8	1	d a. ●° p.
5	31	23.6	95	74	10	10	79	d a. ⊤ ● ϖ p.
6	28	22.6	95	80	10	10	6.1	● a. ⊍ p.
7	30.3	22.9	90	82	8	10	1	d ⌒ ϟ ⊤ p.
8	30.2	23.5	92	81	10	10	60.5	●° a. d ● p.
9	26.9	23	95	88	10	10	43.2	● a. p.
10	28.6	23.2	95	82	10	10	97.5	● a. p.
11	26.4	22.9	96	95	10	10	72.6	● a. p.
12	28.5	23	95	85	10	10	2.3	● a. ⊕ p p.
13	30.4	24	92	78	10	5	6.6	● a. p.
14	30.8	23	92	74	10	10	------	d a.
15	28	24.3	92	90	10	10	90.2	● ⊤ a. ●° p.
16	27.2	22.5	93	90	10	10	23.4	● a.
17	28	22.5	96	92	10	10	18	● a. p.
18	30.5	23.8	95	80	10	10	1	⌒ a. ● a. p.
19	31	23.4	88	80	10	10	------	
20	31.5	23.7	89	73	10	8	------	
21	29	23.3	90	80	6	10	15	⌒ ● a. ⊕ p.
22	30.8	22.3	87	73	8	10	------	
23	31.5	22.6	87	72	10	2	5.3	● p.
24	31.4	23	91	80	10	10	9.4	⌈ϟ d ● p.
25	29.4	23.6	95	78	10	10	28.4	d a. ● p.
26	30	21.9	92	71	10	7	------	
27	30.9	22.8	88	71	8	6	9.7	⌈ϟ ● d p.
28	29	23	92	81	10	10	26.2	● a. p.
29	27.5	23.5	94	87	10	10	7.9	● a. p.
30	28	23.6	95	90	10	10	35.6	●° a. ● p.
31	29.4	23.8	94	83	10	10	57.1	↙ ● a. p.
Mean	29.7	23.2	92.1	80.2	9.2	9.2	------	
Total	------	------	------	------	------	------	697	

TUBURAN.

[ϕ=10° 45′ N; λ=123° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.9	23.5	94	87	10	10	4.3	●° a. p. ⊤° ϟ² p.
2	31.4	23.7	93	71	10	5	------	⌒ a. ϟ² p.
3	30.8	23.5	94	74	10	8	------	⊤² ⌒² d a. ϟ² p.
4	31.4	23.8	94	68	10	9	56.4	○² a. ⊍² ⌈ϟ ●² p.
5	31.4	22.4	94	81	10	10	------	⌈ϟ² p.
6	28.2	23.1	93	79	10	10	1.3	●° a. ϖ² p.
7	30.4	21.9	94	81	8	10	12.7	○° a. p ●² p.
8	30.7	22.5	94	73	8	10	------	d ⊍² ϟ° ϖ² p.
9	28	22.6	93	76	10	10	6.6	● a. ⊍² ⊤° p.
10	30.1	22.5	93	77	10	10	3.8	⊤ ●° p.
11	31.6	22.3	93	75	8	10	------	d ⊤² ϟ° p.
12	31.6	22.8	88	64	9	10	------	○² a. p. ⊍² p.
13	32.8	22.3	89	59	3	5	------	○° ϟ² p.
14	32	24.4	91	63	10	10	------	○² ⌈ϟ² p.
15	32.5	23.6	88	66	10	10	------	○² ⊤² ϟ p.
16	32.7	24.1	85	66	10	10	------	○² ϟ° p.
17	33.3	23.1	87	58	8	7	------	ϟ² p.
18	33	23.5	87	60	9	10	------	○° a. ○² ϟ² p.
19	32.6	23.1	91	62	9	9	------	⊤² d p.
20	31.8	23.3	91	66	10	9	3.6	ϟ² ⊍² ⊤² a. ●° p.
21	31.4	23.1	92	82	9	10	------	⊤² a. d p.
22	32.2	22.6	94	65	8	8	------	ϟ² p.
23	32.1	23	92	60	6	8	------	○° a.
24	30.8	24	91	67	10	10	------	⌈ϟ² d p.
25	31.6	23.4	91	77	10	10	2.3	d ϟ° ●° p.
26	31.4	22.4	94	71	10	9	------	○° a. p. ⌒² p.
27	31.4	22.5	92	64	4	9	3.8	○° a. ⊤ ○² ϟ² ●°
28	28.7	23.8	94	93	10	10	40.4	d ● a. ●² p.
29	31.1	23.4	97	65	10	10	------	○² ϟ° p.
30	31.2	23.6	85	69	5	9	------	⌒ a. ⊤° d ϟ° p.
31	31.6	23.5	90	69	9	10	------	↙° a. d ϟ² p.
Mean	31.3	23.1	91.5	70.6	8.8	9.2	------	
Total	------	------	------	------	------	------	135.2	

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.9	22.6	94	78	1	7	------	
2	31	23.2	93	75	5	6	1.5	ϟ p.
3	31.4	24.6	92	74	6	5	5.6	⌒ a.
4	30.6	22.3	94	79	8	7	4.3	⌈ϟ a.
5	30	22.9	92	86	9	9	14.2	● a. p ⊤ p.
6	28.7	23.8	89	75	10	8	12.4	
7	29.5	22.6	88	80	3	8	9.9	● a.
8	30	22.4	88	78	9	6	50.3	● p.
9	29.9	21.9	82	81	10	9	51.6	● a. p.
10	29	22.9	84	85	7	9	36.1	p a. p. ● p.
11	28.1	22.8	88	90	8	9	43.4	⌒ a. p p.
12	29.2	22	93	80	10	8	21.6	
13	29.2	22.6	91	78	10	7	1	p a.
14	29.9	23.5	88	78	7	6	------	
15	29.4	25.3	84	81	5	9	6.1	d a.
16	30.3	23	87	83	8	7	------	
17	30.1	25.4	82	80	7	6	------	
18	29.8	24.4	85	81	6	7	11.4	● a.
19	30.3	24.5	88	80	6	7	------	
20	30.8	24.3	92	78	7	4	------	
21	28.6	23	90	89	7	9	1.8	d a.
22	30.8	21.8	95	75	4	6	------	
23	31.4	22.8	91	75	2	4	7.9	d p.
24	29.8	22.7	94	81	10	8	11.4	
25	29.3	22	86	93	10	10	80.8	d a. ● p.
26	30.6	21	87	78	6	3	1	d p.
27	30.8	22.7	91	76	2	5	6.9	
28	29.2	23	94	78	10	7	73.9	d a. ● ϟ p.
29	25.8	22	88	88	9	10	13.7	● a. p.
30	29.4	22.5	84	80	9	8	14	● p.
31	28.8	23.1	86	83	8	9	13.5	● ϟ p.
Mean	29.7	23	89	80.5	7.1	7.2	------	
Total	------	------	------	------	------	------	494.3	

METEOROLOGICAL DATA, ETC.—Continued.

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E.]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.7	22.3	97	77	6	8	1.3	Ω ≡ ●° a. ⌈↯ p.
2	30.3	22	95	77	5	6	------	Ω ≡ a. ϟ p.
3	31.8	22.8	95	70	4	5	------	Ω a. ϟ p.
4	31.8	22.4	97	68	8	9	------	Ω ○° a. ϟ p.
5	31.5	22.9	94	73	10	10	6.6	Ω ∞ a. ● ⌈↯ p.
6	31.2	21.9	96	70	8	6	18.5	Ω ≡ a. ●² ϟ p.
7	31.3	21.7	97	68	7	9	13.5	Ω ≡ a. ○° ● ⌈↯
8	31.8	21.4	97	70	2	8	.5	Ω ≡ a. ⊤ ●° p.
9	29.4	22	98	81	10	10	5.6	Ω ≡ ●° a. ᴗ p.
10	29.7	21.7	97	83	10	10	------	Ω ≡ ○° a. ᴗ ϟ
11	32.9	21.7	97	71	2	9	3.8	Ω ≡° ○ a. ● ⌈↯
12	32.3	21.3	97	67	7	10	------	Ω ≡ ○ a. ϟ ᴗ p.
13	33	22.7	97	70	2	9	------	Ω ≡° a. ϟ p.
14	32.9	22.8	96	74	5	10	------	Ω ≡ ○° a. ϟ ᴗ
15	33.4	22.3	96	63	10	10	1	Ω ≡ ○° a. ⌈↯ ●°
16	32.6	23.4	97	64	10	9	------	≡ ○ a. ϟ p.
17	34.2	22.9	97	55	5	6	.5	Ω ≡ a. ⌈↯ ●° p.
18	32.7	23	97	74	8	7	32.8	Ω ≡ ○° ⌈↯ ↙ ●²
19	31.9	20.7	97	65	5	6	------	Ω ≡ a. ⌈↯ p.
20	32.7	22.6	97	64	8	7	.5	Ω ≡ a. ⌈↯ ●° p.
21	32.2	23.5	96	70	9	8	16.8	Ω ≡ a. ⌈↯ ● p.
22	32.4	21.8	97	69	2	9	9.7	Ω ≡ a. ⌈↯ ● p.
23	32.3	20.7	97	67	6	8	.8	Ω ≡ a. ⌈↯ ●° p.
24	32.1	22.6	97	77	9	10	1.5	Ω ≡ a. ⌈↯ ●° p.
25	34.1	22.4	97	93	6	10	23.6	Ω ≡ a. ⌈↯ ●² p.
26	31.7	20.8	97	66	3	7	------	Ω ≡ ○² a. ϟ p.
27	32.6	21.9	96	69	2	7	3.8	Ω a. ● ϟ p.
28	30.5	22.7	97	85	10	10	44.4	⌈↯ ●² a. ●² ↙ ϟ
29	31.4	22.6	98	80	2	9	6.1	≡ ● a. ● ⌈↯ p.
30	32.8	22	98	73	5	8	3.6	Ω ≡ a. ⌈↯ ● p.
31	31.7	21.8	97	70	10	10	5.3	Ω ≡ a. ⌈↯ ● p.
Mean	32	22.2	96.7	71.7	6.3	8.4	------	
Total	------	------	------	------	------	------	200.2	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	23.2	90	69	3	5	------	↙° ϟ p.
2	33	24.5	93	63	4	5	------	ϟ p.
3	34.2	24.2	96	63	3	8	------	ϟ p.
4	33.6	24	94	65	6	7	1	p a. ϟ p.
5	33.4	25.2	92	63	10	9	12.7	● a. p. ↙° ⌈↯ p.
6	30.4	23.3	88	81	9	10	4.3	⊤ ●° a. ● ϟ p.
7	34.1	23.4	92	70	6	8	.3	●° a. ϟ ∞ p.
8	30.4	23.7	93	72	9	9	11.4	p a. ●° ⊤ p.
9	29.6	23.8	96	94	9	7	11.9	● a. p. ⊤ p.
10	30.2	24	94	74	8	8	12.2	● p.
11	29.2	24.6	90	78	10	7	14.7	● a. p. ↙ p.
12	29.9	24.1	85	72	9	8	2.3	↙ a. ↙° p p.
13	30.1	24.9	83	71	4	4	------	↙° a. p.
14	31.4	24.9	84	68	6	6	------	↙° a. p. ○ p.
15	31	25.4	79	65	7	10	------	
16	30.3	25.6	84	67	10	8	.5	p a. ↙° a. p.
17	30.7	26.3	83	72	8	6	10.7	↙ ● a. p.
18	30.5	24.4	93	71	9	6	.3	○ p p.
19	31	26.4	89	73	5	7	.3	
20	31.7	25.8	88	71	5	6	------	
21	32.2	26.1	93	69	6	5	------	⨁ a. ↙ p.
22	31.2	25.4	85	69	8	7	------	↙° p.
23	32.4	26.1	86	67	4	5	------	⌈↯ p.
24	31.7	24.5	94	65	6	6	------	⌈↯ p.
25	30.4	25.2	94	66	10	10	1	⊤ ●° a. ●° ϟ p.
26	31	23.8	88	67	4	5	------	↙° p.
27	32.6	23.6	87	84	2	6	37.6	⌈↯ ●² p.
28	28.5	23.1	97	81	10	9	29.7	● a. p. ⌈↯ p.
29	28	23.7	97	95	10	10	71.4	⊤ ● a. ↙ ● p.
30	31	23 8	88	68	9	5	------	↙° a. p.
31	30.8	24.8	86	82	9	10	4.1	↙° a. p. ●° p p.
Mean	31.2	24.6	89.7	72.1	7	7.2	------	
Total	------	------	------	------	------	------	226.4	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.9	22.9	99	84	2	8	33.5	●² ⊤ p.
2	31.9	22.9	99	87	3	8	------	
3	31.3	23.3	99	77	2	4	------	
4	32.3	22.4	99	72	2	6	------	
5	30.7	23.2	96	78	8	7	------	
6	30.3	23.1	99	82	8	7	20.6	●° a. ●² ⊤ p.
7	30.7	21.9	100	71	3	5	------	
8	32.1	22.7	100	83	2	5	5.3	● a.
9	29.9	23	99	90	6	8	7.4	● ⌒ p.
10	30.3	22.8	99	85	4	8	.8	●° p.
11	30.8	23.4	99	90	3	8	------	
12	30.3	23.7	94	77	7	8	------	
13	31.9	23.8	97	74	5	5	------	
14	30.9	24	88	75	4	7	------	
15	32.3	24.4	89	71	3	6	------	
16	32.6	24.8	92	78	3	6	------	
17	32.6	23.7	96	68	7	8	------	
18	32.8	24.7	96	71	6	8	------	
19	32.1	24.1	89	77	5	7	------	
20	32.4	24	97	76	6	8	1.3	⌈↯ ● p.
21	31.7	23.8	94	73	5	7	------	
22	32.1	23.4	97	74	4	8	------	≡ a.
23	32.4	23.3	97	71	6	4	------	
24	31.7	23.7	97	75	5	8	------	≡ a.
25	30.7	23.7	95	76	3	7	2	● a.
26	31.7	23.2	98	79	4	8	5.1	● p.
27	31.4	23.7	98	72	3	6	------	
28	29.7	23.5	99	81	10	8	48	●² a. ● p.
29	30.8	23.8	96	91	8	7	1.3	●° a. ● ϟ p.
30	31.4	23.6	90	76	2	6	------	ϟ p.
31	30.6	23.6	91	79	3	10	.5	
Mean	31.4	23.5	96.1	77.8	4.6	7	------	
Total	------	------	------	------	------	------	125.8	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.4	21.6	97	82	2	8	2	p ⊤ p.
2	33.1	22.4	94	63	5	8	------	d p.
3	33.4	22.3	95	74	4	6	------	d a.
4	33.3	23.5	93	68	5	8	1.3	p ϟ p.
5	32.3	23.1	94	68	8	10	------	
6	32.7	22.5	93	65	10	6	------	d p.
7	33.2	22	97	65	4	5	------	ϟ p.
8	32.9	22.4	95	64	8	5	6.4	● a. ϟ p.
9	31.5	22.1	93	94	10	10	9.1	d a. ● p.
10	32.5	21.8	97	72	10	10	------	⊤ p.
11	32	23	96	74	8	10	9.7	● d a. p.
12	32.1	21.9	96	72	9	10	------	
13	33.8	23.1	98	63	6	8	------	
14	33.2	23	93	64	8	10	------	
15	33.2	24	90	64	8	10	------	
16	33.5	24	87	61	10	10	------	
17	33.6	22.8	95	59	10	8	------	
18	34.3	23.9	92	60	10	10	------	
19	34.1	22.5	95	59	5	8	------	
20	35.4	22.6	97	54	6	8	6.6	● p.
21	33.5	22.3	97	68	10	10	2	⊤ p a. d p.
22	33.6	23.9	92	60	5	8	------	
23	34	22.5	91	65	6	6	------	ϟ p.
24	33.2	22.6	97	61	5	8	------	ϟ p.
25	31.9	23.8	88	65	10	10	7.4	● p.
26	32.8	21.4	94	90	6	10	11.4	● ϟ p.
27	34.5	21.8	97	58	8	4	------	
28	32.1	22.8	97	77	10	10	47.8	●² ⌈↯ a.
29	32.4	23.5	97	72	10	10	12.7	● ⊤ a. ● ϟ p.
30	33.5	22.9	94	65	10	6	8.8	● a. ⊤ ϟ p.
31	32.5	23.4	96	99	8	10	27.9	⌈↯ ●² ↙° p.
Mean	33.1	22.8	94.4	68.5	7.5	8.4	------	
Total	------	------	------	------	------	------	148.1	

METEOROLOGICAL DATA, ETC.—Continued.

SUMAY, GUAM (Ladrones Islands).

[$\phi=13° 24' N; \lambda=144° 38' E$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.3	25.6	91	78	2	4	17.5	● a.
2	28.9	25.8	89	80	4	3	15.5	●° a. p.
3	28.7	23.4	93	80	8	9	1	●° a.
4	28.9	23.4	92	82	9	9	9.9	d a. ● p.
5	28.9	24	98	84	7	5	2	d a.
6	26.5	23.4	85	93	5	10	10.7	⌒ ●° a. ⊤ ● p.
7	29.9	24.7	87	75	6	5	.8	●° a.p.
8	28.3	25.9	90	77	9	10	3.6	●° a. p. ⊤ p.
9	28.7	22.8	82	78	9	9	------	
10	28.7	22.5	93	77	6	9	------	
11	29.6	23.3	79	80	3	4	29.3	
12	29.7	23.2	92	72	2	5	------	⊖ p.
13	27.9	23.4	86	95	7	10	27.4	● p.
14	29.2	23.3	95	76	4	5	------	
15	28.5	23.6	91	86	3	7	------	
16	30.9	23.9	92	69	3	5	.1	
17	30.3	24	86	73	2	5	------	
18	27.1	25.7	86	85	2	7	8.5	● p.
19	30	23.8	98	88	10	8	47.2	● a.
20	29.4	24.2	95	84	10	7	1.4	
21	29.2	23.8	92	79	10	9	53.3	●² p.
22	28.6	23.9	90	78	10	10	.5	
23	26.7	24.7	90	92	8	10	15.2	● a.
24	29.6	23	96	79	7	6	.4	●° a.
25	30	24.7	89	69	2	4	.5	●° ⌒ p.
26	29.6	24.1	89	70	3	3	8.1	
27	28.9	24.4	91	80	5	6	9.1	● a. p. ⌒ p.
28	27.5	23.8	93	93	9	10	19.8	● a. p.
29	28.9	23.2	95	83	4	6	.8	
30	26.9	23.5	87	93	8	10	24.1	● a.
31	29	23.4	96	79	7	8	61.2	●² p.
Mean	28.8	23.9	90.6	80.9	5.9	7	------	
Total	------	------	------	------	------	------	367.9	

VIRAC.

[$\phi=13° 35' N; \lambda=124° 14' E$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.3	23.4	97	75	2	8	------	ς p.
2	30.8	23.3	96	73	9	3	27.2	●² ↯ p.
3	30.3	23.7	97	77	7	3	------	● ⊤ d° a.
4	32.3	23.6	95	74	4	8	9.9	● ↯ p.
5	32	22.9	96	71	3	9	1.3	● a. ◯ ⊤ ς p.
6	31.5	24.1	97	79	9	9	------	↯ a. ●° p.
7	31	23	97	76	2	4	7.4	↙ ● a. ς ⊖ ∪ p.
8	30.9	23.4	97	74	9	8	12.2	↙ ● ↯ a. ●° p.
9	31.4	23	99	94	7	8	5.3	● p.
10	32.1	22.7	97	72	9	9	------	↯ ⊖ ∪ p.
11	31.5	24	98	76	9	8	16.5	d² a. ↯ ● p.
12	31.6	24.1	97	73	8	9	------	●° a.
13	32.3	24.5	95	74	8	8	.3	d² a. ⊖ ∪ p.
14	32.2	24.2	93	74	8	9	------	⊕ ◯ p.
15	33	24.3	94	70	9	9	------	⊕ ◯ p.
16	33.7	25.5	80	60	9	8	------	∪° p.
17	33.5	25.5	89	59	8	7	------	
18	34	25.2	90	69	8	9	------	⊕ ◯ ς p.
19	33	24.6	94	67	7	8	------	ς p.
20	33.5	23.7	95	71	2	7	------	∞ a.
21	33.8	24.5	93	60	9	7	------	
22	32.4	24.5	92	64	7	8	------	◯ ς p.
23	34.5	23.8	96	60	5	4	.8	∞ a. ↯ ●° p.
24	32.6	23.3	95	73	8	9	------	∞ ⊤ a. ς p.
25	32.1	23.6	91	74	10	9	23.1	● a. p.
26	33.7	22.1	98	72	3	7	------	
27	31.9	24.3	97	76	10	4	9.9	● a.
28	32.3	23.9	94	74	10	8	29.5	⊤ ↙° ●² a. ⌒² ς
29	31.2	24	97	84	10	9	31	● a. p. ↙ ↯ p.
30	32.2	23.4	97	75	8	8	------	● a. ↯ p.
31	32.3	23.4	94	69	8	10	16.3	↙ ● ↯ p.
Mean	32.3	23.9	94.7	72.2	7.3	7.5	------	
Total	------	------	------	------	------	------	190.7	

BATANGAS.

[$\phi=13° 45' N; \lambda=121° 03' E$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.9	22.1	97	81	9	7	1.3	●° ⌒ a. d° p.
2	30.5	22.2	96	72	4	7	------	↯ p.
3	31.3	21.8	97	69	4	7	------	⊤ a. ↯ d° p.
4	31.5	22	96	69	4	7	18.8	↙ ● ⊤ p.
5	30.9	22.1	97	78	7	6	------	◯ a. ↯ p.
6	30.2	23.2	94	76	7	7	------	↯ p.
7	31.3	22.9	97	72	6	6	.8	●° a. p. ↯ p.
8	29.9	22.8	95	72	7	7	------	◯ p.
9	31.1	22.1	95	78	5	9	6.4	●° p.
10	29.8	22.2	97	82	5	8	------	↯ p.
11	30.9	22	97	71	7	7	------	
12	31.8	22.6	97	71	9	7	1.5	● a. ↙° ●° ⌒ p.
13	32	22.4	96	66	5	6	------	◯ ↙° ⊤ p.
14	32.1	22.7	94	66	7	9	------	◯ p.
15	30.8	24.1	80	72	7	9	------	◯ a.
16	31	25.5	77	60	9	9	------	↙° ς p.
17	31.1	23.4	89	70	10	9	------	
18	32.1	24	89	68	8	6	------	⌒ ◯ a. ↯ ◯ p.
19	32	21.8	96	65	4	7	------	◯ a. p.
20	32.5	21.7	96	61	4	6	------	⊤ p.
21	32.1	21.5	96	68	6	6	------	↯ ◯ p.
22	32.2	22.4	96	59	8	7	------	◯ a.
23	31.8	21.2	97	69	6	7	------	◯ a. p.
24	32	21.7	95	65	7	7	.5	⊤ a. p.
25	28.3	23.5	92	86	9	9	------	
26	31.8	22.1	95	79	9	9	?	◯ a. ● p.
27	32	21.1	96	64	2	5	------	
28	30.4	21.2	97	83	7	9	17.3	● a. p.
29	31	21.9	97	90	10	10	16.8	● a. p. ⊤ p.
30	30.2	22.7	97	72	9	7	8.9	↯ ●° p.
31	29.8	21.6	97	84	6	9	.3	d p.
Mean	31.1	22.4	94.4	72.2	6.7	7.5	------	
Total	------	------	------	------	------	------	72.6[1]	

SILANG.

[$\phi=14° 14' N; \lambda=120° 58' E$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.5	18.8	97	67	7	8	6.1	● a.
2	28	16.9	98	67	8	8	13	d a. ⊤ ● p.
3	28	16.8	98	68	7	9	22.4	Ω a. ●² ⊤² p.
4	27.7	18.9	98	68	3	6	29.5	● p.
5	28.2	18.8	98	68	5	5	------	⊤° p.
6	28.2	18.9	97	68	5	6	9.4	Ω a. ● p.
7	27.8	18.9	98	70	7	7	46.7	↙ ● p.
8	27.8	19.2	98	70	5	7	50.8	●² ⊤ p.
9	27.6	19.2	98	70	7	8	48.8	Ω ≡ a. ↙ ● p.
10	27.7	19.5	98	71	3	8	8.4	● a.
11	28.4	19	98	69	3	6	------	d p.
12	28	19	98	67	6	8	------	d p.
13	27.8	17.6	97	70	7	8	3	● a.
14	27.6	17.8	98	70	8	8	27.4	● a. p. ⊤ p.
15	27.4	17.6	97	71	9	9	54.1	●° a. ● p.
16	29.6	20.2	98	64	------	3	------	
17	29	20.1	98	64	5	3	------	
18	29	20	98	65	3	8	20.3	d a. ●² ⊤ p.
19	29.3	20.1	98	64	8	3	------	Ω ≡ a.
20	29.4	20.2	98	64	5	5	------	
21	29.3	20	98	64	6	6	------	Ω a.
22	29.2	20	98	63	3	3	------	
23	29	20	98	64	3	5	3.3	●° a. ⊤ p.
24	28.8	19.8	98	65	7	5	13.5	● p.
25	28.6	19.9	98	65	8	4	------	Ω a.
26	28.6	19.7	97	66	7	6	20.6	●² a. ⊤² p.
27	28.2	19.7	97	67	8	8	22.4	↯ ● p.
28	28	19.2	98	68	9	9	56.4	● a. p.
29	28.1	19	98	67	8	8	61.2	● a. p.
30	27.8	18.1	98	68	10	10	50.8	● a. p.
31	27.8	18	98	69	8	9	72.6	⊤ a. ● a. p.
Mean	28.3	19.1	97.8	67.1	6.3	6.6	------	
Total	------	------	------	------	------	------	640.7	

[1] 30 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

SAN ANTONIO.

[ϕ=14° 22′ N; λ=121° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.8	20	95	78	9	9	7.6	
2	30.9	19.6	98	72	7	7	------	
3	31	20	98	64	2	4	7.1	
4	30	20.4	99	72	2	7	------	
5	30.4	20.5	98	64	8	8	------	
6	32.9	21.5	99	75	2	9	6.4	
7	31	21.4	100	82	10	2	------	
8	31.4	19	96	69	8	8	3	
9	31.8	21.4	98	68	6	9	2.8	
10	31.2	21.5	96	79	6	9	20.1	
11	29.1	20.6	99	89	7	9	------	
12	29.6	20.9	96	74	10	10	1.3	
13	30.4	21.4	97	74	9	8	------	
14	27.8	20.8	97	92	10	9	3.3	
15	28	21.9	91	84	9	10	5.1	
16	29.4	22	97	88	10	10	4.8	
17	29.4	21.6	98	77	10	10	------	
18	30	22.5	99	71	10	10	------	
19	30	22	98	78	10	10	------	
20	30.1	21	99	84	8	9	------	
21	31	21	92	83	6	10	------	
22	30	21.1	98	77	10	10	------	
23	30.1	20.2	93	77	8	9	------	
24	30.2	20	92	71	7	8	9.4	
25	27.2	18.4	97	70	10	10	17.8	
26	30	19	89	93	9	10	2.5	
27	31.2	19.3	98	60	10	6	39.1	
28	28	19.1	98	84	5	10	19.3	
29	29	18.8	93	98	10	10	12.2	
30	29	18.2	97	85	10	9	------	
31	30	18.3	93	83	8	7	------	
Mean	30	20.4	96.4	77.9	7.9	8.6	------	
Total	------	------	------	------	------	------	161.8	

CORREGIDOR.

[ϕ=14° 23′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10	0–10.	mm.	
1	30.4	22.6	96	80	10	8	12.2	● p.
2	31.6	22.1	97	75	10	10	------	
3	33.6	23	94	68	8	2	------	
4	33.6	24	93	64	10	8	------	
5	33	23.1	95	69	10	2	------	
6	31.9	23.1	84	70	10	5	------	
7	33	22.7	86	70	10	10	4.3	● ☈ p.
8	32.7	23.8	86	70	10	10	------	
9	32.8	23.7	95	70	10	10	31.7	⊤ a. ● p.
10	32	22.3	96	74	8	10	------	⌒ a.
11	32.7	24.3	98	67	10	5	------	
12	32.9	25.2	90	69	10	10	33.3	● p.
13	30.7	22.5	89	82	10	10	12.7	● p.
14	28.7	21.9	95	93	10	10	15.5	d a. ● a. p.
15	29.5	21.7	94	84	10	10	21.8	● a. ↙ ● p.
16	29.5	23.3	94	95	10	10	83.1	● a. p.
17	30.4	22	95	86	10	10	9.7	↙ ● a. ● p.
18	30	22	94	94	10	10	16	● a. p.
19	32	22	91	75	10	10	------	
20	33.4	24.2	90	67	10	3	------	
21	32.7	23.8	92	71	8	10	------	
22	32	24.3	91	72	10	8	------	
23	32.7	24.1	87	69	10	2	------	
24	32.5	22.7	98	73	10	10	------	
25	30.5	23.8	92	90	10	10	23.9	● p.
26	29.8	21.2	97	93	10	10	7.4	● a. p.
27	32.5	22	96	75	10	4	------	☈ p.
28	30.7	22.8	92	83	10	10	------	
29	30	23.7	88	74	10	10	23.9	● ☈ p.
30	30.2	22	92	94	10	10	------	⊤ p.
31	30.9	22.5	98	90	10	10	17.3	● a.
Mean	31.6	23	92.6	77.6	9.8	8.3	------	
Total	------	------	------	------	------	------	312.8	

BALANGA.

[ϕ=14° 41′ N; λ=120° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.8	23.1	92	83	10	10	4.3	d^2 a. ⊤ ⚡ p.
2	31.1	22.7	92	75	9	8	------	d° a. ⚡ p.
3	32.8	21.9	91	61	4	3	------	⚡ p.
4	32.4	23.2	90	68	9	7	------	⊤ ⚡ p.
5	32.7	22	90	69	8	6	------	⊤ ⚡ p.
6	32.5	22.2	90	75	7	9	18.5	● a. ⊤ p.
7	33.5	22.5	91	64	10	9	3.3	☈ ● p.
8	32.5	23.6	92	67	10	10	------	☈ p.
9	33.3	23.8	91	69	10	9	2	☈ ● p.
10	32	22.9	91	72	3	10	.5	⊤° d^2 p.
11	31.6	23.5	92	72	10	7	10.4	d^2 a. ⊤ ● p.
12	31.5	22.8	91	75	10	10	14.2	● ⊤° a. ⚡ ⊤ ● p.
13	31	23.1	92	72	10	9	10.2	⌒° a. d ● a. p.
14	28.1	22.5	92	83	10	10	19.3	● d a. p.
15	27.7	23.6	92	88	10	10	30.5	● ⊤ ↙° a. ● ☈°
16	26.8	22.4	95	93	10	10	156.5	↙° a. ● d a. p.
17	28.6	22.1	96	86	10	10	52.6	☈^{2} ● a. ↙° ● p.
18	28.6	22	93	80	10	10	.5	↙° d a. p.
19	31.6	22.9	92	74	10	9	3	● ↙° a. ↙° d p.
20	32.1	23.6	92	69	6	8	.8	⌒ a. d a. p.
21	31.8	23.5	92	71	10	10	2.3	● a. d p.
22	31	23.6	92	77	10	10	5.1	d ● a.
23	31.9	23.9	90	73	8	6	6.4	● a. d ⚡ p.
24	32.1	22	90	77	8	9	6.4	● a. ⊤ ⚡ p.
25	30.6	23.3	89	79	10	10	1	⊤° d p.
26	28.5	22.8	91	86	10	10	18.3	● a. p.
27	31.5	21.7	93	69	7	7	5.1	d a. ☈ d^2 p.
28	31.5	22.8	91	80	4	10	1	⊤ ⚡ d p.
29	29.3	23	91	74	10	10	4.8	d° a. ● p.
30	31	22.3	91	72	10	10	1	⊤ d ⚡° p.
31	30.1	22.5	92	78	8	10	15.7	☈ ● a. d ● ⚡°
Mean	30.9	22.8	91.6	75.2	8.7	8.9	------	
Total	------	------	------	------	------	------	393.7	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	23.5	98	76	10	10	5.8	≡^{2} a. ↙° ● ⚡° p.
2	32.9	23.9	97	70	9	6	------	≡° a. d° ⚡° p.
3	34.1	22.5	97	74	2	7	------	☈^{2} p.
4	34.1	21.5	96	77	0	9	50.3	Ω ≡° a. ● ☈ p.
5	34	21.8	96	59	1	4	3.8	☈ ● ⌒ p.
6	34.5	21.7	97	61	1	8	13	≡ a.
7	34.1	21.8	98	57	10	4	3.8	●° ⚡ ⊤° p.
8	33.2	23.2	98	63	8	8	------	≡ a. ○^{2} p.
9	34.6	23.7	94	69	10	7	45.7	Ω a. ☈ ↙° ● p.
10	33.5	22.5	97	61	2	8	72.6	☈ ● p.
11	32.7	22.2	97	72	10	7	6.6	●° ⊤° p.
12	31.4	23.6	98	93	9	10	6.6	☈ d° ● p.
13	31.5	23.1	97	85	10	10	2.5	●° a. p. ⊤° p.
14	29.5	22.8	97	89	10	10	12.7	●° a. p. ● p.
15	26.4	23.5	97	98	10	10	76.7	⊤° a. ● a. p.
16	24.7	21.5	99	97	10	10	86.9	● a. p. ↙° d° p.
17	30.1	22.4	99	82	10	9	11.4	⊤° ● a. ●° a. p.
18	31.2	22.5	97	81	10	10	------	↙° d° p.
19	31.8	22.5	98	88	10	10	1.3	≡^{2} a. ☈ ●° p.
20	31.8	22.4	98	92	10	10	14	≡^{2} a. ☈ ● p.
21	32.8	21.9	97	65	10	10	------	○ a. p.
22	32	22.2	98	69	10	10	------	Ω^2 ≡ a.
23	31.3	22.2	95	80	3	9	9.7	Ω^2 a. ☈ ● p.
24	33.7	22.1	97	61	10	5	2.5	○ a. ↙° ● ⚡° p.
25	31.1	22.8	96	89	10	10	3.6	↙° ● d° ⊤° p.
26	31	21.9	97	74	10	10	19.6	≡^{2} a. ●° p.
27	34	21	97	59	3	5	.8	d° ⌒ p.
28	33.8	22.6	97	62	3	9	------	○ p.
29	33.4	23.8	97	72	10	9	28.2	≡^{2} a. ○ ☈^{2} ● ↙°
30	32.7	22	98	77	7	10	------	≡^{2} a. d° p.
31	32.2	23.2	97	90	10	9	8.4	≡^{2} ↙° ● a. ●° p.
Mean	32.1	22.5	97.1	75.5	7.7	8.5	------	
Total	------	------	------	------	------	------	486.5	

METEOROLOGICAL DATA, ETC.—Continued.

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.9	23.9	93	75	4	3	21.1	Ω a.
2	32.2	23.8	96	77	9	7	3.6	d a. ↙ p ⊤ p.
3	33	23.4	93	75	3	10	3.3	p° ⊤ a. ⌒ ⚡ p.
4	33.8	23	91	62	0	0	------	p° ⌈⚡ p.
5	33.8	23.3	92	65	0	1	------	
6	33.4	23.5	90	67	0	10	------	
7	31.8	23.6	91	73	10	0	1	
8	31.5	23.5	93	72	8	10	.5	d a.
9	31.4	23.5	95	71	9	1	56.1	●² a. p° a. p.
10	31.5	23.4	95	75	0	2	2.3	d a.
11	31.6	22.4	93	74	10	1	12.2	p a.
12	32.2	22.8	97	68	8	7	2.3	p ⊕ p.
13	33	24	98	74	10	10	5.3	● ⊤ p.
14	29.3	24.5	83	73	10	10	7.1	∞ ↙° a. p.
15	28.8	24.6	92	80	10	10	1.8	∞ ●° a. ↙° p.
16	29.4	23.8	87	84	10	10	1	d ↙° p.
17	32.6	24	90	75	10	10	------	d a. ⊤ ⌒ p.
18	32.4	24.9	87	68	10	10	------	
19	33.1	23.9	87	63	4	6	------	
20	32.5	25	97	64	6	10	------	
21	31.6	24.7	85	68	2	10	------	
22	32.1	25.8	94	62	0	10	------	
23	35.4	24.9	92	59	0	0	------	
24	34.5	24.9	80	63	0	7	------	⊤ p.
25	30.3	24.5	79	71	10	10	------	
26	32.6	24.8	98	60	8	10	------	⊕ p.
27	32	22.5	97	68	2	1	2.3	
28	32.5	23	93	71	3	10	.5	⊕ a. d p.
29	32.4	23.2	95	68	0	10	43.2	d° p.
30	32.1	23	92	72	6	9	1.3	
31	31.5	23.3	96	67	0	2	?	↙ ● p.
Mean	32.1	23.9	91.6	69.8	5.2	6.7	------	
Total	------	------	------	------	------	------	164.9[1]	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	25.4	91	78	10	10	10.7	●° ⚡ p.
2	30	23.7	91	75	6	6	------	⚡ p.
3	33.2	23.8	91	64	3	6	7.6	↙° ●° p.
4	32.4	23.4	91	68	7	4	------	⚡ p.
5	32.2	24	88	66	6	4	------	↙° p.
6	32	24.2	90	70	5	3	5.1	↙° ⚡ p.
7	33.2	24.4	89	66	3	2	------	
8	34.4	24.8	85	69	4	2	8.9	↙° ●° ⌈⚡ p.
9	33.2	26.2	87	69	10	8	14	●² ⌒² a.
10	31.8	24	90	77	0	6	8.1	↙° p.
11	31.3	23.6	92	82	3	10	11.7	●° ⚡ ⊤° p.
12	30.8	23.5	93	82	4	10	18.3	d ● a. ⊤° p.
13	30.3	23.7	92	83	10	10	41.9	● a. ↙ ● p.
14	30.3	23.6	95	90	6	10	73.4	⊤° d ↙ ● p.
15	27.7	22.5	95	90	10	10	109.7	↙ ● a. ●° p.
16	26.2	22.3	97	88	10	10	50	d a.
17	26.3	21.9	97	94	9	9	30.7	⊤° a. p.
18	26.4	24.6	92	90	10	10	5.1	●² a. ↙° d° p.
19	28.8	23.6	92	91	10	10	1.3	●° a. p.
20	30	24.5	93	73	10	9	------	
21	30.6	23.8	92	73	10	10	.5	● p.
22	30.8	23.8	92	72	10	9	------	⌈⚡ a.
23	30.8	23.9	91	76	8	8	1.3	d° a.
24	30.7	23.6	91	73	3	4	69.6	↙° p.
25	30.6	24	88	95	10	10	59.2	↙ ● a. ●² ⌈⚡° p.
26	26.1	23.8	99	94	10	10	35.1	⌈⚡ a ● a. p.
27	29.3	21.4	97	86	6	6	1	↙° ●° p.
28	33.8	23.6	94	67	7	6	------	⚡ p.
29	32.7	24.6	88	71	7	8	10.2	⊤° p.
30	32.8	23.6	90	72	6	7	23.6	⊤° p.
31	32.4	23.6	91	90	1	10	------	⊤° ●° p.
Mean	30.7	23.8	91.7	78.5	6.9	7.6	------	
Total	------	------	------	------	------	------	597	

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	24.4	15.7	95	67	6	6	2	
2	25	16.1	90	91	6	10	------	≡ p.
3	22.6	15.2	98	97	3	10	21.1	● p.
4	21.1	13.5	79	98	2	10	9.7	● p.
5	21.5	14	80	88	3	10	------	
6	20.6	14.1	99	98	6	10	6.1	●° ≡ p.
7	22.9	14.5	95	85	7	6	2.5	d p.
8	22.5	14.7	90	91	3	9	8.1	● p.
9	22.6	14.8	95	85	2	6	10.7	● p.
10	21.3	14	95	94	2	10	27.9	● p.
11	23.5	15	98	99	5	10	36.8	● p.
12	23.4	15.5	99	75	5	10	7.1	●° p.
13	22	16.3	84	83	6	10	6.9	
14	20.5	14.8	99	98	10	10	31.2	●° a. p.
15	19	16	99	99	10	10	48.5	● a. d p.
16	19.6	15.1	99	99	10	10	19.8	●° a. p.
17	20	16	98	98	10	10	17.8	●° a. p.
18	20.5	16.3	98	98	10	10	19.3	● a. d p.
19	21.2	15.6	95	86	10	8	6.4	●° p.
20	21.6	14.7	94	77	10	8	2	d p.
21	20.9	15	99	95	10	10	20.1	● p.
22	21.2	15.4	97	90	10	10	2	d a.
23	21.4	14.5	90	93	3	10	23.4	d ● p.
24	20.5	14	95	92	7	7	3	●° p.
25	19.5	15	84	92	7	7	34.8	≡ p.
26	19.1	14	99	87	10	9	9.1	●° a. p.
27	23.6	13.7	90	91	3	9	------	
28	23	14.2	90	85	2	7	------	≡ p.
29	23.5	15	89	86	5	10	2.3	≡ ● p.
30	21.5	14.2	93	95	5	10	17.3	● p.
31	22	14.5	92	96	2	10	10.4	● ⊤ p.
Mean	21.7	14.9	93.5	90.6	6.1	9.1	------	
Total	------	------	------	------	------	------	406.3	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	21.6	91	68	6	6	4.1	Ω a. ⌈⚡ ● p.
2	32.2	22.8	92	71	6	6	5.8	Ω a. ⌈⚡ ● p.
3	33	21.2	97	74	8	10	46.2	Ω a. ⌈⚡ ● p.
4	33.2	21	96	82	6	6	5.6	Ω a. ● ⊤ p.
5	33	21.2	91	70	3	3	------	Ω a. d° p.
6	32.8	21	85	69	10	3	4.6	Ω a. ● p.
7	33	20.4	91	59	6	6	------	Ω a. ⊤ p.
8	33.8	22	90	68	8	8	13.2	Ω a. ⌈⚡² ● p.
9	33.6	21.8	90	70	3	6	30	Ω a. ⌈⚡² ● p.
10	32.6	21.3	95	70	4	2	1	Ω a. d p.
11	32.4	21.2	93	74	3	10	26.4	Ω a. ● p.
12	32.6	21.4	97	79	3	10	------	Ω a. d° p.
13	31.4	20	89	79	8	10	30.5	Ω a. d ● p.
14	32.4	22.2	87	74	4	10	8.9	Ω a. ↙ ● p.
15	28.8	21.2	92	87	10	10	17.8	Ω a. ↙ ● p.
16	28.6	20.6	90	82	8	8	6.6	Ω a. ● ⊤ p.
17	28.5	20.4	92	87	10	10	30.5	Ω d a. ● a. p.
18	31	22	92	79	10	10	3	Ω d a. ●° p.
19	31.8	22.3	83	74	10	10	------	Ω a. d° a. p.
20	32.8	22.4	87	74	10	10	------	Ω a.
21	32.8	23	83	68	10	10	5.6	Ω a. ⊤ ● p.
22	32.2	23.2	84	69	10	10	------	Ω a.
23	33	22.6	87	73	4	10	6.6	Ω a. d ● p.
24	33	22.4	93	64	3	6	------	Ω a. d° p.
25	31.6	21.6	92	84	8	6	4.6	Ω a. ● ⊤ p.
26	30.4	21	91	87	10	10	42.4	● ↙ a.
27	32.4	21.6	90	72	4	4	------	Ω a. ⚡ p.
28	32.5	21.3	87	65	3	4	------	Ω a. ⚡ p.
29	31.4	22	90	76	4	6	31.5	Ω a. ● ⌈⚡² p.
30	32	21	95	66	6	6	5.3	Ω a. ⌈⚡² ● ⌒ p.
31	32.2	20.6	95	89	4	8	8.1	Ω a. ⌈⚡ ● p.
Mean	32.1	21.6	90.5	74.1	6.5	7.5	------	
Total	------	------	------	------	------	------	338.3	

[1] 30 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.6	22.4	98	53	9	3	------	Ω^2 ◯° a. ⊲° p.
2	35.4	22.1	95	52	7	7	------	Ω°⊕° a. ◯^{2}⚡p.
3	36.2	21.2	97	48	8	6	------	Ω^2 a. ⚡ d° p.
4	36.5	21.1	98	55	4	4	2	Ω^2 a. ⚡ d^2 p.
5	36.4	20.5	98	48	7	7	------	Ω^2 ◯° ⚡ ⌒° ◓°
6	35.8	20.2	98	58	8	8	1	Ω°≡^{2}◯°⚡d°◓^{2}
7	35.9	22.7	97	52	9	6	------	⊕° a. ⚡ ◓° p.
8	36	20.1	98	49	9	7	------	Ω^2≡^{2} ◯^{2} ⚡°⊍°
9	35.8	21.9	93	57	9	7	.3	◯°a. ⚡●°◓^{2}⊍°
10	35.6	20.9	97	51	7	9	2.5	Ω^2⊕°⚡⌒°◓^{2}⊍°
11	32.5	21.4	97	77	4	7	.3	Ω^{2}d ◯° a. ⚡ ◓^{2}
12	35.8	20.3	96	52	6	4	------	Ω^2⊕°a. ⚡ ◓°p.
13	34.2	20.9	98	58	10	9	3.8	Ω^2⌒°⚡↙●°⊍°
14	32.6	21.2	100	64	10	10	.5	d° ◯° a. ⚡ ●°p.
15	31.7	21.5	97	71	10	10	.3	d° a. ↙° ●°◓° p.
16	34.1	21.5	97	63	9	10	------	⌒°◯°d°⊕°⚡↙°
17	34.8	21.7	94	60	9	10	------	◯°↙°●°⊕°a. ⊲°
18	35.9	21.9	94	50	10	8	------	⊕°◯°a. ↙●° ⚡
19	36.1	20.7	97	52	9	10	20.1	◯^{2} a. ↙ ●^{2}⚡^{2} p.
20	33.5	21	98	61	10	10	------	◯^{2} a. ◯° p.
21	33	21.8	93	65	10	10	------	◯° a. p.
22	35.8	21.7	96	52	10	10	------	Ω° ◯^{2} ⚡° p.
23	36.7	21.4	92	49	2	7	1.8	Ω°a. ◯°⚡^{2}●°p.
24	35.8	22.1	97	53	9	10	19.6	◯^{2}⊕°a. ⚡●^{2}p.
25	27.2	20.9	100	86	10	10	.3	d° a. p.
26	33.8	21.8	100	58	10	10	------	≡^{2} a. ◯^{2} a. p.
27	35.2	20.9	97	54	3	4	------	Ω^2 a. ⚡ ↙° p.
28	34.9	20.7	96	56	4	8	------	Ω^2⊕°a. ⚡⌒°◯°
29	33.6	21.1	97	61	10	9	2	Ω^2◯°a. ⚡●°⌒^{2}
30	32.6	21.1	99	66	10	9	8.1	◯^{2} a. ⚡ ● p.
31	35.1	21.3	99	56	10	8	26.2	⚡^{2} ◯° ●^{2} p.
Mean	34.6	21.3	96.9	57.6	8.1	8	------	
Total	------	------	------	------	------	------	88.8	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	25	87	74	2	5	24.4	Ω ≡ a. ●^{2} ⚡° p.
2	30	25	88	77	8	10	7.1	d ↙°a. ●° ⚡°p.
3	30.3	24.2	88	71	7	6	25.7	↙° ● ⚡° p.
4	30.2	23.9	87	75	5	3	1.5	p ⌒ ⊲ p.
5	30.4	23.9	87	77	4	9	1.5	Ω ≡ a. p ⊲ p.
6	30.2	25.5	86	73	8	5	3.3	⊤° d ↙° a. p p.
7	30.4	24	91	68	8	4	1	⊤° p ⊲ p.
8	31.4	25.5	88	67	3	4	------	Ω ≡ a. ⊲ p.
9	31.4	26.4	87	73	5	8	------	Ω^2≡^{2}a. p ⚡° p.
10	30.8	25.5	88	71	3	3	7.6	Ω^2≡^{2}a. ⊤°●°⊲
11	30.4	25.5	87	75	4	9	5.6	≡ a. ●° ⊲ p.
12	30.9	24.8	88	72	2	8	6.1	≡a. ↙°⊤°●°p.
13	31	24.8	88	69	5	10	2.5	d ↙° a. p p.
14	29.7	24.8	87	72	9	10	25.4	d ↙° a. ● p.
15	27.5	25.2	92	85	10	10	22.9	↙ ● a. p.
16	29.5	24.4	92	77	9	10	1.3	↙° a. p p.
17	29.9	24.2	89	78	8	9	6.1	⌒ p ↙° a. ●° p.
18	29	26	88	78	10	10	2.3	⊤° p a. ↙° p.
19	30.7	25.2	89	78	9	9	1.8	p d a. ↙° p.
20	31	25.1	90	75	9	9	------	Ω^2 ≡ a. ↙° p.
21	30.6	26.2	84	75	10	10	------	⊤° a. ↙° d p.
22	30.1	26.1	82	73	8	10	------	≡ a. ↙° d p.
23	31.2	25.1	89	74	9	6	------	Ω^2≡^{2}↙°a. d⌒°
24	30.9	24.5	87	76	5	9	------	Ω^2 ≡^{2} a. ⊲ p.
25	28.8	25.2	87	82	6	10	7.6	Ω ≡ a. ⊤ ●° p.
26	26.7	24	92	84	10	10	52.8	●^{2} a. p. ↙° p.
27	29.6	22.7	94	81	5	8	13.2	●° a. ↙° d ⊤° ⊲
28	30.2	22.6	91	78	4	3	------	≡ a. ⚡° p.
29	30.5	26	90	75	9	9	------	Ω^2 ≡ a. ⊤° d ⊲
30	29.3	25.8	85	74	9	10	------	Ω^2 ≡ a. ⊤° ●° p.
31	29.7	24.5	89	71	8	5	10.9	⊤° ● p.
Mean	30.1	24.9	88.3	75.1	6.8	7.8	------	
Total	------	------	------	------	------	------	230.6	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.9	23.3	97	72	1	3	54.6	● ⚡ p.
2	31.6	23.6	94	72	2	6	23.6	● ⚡ p.
3	31.3	23.5	94	72	2	6	104.1	d a. ● ⚡ p.
4	32.2	22.4	92	70	3	5	------	⌒ p.
5	31.5	24	89	69	2	6	------	↙° p.
6	31.2	24.3	90	70	8	7	2.8	⌒ ● ⊤ a.
7	32.8	23.5	92	67	7	6	15	● ⚡ p.
8	31.8	24.1	97	73	1	5	7.6	⊤ ● p.
9	33.6	24.5	97	72	2	8	------	⚡ p.
10	32.2	24.4	93	83	0	10	5.8	⊤ ● p.
11	33.2	24.6	94	73	3	10	2.5	d ⊤ ● ⊲ p.
12	32.1	23.9	94	69	0	8	50.8	● ⚡ p.
13	31.3	23.2	93	69	3	10	5.1	⊤ ● p.
14	31	24.5	87	72	8	10	23.1	↙° ● p.
15	30.4	24	92	88	10	10	43.2	● a. p. ↙ p.
16	30.6	22.7	95	95	3	10	20.8	↙ a. p. ● p.
17	30.7	22.8	92	71	8	9	22.1	↙ a. p. ● p.
18	30	23	96	74	10	10	2.5	d a. ↙ ● p.
19	31.3	24.4	92	76	10	8	------	↙° p.
20	31.2	25.6	83	80	10	9	5.3	↙° ● p.
21	30.9	24.6	93	89	10	10	4.3	● a. p. ↙ p.
22	28.2	24.5	87	90	10	10	6.1	d a. ● p.
23	31.8	23.3	90	72	3	5	------	↙° ⊲ p.
24	32.2	23.7	91	80	4	9	------	
25	29.8	24	91	78	10	10	92.2	● a. p.
26	24.7	21.5	92	90	10	10	56.9	● a. p.
27	31.3	22.3	86	68	2	8	8.1	↙° ⚡ ● p.
28	32.3	22.7	95	73	0	3	------	⊲ p.
29	35.1	24.6	98	59	2	5	------	⊲ p.
30	32.7	25	93	68	6	10	------	⊤ d p.
31	31.5	24.6	95	81	3	9	2.5	⊤ ● ⊲ p.
Mean	31.4	23.8	92.4	75.3	4.9	7.9	------	
Total	------	------	------	------	------	------	559	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	25.3	90	72	10	3	------	↙° ≡ ⊲° p.
2	32.3	27	88	71	3	5	2.5	↙° v a. ≡ ⊲^{2} ●°
3	30.9	25	88	76	4	9	6.8	≡ a. ⊲° p.
4	31	26.6	87	76	1	3	------	↙° ≡ a. d ⊲ p.
5	31	27	81	76	8	2	.8	↙° ≡ d ⌒ p.
6	31.4	26.6	84	76	9	3	------	↙° a. ≡ Ω^2 p.
7	32.3	24.8	92	73	3	3	------	v a. ≡ p.
8	32.2	24.8	92	70	0	0	------	↙° a. v Ω^2 ◓ p.
9	32.1	24.4	92	65	7	4	------	⌒ Ω p.
10	32.3	23.8	94	67	1	3	------	v a. ≡ ⊍° Ω^2 p.
11	33.2	25.1	92	66	1	4	------	≡ p° a.
12	32.6	25.7	86	66	1	2	2.7	● p° a. ⊲ p° p.
13	32.5	25.3	89	66	1	3	------	v a. ≡ p.
14	30.4	25.4	87	83	9	8	14.2	↙ ● a. ↙° ◯ p.
15	30.8	26.2	87	73	10	7	1.8	↙° ●° ≡ ⌒^{2} p.
16	30.6	25.5	85	78	8	8	------	↙° a. p. d p.
17	32.5	25.5	86	65	6	3	2.3	↙° v a. ↙ ●° p.
18	31.9	26.3	79	68	10	4	15.2	↙° a. ≡ ↙ ● p.
19	29.6	24.9	85	85	10	10	5	↙° a. ↙ ● p.
20	29.7	23.7	84	95	10	10	47.8	↙ ● a. ⊤ ● p.
21	27.9	23.9	83	90	10	10	25.9	↙° ● a. p.
22	27.6	22.8	88	94	10	10	66	↙ ● a. p.
23	29.6	24.2	83	84	10	10	4.6	p° a. ↙° ●° p.
24	30.8	25.6	84	77	2	5	------	≡ ↙° a. p. ⊲° p.
25	29.8	27	84	84	7	10	13.7	↙°a. p. ●° ⊲^{2}⊤ p.
26	29.2	25	78	77	8	10	16.5	↙° ⌒ a. ● p.
27	31.4	24.3	92	76	10	4	1	d ≡ a. ≡ ⊲ p.
28	31.3	26.7	87	77	1	3	.5	d° a. p. ⊲ p.
29	31.3	23.9	88	73	2	7	4.5	●° ↙° a. ⊲ p.
30	32.2	24.4	83	72	0	2	------	↙° a. p. ⊲° p.
31	31.8	23.9	89	68	9	2	1	p° a. d ⌒ ⊲ p.
Mean	31.1	25.2	86.7	75.5	5.8	5.4	------	
Total	------	------	------	------	------	------	232.8	

SEISMOLOGICAL BULLETIN FOR JULY, 1908.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, $15^h\ 30^m\ 18^s$.* **Santo Domingo** (Batanes Islands). Oscillatory earthquake. Direction E–W; intensity III.

1, $21^h\ 3^m\ 52^s$.* **Southeasternmost part of Luzon.** Earthquake of force III; direction E–W. Perceptible in Catanduanes Island and the northern part of Sorsogon. Its center lay in the Pacific Ocean, NE of St. Bernardino Strait.

1, $23^h\ 14^m\ 10^s$.* **Aparri** (N of Luzon). Oscillatory quake. Direction NE–SW; intensity IV.

4, $11^h\ 41^m\ 9^s$.* **Northern Luzon.** Earthquake of force IV. Perceptible throughout the northern part of the island above parallel 17° 30′, the maximum intensity being displayed in the northeast. This indicates that the center of this disturbance, like that of the preceding, lay east of the Babuyanes Islands.

8, $17^h\ 53^m\ 28^s$.* **Aparri** (N of Luzon). Oscillatory quake. Direction NE–SW; intensity III; duration 10^s.

13, $9^h\ 50^m$. **Ormoc** (W of Leyte). Earthquake of intensity II.

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[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight=0^h.]

No.	Date.	Component.	Beginning.			Maximum range of motion.			End.	Instrument.	Remarks.
			First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2 a.)	Period.			
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
101	1	NNW-SSE	15 30 18	15 34 18	15 38 09	15 39 39	0.01	8	16 17	V. M.	
		WSW-ENE	15 30 18	15 34 37	15 38 43	15 43 45	.01	8.8	16 12	V. M.	
		WSW-ENE	15 31 51	15 35 47	15 41 11	15 45 53	.07	8.1	16 28	H. P.	
102	1	NNW-SSE	21 03 52	----------	21 04 32	21 04 44	.12	2.8	21 11	V. M.	V. C. 0.03 mm. Earthquake, IV SE of Luzon.
		WSW-ENE	21 03 50	----------	21 04 37	21 05 01	.11	2.6	21 11	V. M.	
		WSW-ENE	21 04 30	----------	----------	----------	------	------	21 10	H. P.	
103	1	NNW-SSE	23 14 10	----------	23 15 00	23 15 44	.12	2.4	23 21	V. M.	Earthquake, IV at Aparri (NE of Luzon).
		WSW-ENE	23 14 06	----------	23 15 05	23 15 29	.16	2.4	23 22	V. M.	
		WSW-ENE	23 14 48	----------	----------	23 18 14	.04	10	23 26	H. P.	
104	4	NNW-SSE	11 41 09	----------	11 42 32	11 42 41	.14	2.4	11 50	V. M.	V. C. 0.04 mm. Earthquake, IV in the north of Luzon.
		WSW-ENE	11 41 05	----------	11 42 35	11 42 46	.14	2.6	11 49	V. M.	
		WSW-ENE	11 41 36	----------	11 42 36	11 42 59	.05	6.9	11 51	H. P.	
105	6	NNW-SSE	16 16 14	----------	16 21 38	16 21 42	.02	2	16 49	V. M.	
		WSW-ENE	16 16 10	----------	16 21 39	16 21 47	.03	2.4	16 54	V. M.	
		WSW-ENE	16 16 20	----------	16 21 41	16 26 39	.08	7.8	16 57	H. P.	
106	8	NNW-SSE	17 53 28	----------	----------	----------	------	------	18 00	V. M.	Earthquake, III at Aparri (NE of Luzon).
		WSW-ENE	17 53 28	----------	----------	----------	------	------	18 00	V. M.	
		WSW-ENE	17 53 32	----------	----------	----------	------	------	17 59	H. P.	
107	15	NNW-SSE	3 19 37	----------	3 19 54	3 20 21	.18	2.4	3 26	V. M.	V. C. 0.08 mm.
		WSW-ENE	3 19 38	----------	3 19 55	3 20 17	.14	2.4	3 27	V. M.	
108	21	NNW-SSE	19 52 07	----------	19 52 19	19 52 40	.10	2.4	19 57	V. M.	V. C. 0.02 mm.
		WSW-ENE	19 52 05	----------	19 52 17	19 52 38	.10	2.4	19 57	V. M.	
109	24	NNW-SSE	10 08 25	----------	----------	----------	------	------	10 36	V. M.	
		WSW-ENE	10 08 25	----------	----------	----------	------	------	10 39	V. M.	
		WSW-ENE	10 08 44	----------	----------	----------	------	------	10 34	H. P.	
110	26	NNW-SSE	3 51 21	----------	3 51 28	----------	------	------	3 54	V. M.	
		WSW-ENE	3 51 15	----------	3 51 22	3 51 29	.05	2.4	3 54	V. M.	
111	27	NNW-SSE	0 08 14	0 14 14	0 20 18	0 23 52	.01	11.2	----------	V. M.	
		WSW-ENE	0 08 04	0 14 01	0 20 23	0 25 13	.01	10.8	----------	V. M.	
		WSW-ENE	0 08 26	0 14 11	0 20 35	0 25 16	.08	11.1	----------	H. P.	
112	27	NNW-SSE	1 21 13	1 27 19	1 33 42	1 37 00	.01	9.6	1 55	V. M.	Second earthquake.
		WSW-ENE	1 21 11	1 27 17	1 34 04	1 35 20	.01	12.8	1 59	V. M.	
		WSW-ENE	1 21 12	1 26 23	1 31 37	1 35 21	.05	14.4	2 06	H. P.	
113	28	NNW-SSE	1 32 26	----------	1 32 44	1 32 58	.28	2.4	1 40	V. M.	V. C. 0.17 mm.
		WSW-ENE	1 32 24	----------	1 32 45	1 32 59	.39	2.4	1 40	V. M.	
		WSW-ENE	1 32 25	----------	1 32 46	1 34 04	.10	7.2	1 40	H. P.	
114	28	NNW-SSE	2 32 54	----------	2 34 30	2 34 36	.40	2.4	2 43	V. M.	V. C. 0.12 mm.
		WSW-ENE	2 32 54	----------	2 34 30	2 35 45	.44	2.4	2 43	V. M.	
		WSW-ENE	2 32 58	----------	2 34 28	2 35 49	.12	6	2 45	H. P.	

Instrumental constants.—Vicentini microseismograph (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=9.2 seconds; WSW–ENE pendulum, T=10.8 seconds. Magnification of the record: NNW–SSE, 15 times; WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters which extends many kilometers toward north and south and only four to the east, where volcanic tuff outcrops. To the west lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS[1].

1, 15^h 30^m 18^s.* **Santo Domingo** (Islas Batanes). Temblor oscilatorio, dirección E–W, intensidad III.

1, 21^h 03^m 52^s.* **Extremo SE de Luzón.** Temblor de tierra dirección E–W, intensidad III. Fué perceptible en Catanduanes y en la parte N de Sorsogón; el centro estaba en el Pacífico hacia el NE del Estrecho de San Bernardino.

1, 23^h 14^m 10^s.* **Aparri** (N de Luzón). Temblor oscilatorio, dirección NE–SW, intensidad IV.

4, 11^h 41^m 09^s.* **Norte de Luzón.** Temblor de tierra de intensidad IV. Fué perceptible en toda la parte N de la Isla hasta el paralelo 17° 30′; tuvo mayor intensidad en la parte NE, lo cual indica que el centro se hallaba como en el anterior hacia el E de las Babuyanes.

8, 17^h 53^m 28^s.* **Aparri** (NE de Luzón). Temblor oscilatorio, dirección NE–SW, intensidad III, duración 10^s.

13, 9^h 50^m. **Ormoc** (W de Leyte). Temblor de tierra de intensidad II.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

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[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120 E de Greenwich.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1890–1907.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF JULY.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1890	*h. m.*			*Km.*	*Km.*		
2	19 19	Southern Mindanao	E Illana Bay	260	80	IV	Repeated at 20h 15m and 22h 10m.
14	14 31	S Mindanao and Jolo	SW Illana Bay	300	180	V	Repeated some minutes later.
17	14 52	do	do	100	40	III	
17	19 16	Southern Mindanao	E Illana Bay	180	60	IV	
23	7 50	do	do	100	30	III	Repeated at 8h 45m.
24	3 59	do	do	100	30	III	Stronger shock at 5h 30m.
1891							
3		Western Luzon	Off Cape Bolinao			III	During the evening hours!
12	12 50	Albay Province	Near the Mayon Volcano	60	50	IV	
14	6 45	do	do	60	50	IV	
29	11 18	Negros Island	Near the Canlaon Volcano	110	60	IV	Repeated at 20h.
30	1 14	Southern Mindanao	E Illana Bay	100	30	III	
1892							
7	9 45	Camarines	SE of St. Miguel Bay	80	40	III	Indicated at Manila by the Bertelli tromometer.
13	18 0	Southwestern Luzon	Near the SW coast	140	50	III	
23		Benguet Province	N part of the province			IV	
25	5 19	Southern Mindanao	E Illana Bay	80	30	III	
28	20 1	S and SE Luzon	E of Lake Bay	300	180	V	
29		Benguet Province	N part of the province			IV	
1893							
1	4 8	Eastern Mindanao	Agusan River Valley	460	270	VI	Many aftershocks during the month, especially during the last days of it.
3	15 30	Northeastern Mindanao	Near Lake Mainit	80	50	III	Repeated at 17h.
4	15 42	Eastern Mindanao	Agusan River Valley	250	140	IV	
6	23 43	Albay Province	Near the Mayon Volcano	80	70	IV	
10	14 2	Eastern Mindanao	Agusan River Valley	200	120	IV	
21	18 55	Northeastern Mindanao	Near Lake Mainit	110	60	V	Repeated at 19h 30m, and 21h 36m.
22	0 19	Northeastern Mindanao	Near Lake Mainit	110	60	IV	Aftershocks at 5h 23m and 9h 45m.
22	22 2	Southern Mindanao	E Illana Bay	60	20	III	
1894							
1	9 0	Eastern Mindanao	Agusan River Valley	100	60	III	
5	0 40	do	do	100	60	III	
6	4 0	do	do	100	60	III	
8	21 23	do	do	300	200	V	
15	3 8	do	do	100	60	III	
15	9 0	Northwestern Mindanao	E Sulu Sea	110	30	III	
24	11 0	Eastern Mindanao	Agusan River Valley	300	220	V	
26	19 56	Southern Luzon	Near the Taal Volcano	110	80	IV	
27	20 37	do	do	110	80	IV	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF JULY—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1895	h. m.			Km.	Km.		
11	17 37	Northeastern Mindanao	Near Lake Mainit	120	70	IV	
15	5 18	do	do	80	50	III	
23	11 15	Southeastern Mindanao	W Davao Gulf	150	90	V	
23	13 0	Southeastern Panay	About φ=11° 6′; λ=122° 25′	60	50	III	
24	8 13	Northern Luzon	Near the N coast	170	80	IV	Indicated at Manila by the Bertelli tromometer.
27	21 23	Northeastern Mindanao	Near Lake Mainit	110	80	IV	Accompanied by rumblings.
29	8 30	Western Luzon	W of Zambales coast	180	60	IV	
30	16 31	Southwestern Luzon	Near the Taal Volcano	200	100	IV	Repeated somewhat stronger at $17^h 48^m$.
1896							
2	3 30	Southeastern Luzon	E of the Mayon Volcano	140	90	V	Indicated at Manila by the Bertelli tromometer.
6		Eastern Mindanao	Near the E coast	200	60	IV	
10	10 0	Northwestern Luzon	Near the NW coast	100	60	IV	Do.
12	4 40	Northeastern Mindanao	Near Lake Mainit	80	40	III	
14	2 20	Northern Mindanao	Butuan Bay	150	80	IV	
18	20 39	Southern Mindanao	E Illana Bay	200	60	IV	
21	23 8	Northeastern Mindanao	Near Lake Mainit	80	40	III	
24	10 40	Northern Mindanao	W Butuan Bay	60	30	III	
25		Southern Mindanao	E Illana Bay	200	60	IV	
28	4 13	Northeastern Mindanao	Near Lake Mainit	80	40	III	
1897							
1	15 46	Albay Province	Near the Mayon Volcano	60	50	III	
2	3 55	Eastern Mindanao	Near the E coast	100	30	III	
5	14 52	do	Agusan River Valley	190	110	IV	Many light shocks were felt in the S Agusan Valley during the month.
10	4 14	Southeastern Luzon	N of Camarines coast	100	20	III	
19	20 35	Eastern Mindanao	Near the E coast	100	30	III	
20	9 30	Northeastern Mindanao	Near the NE coast	200	90	IV	
21	13 20	do	do	200	90	IV	Aftershock at $22^h 2^m$.
25	13 40	do	do	110	40	III	
1898							
2	7 42	Western Mindanao	SE Sulu Sea	120	40	III	
2	11 10	Western Mindoro	Near the W coast	100	60	III	
6	22 32	Western Mindanao	SE Sulu Sea	200	40	IV	
7	4 56	Albay Province	S of the Mayon Volcano	80	70	IV	
11	19 28	Eastern Mindanao	Near the E coast	160	40	IV	Repeated at 22^h.
17	21 27	Western Mindanao	SE Sulu Sea	100	30	III	
19	0 20	City of Manila		10	10	III	
19	9 1	Western Mindanao	SE Sulu Sea	100	30	III	
20	19 5	Eastern Mindanao	Near the E coast	140	40	III	
23	1 45	Western Mindanao	SE Sulu Sea	100	40	III	
28	0 37	do	do	100	40	III	
28	9 42	Southeastern Mindanao	Davao Gulf	140	90	IV	Repeated at $12^h 1^m$.
30	3 17	Western Mindanao	SE Sulu Sea	100	40	III	
31	4 51	Eastern Mindanao	Near the E coast	210	60	IV	
1899							
6	16 20	City of Manila				III	
21	9 59	do				III	
1900	None						
1901							
2	0 36	Rizal Province	Zambales Range			IV	
12	20 21	do	N of Lake Bay			III	Repeated at $21^h 49^m$.
19	5 13	Manila				II	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH JULY—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origen of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1902	*h. m.*			*Km.*	*Km.*		
3	3 31	Southeastern Mindanao	Near the SE coast	200	60	IV	
4	3 4	do	Davao Gulf	200	150	IV	
5	11 40	do	Near the SE coast	80	30	III	
5	13 53	Northeastern Mindanao	Near the NE coast	80	40	III	
8	6 43	Bohol Island				III	Registered at Manila.
12	21 47	Northern Mindanao	E Butuan Bay	120	80	V	Rumblings heard.
13	5 13	do	do	100	80	IV	
13	14 30	do	do	200	90	V	
17	9 8	Ilocos Provinces	Near the Ilocos coast	110	40	III	Registered at Manila.
26	2 12	Western Luzon	S Zambales Range	100	70	III	Repeated at 23h 48m.
29	23 20	Northeastern Luzon	NE end of island	80	40	III	Registered at Manila.
1903							
1	4 1	Romblon Island				III	
8	21 17	Batanes Islands	S of the group			IV	
10	17 39	Southeastern Mindanao	Near the SE coast	120	60	III	
13	1 45	Western Mindanao	SE Sulu Sea	80	30	III	
14	9 40	Province of Nueva Ecija	E Range			III	
19	7 50	Southeastern Mindanao	Near the SE coast	120	60	III	
19	11 3	Jolo Island	N of the group			IV	Repeated some minutes later.
20	11 20	Southeastern Mindanao	Near the SE coast	120	60	III	
24	6 36	N Luzon and Batanes Islands	E Babuyanes Islands	180	100	V	Registered at Manila.
1904							
3	4 1	SE Luzon and Samar	N of Masbate	350	120	IV	Do.
3	22 34	Southeastern Mindanao	SE end of island	110	60	III	
3	22 50	Northern Luzon	N Central Range	180	120	IV	Do.
5	7 8	Eastern Mindanao	Agusan River Valley	140	100	V	
5	9 17	Western Luzon	Zambales Range	250	110	IV	Do.
6	0 30	Batanes Islands	S of the group			IV	With rumbling sounds.
9	14 51	do	do			III	
9	22 10	NE Leyte and Samar	SW Samar	60	50	III	
13	16 29	Southeastern Mindanao	Near the SE coast	100	40	III	
25	23 43	NE Mindanao, Samar, and Leyte	S of Samar	250	200	IV	
27	4 50	Southeastern Luzon	Near the Bulusan Volcano	80	60	IV	Registered at Manila.
1905							
3	20 9	Eastern Samar	Off the E coast	80	30	IV	
5	23 34	Southeastern Mindanao	Of the SE coast	200	180	IV	Registered at Manila. Repeated at 23h 39m.
7	23 39	Southern Leyte	SE end of island	60	60	III	
11	14 8	Northern Mindanao	S Butuan Bay	80	40	IV	
12	17 9	Southeastern Luzon	SE of St. Miguel Bay	130	60	IV	Registered at Manila.
17	3 0	Northeastern Mindanao	Near Lake Mainit	80	40	IV	
26	12 58	Samar and Leyte	SE Samar	250	140	V	Registered at Manila. Repeated at 19h 11m.
27	6 35	do	do	250	140	V	Registered at Manila. Repeated at 7h 15m.
28	6 23	do	do	270	180	V	Registered at Manila. Repeated at 6h 45m.
29	7 3	do	do	200	130	IV	Registered at Manila. Repeated at 9h 52m.
29	15 15	Southeastern Mindanao	Near the SE coast	80	30	III	
30	17 7	Samar and Leyte	SE Samar	200	130	IV	Registered at Manila. Repeated at 21h 47m. During this disturbed period many minor aftershocks have been felt.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH JULY—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origen of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1906	*h. m.*			*Km.*	*Km.*		
4	12 30	Southern Samar	Near the S coast	80	70	III	
9	2 37	do	do	80	70	III	
11	3 48	Eastern Mindanao	Agusan River Valley	330	180	V	Registered at Manila.
15	10 10	Samar Island	NE Samar	120	80	IV	
16	19 0	Laguna Province	E Lake Bay	80	50	III	
29	18 24	Southeastern Luzon	N of Masbate Island	300	120	IV	
31	8 25	Northeastern Mindanao	Near Lake Mainit	80	40	III	
31	14 16	Southeastern Mindanao	Near the SE coast	120	40	IV	
31	20 9	Northern Samar	E of Masbate Island	70	50	III	
1907							Registered at Manila and Zikawei. Several aftershocks, the more intense occurring at $3^h\ 10^m$, $4^h\ 3^m$, $7^h\ 34^m$, and $22^h\ 2^m$.
7	19 40	Camarines	SE of St. Miguel Bay	60	40	III	
10	2 54	SE Luzon and the Visayas	Camarines center	500	300	VI	
17	19 8	Albay Province	Near the Mayon Volcano	40	40	II	
18	3 22	Panay and Negros	N Negros Island	150	150	V	Registered at Manila.
19	2 23	Southern Samar	Near the S coast	100	50	IV	
19	15 40	Northeastern Luzon	Near the N coast	110	70	IV	Do.
20	13 0	Northern Mindanao	S of Camiguin Volcano	100	40	III	
20	20 40	Jolo Island	S Sulu Sea			III	
20	21 40	Eastern Mindanao	SE Agusan River Valley	280	190	V	Registered at Manila and Zikawei.
24	6 12	Northeastern Luzon	Near the N coast	80	60	III	
26	21 15	Northeastern Mindanao	Near Lake Mainit	120	60	IV	
27	20 26	SW Luzon and Mindoro	Near the SW coast	300	250	IV	
29	4 45	Northeastern Mindanao	Near Lake Mainit	90	40	III	
31	22 30	Southeastern Mindanao	E Davao Gulf	150	130	III	

BULLETIN FOR AUGUST, 1908.

METEOROLOGICAL BULLETIN FOR AUGUST, 1908.

By Rev. José Coronas, S. J.,

Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—Though the depressions and typhoons of this month were not of great importance to the Philippines, still their influence lasted for so many days that the monthly mean of atmospheric pressure for Manila is less by 0.64 millimeters than the normal for August. And yet, if we compare the mean of Manila and the other stations of the Weather Bureau with those of August of the previous year we will find the latter to have been lower everywhere, but especially in the northwest of Luzon, owing to the influence of a typhoon which was discussed in the Bulletin for that month. During the past month the lowest pressures were observed on the 1st in almost all the stations, and the highest on the 14th and 29th.

The monthly mean temperature is a little higher than that of last year except in the stations in northern Luzon. The extreme temperatures of Manila were 32.9° C., and 21.9° C., observed respectively on the 31st and 11th.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, AUGUST, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from August, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from August, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.36	−0.07	758.52	14	755.53	1	27.9	+1	34.3	10	21.8	29
Surigao	57.44	+ .09	58.94	14	55.38	1	27.7	----------	34	14	22.3	4, 26
Cebu	57.42	+ .39	58.90	29	55.31	1	27.2	+ .5	32.5	18	22.3	19
Iloilo	57.71	+ .26	59.17	14	55.88	1	27.1	+ .9	32.1	30	22.1	12
Ormoc	57.65	+ .28	59.15	14	55.54	1	26.7	0	32.5	19	21.5	18, 31
Tacloban	57.35	+ .43	58.90	14	55.20	1	28	+ .6	34.7	13	23	4, 7
Capiz	57.43	+ .65	59	29	55.14	1	27.1	+ .5	32.9	7	20.2	10
Calbayog	57.49	+ .39	58.96	14	55.29	1	27.9	+ .7	----------	24	21.6	30
Legaspi	56.82	+ .58	58.66	29	54.16	2	27.6	+1	35	19	22.5	11
Atimonan	56.53	+ .72	58.83	29	54.30	1	27.8	+ .9	35.7	19	22.8	11
Olongapo	56.64	+ .96	58.62	29	54.11	1	25.7	+ .5	34.6	30	22.4	11
San Isidro	56.82	+1.02	58.92	29	54.43	1	26	+ .4	35.5	31	21.4	19
Dagupan	56.43	+1.08	58.56	29	53.82	1	26.5	+ .3	35.4	26, 27	22.1	11
Vigan	56.29	+1.41	58.83	29	53.96	1	25.9	− .3	31.6	26, 27, 29	21.7	11
Tuguegarao	55.41	----------	58.53	29	52.65	4	26.9	----------	34.4	27	22.2	21
Aparri	55.62	+ .61	59.04	29	52.88	4	26.9	− .3	33.2	26	22.7	22

Precipitation.—The totals of rainfall for this month in the Visayas and Mindanao were generally less than those of August, 1907; while on the contrary in nearly all the stations of Luzon they were greater than the preceding year. The total for Manila differs from the normal of this month by +285.4 millimeters. The heaviest rains in Luzon were recorded in the first half of the month.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF AUGUST, 1908.

Station.	Total.	Departure from August, 1907.	Rainy days.	Departure from August, 1907.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from August, 1907.	Rainy days.	Departure from August, 1907.	Greatest rainfall in a single day.	Day.
	mm.	mm.			mm.			mm.	mm.			mm.	
Jolo	227.4	+102.8	15	− 1	48.8	17	Gubat	111.3	-------	9	-----	42.7	29
Isabela, Basilan	200.4	− 39.7	17	+ 2	29.5	28	Sumay, Guam, Ladrones Is.	300	-------	29	-----	47.1	1
Zamboanga	25.2	−166.9	8	− 6	15.2	24	Legaspi	145.4	−153.6	20	−6	35.6	1
Davao	155.2	− 18.2	5	− 3	45.5	24	Virac	69	-------	10	-----	21.6	11
Cotabato[1]	312.1	-------	11	-----	80	25	Batangas	55.8	-------	17	-----	12.7	2
Cagayan, Misamis	229.1	-------	18	-----	54.9	21	Atimonan	52.9	−190.9	10	−6	19.6	1
Dapitan	11.2	−119.8	6	− 6	3	1	Silang	585.5	+ 25.9	20	+1	63.8	2
Butuan	65.4	− 31.1	9	− 3	38.9	28	San Antonio, Laguna	253.5	− 87.3	15	−7	45.7	4
Yap, W. Carolines	532.1	−243.5	25	+ 4	122.4	18	Corregidor	776.7	− 52.4	18	−6	155.7	5
Tagbilaran	39.8	− 68.5	7	− 7	28.7	28	Manila	645	+171.1	23	−7	102.8	5
Surigao	92.5	− 69	9	+ 3	34.5	21	Balanga	909.3	+ 77.9	25	−3	116.1	2
Maasin	79	−298.5	4	−10	26.7	19	Olongapo	1,148.2	−315.3	27	−3	120.1	7
Cebu	170.5	+ 78.1	12	− 6	61.5	29	San Isidro	442	+ 99	25	−1	70.3	6
Bacolod	204.5	−234.3	15	−12	37.8	1	Tarlac	517.3	−231.3	26	−3	111	6
Iloilo	229.3	−360.9	20	− 6	67	1	Baler	76.1	−155.6	14	+1	15.2	3
San Jose, Buenavista	648.7	−267.3	22	− 6	188.5	26	Dagupan	720.9	+198	24	−6	99.1	10
Tuburan	26.4	− 39.2	3	− 8	12.2	28	Bolinao	865.4	+ 74.5	25	−3	105.2	10
Cuyo	221.2	−234.3	21	− 8	31.7	25	Baguio, Benguet	1,307.8	+224.9	27	−2	143	5
Ormoc	338.1	+ 27.1	13	− 2	78.7	25	San Fernando, Union	1,055.2	+362.1	27	+5	139.7	17
Tacloban	95.1	− 10	11	− 2	34.5	26	Echague	204.2	-------	18	-----	48.8	10
Capiz	234.8	+ 68.5	12	− 4	59.4	25	Candon	924	-------	23	-----	132.6	10
Borongan	61	− 39.3	10	− 4	36.1	26	Vigan	1,085.9	+526.7	24	−3	211.1	5
Calbayog	348.3	+102.3	13	− 5	231.1	20	Tuguegarao	217.6	+ 13.2	17	−4	61.7	24
Palanoc, Masbate	139.8	− 74.8	13	−10	34	15	Laoag	879	-------	26	-----	128.5	15
Romblon	135.8	− 98.1	12	− 7	35.3	2	Aparri	258.1	− 43.8	22	−2	90.7	4
Laoang	80.4	-------	14	-----	19	26	Sto. Domingo, Batanes Is	519.7	+111.3	25	+5	111.2	21

[1] 21 days only.

DEPRESSIONS AND TYPHOONS.

Several depressions and typhoons visited the waters of the Far East during the month, but none of them touched the Philippines; and although some were rather severe and affected to a considerable degree the Loochoos Islands, Japan, Formosa, and the northern part of the China coast, still because of their distance, the influence of these atmospheric disturbances was of little importance to the Archipelago. For this reason we will only briefly describe the course followed by each of them. The tracks of the three principal typhoons have been published in the Journal of the Meteorological Society of Japan for September, 1908. To these we refer our readers, calling attention to the fact that the first and third tracks lack the portions which correspond to the days when the centers were located to the east of the Philippines. Moreover, our supposed track of the third typhoon from its origin to the east of the Philippines until it reached Korea is somewhat different from the one published by Japan.

Typhoon in the Pacific: July 28 to August 8.—The first indications of the existence of this typhoon were made known by the Manila Observatory on the 28th in a note announcing a depression or typhoon in the Pacific to the east of the southern part of the Archipelago; but no warning was sent to the China coast, Formosa, and Japan until the afternoon of the 29th, when the cyclonic center was supposed to be east of southern Luzon.

This typhoon belongs to the type of those which are formed in the Pacific closer to the Philippines than to the Ladrone or Caroline Islands. It is moreover one of those cyclones which from the beginning move with a continual inclination to the north and recurve in the Pacific, striking out for Japan in the second branch of their parabolic track. From July 29 to August 2 it moved approximately toward NNW, while the cyclonic center was located to the E of Luzon between 125° and 130° E of Greenwhich, and recurved E of the Balintang Channel, probably between 126° and 127°, on the 3d of the month. After recurving, the typhoon moved to the NNE, exerting considerable influence over the Loochoos on the 5th and 6th, when it passed by the E of that group of Islands. According to the weather maps for these days, published by the Tokio Observatory, the center was situated at 10 p. m. of the 5th to the E of Naha in the neighborhood of 26° lat. N and 129° long. E, and at 10 p. m. of the 6th to the E of Oshima, not far from 27°

lat. N and 131° long. E. The map for 10 p. m. of the 7th shows the cyclonic center in the interior of Japan close to 35° lat. N and 137° long. E. From there it moved first to N and then to N by E until it reached Sakhalin Island on the evening of the 8th.

Depressions in the China Sea: July 30 to August 6.—At the end of the month of July and simultaneous with the above-mentioned typhoon in the Pacific there was a depression in the northern part of the China Sea. According to the warnings given out by the Manila Observatory, this depression advanced toward the W or WNW from the beginning until the 3d of August, when it commenced to recurve to the NE; on the 5th it seemed to approach the southwestern part of Formosa and finally on the 6th it apparently filled up in the vicinity of the Bashi and Balintang Channels.

According to the Hongkong Observatory, the depression, which was located in the northern part of the China Sea at the end of July, moved toward the Gulf of Tongking, entering the Continent not far from Haiphong on the morning of the 3d of August. Notwithstanding this, the same Observatory said in the ordinary weather note of the following day, August 4: "Pressure remains low over the NE part of the China Sea, and a new depression may be developing to the NW of Luzon." On the 5th it was stated that "Pressure remained low over the NE part of the China Sea." The weather map of Japan corresponding to the 5th also indicate, in addition to the typhoon of the Pacific, another center of low pressure in the China Sea SW of Formosa.

It can not be denied that on the morning of the 3d a depression of little importance entered Tongking, as we know from the observations, which the chief of the meteorological service of Indo-China kindly sent us at our request. Although with the data we possess it is impossible for us to lay it down as a fact that the new depression of the 4th, which the Hongkong Observatory speaks of, was the same as that of the previous days, nevertheless we are inclined to believe this was the case, and also that the depression of the Gulf of Tongking was rather a secondary center, which may have been formed on the 2d in the vicinity of the Island of Hainan. Nevertheless we repeat that, since we have so few observations from the China Sea, we are not able to throw more light on the subject.

Typhoon of the 15th to 21st of August.—This typhoon was of a relative small diameter; and partly for this reason, partly on account of the low pressures that prevailed in the Far East after the storm of the first week of the month, it is not possible even with the observations of the Ladrone and Caroline Islands to designate the point of origin of this second typhoon.

This cyclonic center appeared on the afternoon of the 15th to the E of southern Formosa and S of the Meiacosima group of Islands; on the afternoon of the 16th it was between Meiacosima and northern Formosa, moving northwestward. Early on the 17th it passed very close by the N of Formosa, and on the evening of the same day penetrated the Continent to the N of Foochow still moving northwestward. According to the Tokio Observatory, the typhoon recurved within the Continent and then crossed the Gulf of Pechili and the Liaotung Peninsula in the early hours of the 21st, and finally reached Manchuria on the afternoon of the same day, still moving in a northeasterly direction.

Typhoon of August 18 to 29.—The Manila Observatory announced the existence of this typhoon to the E of southern Luzon on the afternoon of the 19th, to the E of the Balintang Channel moving N or NNW at noon of the 21st, and to the S. of Naha (Loochoos Islands) moving NNE at 11 a. m. of the 22d.

The first part of the track of this typhoon was very similar to that of the other typhoon in the beginning of this month. Formed probably on the 18th to the E of the northern Visayas, it moved first to the NW and NNW until on the 21st it was located to the E of the Bashi and Balintang Channels between meridians 125° and 128°, where it recurved to the N and NNE. At 2 p. m. of the 22d the center was situated to the S of Naha in the vicinity of 24° lat. N, when it again inclined to the N and NW passing by the W of Naha on the night of the 22d. During the 23d, 24th, and 25th the typhoon crossed the Eastern Sea, moving very slowly in a northwesterly direction. Finally on the morning of the 26th the center was ESE of Shanghai, where it again recurved to the NNE and NE, crossing over Korea in the morning of the 27th, the eastern part of Manchuria on the 28th, and Sakhalin Island the morning of the 29th.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Aunque las depresiones y tifones de este mes fueron todas, según diremos luego, de poca importancia para Filipinas, sin embargo su influencia se prolongó por muchos días y de ahí que la media mensual de la presión atmosférica resulta para Manila 0.64 milímetros inferior á la normal de este mes. Con todo, si se compara dicha media mensual de Manila y las de las otras estaciones del Weather Bureau con las de Agosto del año pasado, hallaremos estas últimas menores en todas partes, y especialmente en el noroeste de Luzón, por efecto de un tifón que discutimos largamente en el Boletín de dicho mes. Las presiones mínimas se observaron este mes casi en todas las estaciones el día 1; y las máximas presiones el día 14 ó el 29.

La temperatura media mensual resulta en general algo superior á la del año pasado, á excepción únicamente de las estaciones situadas en el norte de Luzón. Las temperaturas extremas de Manila fueron 32.9 °C. y 21.9 °C., registradas respectivamente los días 31 y 11.

Precipitación acuosa.—El total de lluvia recogida este mes en Visayas y Mindanao fué generalmente inferior á la de Agosto, 1907: en cambio, casi todas las estaciones de Luzón nos dan una suma superior á la del año pasado. La de Manila difiere de la normal de este mes en +285.4 milímetros. Las lluvias más abundantes en Luzón tuvieron lugar en la primera quincena del mes.

DEPRESIONES Y TIFONES.

Varias han sido las depresiones y tifones que durante este mes han visitado los mares del Extremo Oriente. Sin embargo, ninguno de ellos ha tocado las Filipinas; y aunque algunos han sido en sí muy notables, afectando considerablemente al grupo de las Islas Liukiu, á Japón, á Formosa y aún á la región septentrional de la costa de China; pero, por razón de su distancia respetable, la influencia que han ejercido en el Archipiélago ha sido de poca importancia. Por esta razón procuraremos ser breves en estas notas indicando en pocas palabras el curso seguido por cada una de dichas depresiones y tifones. Las trayectorias de los tres tifones más principales han sido publicadas en el "Journal of the Meteorological Society of Japan" para el mes de Septiembre, 1908. Á ellas remitimos á nuestros lectores advirtiendo únicamente que á la primera y tercera les falta una buena porción, correspondiente á los días en que se hallaba el vórtice al este de las Filipinas, y que además la trayectoria del baguio tercero, desde su origen al este de Filipinas hasta que llegó á la Korea, fué á nuestro parecer algo diferente de la publicada por Japón, según se desprenderá de lo que diremos más abajo.

Tifón del Pacífico: 28 de Julio á 8 de Agosto.—Los primeros indicios de este tifón se tuvieron en Manila el día 28 cuando el Observatorio anunció la existencia de una depresión ó tifón en el Pacífico al este de la región meridional de Filipinas. Sin embargo, no se envió ningún anuncio de tifón á la costa de China, Formosa y Japón hasta la tarde del 29; el centro ciclónico se suponía situado entonces al este del sur de Luzón.

Este tifón pertenece al tipo de los que se forman en el Pacífico más cerca de Filipinas que de las Marianas ó Carolinas Occidentales. Es, además, de aquellos que desde un principio se mueven muy inclinados al norte viniendo á recurvar en el mismo Pacífico para dirigirse luego al Japón en la segunda rama de su parabólica trayectoria. En efecto: desde el 29 de Julio hasta el 2 de Agosto parece que se movía el tifón hacia el NNW próximamente, hallándose el centro durante dichos días al este de Luzón, entre los meridianos 125° y 130° E de Greenwich. El día 3 tuvo lugar probablemente la recurva al este del canal de Balintang entre 126° y 127° E de Greenwich. Después de recurvar se dirigió el baguio al NNE influyendo notablemente en Liukiu los días 5 y 6 á su paso por el este de aquel grupo de Islas. Según los mapas del tiempo de aquellos días publicados por el Observatorio de Tokio, el vórtice se hallaba á 10 p. m. del 5 al E de Naha en los alrededores de 26° lat. N, y 129° long. E, y á 10 p. m. del 6 demoraba al E de Oshima no lejos de 27° lat. N y 131° long. E. El mapa de 10 p. m. del 7 nos coloca el centro ciclónico dentro ya del Japón en los alrededores de 35° lat. N y 137° long. E. Desde allí se movió el tifón casi al N primero y al N¼NE después, llegando á la Isla Sakhalin al anochecer del día 8.

Depresión ó Depresiones del Mar de China: 30 de Julio á 6 de Agosto.—Simultánea con el tifón del Pacífico de que acabamos de hablar, existía al terminar el mes de Julio una depresión en la parte septentrional del Mar de China.

Según los anuncios dados por el Observatorio de Manila, esta depresión avanzó algo al principio hacia el W ó WNW hasta el día 3, en que comenzó á recurvar al NE; el día 5 parecía acercarse al SW de Formosa; y por fin se deshizo aparentemente el día 6 en los alrededores de los canales Bashi y Balintang.

Según el Observatorio de Hongkong, la depresión, que al terminar el mes de Julio apareció en la parte norte del Mar de China se dirigió hacia el golfo de Tongking penetrando en el Continente por los alrededores de Haiphong la mañana del 3 de Agosto. Sin embargo, el mismo Observatorio decía en la nota ordinaria del tiempo del día siguiente, 4 de Agosto, que "la presión atmosférica permanecía baja en la parte nordeste del Mar de China y que probablemente se estaba desarrollando una depresión al NW de Luzón;" y el día 5 repetía que "la presión perseveraba todavía baja en la parte NE del Mar de China." Los mapas del tiempo del Japón, correspondientes al día 5, indican también, además del tifón del Pacífico, otro centro de baja presión en el Mar de China hacia el SW de Formosa.

Difícilmente se puede negar que la mañana del 3 una depresión de poca importancia penetraba en el Tongking, á juzgar por las observaciones hechas dicho día en Indo-China y que, á petición nuestra, nos fueron remitidas por el jefe del servicio meteorológico de aquella colonia. Y aunque es imposible con los datos que poseemos precisar si la nueva depresión del día 4, de que habla el Observatorio de Hongkong, era la misma de los días anteriores, nosotros nos inclinamos á creer que sí lo era y que la del golfo de Tongking fué más bien un centro secundario que se formaría el día 2 en los alrededores de la Isla de Hainán. Con todo, repetimos que mientras no contemos con más observaciones del Mar de China, no podemos dar más luz sobre el particular.

Tifón de 15 á 21 de Agosto.—Este tifón fué de diámetro relativamente pequeño; y parte por esto, parte por las bajas presiones que predominaron en el Extremo Oriente después del baguio de la primera década del mes, es imposible aun con las observaciones que poseemos de Marianas y Carolinas precisar el punto de origen ó formación de este segundo tifón del mes de Agosto.

Este centro ciclónico apareció la tarde del día 15 hacia el E del sur de Formosa y S del grupo de Meiacosima; la tarde del 16 demoraba entre Meiacosima y el norte de Formosa moviéndose al NW; al amanecer del 17 pasaba bastante cerca por el N de Formosa y al anochecer del mismo día penetraba en el Continente por el N de Foochow moviéndose aún al NW. Según el Observatorio de Tokio, este tifón recurvó dentro del Continente y vino á atravesar el golfo de Pechili y la península de Liaotung en las primeras horas del 21, y la Manchuria la tarde del mismo día, moviéndose en dirección al NE.

Tifón de 18 á 29 de Agosto.—El Observatorio de Manila anunció que existía este tifón al este del sur de Luzón la tarde del 19, al este del canal de Balintang moviéndose al NNW ó N á mediodía del 21, y al S de Naha (Islas Liukiu) moviéndose al NNE á 11 a. m. del 22.

La primera parte de la trayectoria de este tifón fué muy parecida á la del otro tifón de principio de este mes. Formado probablemente el 18 al E del norte de las Visayas se movió primero al NW y NNW hasta que hallándose el 21 al E de los canales Bashi y Balintang entre los meridianos 125° y 128° recurvó al N y NNE. Á 2 p. m. del 22 demoraba el vórtice al S de Naha en los alrededores de 24° lat. N, cuando de nuevo se inclinó al N y NW pasando por el O de Naha la noche del 22 al 23. Durante los días 23, 24 y 25 el tifón atravesó el Mar del E moviéndose al NW con mucha lentitud. Por último, la mañana del 26, hallándose el vórtice al ESE de Shanghai, recurvó por segunda vez al NNE y NE, atravesando la Korea la madrugada del 27, la región oriental de Manchuria durante el día 28 y la Isla Sakhalin la mañana del 29.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Temperature. Open air.[2] Mean.	Open air. Maximum.	Open air. Minimum.	Underground. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity, mean.	Vapor pressure, mean.	Evaporation. Free exposure, total.	Evaporation. Shelter, total.
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	mm.	mm.
1	754.21	26	29.8	23.3	28.3	28.9	28.8	28.9	29	28.8	89.5	22.3	2.6	1.7
2	54.83	24.8	26.6	22.9	27.7	27.6	28.6	28.3	28.7	28.6	93.7	21.7	1	1.1
3	55.25	25.2	30.5	22.4	26.2	27.3	27.7	27.9	28.8	28.7	92.1	21.9	1.7	1.1
4	55.07	25.8	29	23.4	26.9	27.5	27.6	27.7	28.8	28.7	91.9	22.6	1.3	1.5
5	55.88	26	28.5	22.8	26.9	27.2	27.3	27.7	28.6	28.8	90.2	22.5	3.4	2.1
6	56.53	26.2	30.2	22.9	26.2	27.5	27.2	27.3	28.7	28.7	90.2	22.8	4.5	1.4
7	56.77	25	28.5	22.2	26.7	27.5	27.3	27.4	28.4	28.8	94	22	2	1.2
8	56.39	26.9	29.9	22.2	26.6	27.8	27.2	27.5	28.3	28.8	87.2	22.9	3.7	1.4
9	56.48	27.8	30.6	25.1	27.2	28.7	27.2	27.7	28.3	28.8	84.2	23.4	7.1	2.9
10	56.86	25.8	30.2	22	27.8	28.4	27.7	27.9	28.3	28.5	90.8	22.4	3.7	2.1
11	56.41	26.2	30.5	21.9	27.1	28.6	27.7	28.6	28.1	28.7	82.9	20.8	3.1	2
12	56.38	26.8	29.9	23.4	27.8	29.1	27.8	28.3	28.2	28.7	84.7	22	4.5	2.2
13	57.32	26.5	31.1	22.9	28.1	29.5	28.3	28.5	28.3	28.7	85.1	21.8	5.2	2.8
14	58.20	25.7	30.2	22.8	28	29	28	28.5	28.1	28.5	89.8	22	3.6	1.9
15	57.89	25.6	29.1	23.2	27.8	28.2	28.2	28.3	28.1	28.9	89.4	21.8	2.1	1.9
16	57.16	26	30.3	22.3	27.2	28.4	27.8	28.2	28.3	28.6	87.1	21.7	3.3	1.8
17	57.11	26.9	31.3	23.9	27.7	28.5	28	28.2	28.2	28.6	84.5	22.2	4.2	2
18	56.99	27.5	31.4	23.1	27.7	29	28	28.7	28.2	28.5	81.8	22.2	5.4	2.5
19	56.94	26.9	31.6	22.7	28.3	28.9	28.3	28.7	28.2	28.5	84.1	22	5.9	2.6
20	56.86	25.9	31	22.8	28.5	29.6	28.5	28.8	28.2	28.5	87.2	21.5	3.7	1.8
21	57.38	27	31.3	23.7	28.5	29.8	28.6	29	28.3	28.6	84.6	22.3	4.6	1.9
22	57.03	27.4	30.2	24.7	28.8	29.6	28.7	29	28.3	28.7	83	22.5	5.7	2.8
23	56.50	26.8	29.9	24.2	28.6	29.2	28.8	28.8	28.3	28.5	86.8	22.6	5.6	2.9
24	56.13	27.1	31	23.7	28.1	29.4	28.8	28.9	28.3	28.7	85.2	22.7	4.9	2.3
25	55.38	27.6	30.9	23.9	28.4	29.5	28.8	29.1	28.2	28.5	83.8	22.9	5.5	2.8
26	56.06	27.3	32.8	24	28.9	30	28.7	29.3	28.3	28.4	84.3	22.5	5.4	2.6
27	57.94	27.3	30.8	24.4	29	30.4	28.9	29	28.4	28.7	83	22	4.3	2.1
28	58.54	27.4	32.2	23.5	28.6	30	28.5	29.7	28.4	28.6	82.7	22.2	6.1	2.9
29	58.68	27	32.7	23.3	29	30.1	29.2	29.6	28.5	28.6	84.7	22.3	4.9	2.4
30	58.05	26.6	32.2	22.7	28.9	29.9	29.3	29.4	28.5	28.7	87.1	22.4	4.2	2.1
31	57.98	27.4	32.9	23.5	28.8	30.6	29.2	29.5	28.4	28.5	80.3	21.4	5.5	2.6
Mean	756.75	26.5	30.6	23.2	27.9	28.9	28.2	28.5	28.4	28.6	86.6	22.2	4.2	2.1
Total													128.7	65.4
Departure from normal	—0.64	—0.6	0.0	—0.5							+1.6	—0.3	—13	

Date.	Wind. Prevailing direction.	Wind. Total movement.	Wind. Maximum hourly velocity.	Wind. Direction at the time of the maximum velocity.	Clouds. Amount, mean.	Clouds. Prevailing form and its direction. Upper.		Clouds. Prevailing form and its direction. Lower.		Sunshine.		Rainfall.	Miscellaneous.
		Km.	Km.		0-10.					h.	m.	mm.	
1	SW	289.5	30.5	WSW	9.5	Ci.-S.	E	Cu.-N.	SW	3	15	40.3	Ω² ≡ a. ↙ ● a. p.
2	WSW	470.5	37	WSW	10	Ci.-S.		N.	WSW	0	00	100	↙ ● p. ● a. p.
3	SW	337.5	31	SW	10	Ci.-S.		Cu.-N.	WSW	1	35	54.9	↙ ● Γ↯ p. ● a. p.
4	SW	818.5	48	SW by W	9.9	A.-Cu.	W	Fr.-N.	W by S	1	10	53.5	↙ ● a. p.
5	WSW	807.5	43.5	WSW	10	Ci.-S.		Cu.-N.	W by S	0	00	102.8	Γ↯ ς² p. ↙ ● a. p.
6	SW	430	43	SW by W	9.8	Ci.-S.		Cu.-N.	SW	2	30	22.1	≡ ◯ a. ↙ ⊤ p. ●
7	SW	338.5	34	W	10	Ci.-S.	E	Cu.-N.	WSW	0	15	58	⊤° a. ↙ ●° Γ↯² p. ●
8	SW	543.5	37.5	WSW	9.9	A.-Cu.	W by S	N.-cf.	SW by W	2	45	17.5	◯° ↙° ◡° p. ● a. p.
9	WSW	550	31.5	SW by W	7.3	Ci.-S.	E	Cu.	WSW	6	10	.3	d° ⊕² a. ◯° ● p.
10	WSW	500	37.5	SW by W	9.4	Ci.-S.		Cu.-N.	WSW	2	25	33	⊤° p. ↙ ●° a. p.
11	SW	222.5	23	SW	8.2	A.-Cu.	NW	Cu.		4	55	3.6	● d a. ⌒ ς p.
12	SW	241	24	W by S	9.3	Ci.-S.	E	Cu.	WSW	3	45	7	● d ◯ ⊕ a.
13	WSW	310.5	34	WSW	7.8	Ci.-S.	ENE	Cu.	WSW	9	25	5.7	Γ↯° ◯² ⊕ ⌒² p. ●
14	W by S	295	34	W by S	9.4	Ci.-S.		Cu.-N.	SW	1	00	34.4	◯² a. ● a. p.
15	SW	265	30	SW by S	9.2	Ci.-S.	ENE	Cu.-N.	SW	1	45	20	● d a. p.
16	WSW	302	27.5	SW	8.7	A.-Cu.	WNW	Cu.-N.	WSW	3	25	5.8	d a. ↙ ● p.
17	WSW	309	31	WSW	8.4	Ci.-S.		Cu.-N.	SW	4	25		≡ Γ↯° d² p.
18	WSW	296.5	28.5	WSW	6.9	Ci.-S.	NE	Cu.		7	00		Ω ≡° a.
19	SW	228	23	SW	5.4	Ci.	NNE	Cu.	W	8	05	8	Ω² ≡ a. Γ↯° ● p.
20	NE, WSW	157	22.5	WSW	9.8	Ci.-S.	NE by E	Cu.-N.	NW by W	3	30	2.7	≡° d° a. ◯° Γ↯ ● p.
21	WSW	308.5	33	WSW	6.8	Ci.-S.	NNE, E	Cu.	WSW	8	00	1.1	≡° a. ◯ d p p.
22	WSW	505	34	WSW	10	Ci.-S.		Cu.	W	0	30	.4	≡° ◯ a. ↙° ●° p.
23	WSW	295	32	WSW	9.2	Ci.-S.		Cu.	WSW	0	45	67.9	d° ◯ a. ↙° ●² p.
24	SW by W	365	28	WSW	7.2	Ci.	E	Cu.	WSW	8	00	5.7	● a. ↙° p.
25	WSW	308.5	27	WSW	7.8	Ci.-S.	NE	Cu.	SW	6	50	.3	◯ d a. ◯° ς p.
26	SW	110.5	22	WSW	8.8	Ci.-S.	N by E	Cu.-N.	SSE	7	05		Ω ≡° ◯² a. Γ↯° p.
27	SW	88	9	WSW	8.5	Ci.-S.	E	Cu.	SW by W	4	00		≡° a. ◯° a. p.
28	SW, WSW	148	22	SW	7.2	Ci.-S.		Cu.	W	8	05		Ω ≡° a. ◯ ς° ⌒ p.
29	W	82	12	NW	6.5	Ci.-S.		Cu.	ENE	6	40		Ω ≡ a. ⊤° p.
30	Variable	108.5	13	N by E	4.9	Ci.-S.		Cu.	ENE	6	40		d° ⊤ ⌒ p.
31	NE, W	162	16.5	W by N	4.5	Ci.-S.		Cu.-N.	ENE	8	30		Ω² ≡° a. Γ↯° p.
Mean		328.8	29		8.4					4	16		
Total										132	25	645	
Departure from normal		+41.4			+0.6					—7	17	+285.4	

[1] All the mean values given in this table are deduced from hourly observations.
[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.				Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.				
									Upper.		Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.				mm.	
1	755.53	26.6	28.2	24.7	79.4	SW	2.5	10	A.-S.		N. SW	------	d° a.
2	56.32	26.4	29.2	23.9	79.9	SW	4	10	A.-S.		N. SW, W	0.8	d ↙°
3	57.18	27.5	30.3	25.6	74.3	SW, SSW	3.7	10	A.-S.		S.-Cu., Cu. W	------	↙°
4	57.19	28	30.8	24.7	70.3	SW	3	9	A.-S.	E, NE	S.-Cu.	------	○^{2} ↙°
5	57.44	28.2	31.3	25.4	72.7	SW	2.8	7	A.-Cu.	E	Cu. SW	------	↙°
6	58.14	28.7	32.1	26	69.2	SW, SSW	2.2	6.5	A.-Cu.		Cu. SW	------	↙° ψ
7	57.90	28.1	31.3	25.4	74.6	SW	2	6.2	A.-S.		Cu. SW	------	↯ ↙°
8	57.33	28.4	32	25.5	69.6	SW	2.8	6.5	A.-Cu.	ENE	Cu. SW, W	------	↙°
9	57.08	28.2	31.8	25.4	74.7	SE, SW	1.3	6	A.-Cu.	NE	Cu. SW	------	↯
10	57.38	28.3	34.3	24.4	71	Variable	1.2	7.5	Ci.-S.		Cu. W	6.4	○^{2} ● ψ^2 p.
11	56.76	28.2	34.2	23.7	69.4	SW	2.2	9.2	A.-Cu.		Cu. W	------	ψ^2 ↙° p.
12	56.85	28.2	31.2	25.3	74.3	SW, S	2	8	Ci.-S.		Cu. SW	------	
13	57.74	28.6	31.6	26.1	74.7	SSE	1.7	7.2	Ci.-S.	E	Cu.-N., Cu. SW	------	ψ°
14	58.52	28.5	30.4	25.5	74.3	SE	1.3	9.5	Ci.-S.		Cu. W, SW	------	ψ ↯ p.
15	58.18	28.6	30.3	25.2	73.3	SE	1.7	9	Ci.-S.	E	Cu. W	------	○^{2}
16	57.76	28.2	30.8	24.1	73.8	SE	1.3	9	Ci.-S.		Cu. SW	------	ψ° ○^{2}
17	57.66	27.8	32.3	23.5	75.3	SE	1.3	9	Ci.-S.	NNE	S.-Cu. SW	------	○^{2}
18	56.89	28	31.6	24.4	78.7	NNE, SE	1.2	7.5	Ci.-S., Ci.		Variable	------	↯ p.
19	56.52	27.2	31.4	24	80.9	NNE	1	9.5	Ci.-S., A.-S.		Cu. W	1.5	⌈↯° p.
20	56.90	27.6	30.1	24.5	78.3	NNE, SE	1.3	10	A.-S.		Cu.-N.	------	○° ↯
21	57.53	28.4	32.6	24.5	73.2	SE, SW	1.8	8.8	A.-S., Ci.-S.		Cu. W	------	○^{2} d° p.
22	57.66	28.3	31.3	25.4	73.2	SW	2.2	9	Ci.-S., A.-Cu.		Cu. W	------	
23	57.34	28.3	33.7	25.4	73.1	SSW	1.8	8.5	Ci.-S.		Cu.-N. W	------	
24	57.05	28	31.3	25.8	75.2	S quad.	2.5	8.8	Ci.-S.		S.-Cu., Cu. SW	------	○^{2} ↯ p.
25	56.46	27.9	31.4	25.9	74.5	SW	2.7	8.8	Ci.-S., A.-S.		Cu. SW, W	.7	↙ ●° a. ↯ d p.
26	57	27.5	30.5	23.5	73.3	SW, SE	1.3	9	Ci.-S.		Cu. W	1.2	↙ ●° ↯ p.
27	57.62	27.8	32.5	22.6	73.8	SE	1.3	8.8	A.-S., Ci.-S.		Cu. W, NW	.5	⊤ d p.
28	58.21	26.6	33	22.7	79.7	SE	1.2	9	Ci.-S.		Cu.-N. NW, SE	28.7	⌈↯^{2} p.
29	58.47	26.8	31.2	21.8	80.7	NNE, SE	1	8.8	Variable		Cu.-N. N	------	⊤ p.
30	57.65	27.3	30.6	22.5	77	NNE, SE	1.2	5.8	Ci.-S.	ENE	Variable	------	↯ p.
31	57.77	27.8	31.8	23.5	79	Variable	1	7.2	A.-S., Ci.-S.		Cu.-N. NE	------	○° ⊤ ↯ p.
Mean	757.36	27.9	31.5	24.5	74.9	------------	1.9	8.4	------------		------------	------	
Total	--------	------	------	------	------	------------	------	------	------------		------------	39.8	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.				Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Upper.		Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.				mm.	
1	755.38	26.9	29.2	23.3	79.6	SSW	2.4	10	A.-S., Ci.-S.		Fr.-N. SW	1.3	d ↯ ↙°
2	55.84	27.5	29.8	24.1	78.8	SW	3.2	9.8	Ci.-S.		Fr.-N. SW	6.4	Ω ↙ ●
3	56.82	27.7	31.2	22.6	74.8	SW	1.8	9.5	Ci.-S.	E	Cu. SW	------	≡° ↯
4	56.96	28.6	32.7	22.3	66.8	SSW, W	1.2	7.8	A.-Cu.	E	Cu.	------	Ω ↯
5	57.32	28.4	32.3	23.3	71.8	SW	2.2	8.2	A.-Cu.	ESE	S.-Cu., Cu.	------	Ω ≡° ↙° ↯
6	58.25	29	33.7	23.2	69.2	SW quad.	1.5	4.8	Ci.-S.	SE	Fr.-Cu. SW	------	≡° Ω
7	57.98	28.9	33.5	23.3	70.7	SW	1.3	4.2	Ci.	E, ENE	Cu.	------	Ω ≡°
8	57.26	29.3	33.1	24	67.8	SW	2	4.5	Ci.	ENE, E	Fr.-Cu. WSW	------	Ω a. ψ ↯ p.
9	57.13	28.4	32.5	23.4	75	WSW	1.3	6.5	Ci.	E	Cu., Fr.-Cu. SW	------	Ω° a. ϕ p.
10	57.32	27.2	31.5	22.7	79.8	SW	1	8.5	Ci.-S.		Cu. SW	------	Ω^2 a. ψ p.
11	56.75	28.2	32.3	23.8	76.1	SW	.8	8.8	A.-Cu.	SE	Cu. WSW, SW	------	Ω a. ψ p.
12	57.01	28.7	33.5	22.7	69.9	SW quad.	1.5	7	Ci.-S.	ENE	Fr.-Cu. SW	------	≡° ψ Ω
13	58.19	27.4	33.8	22.7	77.3	Variable	1.2	5.8	Ci.-S.	ENE	Cu. SW	------	ψ Ω ≡° ↯
14	58.94	28.2	34	24.1	78.2	Variable	1.2	6	Ci.-S.	ENE	Cu. SW, WSW	------	Ω^2 ↯ ≡°
15	58.74	27.3	32.4	23.2	80.2	S, W	1.2	7.8	Ci.	E, ENE	Cu.-N. W	------	Ω ↯ ≡° ⊤°
16	58.03	27.6	32.7	22.9	78	S, W	1.2	8.5	Ci.-S.	NE	Cu. SW	------	ψ ↯ Ω ≡°
17	57.83	27.3	31.7	23.5	81.3	WSW	1.5	5.5	Ci.	NE	Cu. WNW	------	↯ ϕ Ω^2 ≡°
18	56.87	27.2	31.9	22.9	79.8	SW	1.2	5.8	Ci.	E	Cu. SW	------	Ω^2 ≡° ↯
19	56.47	27.6	32.2	23.1	78.8	SW quad.	.8	9	Ci.-S.	NE	Cu. W	8.6	●^{2} ψ ○ ⊤ ↯
20	57.24	25.9	30	22.8	86.8	Variable	2.2	9.5	Ci.-S.		Fr.-N. W	31.5	⌈↯ ↙° ○
21	57.90	27.2	31.5	23.1	80.5	SW quad.	1.5	5	Ci.-S.	NE	Variable	34.5	⌈↯^{2} ≡° ○
22	57.87	27.5	32.4	23.2	79	SW	1.2	6.5	Ci.	E	Cu.-N. S, SW	2.8	Ω^2 ≡° ●°
23	57.33	28.4	32	23.7	73.2	SW	1.7	8	Ci.	E	Fr.-Cu. W	------	Ω ≡°
24	57.11	27.8	32.4	23.8	77.5	SW	.7	6.2	Ci.-S.	SE	Cu. SW	------	↯ Ω^2 ≡° ○
25	56.55	27.8	32.1	23.8	79.6	SW quad.	1.5	5.8	Ci.		Cu. SW	1.3	Ω ≡° ●°
26	57	27.5	32.1	22.3	76.2	SW quad.	2.2	8.5	A.-Cu.	NE	Cu. W	------	Ω ≡° ↙° ↯
27	57.88	28	31.7	23.5	78.5	WSW	1.3	8.5	Ci.-S.	ENE, E	Cu. W	------	↯ ≡°
28	58.24	27.1	30.8	23.7	85.9	SW	1	8.8	Ci.-S.	E	N.-cf. WNW	5.1	●° ↯^{2} ≡° Ω
29	58.57	26.6	31.2	23.2	86.2	SW	.8	7.5	A.-Cu.	SE, E	Cu.-N. W	------	Ω ≡° d
30	57.98	27	29.9	23.1	84.1	Variable	1.2	4.5	Ci.	ESE, E	Cu.	------	Ω^2 ≡° ↯
31	57.91	27.4	31.3	23.7	84.5	S by W	1.3	5	Ci.	ESE, E	Cu. S	1	Ω ≡° ●° ↯
Mean	757.44	27.7	32	23.3	77.6	------------	1.5	7.2	------------		------------	------	
Total	--------	------	------	------	------	------------	------	------	------------		------------	92.5	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	755.31	26.3	28.9	24.2	82.5	SW	10.3	9.8	Ci.-S.	N.-cf. WSW	0.8	●° ≡° a.
2	55.84	27.4	29.3	24.9	77.2	SW	12.3	7.5	Ci.-S.	Fr.-Cu. SW	------	≡° a.
3	57.06	27	29.8	24.9	80	SW	13.8	8.8	Ci.-S.	N.-cf. SW	.3	≡° d ◯ a. ↯° p.
4	56.96	27	30.1	23.8	77.6	SSW	11.5	6.2	Ci.-S.	Cu. SW, WSW	------	Ω ≡° ◯ a. ∞ p.
5	57.26	28	30.9	24.4	77.8	SSW	10.7	5.5	A.-Cu. SE	Cu. SW	------	≡° ↯°
6	58.10	27.6	31	23.7	78.3	SSW	8.7	4.8	Ci.-S.	Cu. SW, W	------	Ω ≡° a. ∞ p.
7	57.99	27.1	31.2	22.7	79	W, S	8.6	4	Ci.	Cu. SW, W	------	Ω ≡° a. ∞ ⊤ p.
8	57.19	27.5	31	24.4	79.3	SW	10.3	3.5	A.-Cu., Ci.	Cu. SW	------	≡° a.
9	57.02	27.4	31.9	23.3	82.7	W, S	8.9	3.5	Ci.	Cu. SW	------	≡° a. ⌓ p.
10	57.37	27.4	31	24.3	81	W, SSW	8.4	7	Ci.-S.	Cu. W, WSW	------	Ω ≡° ⊕ ◯ ⌓
11	56.70	27.4	31.4	23.2	77.1	S, SW	8.1	7	A.-Cu. NNE	Cu. WSW	------	Ω ≡° a. < ⊍ p.
12	56.94	27.8	31	25.3	80.2	SW quad.	9.9	6	Ci.-S.	Cu. SW	------	Ω ⊍ ≡° ⊤ <
13	58.06	27.9	31.4	24.3	77.1	SSW	8.2	4.5	Ci.-S.	Cu. SW	------	Ω < ≡° a.
14	58.78	27.3	31.1	24.4	78.8	SW	7.9	6.5	Ci.-S.	Cu. SW	------	Ω ≡° a.
15	58.51	27.4	31.9	23.4	80.2	S, SW	7.7	6	Ci.-S. ENE	Cu. SW	------	Ω² ≡° a. ⊤ < p.
16	57.90	27.1	31.5	23.3	78.7	SSW	7	6.2	Ci.-S. ENE	Cu. SW, SSW	------	Ω ≡° a. ⊤ p.
17	57.77	27.6	31.5	24.2	79.1	SSW, S	5.8	6.8	Ci.-S. ENE	Cu. W	------	Ω < ≡° a. ⊤ ⌓ p.
18	56.86	27.8	32.5	23.8	81.5	S	7	4.5	Ci., Ci.-S.	Cu. NNE	6.4	Ω² < ≡° a. K p.
19	56.62	26	31.8	22.3	87.2	S, NW	5.7	7.8	Ci.-S.	Cu.-N. N	31.7	Ω ⊍ ≡° ◯ ↯° K
20	57	27.4	31	24.8	81.7	S, WSW	6	8.2	Ci.-S.	Cu.-N. WNW, W	.5	< ≡° a. K° p.
21	57.64	26.7	30.9	23.4	81.5	S	7.8	5.5	Ci.-S.	Cu. SW	------	Ω ⌓ ≡° a. K° p.
22	57.74	27.8	31.3	24.2	77.7	SSW	9.6	5.8	A.-Cu.	Cu. SW	------	Ω ≡° a. ⊤ < p.
23	57.34	27.2	31.5	23.7	82.3	SW	10.7	4.5	Ci.	Cu. SW	22.1	Ω ≡ a. K ↯° p.
24	56.87	27.6	31	23.4	79	SW quad.	9.4	4.5	Ci., Ci.-S.	Cu. SW	19	Ω ≡° a. ↯ ● p.
25	56.44	27	30.4	23	83.5	SSW	9.6	5.5	Ci.	Cu., Cu.-N. SW	8.4	p ≡° a. K ↯° p.
56	57.27	26.6	30.6	23.9	81.5	W, SSW	9.1	6.2	Ci.-S.	Cu. SW	5.1	Ω ≡° ◯ a. K p.
27	58.06	26.3	30.6	22.4	84.5	SSE	5.5	6.5	Ci.-S.	Cu. WNW	------	Ω ≡° ⊤
28	58.42	26.5	31.5	23	82.7	SE	4.9	6.5	Ci.-S. ESE	Cu. NNW	13.2	Ω² ≡° K ↯°
29	58.90	26	30.5	22.4	84	S	5.4	5.5	Ci.-S.	Cu. NNE	61.5	Ω ≡° a. K² ↯ ⊍
30	58.01	26.6	31.5	22.4	83.2	S, W	6.1	3.5	Ci.	Cu. NE	------	Ω² ≡° a. < p.
31	58.14	27.7	30.9	24.4	81.2	SSE, S	5.4	5	Ci.	Cu. E	1.5	Ω ≡° a. K p.
Mean	757.42	27.2	31	23.7	80.6	------------	8.4	5.9	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	170.5	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	755.88	25.8	28.4	22.8	87	SW	22.4	10	------------	N. SW	67	↯ ● a. p.
2	56.40	25.8	28.5	22.5	84.7	SW	24.2	10	A.-S., Ci.-S.	N. SW	25.1	↯ ● ⊕ ⊤
3	56.96	27.4	28.7	25.2	78.3	SW	26	10	Ci.-S.	Fr.-N. SW	1	●° ↯ ◯ ⊕
4	57.01	28.1	29.5	26.1	79.2	SW	30.5	8.8	Ci., Ci.-S.	N.-Cu. SW	2.8	● ⊕
5	57.63	28.1	29.5	26.4	81.3	SW	29.2	9.8	Ci.-S.	Cu.	------	◯ ⊕
6	58.42	28	29.8	26.5	80.2	SW	22.2	10	Ci.-S.	N. WSW, SW	19.3	● ◯ ⊕ ↯° ⌓
7	58.28	28.2	30	26	77.5	SW	21.7	8.8	Ci.-S. E	Cu.	------	d ◯° ⊕
8	57.66	28.2	29.9	26.7	77.9	SW	23.6	5.8	Ci.	Cu. WSW	------	
9	57.28	28.1	30.5	26.5	77.7	SW	20	4	Ci. ENE, E	Cu.	------	⊕
10	57.71	27.9	29.5	26.4	77	SW	18.8	7.2	Ci.-S. SE	Cu.	------	d ⊍ ⌓
11	57.06	27.4	30	23.1	79.2	SW	18.8	7.8	A.-Cu.	Cu.	------	Ω²
12	57.30	27.1	29.7	22.1	------	SW	16.4	8.8	Variable	Cu.	30	d a. ●² ⊤ p.
13	58.52	26.8	30.2	23.1	------	SW	15.2	9.2	A.-Cu.	Variable	11.7	● ⊍ ⌓
14	59.17	27.5	30	25	------	SW	16.5	9.2	Ci.-S.	S.-Cu. SW	.5	◯ ⊕ p.
15	58.86	27.6	29.9	25.5	------	SW	13.8	9.8	Ci.-S.	N. SW	2.3	● ◯² ⊕²
16	58.22	27.5	30	24.1	------	SW	15.2	6.8	Ci.-S.	Cu.	.3	● a.
17	57.96	27.1	30.1	23.9	------	SW	12.1	9.5	Ci.-S.	Cu.	------	Ω² ◯ ⊕
18	57.21	27.1	30.5	24.5	------	SW	9.1	7.8	Ci.-S.	S.-Cu.	------	Ω <
19	56.95	26.8	30.1	23.7	------	SW	7.6	9.5	Ci.-S.	Cu.	------	Ω ◯² ⊕² ⊤ ●°
20	57.11	26.6	30.6	23	------	SW	9.9	9.8	A.-S., Ci.-S.	Cu.	------	⊕ <
21	58.04	27	30	23.9	------	SW	15.5	7.5	Ci. E	S.-Cu. SW	1.8	● a.
22	58.13	26.9	29.9	24	------	SW	19.2	9.2	Ci.-S.	Cu.	4.8	● a. p.
23	57.70	26.9	29.4	24	------	SW	20	9.5	Ci.-S.	Cu.	4.1	● a.
24	57.16	27.2	30	25	------	SW	18.6	6.5	Ci.	Cu.	------	d a.
25	56.58	26.8	29.9	25	84.7	SW	16.9	9.5	Ci.-S.	Cu. SW	2.5	●° a. p.
26	57.45	24.8	28	22.6	92.8	SW	12.7	10	A.-Cu.	N. SW	35.8	● a. p.
27	58.18	26.4	29.6	23.2	85.2	SW	7.4	9.8	Ci.-S.	Cu.	.5	d ◯ ⊕
28	58.79	25.8	31.6	23	84.3	N	5.3	7.2	Variable	Cu., N.	1.5	Ω K°
29	58.96	26.3	30.4	22.9	84.7	SW	6.5	6	Ci.	Cu.	8.1	● a. p.
30	58.07	27.6	32.1	23.9	80	Variable	6.1	7.5	Ci.	Cu.	8.4	Ω a. ● p.
31	58.24	27.3	30.6	24	80.8	N, SW	7.1	7.2	Ci.-S.	Cu.-N.	1.8	● a.
Mean	757.71	27.1	29.9	24.3	81.8	------------	16.4	8.5	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	229.3	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	755.54	27.5	29.3	24.8	80.8	S	13.7	10	Ci.-S.	Cu. SW	------	d ϟ° p.
2	55.95	27.2	29.5	24.8	75.6	SSW	12	10	Ci.-S.	Cu. SW	------	
3	57.14	27.6	29.4	24	75.6	S quad	20.9	9.8	Ci.-S.	Cu. SSW	------	○°
4	57.17	28.3	30.7	26.7	72.7	S	21.2	7	Ci. E	Cu. SW	------	ϟ ϖ p.
5	57.59	28.1	30.9	25.4	78	S	15.5	7.8	Ci.	Cu. SW	------	○
6	58.26	28	30.7	25.3	77.5	S	11	6.2	Ci.	Cu. SW	------	ϟ ⊤ p.
7	58.18	27.2	31	23.8	79	SSE, SE	7.9	5.8	Ci. ENE, E	Cu.	------	ϟ ψ p.
8	57.38	26.9	30.7	22.5	81.6	S	7.4	4.2	Ci. ESE	Cu.	------	Ω a. ϟ p.
9	57.17	26.6	31	22.1	79.5	S	5.2	5.2	Ci. E	Cu. NW	------	Ω a. ϟ p.
10	57.65	26.7	30.7	23.3	82.1	SSE	4.4	9.2	Ci.-S., Ci.	Cu.	------	○ ϟ
11	56.98	26.6	30.5	23.3	83.8	S, SSE	5	8.8	Ci.-S.	Cu. W	.8	ϟ ⊤ ●° p.
12	57.18	26.7	30.8	23.1	82.3	S, SE	7	7.5	Ci. ENE	Cu.	6.9	ϟ a. ⌈ϟ p.
13	58.34	26.6	30.8	22.6	84.2	SSE	6.6	7.8	Ci. ENE	Cu. SW	9.7	ϟ ⊤ ● p.
14	59.15	26.8	30.8	23.2	82.2	S, SSE	7.1	8	Ci.-S.	Cu. S	------	ϟ p.
15	58.82	26.9	31	23.4	79.9	SSE	5.7	8	Ci. NE	Cu. S	------	ϟ a. p.
16	58.18	26.4	30.8	23	83.5	S	4.1	6.5	Ci. E	Cu.	------	Ω ○° a. ⊤ ϟ p.
17	58.12	26.2	30.4	22.7	83.2	SSE, S	4	8.8	Ci.-S. E	Cu.	------	Ω ⊤ a. ϟ p.
18	57.18	26	30.9	21.5	84.4	S	3.8	8	Ci. E	Cu.	------	Ω ⊤ d ϟ
19	56.70	27.1	32.5	22.9	80.7	N, WNW	4.1	8.5	Ci.-S.	Cu. WNW, NW	------	○ d a. ⊤ ϟ p.
20	57.43	26.1	29.6	23	85.2	Variable	4.7	8.8	Ci.-S.	Cu.	21.6	● a. ⌈ϟ p.
21	58	26	30.5	23	87.3	E, SSE	4.5	6.5	Ci. ESE	Cu. S	28.4	● a. ϟ p.
22	58.16	26.4	30.5	22.2	83.7	ESE, S	5.8	7.2	Ci.	Cu.	72.6	⌈ϟ a. p.
23	57.65	27.4	30.5	23.3	80.2	SE quad	9.2	7.5	Ci.	Cu. SW	.5	ϟ d p.
24	57.13	27.2	30.7	23.9	82.8	S	8.1	4.2	Ci. E	Cu. SW, SSW	26.2	● a. ϟ p.
25	56.57	26.5	30.5	23.4	85.6	SSE	9.3	6.8	A.-Cu.	Cu. S	78.7	● a. ⌈ϟ p.
26	57.46	26.1	30.6	22.5	84.5	E	6.8	8	Ci.-S.	Cu.	49.3	● a. ⌈ϟ p.
27	58.30	25.7	30.5	22	86.3	S	3.2	8.5	Ci., Ci.-S.	Cu. WNW, NW	1.5	d ○ ϟ ⊤
28	58.63	25.5	30.8	22.5	89.8	W	3.3	7.8	Ci.-S.	Cu. NW	40.6	d a. ⌈ϟ p.
29	58.90	25.2	30.3	21.8	89	SSE, NNE	3.8	7.5	Ci.-S.	Cu. NE	1.3	p. a. ⌈ϟ° p.
30	58.19	25.9	31.2	21.8	86.2	SSW	3.8	4.8	Ci. SE	Cu.	------	Ω a. d ϟ p.
31	58.12	26	30.5	21.5	85.2	SSW, SSE	4.9	2.5	Ci. ESE	Cu.	------	Ω a. ⊤ d ϟ p.
Mean	757.65	26.7	30.6	23.2	82.3	------------	7.5	7.3	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	338.1	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E: barometer above sea, 5.5 meters. gravity correction not applied; —1.82 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	755.20	27.4	31	24.5	78.2	NNW	0.7	9.2	Ci.	Fr.-N. W	5.6	● a. p. ○^{2}
2	55.40	27.5	32	24.7	72.8	W	1.2	8.2	Ci. NE	Cu.-N. W	------	○^{2}
3	56.58	28	32	24.8	72.2	ESE	1	8	Ci.	Cu.-N. W	------	○^{2}
4	56.72	28.2	33	23	65.7	S quad	1.3	6.2	Ci. NE	S.-Cu., Cu. WSW	------	○^{2} ϖ°
5	56.83	29.2	34.2	24.8	63.8	WSW	1	7.5	Ci.-Cu. NE	Cu. WNW	------	
6	57.86	28.7	34	25.2	74.5	Variable	.8	6.5	Ci. NE	Cu. W	3	● ψ^{2} ϖ^{2} ϟ p.
7	57.72	28.4	33.2	23	74.9	E	.7	5	Ci. ENE	Cu. SW, WSW	------	Ω a. ψ^{2} p.
8	57.05	28.4	32.2	24	72.7	ESE	.8	5.5	Ci. NE	Cu. W	------	Ω a.
9	57.04	28.4	32.8	24.5	74.7	N	.7	6	Ci.-S. NE	Cu. W	------	Ω ⊕° a. ψ^{2} p.
10	57.31	28	22	25.3	78.2	NW	1	8	Ci. E	Cu. W	------	Ω ○^{2} ψ^{2}
11	56.68	28.5	32.5	24.2	71.8	WNW	.8	7.8	Ci. E	Cu. WNW	------	ψ ϖ^{2} ϟ p.
12	56.91	27.8	32	24.5	77.9	SE	.7	8	Ci.-Cu. E	Cu. WNW	3.1	● ϟ a.
13	58	29	34.7	24.4	72.5	SSE	.8	6.2	Ci.-S. ENE	Variable	1.5	ψ^{2} ● a.
14	58.90	28.3	32.5	24.5	79.8	SE	1.2	7.8	Ci. NE	Cu. WSW	------	○° ϟ
15	58.68	28.4	33	25	76.8	SE	.5	6.8	Ci.-S. NE	Cu. WSW	------	
16	58.05	27.8	33	24	78	ESE	.5	5.5	Ci.-S. NE	Cu.	------	ψ^{2} ϖ^{2} Ω a.
17	58.02	27.2	33	23.5	82.8	E	.7	6.5	Ci. NE	S.-Cu.	------	Ω C^{2} a.
18	56.98	28.2	33.5	24.4	78.5	Variable	.7	5.8	Ci. NE	Cu. WSW	------	Ω^{2} a.
19	56.36	28.5	33.8	24.5	76.7	NW, WNW	1.3	7.5	Ci. NE	Cu.-N. W	------	○^{2} ϟ
20	57.07	26.9	31	23.9	85.3	WNW	.8	8.8	Ci.	N. WNW, W	10.5	● a. ⌈ϟ^{2} p.
21	57.80	27.7	32.5	23.8	79.8	Variable	.5	7	Ci.-S.	Cu. WSW	------	
22	57.69	28.4	33.3	24.8	77.8	Variable	.7	6.5	Ci.-S. NNE	Cu. WSW	6.9	ϟ a. ⌈ϟ p.
23	57.16	28.2	33.4	24.7	78	E	.3	6	Ci. NE	Cu. W	------	⌈ϟ° p.
24	56.81	28.6	34	24.5	77.5	ESE, SE	.8	5.8	Ci. NE	Cu. W	------	ϟ a.
25	56.10	28.6	33.1	25.8	77.7	E, NW	1	6.5	Ci.-S. NE	Cu. W, WSW	2.8	ϟ a. ⌈ϟ p.
26	57.11	27.5	32	24.5	81	Variable	1	8	Ci.-S. NE	Cu.-N. W	34.5	ϟ a. ⌈ϟ^{2} p.
27	58.13	26.7	33.9	23.3	84	W, ENE	1.2	8	Ci.-S.	Cu. NW	3.8	○^{2} ⌈ϟ° p.
28	58.56	26.8	33.7	24	83.8	NW	1.8	6.5	Ci., Ci.-Cu.	Variable	20.6	○^{2} a. ⌈ϟ^{2} ↙ p.
29	58.85	27.2	32.5	24	82	NNW	.8	7	Ci.-Cu. SW	Cu.-N. N, E	2.8	ϟ ⊕^{2} a. ● p.
30	58.25	27.3	33.2	23.4	79	WNW	1	5.8	Ci. W	Cu. ESE	------	
31	58.11	28.2	32.8	24.8	78.8	WNW, ESE	.7	4.2	Ci.-S. NNE	Cu. SSE	------	Ω^{2} a. ⊤ p.
Mean	757.35	28	32.9	24.3	77	------------	.9	6.8	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	95.1	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.			
									Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	755.14	26.1	30.3	21.8	88.2	SW	0.7	10	Ci.-S.	Cu.-N. SW, NW	5.8	● a. d p.
2	55.58	25.7	28.2	21.3	89	WSW	.2	10	Ci.-S.	N. SW	7.1	● a. d p.
3	56.14	26.9	31.3	21.1	84.8	SW, WSW	.8	9.5	Ci.-S.	Variable	------	d° a. ϖ² p.
4	56.03	28.9	32.4	23.3	79.6	WSW	1.5	7.8	Ci.-S.	S.-Cu. SW, W	------	
5	56.57	28.1	32.6	22.5	81.8	SW	.5	9	Ci.-S.	S.-Cu. SW	------	⌣ ϖ p.
6	57.62	28.5	32.5	23.4	83.2	SW	.7	8	Ci.-S.	S.-Cu. SW	------	⊤ ⋜ ⌣ ϖ p.
7	57.67	28.2	32.9	22.6	82.8	W	.7	6.8	Ci., Ci.-S.	Cu.-N. NW	------	⌣ ϖ p.
8	57.32	27.2	32.2	21.9	85.8	WSW	.7	4.2	Ci.	Cu.-N. NE, SW	------	Ω° a. ⊤ ⋜ p.
9	57.25	27.5	31.6	20.6	82.3	Variable	.3	3.2	Ci.	Cu. NE	------	Ω a. ϖ p.
10	57.76	27	32.3	20.2	84.3	Variable	.5	6.2	Ci., Ci.-S.	Cu.-N. NW	------	Ω a. ⌣ ϖ p.
11	57.13	27.1	32.2	21.6	83.8	Variable	.3	6.8	Ci.	Cu.-N. NW, W	------	⊤ ⋜ p.
12	57.14	26.8	30.7	22	86.3	Variable	.5	7.5	Ci.-S.	Cu.-N. SW, W	------	d ⊤ ϖ°
13	58.17	27.3	32.8	22.2	86.3	SW	.7	9.2	Ci.-S.	S. SW	------	⌈⋜° p.
14	58.88	27	31.3	21.4	88	S	.7	8.8	Ci.-S.	Cu.-N. SW	10.9	⌈⋜ p.
15	58.82	27	31.8	21.6	88	SW, NNE	.3	7.8	Ci.-S.	Cu -N. SW	40.4	⌈⋜² p.
16	58.24	27.3	31.6	22.1	87.7	SW	.8	4.5	Ci.	Cu.-N. W	------	⊤ ⋜ p.
17	57.92	28.2	32.2	22.2	84.8	Variable	.5	5.8	Ci., Ci.-S.	Cu.-N. SW	------	⋜° p.
18	57.16	27.8	30.9	22.5	87.2	Variable	.3	6.8	Ci.-S.	Cu.-N. SW	------	
19	56.77	27.2	30.9	22.2	87.3	Variable	.5	7.8	Ci.-S.	Cu.-N. S	------	⋜ p.
20	57.16	26.5	30.4	21.5	87	Variable	.3	9.8	Ci.-S.	N. NW	13.5	⌈⋜ p.
21	57.85	26.6	31.6	21.9	88.2	SW	.2	6.5	Ci.	Cu.-N. SW, NE	6.6	⌈⋜ p.
22	57.86	26.5	31.3	22.2	89.7	ENE	.3	8.8	Ci.	Cu.-N. SW	2.8	⌈⋜° p.
23	57.33	26.8	31.1	20.6	87.8	Variable	.5	7	Ci., Ci.-S.	Cu.-N. SW, S	------	d° ⋜° p.
24	56.91	26.6	32.2	21.5	89.7	Variable	.3	7	Ci., Ci.-S.	Cu.-N. SW, S	24.4	⌈⋜ p.
25	56.23	25.9	30.7	21.7	91.8	SW	.7	7.8	Ci.-S., Ci.	N.	59.4	⌈⋜² p.
26	56.99	25.7	31.2	21.4	90.8	SW, SSW	.3	8.2	Ci.-S.	Cu.-N. SW	31.7	⌈⋜ p.
27	58.27	26.1	29.7	20.8	88	SW, NE	.2	8	Ci., Ci.-S.	S.-Cu. SW	------	
28	58.71	26.9	30.7	20.4	84.5	N	.5	4.2	Ci.	Cu.-N. NW	------	Ω a. d° ⋜ p.
29	59	27.2	30.8	21.5	86.8	Variable	.7	5.5	Ci.-S.	Cu.-N. NW, SE	11.9	⌈⋜ ≡° a.
30	58.40	27.2	30.7	22.1	87.5	Variable	.5	6.2	Ci.-S.	Cu.-N. SW, S	20.3	● a. ⋜ p.
31	58.26	27.4	31.7	22.1	84.8	E by N	.3	6.2	Ci.	Cu.-N. E, NE	------	⋜° d° p.
Mean	757.43	27.1	31.4	21.7	86.4	------------	.5	7.3	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	234.8	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	755.29	26.9	------	24.8	86.2	WSW	2.7	9	Ci.-S.	Cu.-N. SW, W	21.3	● ↙° a. p. ⌈⋜
2	55.48	26.9	------	25.5	81.8	SW	3	9.2	Ci.-S.	Cu.-N. W, SW	3.8	d ↙° a. p. ⋜
3	56.50	28.2	------	26.6	73.8	SW	2.7	8.8	Ci.-S.	Cu.-N. SW	------	↙° ○° ⋜ ⌣
4	56.42	28.6	------	27	76.7	SW	2.7	7.2	Ci.	S.-Cu. SW	------	○ ↙° ⋜ ⌣
5	57.19	28.9	------	27.5	76.8	SW	2.5	7.8	Ci.-S.	S.-Cu. SW	------	↙° ○² ⋜
6	57.98	29.1	------	27.4	77.2	SW	2.3	7.8	Ci.-S.	S.-Cu. SW	------	○² ↙° ⋜ ⌣²
7	57.94	29.4	------	27.4	72.7	SW	1.8	6.8	Ci. NE	S.-Cu. SW	------	○ ⋜ ⌣ p.
8	57.27	29.3	------	27.5	73.7	WSW	2.2	7	Ci.-S., Ci.	S.-Cu. W	------	↙° ⋜ ϖ
9	57.17	28.8	------	25	76.8	WSW	.8	7.8	Ci.	S.-Cu. W	------	⋜ ⌣ p.
10	57.45	28.6	------	24.5	78.5	WSW	1.2	8.5	A.-Cu. N	S.-Cu. W	------	○² ⋜ ⌣ p.
11	56.98	27.8	------	24.6	82	WSW	1.3	8.5	Ci.-S.	Cu.-N. W	3.8	p. a. ↙ ●° ⋜ p.
12	57.04	27.1	------	24.5	85.2	SW	1.3	8.5	Ci.-S.	Cu.-N. W	14.5	● a. ⋜ ⌣ p.
13	58.14	28.2	------	24.6	77.5	SW	1	7.5	A.-Cu., Ci.-S.	Cu.-N. SW	1	↙ ●° a. ⋜ p.
14	58.96	28.5	------	24.9	78.5	SW	1	7	Ci.-S.	S.-Cu. SW	------	○ ⋜ p.
15	58.79	27.2	------	23.4	84.7	N, WSW	.8	7.8	Ci., Ci.-S.	S.-Cu. SW	------	○² ⋜
16	58.25	27.9	------	24.4	83.8	N, W	.8	6.2	Ci.	S.-Cu. SW	7.6	● a. ⋜ p.
17	58.19	27.2	------	23.1	83.2	N, W	1	7	Ci.-S. NE	S.-Cu. SW	------	○² ⋜
18	57.26	------	------	22.4	------	N, W	1	7.5	Ci. NE, E	S.-Cu. W	------	⋜ p.
19	56.49	28.2	------	23.9	81.2	N	1	8	Ci.-S.	S.-Cu. NW	------	d ⋜ p.
20	57.09	26.2	------	22.7	90.2	SW, WSW	1	9.2	Ci.-S.	Cu.-N. NW, W	231.1	⌈⋜² a. ⋜ p.
21	57.78	28.7	------	23.7	79	WSW	1	6.5	Ci. E	S.-Cu. SW	6.4	● a. ⋜ p.
22	57.92	------	------	25	------	WSW	1.7	8.8	A.-Cu. N	S.-Cu. SW	------	⋜ p.
23	57.41	29.4	------	26	76.8	WSW	1.7	7.8	Ci.-S.	S.-Cu. SW	------	○² ⋜
24	57.36	------	------	25	------	WSW	1	6.5	Ci. NE	S.-Cu. SW	------	⋜ p.
25	56.45	28.2	------	23.4	78.8	W	1	7.8	Ci. NE	S.-Cu. SW	1.3	p ⋜ p.
26	57.07	------	------	24	------	W	1	7.8	Ci. NE	S.-Cu. SW	------	○ d ⋜ p.
27	58.12	28.2	------	24.2	82.7	N, WSW	1	8.5	Ci. NE	S.-Cu. W	------	d ⋜ p.
28	58.70	25.4	------	23	90.8	N	1	7.8	Ci., Ci.-S.	S.-Cu., Cu.-N. N	25.9	⌈⋜ a. p.
29	58.90	25.5	------	22.3	87	N	1	7.2	A.-Cu. E	Cu.-N. N, NW	13	●° a. p. ⋜
30	58.46	26.4	------	21.6	86.3	N	1	7.5	Ci. E	S.-Cu. N	17.8	d a. ● ⋜ p.
31	58.18	------	------	22.8	------	N	1	7	Ci. NE	S.-Cu. N	.8	⋜ p.
Mean	757.49	27.9	------	24.6	80.8	------------	1.4	7.8	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	348.3	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 4.2 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	754.40	25.3	27.5	23.9	91.8	WSW, W	5.3	10	Ci.-S.	N. W	35.6	● a. p. ⚡
2	54.16	26.7	30.8	22.8	80.5	W	10.9	10	Ci.-S.	Fr.-N. WSW	9.7	● a. p.
3	55.52	27.1	31.3	23.3	79	WSW	9.1	10	Ci.-S.	Fr.-N. WSW	3.6	● a.
4	55.21	28.5	32.5	24	72.9	WSW	14.1	6	Ci. E	Cu.-N. WSW	.3	●° a. ⚡ p.
5	56.02	28.2	33	24.6	76.7	WSW	10.8	9.5	Ci.-S.	Cu. WSW	------	○ a. p. ⚡
6	57.02	28	32.9	25.3	77.8	WSW	9.8	7.8	Ci.-S. E, NE	Cu.-N. WSW	.8	● ○²
7	57.12	28.3	32.9	25	76.5	WSW	9.7	3.8	Ci. ENE	Cu. WSW	------	d° a. ⚡° p.
8	56.52	27.9	32.7	24.9	77	W	9.7	4	Ci. E	Cu.-N. WSW	.3	d² a. ⚡ p.
9	56.45	28.5	34.1	24.4	72.3	W	7.9	5	Ci. E	Cu. WSW	------	
10	56.81	28.2	33.5	24.7	75.6	W, WSW	8.4	7.2	Ci.-S. E	Cu. WSW, SW	------	○ p.
11	56.48	26.5	34.5	22.5	84.9	W	6.5	9.2	Ci.-S.	N., Cu.-N. W	33.8	☈ p.
12	56.39	27	32.8	22.7	81.2	W	5.8	8.5	------	Fr.-N. W	1.3	d a. ○² ⚡ p.
13	57.52	27.5	32.5	23.6	80.7	WSW	7.4	8	A.-Cu. W	Variable	5.1	● a. ○° ⚡ p.
14	58.36	27.2	32	23.2	80.8	W	6.7	8.8	A.-Cu. W	Cu. SW	15.7	● a. ⚡ p.
15	58.10	27.4	32	23.5	82.5	W	5.4	8.5	Ci.-S. N	N. SW	4.8	● a. ○ p.
16	57.60	27.9	33.5	24.4	78	SW, W	5.4	3.2	Ci. NNE	Cu. WSW	2.3	● ○² a.
17	57.52	28.2	34.5	23.9	75.5	WSW, W	5.1	3	Ci. N, NNW	Cu. SW	------	○ p.
18	56.76	27.8	34	23.3	77.5	WSW, SSW	4.1	5	Ci. NE	Cu. WSW, W	------	≡° a. ○ ⚡ p.
19	56.19	28.3	35	23.8	74.5	WNW	------	6.8	Ci. NE	Cu. NW	------	○ a. ☈° p.
20	56.32	27.7	32.6	25	78	W	6.8	9.5	Ci.-S. NE	Cu. W	.5	d² a. ○° ⚡ p.
21	57.05	27.9	33.1	23.9	79.2	WSW	7.6	3.2	Ci. N	Cu.-N. W, SW	9.7	● a. ⚡ p.
22	57.06	28.1	33.1	24.4	80.2	WSW	7.3	6.2	Ci.	Cu. WSW, W	1.8	p. a. ○
23	56.67	27.9	32.9	24.6	78.9	W	7.7	4.8	Ci. E, ENE	Cu. WSW, W	.5	d ○ a. ⚡ p.
24	56.35	28.4	33.5	24.6	76.2	W, WSW	7	3.5	Ci. ENE	Cu. WSW	------	⚡ p.
25	55.85	27.2	34.5	24.3	84	WSW	4.6	4.8	Ci. N	Cu.	3.6	● ⊤ ⚡ p.
26	56.70	27.8	32.9	24	80	SW, WSW	3.7	7.5	Ci.-S. N	Cu. SE, SW	------	⚡ ○ a. p.
27	57.91	27.2	33.7	23.8	83.5	WSW, SSW	3.1	9.8	Ci.-S. E	Cu.-N. W, WSW	13.2	☈ p.
28	58.42	27	33.1	22.6	83	SE, ESE	2.5	4.2	Ci. SE	Cu.	1.5	d a. ☈° p.
29	58.66	27	32.9	22.9	82.5	E	3	3.2	Ci. N	Cu.	1.3	⚡ p.
30	58.21	28.4	32.5	23.5	74.7	E	6.7	1.5	Ci.	Cu.	------	⚡ p.
31	58	27.8	33.5	24.3	81.2	NE, W	4.2	4.5	A.-Cu. ESE	Cu.-N. E, SSE	------	⊤ ⚡° p.
Mean	756.82	27.6	32.9	23.9	79.3	------	6.9	6.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	145.4	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 7.8 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	754.30	25.6	31.7	23	90.8	NNW	------	9.8	Ci.-S.	Cu., S.-Cu. SW	19.6	○ ⊕ a. ☈ p.
2	54.40	27.2	31.8	23	81.2	WSW	------	10	Ci.-S.	S.-Cu. SW	6.9	○² a. ↙ ● p.
3	55.06	26.8	31.9	23.5	83.3	SW	------	9.5	Ci.-S., Ci.	S.-Cu. SW	1.8	d ○ ϖ ⌣
4	54.95	27.3	31.3	23.6	83.7	SW, W	------	7	Ci. NE	S.-Cu. SW	2.8	d a. p. ⚡
5	55.49	28.3	33	24.9	78.4	W	------	9.8	Ci.-S.	S.-Cu. SW, W	------	d ⊤ ⚡ ϖ p.
6	56.44	27.9	32.9	24.1	84	SW, S	7.9	8.5	Ci. NE	S.-Cu. SW	2.8	⚡ a. d p.
7	56.57	27.6	32.1	24.3	81.3	WSW	13.1	9.8	Ci.-S.	S.-Cu. SW, W	5.6	☈° p.
8	56.06	28	32.7	23.6	80	SW, WSW	16.2	6.2	Ci. ENE	Fr.-Cu. WSW	------	⚡ p.
9	56.16	28.3	33.5	24.7	80.7	WSW	10	7.8	Ci. NE	Variable	------	○ a. ϖ p.
10	56.44	28	32.6	24.6	80.3	SW	11	7.8	Ci. ENE	Fr.-Cu., S.-Cu.	------	
11	56.11	26.8	32.5	22.8	85.7	W, WSW	8.4	9.5	Ci.	S.-Cu., Cu. W	------	ϖ a. p.
12	56.15	26.1	33.2	22.9	88.8	W, WSW	6.1	9.5	Ci.	S.-Cu. SW	2.5	○ a. p ⚡ p. ϖ
13	57.10	27.1	32.5	23.5	84.7	SW quad.	8.6	9	Ci.-S., Ci.	Variable	------	ϖ ⌣ ≡° d
14	57.78	28.1	33.8	24.4	79.5	SW quad.	8.9	8	Ci. NNW	Variable	------	ϖ ◡ ⚡ ⊤ d
15	57.62	28.3	33.5	25.5	79	SW quad.	8.6	9.8	Ci.-S., Ci.	S.-Cu. SW	------	⊕ a. ⊤ ⚡ d p.
16	57.09	28.4	33.8	23.9	77.5	S	7.1	7.2	Ci.	Cu. SW	------	ϖ ⌣ ⊕ d
17	56.96	28.4	34	23.8	80.6	W	6.7	7.5	Ci. E	S.-Cu. SSW, W	------	ϖ a.
18	56.68	28.2	34	23.2	83.8	W, WSW	7.8	7	Ci. NE, E	S.-Cu. SW	------	ϖ° a. d p.
19	56.31	28.2	35.7	23	84.3	SW	7.2	7.5	Ci. NE	Cu.	------	ϖ a. ⚡ p.
20	56.57	27.2	32.5	23.9	85.9	W	6.9	10	Ci.-S.	S.-Cu. W	1.5	d a. ⊤ ⚡ p.
21	56.75	28.4	34.3	23.4	80.5	W	10.5	5.8	Ci. NW, E	Variable	------	ϖ a. ⊤° ⚡ p.
22	56.82	28.2	33.8	23.6	85	WSW	9.2	10	Ci.-S.	S.-Cu. W	------	ϖ a. ⚡ p.
23	56.24	28.7	33.9	24.1	81.2	SW quad.	9.4	9	Ci. SE	S.-Cu. SW	------	○ ⚡
24	55.88	29	34.8	25.4	82.3	WSW	10.3	8	Ci. SE, SSE	S.-Cu. SW, W	------	
25	55.19	29.1	34.3	24.1	81.3	W, SW	7.8	7.5	Ci. NE	Cu. S, SW	------	○ ⚡
26	56.18	28.1	33.9	24.1	83.2	SW	7.8	9.5	Ci.	S.-Cu., Cu. S	------	d° a. p.
27	57.68	28	32.6	24	82.5	W, NE	6.2	10	Ci.-S.	S.-Cu. SW, SE	------	⊤° p.
28	58.38	27.6	35.1	23.7	84.8	SW	8.7	6.5	Ci. N	Cu.-N. S	5.6	≡° a. ☈° p.
29	58.83	27.6	33.9	22.9	84.6	SW	9.2	4	Ci. ENE, NE	Cu.	------	⊕ a. ⊤° d ⚡ p.
30	58.26	27.8	32.8	23.5	85.5	NNW, E	11.2	8.2	Ci.	S.-Cu., Cu. NE	3.8	⚡ ⌂ d ⌒
31	58.06	28.4	33.5	23.9	84	SW	9.4	3.2	Ci. NE	Cu. SE	------	⚡ p.
Mean	756.53	27.8	33.3	23.8	82.9	------	9	8.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	52.9	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[ϕ=14° 49′ N; λ=120° 16′ E; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	754.11	24.8	27.2	22.6	93.2	Variable	0.4	9.8	Ci.-S.	N., Cu.-N. SW	25.1	● a. p.
2	54.64	24	26.6	23	93.7	Variable	.7	10		N. SW	78.7	● a. p. ⌒
3	54.73	25.3	27.4	22.7	92.8	SW	1.7	10	Ci.-S.	N. SW	42.3	↙ ● ⊤ a. p.
4	54.83	26.6	28.1	24.4	89.4	SW	3.1	10	Ci.-S.	N. WSW, W	20.3	↙ ● a. p. ⊤
5	55.84	26	27.9	23.5	91.3	SW	3.2	10	Ci.-S.	N. WSW	86.3	↙ ● a. p. ⊤
6	56.23	26.2	27.5	22.6	93	SW	3.8	10	Ci.-S.	N. SW	112.3	↙ ● ⊤ a. p.
7	56.51	25	26.4	22.5	94.3	SW	1.7	10	Ci.-S.	N. W, SW	120.1	↙ ● ⌈ϟ a. p.
8	56.31	25.6	27.5	23.5	92.2	SW	2	10	Ci.-S.	Cu.-N. W	51.7	↙ ● ⌈ϟ a. p.
9	56.53	26.4	27.5	24.2	89.5	SW	1.6	9.5	Ci.-S.	Cu.-N. W	25.4	↙ ● ⌈ϟ a. p.
10	56.78	25	27.3	22.5	94	SW	1.6	10	Ci.-S.	N., Cu.-N. SW	118.3	↙ ● ⌈ϟ a. p.
11	56.46	24.6	27.3	22.4	91	SSW	.6	10	Ci.-S.	Cu.-N. W	16.9	● ⊤° ⌒ a. d ⌣ p.
12	56.30	25.3	27.6	23.8	90.8	SSW	.8	8.8	A.-Cu. NNW	Cu.-N. SW	39.4	○² ↙ ● p.
13	57.19	25.2	27.9	23.3	91.8	SSW	1.2	8.5	Ci.-S. SW	Cu.-N. W	10.2	● ↙° ⌒
14	58.07	24.2	27.5	23.2	95.5	Variable	.5	10	Ci.-S.	Cu.-N., N. SW	107.6	● a. p. ↙°
15	57.57	24.6	26.9	23	95.2	SW	1.2	10	Ci.-S.	N. SW	83.5	↙ ● a. p. ⌈ϟ
16	56.88	25.5	27.4	23.2	92.8	SSW	1.7	10	Ci.-S.	Cu.-N. SW, WSW	40.4	↙ ● a. p. ⌈ϟ
17	56.95	25.8	27.4	24.2	91.3	SSW	1.3	10	Ci.-S.	Cu.-N. SW	16.2	● a. p. ↙
18	56.89	25.8	28	23.6	91.8	SW	.9	9	Ci.-S.	Cu.-N. SW	1	d a. p. ○ ↙°
19	56.84	26	28.7	22.7	88	SSW	1.2	7.5	Ci.-S. E, NE	Cu. W	.1	⌣ ○° d ϟ
20	56.93	25.7	28.2	23.8	90.3	ENE	.6	9.8	Ci.-S. NNE	Cu.-N. N	.1	⌈ϟ° p.
21	57.43	25.2	28.4	23.3	91.8	NE, SSW	1	8.2	Ci.-S.	Cu.-N. W	25.4	d ⌒ ↙° a. ● ⊤ p.
22	57.03	25.8	28.5	23.6	90.7	Variable	.7	10	Ci.-S.	Cu.-N. W	48.4	d ⌒ a. ●² ↙° p.
23	56.54	25	27.9	23.9	94	Variable	.4	10	Ci.-S.	Cu.-N. W, WSW	37.8	● a. p.
24	56.19	24.9	27.4	23.6	94.8	Variable	1	10	Ci.-S.	Cu.-N. W, SW	34.1	d a. ● p.
25	55.34	25.9	28.1	23.3	89.8	SSW	1.2	9.8	Ci.-S.	Cu.-N. SW	2.3	d a. p. ○ ϟ
26	55.94	26.6	28.7	24.2	87	Variable	.9	9.2	Ci.-S. E	Cu.-N. S	.6	d ○ a. p. ⌒ ⊤°
27	57.85	26.2	28.3	24.3	85.7	SSW	1.5	8.8	Ci.-S.	Cu.	------	d° a. ϟ p.
28	58.50	26.5	28.6	24.1	86.7	SSW	1.2	7.8	Ci.-S. E, NE	Cu.	------	d° a. p.
29	58.62	26.6	29.4	23.5	86.2	ENE, S	1.1	6.8	Ci.-S. ESE	Cu. SSE, SE	------	
30	57.96	27.7	34.6	23.9	81.6	N	1	5.8	Ci.-S. ESE	Cu. E	------	⊤ ϟ ⌒ p.
31	57.98	27.2	30.1	23.9	82.7	Variable	1	7.5	Ci.-S. WNW, NW	Cu. SE	3.7	ϟ ○ ⊕ ●
Mean	756.64	25.7	28.1	23.4	90.7	------	1.3	9.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	1,148.2	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temp. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind Prevailing direction.	Force (mean).	Clouds Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	754.43	26.3	30.4	23.4	87.9	S	0.4	8.2	Ci. NW	Cu. SW, S	0.8	d ϟ p.
2	54.81	25.2	30	23.4	91.3	S	.7	9	A.-S.	N. SW	26.9	Ω a. ●² p.
3	55.14	24.6	28.2	23	95.1	S	.8	10	A.-S.	N. SW	31.7	d a. ●² p.
4	54.84	25.8	30.7	23.7	92.8	WSW	.7	9.2	Ci. N	N. WSW	4.3	● p.
5	56.04	25	28	23.4	93	SW	.3	10	A.-S.	N. W	41.1	d a. ●² p.
6	56.72	24.8	28.4	23	95.7	SW	.7	10	A.-S.	N. W, SW	70.3	●² a p.
7	56.51	25.1	28	22.6	93.5	SSW	.6	9.8	A.-S.	N. SW	7.6	● p.
8	56.40	25.6	29	23.4	90.8	S	.2	9.5	A.-S.	N. SW, W	1.8	⊤° a. d p.
9	56.50	26.6	31.8	24.5	87	S	.3	9	Variable	Cu. W	1.8	● ⊤ p.
10	57.03	24.9	31.5	22.8	93.8	SSW	.4	7.2	A.-S.	N. S, SW	57.9	d ≡° a. ●² p.
11	56.55	25.2	31	22.2	86.3	SW quad.	.1	7.5	A.-Cu. W, SW	Cu. W, SW	4.6	≡° a. ● p.
12	56.40	26.1	30.2	23.4	87.7	S	0	9.5	Ci.-S.	Variable	12.7	○ ● p.
13	57.30	26.6	32	23.3	85.5	Variable	.5	8	A.-Cu. SW	Cu. S, W	------	Ω a. ⊤ p.
14	58.23	25.4	28.5	23.8	91.7	S	.6	10	Ci.-S., A.-S	N. SW	6.1	Ω a. ●° p.
15	57.92	25	28.5	23	94	SSW	.3	9.5	A.-S.	N. S, SW	44.7	●² p.
16	57.12	24.7	27	23	95.5	SSW	.3	10	A.-S.	N. S, SW	16.8	●° a. p.
17	57.22	25.2	28.8	23.5	92.8	SSW, S	.4	9.8	A.-S.	N. S, SW	12.7	⌣² ≡ a. ● p.
18	56.93	26.8	32.1	23.1	87.3	S	.3	8	Ci. NE, NNE	Cu. S, SW	16.5	d Ω ≡° a. ● p.
19	56.93	26	33.4	21.4	87.8	S quad.	0	7.2	Ci. NNE, E	Cu. SW, W	42.2	⌣² Ω a. ⌈ϟ² p.
20	57.22	25.8	30.9	23.2	86.8	Variable	0	9.5	Ci.-S. NE	Variable	------	Ω a.
21	57.48	25.6	32.5	23.6	89	SSW	------	8.2	Ci.-S.	Variable	6.9	Ω a. ● ⊤ p.
22	57.12	26.2	31.7	23.8	87.4	S	.2	9	Ci.-S. NE	Variable	4.6	Ω a. p² p.
23	56.88	25.4	30.9	23.6	92.3	NNE	0	9	Ci. NE	Cu.-N. SW	17.3	Ω a. ● ⊤ p.
24	56.07	26.6	32.5	23.8	86.5	NNE	.2	8.5	A.-Cu. SW, W	Cu. S, SW	5.6	Ω a ● ⌒ p.
25	55.45	27.3	33	24	86.3	SSE	.2	6.8	Ci. E	Cu. SW, S	3.8	Ω ○° a. ●° p.
26	56.12	27.4	33.1	24.5	84.3	S, SE	.3	8	Ci. NE	Variable	1	Ω a. ⊤ d p.
27	57.94	27.9	33.1	24.4	79.4	SSW	.3	7	Ci. NE	Cu.-N. S	------	♀° a.
28	58.73	27.3	34.3	23.5	79.4	SSW	.8	6	Ci. NE	Variable	------	⊤ ϟ p.
29	58.92	26.9	34.7	23.2	82.3	Variable	0	6.8	Ci. NE	Variable	------	≡° a. Ω p.
30	58.30	26.7	34.3	23.5	86.4	Variable	0	4.8	Ci.	Cu.-N. NE	2.3	Ω a. p ϟ p.
31	58.09	28.7	35.5	24.5	78.2	Variable	.2	7	Ci -S.	Cu. Variable	------	Ω ϟ ≡ d
Mean	756.82	26	31.1	23.4	88.6	------	.3	8.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	442	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	753.82	26.4	34	24.1	91.7	SE	7.4	8.8	Ci.	S.-Cu. SW, SE	57.1	● ⌈↯ ⌒ p.
2	54.31	26.2	31.9	23.4	89	SE	7.3	9.5	A.-Cu.	S.-Cu. WSW	5.6	⌈↯ p.
3	54.67	25.6	29.5	23	92	SE	9.5	10	------	S.-Cu. SE, SW	12.2	d a. ● p.
4	54.53	26.2	30.5	23.5	91	W	8.8	9.8	Ci.-S. ESE	N. W	15.2	● a. d p.
5	55.61	25.1	27.6	23	97.2	SW	5.2	10	------	N. W, WSW	49.5	● a. p. ⊤°
6	56.06	24.3	27.5	22.9	98	SE	9.2	10	------	N. SSE, SW	98	● a. p.
7	56.09	25.5	29.4	22.7	92.8	SE	6.7	10	A.-Cu.	N. WSW, SSE	23.4	● a. p.
8	56.15	25.2	27.4	23	96.7	NW	7.2	10	------	N. W	51.1	● ⊤ ↯ a. p.
9	56.22	26.2	30.4	24	90.8	NW	6	10	A.-Cu., Ci.-S.	S.-Cu. SW, W	14.7	d a. ● ⊤° p.
10	56.86	24.3	26.9	22.7	98.3	NE	6.1	10	------	N. SW, S	99.1	● a. p.
11	56.16	26.5	31.9	22.1	84.8	SE, N	7	8.2	Ci., A.-Cu.	S.-Cu. S, W	2.3	● a. ⌒ p.
12	56.10	26.6	33.8	23.2	88	SE, NE	7	9	Ci., A.-Cu.	S.-Cu. SE	16.5	d a. ⌈↯ p.
13	56.92	26.5	34	23	88.7	SE	6.9	8.8	A.-Cu.	S.-Cu. SE, W	18	ω ⌓ d a. ● ⌒ p.
14	57.83	25.7	32.4	23	91.7	Variable	6.2	9.8	Ci., A.-Cu.	S.-Cu., N. SW	38.1	● a. p.
15	57.48	24.1	25.9	22.6	97.2	SE, NE	6.7	10	------	N. WSW	63	● a. p.
16	56.78	23.9	25.5	22.3	98.8	E	8.1	10	------	N. SW, WSW	60.2	● a. p. ⊤
17	56.86	24.5	28.7	22.5	97.2	NE, SE	6.3	10	------	N. SW	40.6	● ⊤ ↯ a. p.
18	56.60	27.4	32.9	23.5	84.5	SE	7.7	9.5	Ci.	S.-Cu. SW	------	○ a.
19	56.60	27.9	32.8	24	81.8	Variable	7.8	8.8	Ci.-S.	S.-Cu. SE	------	⌓ a. ↯ p.
20	56.73	27.2	30.6	24	85.3	NW	7.3	10	Ci.-S., A.-Cu.	S.-Cu. SE	------	d ↯ p.
21	57.10	27.9	32.4	23.8	82.8	NW	7.8	8.2	Ci.	S.-Cu. E	.3	d p.
22	56.94	26	31	22.9	91.2	N, E	5.5	10	Ci., A.-Cu.	S.-Cu. W	48.3	● p.
23	56.40	26.4	30.3	23	86.8	N	6.2	9.8	A.-Cu.	N. W	4.8	d a. p ⌒
24	55.80	27.6	32.6	23.7	84.8	NW	7.1	9	Ci.	S.-Cu. WSW	1.8	d a.
25	54.97	27.1	33.6	24.3	86.7	Variable	6.5	9.5	Ci.	S.-Cu. SE	.5	d ↯ p.
26	55.51?	28.4	35.4	24.4	82.4	SE	10.6	8	Ci.	S.-Cu. SE	------	↯ ⊤° p.
27	57.26?	28.6	35.4	24.2	79.8	SE	8.7	7.8	Ci.	S.-Cu. SE	------	↯ a. p.
28	58.34	28.5	33.5	24.1	77.8	SE	7.1	7.2	Ci.	Cu. SE	.3	↯ a. p. d
29	58.56	27.8	33.9	23.7	82	Variable	7.2	7.2	Ci.	Cu. SE	.3	d ⌒ ↯ p.
30	57.99	28.3	33.8	23.4	80.8	NNW, SE	9.1	4.5	Ci.	Cu.	------	↯ ⊤° p.
31	57.94	28.4	31.9	25	83.5	NW	10.2	5.5	Ci., Ci.-S.	Cu.	------	⊤ ↯ d° p.
Mean	756.43	26.5	31.2	23.4	88.8	------	7.4	9	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	720.9	

VÍGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C	P. ct.		0–12.	0–10.			mm.	
1	753.96	26.6	30.6	24.1	82.9	S quad.	1.0	4.8	Ci.-S. NE by E	Cu. SSW	1.5	○ ●° p.
2	54.40	26.3	30.4	24.2	84.2	SSE, S	.8	9.5	Ci.-S.	S.-Cu. S by E	13.2	● ↙° ⌓
3	54.54	26.7	30.9	24	80.2	S	2.5	9.8	Ci.-S., A.-Cu.	S.-Cu. SSW	9.7	↙° a. ● p.
4	53.79	25.6	26.4	24.1	93	S	3	10	------	N. SSW	73.9	↙ ● ↯
5	55.20	24.4	26.9	22.4	96.8	S	1.3	10	------	N. WSW	211.1	●² a. p. ⊤ ↯
6	55.11	24.2	25	22	96.8	S	1.2	10	------	N. SW	127.8	●² a. p. ⌈↯
7	55.67	24	26.2	22.5	95.3	S	2.5	10	------	N. SSW	47.2	● ↙ ⌓
8	55.98	24.7	28.2	22.9	93	S	1	10	------	N. SW	52.6	● ⊤ a. p.
9	56.09	25.3	28.2	23	93.7	S	1.5	10	Ci.	Cu.-N. S, SW	33.3	● ↙° ⊤ ↯
10	56.38	24.3	26.6	22.1	93.6	S	1	10	A.-Cu.	N.	70.1	● a. p. ⊤
11	56.07	25	29	21.7	86	S	1.2	4.2	Ci.	Cu.	19	● p.
12	56.13	25.5	30.1	22.5	87	SSE	1	5.5	Ci.-S.	Cu.	26.4	● p.
13	56.92	26	29.9	23	87.2	S	1.2	8.5	Ci.-S.	N., Cu.	23.9	d a. ●° p.
14	57.43	25.3	30.5	23	88.6	S	1.3	9	Ci.-S.	Cu.	60.2	● p.
15	56.77	24	25.9	22.5	97.5	S	2.5	10	------	N.	76.7	↙ ● a. p.
16	55.83	24.2	25.5	22.6	94.7	S	3.3	10	------	N. SSW	105.9	↙ ● a. p.
17	56.08	24.8	27.4	22.5	91.3	S	1.5	9.5	Ci., Ci.-S.	N. SW by S	30.2	● a. p.
18	56.35	26.3	28.6	23.7	84.7	S	1.2	9.2	A.-Cu., Ci.-S.	S.-Cu. SSW	------	d a. ↯° p.
19	56.70	26.6	30	23.4	81.8	S	1	6	Ci.-S.	S.-Cu., Cu.	------	○ ↯ Ω
20	57	26.4	29.9	23.8	86.5	SE, S	.8	8.5	Ci.-S.	S.-Cu.	------	Ω a. d ↯ p.
21	57.06	26.5	30.2	23.2	86.1	S quad.	1.3	7.5	Ci.-S.	Cu.	------	⊤ d p.
22	57.10	25.2	28.4	23.3	90.3	SE, S	1.2	10	------	N. WSW	77.5	● a. p. ⊤
23	56.30	26.1	30	23.2	84.3	S	1.8	7.5	A.-Cu. W by S	Cu.	3.6	● p.
24	55.96	26.9	30.5	24	84	Variable	1	8.5	A.-Cu. SW by W	Cu.	.5	p p.
25	55.11	27	30.3	23.8	85.7	S quad.	1	7.2	Ci.-S. E	Cu. SSW	.3	○ a. ↯ ●° p.
26	55.84	27.2	31.6	24.5	85.7	S	1.2	5.8	Ci.-S.	Cu. SSW	2.3	⌈↯° p.
27	57.60	28	31.6	25.4	84.8	SW	.8	7	Ci.-S.	S.-Cu S by W	15.2	⌈↯ p.
28	58.63	27.8	31.5	25.3	83.8	S	1	8.8	Ci.-S.	Cu. S	------	○ ↯ d° p.
29	58.83	27.5	31.6	24.5	83.1	SE, SSE	1.2	3.5	Ci.	Cu. NW	3.8	⌒ ●° p.
30	58.24	27.5	30.8	23.9	84.2	Variable	1.3	1.2	Ci.	Cu.	------	↯ p.
31	58.04	28.1	31	25.5	85	E, SSW	1	4	Ci.-S.	Cu. S, SSW	------	Ω ⌒ a. ↯° p.
Mean	756.29	25.9	29.2	23.4	88.1	------	1.4	7.9	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	1,085.9	

METEOROLOGICAL DATA, ETC.—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	753.61	26.8	32.7	22.4	84.1	SE, NW	0.5	7.2	Ci. E, N	Cu.-N. S, SE	------	◯² a. ⊤ d ϟ p.
2	53.57	25.3	27	23.4	93	NW	.5	10	A.-S.	N. N	17	● a. p. ϟ
3	53.64	26.4	31.8	23	87.7	Calm	---------	8.8	Ci.-S.	S.-Cu., Cu.-N.	43.9	⛈ p.
4	52.65	26.2	30.5	23.5	89.7	SE	.7	9.5	Ci.-S.	Cu.-N. S, SE	4.1	●° p.
5	53.84	25.8	27.7	24.1	93.3	NW, SE	.3	10	------------------	N.	9.6	●° a. p.
6	53.97	25.8	29.6	23.5	91	Calm	---------	8.2	Ci.-Cu., Ci.-S.	Cu.-N. SE, SW	------	d° a. p. ⊤°
7	54.08	27.5	32.8	24.1	83.2	SE	.3	8	Ci.	S.-Cu.	------	d° p.
8	54.52	27.7	33.1	23.5	82	NW, SE	.3	7.8	Ci.	Cu.-N. NW, SE	------	Ω a. ⊤° d° p.
9	54.73	26.9	33.8	23.6	85.2	SE	.7	8.5	A.-Cu. W	Cu.-N. SE	4.3	●°a. ⛈² ↙ ⊕ ϟ p.
10	55.35	25	32.8	22.7	91.8	SE	.5	8	A.-Cu. WSW	N.	17.8	⛈ p.
11	55.49	26.7	32.6	22.3	86.6	S	.7	6.5	Ci. SSE	Variable	2.3	● a. ⊕ ϟ p.
12	56.04	25.9	31.6	24.3	91.3	SE	.2	9	------------------	Cu.-N. S	13.2	● a. p. ⊤
13	56.33	26	31.3	23.7	89.8	NW	.3	9.5	------------------	Cu.-N. Variable	8.4	●° a. p.
14	56.64	25.9	31.1	23.5	89.2	Calm	---------	9.5	Ci.-S.	Cu.-N. SE, S	3.3	d a. ● p.
15	55.45	26.5	30.4	23	85.7	SE	.3	9.5	Ci.-S.	Cu.-N. S, SE	1.8	● a. d p.
16	54.60	26.3	29.6	23.7	87	SE	1	9.8	Ci.-S.	Cu.-N. S, SE	2.3	d a. ●° p.
17	55.29	26.9	30.8	23.7	87.5	SE	.5	10	------------------	Cu.-N., N. S	7.6	● a. p.
18	55.55	27.8	32.8	24	83.5	S, NNW	.3	8	Ci.-S.	Cu. S	------	◯² a. p.
19	56.36	27.5	33	23.5	84.7	SE	.8	9.5	Ci.-S.	Cu.-N. N	2.8	◯² a. ⊤ d ϟ p.
20	56.41	25.7	30.4	22.8	87 5	SW	.2	7.5	A.-Cu. N	Variable	------	d a. ⊤ ϟ p.
21	55.70	27.2	32.2	22.2	81.2	NW	.8	9	A.-Cu. WNW	Cu.-N. SW, NW	------	⊤ d° p.
22	55.70	25.6	27.5	23.7	90.7	NW, SE	.7	8.8	------------------	N.	10.9	● a. ⊤ p.
23	54.63	27.2	33.4	22.7	81.2	SE, W	.3	8	A.-Cu.	Cu. SE	6.6	Ω² ≡ a. ⊤ ● p.
24	54.83	27	33.7	23.6	88.2	NW	1.3	7	Ci., Ci.-S.	Cu. SE	61.7	≡ a. ⛈² ↙² p.
25	54.25	27.6	32.8	23.6	84.7	SE	.7	7.2	Variable.	Variable	------	◯ a. ⊤ p.
26	55.36	29[1]	32.7	25.4	81.4[1]	SE	.6[1]	8	Ci.-S.	Variable	------	◯ a. ⊤ p.
27	56.90	28.8	34.4	24.6	80.5	S	.3	4.2	Ci. NE	Variable	------	Ω ≡° a.
28	58.02	27.7	33.9	23.5	80.7	SW	.5	5.5	Ci.-S., Ci.	Cu. NE	------	⛈° p.
29	58.53	27.4	32.5	23	81.8	NW	.5	6.2	Ci.	Variable	------	Ω² ≡ a.
30	58.02	27.9	33.5	24.3	83.2	Calm	---------	5.8	Ci.-Cu., Ci.	Cu. SE	------	Ω a.
31	57.66	28.6	34	24	79.8	Variable	.5	4.2	Ci. SE	Cu. S	------	ϟ Ω² ≡° a. ⊤ p.
Mean	755.41	26.9	31.8	23.5	86	------------	.5	8	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	217.6	

[1] Mean deduced from five observations only.

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	753.88	27.7	33	23.3	82.6	S, N	12.2	6.8	Ci. NE, E	Cu.-N. N	2	◯ a. d ϟ p.
2	53.72	25.8	28	24	93.1	W	15	10	Ci.-S.	N. W, E	58.7	● a. p. ⊤
3	53.67	26.2	29	24	90.2	SW, NNW	10.6	10	Ci.-S. N	S.-Cu. NW	13.5	● a. d p.
4	52.88	25.5	29.6	23.5	92.7	W, S	9.1	10	Ci.-S. SW	S.-Cu. WSW	90.7	● a. p.
5	53.64	25.6	27.7	23.9	91.7	S	8.8	10	------------------	S.-Cu. W	10.2	● p.
6	53.87	26.4	29.8	24	85.2	S	16.6	9.8	A.-Cu. SW	S.-Cu. W	.3	d p.
7	54.35	26.7	29.7	24	84.8	S	11.4	10	------------------	S.-Cu. W	.3	d p.
8	54.58	27.3	31	23.4	86.2	S, SW	7.2	8.2	Ci. NE, E	S.-Cu.	------	ϟ p.
9	54.95	27.2	32.5	24.6	88.8	S, N	10.4?	6.2	A.-Cu. S	S.-Cu. SW	.5	ϟ ⊤ d p.
10	55.38	25.8	31	23.4	88.2	S	10.8?	7.5	A.-Cu. SW, W	S.-Cu.	22.4	⛈ ↙° ⊍ p.
11	55.81	27.4	31.9	23.2	84.7	S, NE	10.5	5	Ci. NE, E	S.-Cu.	1.8	p p.
12	56.27	27.1	31.1	24	87.8	SW	7.2	8.2	Ci.-S. E	Cu.-N. E, NE	.5	⛈° a. p. ⌒
13	56.58	26.2	30	24	92.2	SW, NW	---------	10	Ci.-S. E	Cu.-N. SW, N	29.5	d a. ⛈ p.
14	56.68	26.4	30.9	24	88.5	S	10.7	8.8	Ci. NE	S.-Cu. SW	1.8	⛈° p.
15	55.64	26.3	29	24	87.5	S	11.9	9.5	Ci.-S.	S.-Cu. N, SW	.3	d p.
16	54.56	26.2	28.1	24.5	90.7	S	15.1	10	Ci.-S.	S.-Cu. SW	1.3	d a. p.
17	55.20	26.2	29	24.4	89	S	13.3	10	Ci.-S.	S.-Cu. SW	.5	ɑ a.
18	55.92	26.8	29.9	24.4	89.3	SSE	7.7	10	Ci.-S.	S.-Cu.	------	ϟ p.
19	56.69	27.4	31.1	24	85.7	Variable	7.2	10	Ci. E	Cu.-N. NE	5.3	⛈ p.
20	56.58	26.6	29.5	23.3	88	S, NW	14.6	7.5	Ci.-S., A.-Cu.	S.-Cu. NW	2.5	p a.
21	55.94	26	30.8	23.6	90.1	S, NW	15.4	9.2	Ci.-S.	S.-Cu. NW	1.8	d ↙° p.
22	55.64	25.7	28.5	22.7	89.3	S	9.1?	10	Ci.-S.	S.-Cu. W	12.7	● a.
23	54.68	27.6	33	24	85.7	SSE, NE	8.8	2.8	Ci. W	Cu.-N. W	------	ϟ p.
24	54.86	28.1	32.5	25	84.2	SW, N	8.2	4.2	Ci. E	Cu.-N. W	.5	⛈° p.
25	54.48	27.7	33.1	23.3	86.8	S	9.1	9	Ci. E	S.-Cu. S, W	1	⊤ p ϟ p.
26	55.66	28.6	33.2	25.2	86.2	Variable	8.9	8.5	Ci.-S.	Cu.-N. SW, N	------	⊤ ϟ a. p.
27	57.42	28.4	32.4	25.5	87.2	W, NE	7.8	4.8	Ci. NE	Cu.-N.	------	⊤° ϟ p.
28	58.64	28	31.2	25	87	SW, N	7.3	5.5	Ci.-S. E	Cu.-N. NE	------	ϟ p.
29	59.04	27.5	32.8	23.8	84.2	S, NE	8	4.5	Ci.S., Ci. NE	S.-Cu.; Cu.-N.	------	ϟ p.
30	58.63	27.8	31.8	24	85.5	NE	8.3	3.8	Ci.	Cu.-N. S	------	ϟ p.
31	58.28	28.2	32.1	24.7	84.2	N	8.5	4	Ci. NE	S.-Cu.	------	ϟ ⊤° p.
Mean	755.62	26.9	30.7	24	87.7	------------	10.3	7.9	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	258.1	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	24.1	91	69	8	7	------	Ω ↙° a. ⟨ p.
2	27.8	22.8	92	80	10	10	15	⌈ζ ↙° a. ⌈ζ ● ᴗ
3	31	23.7	90	72	10	10	1.5	● a. ↙ a. p.
4	31.2	24.6	90	74	10	10	------	ϖ p.
5	32.3	24.6	94	66	4	5	------	Ω° a. ϖ p.
6	33.3	25	91	64	7	8	------	⊕ ⟨ p.
7	32.8	24.3	92	70	4	8	1	Ω a. ⊤ ●° ⟨ p.
8	32.2	23.1	96	67	6	7	------	Ω a.
9	32.8	23	94	70	4	8	------	Ω a. d ϖ p.
10	32.5	23.1	91	68	7	7	------	ϖ° p.
11	33.2	22.8	97	61	5	5	------	Ω° a.
12	33.1	22.5	94	62	4	7	------	
13	33	23.8	91	62	4	5	------	Ω ↙° a. ↙° d p.
14	32.7	24.1	87	63	6	7	------	⟨ p.
15	32	23.1	93	75	6	9	------	Ω a. d p.
16	31.6	22.3	96	66	8	7	35.6	Ω ● a. ● ⟨ p.
17	31.3	22.8	97	93	9	10	48.8	Ω a. ● ⌈ζ p.
18	31.3	22.9	97	72	5	7	6.4	Ω a. d ● p.
19	30.5	22.3	97	74	7	9	.8	Ω ● a. ⟨ p.
20	30.3	23	95	94	8	10	30.7	Ω d a. ● a. p.
21	31.3	23.3	96	75	5	8	------	Ω a.
22	29.5	22.9	97	91	9	10	39.6	Ω a. ● d p.
23	30.9	22.4	93	83	9	9	2.5	Ω a. ● p.
24	33.2	22.3	94	67	8	9	------	Ω a. ⟨ p.
25	31.9	22.1	96	79	10	10	20.3	● a. ⟨ p.
26	29.9	22.6	97	74	9	9	------	⟨ a.
27	30.4	22.6	93	80	8	8	6.9	Ω ● a.
28	31.4	22.1	96	91	3	10	15	↙ ● p.
29	29.3	22.8	96	87	9	10	2	● a. d p.
30	32.3	22.3	96	74	5	7	------	Ω a. ⌒ p.
31	31.6	23.1	94	71	7	8	1.3	Ω a. ●° p.
Mean	31.5	23.1	94	74	6.9	8.2	------	
Total	------	------	------	------	------	------	227.4	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	22	96	77	------	------	11.7	≡° ↙° ● a. ⌈ζ p.
2	------	22	96	96	------	------	21.6	⊤° ↙ ● a. ●° p.
3	------	22	98	60	------	------	11.9	Ω ↙ ● a.
4	------	22	97	67	------	------	------	Ω a.
5	------	22	97	65	------	------	------	Ω a.
6	------	22.5	91	78	------	------	------	Ω a.
7	------	21.5	96	70	------	------	------	Ω a.
8	------	21	96	72	------	------	------	Ω ≡° a. ᴗ p.
9	------	21.4	95	72	------	------	------	Ω a. ⊤ p.
10	------	22	96	76	------	------	------	Ω a. ⊤ ᴗ p.
11	------	20.5	95	61	------	------	------	Ω a.
12	------	21.5	96	58	------	------	------	Ω ≡° a.
13	------	21.9	96	67	------	------	3.6	Ω a. p p.
14	------	23	93	64	------	------	------	Ω a. p° p.
15	------	21.7	97	80	------	------	7.6	Ω ● ⊤ a. p° p.
16	------	21.5	96	87	------	------	11.2	Ω ● a. p° ⊤ ⌒ p.
17	------	22	90	62	------	------	.5	Ω ≡° p a. ⊤ p.
18	------	21	94	66	------	------	------	Ω ⊤ a.
19	------	22	96	81	------	------	6.1	Ω a. ● p.
20	------	21.9	96	90	------	------	27.7	Ω ≡° a. ↙° ● p.
21	------	21	95	82	------	------	24.9	Ω p a. ↙° ● p.
22	------	22	97	85	------	------	10.2	Ω ⌒ ↙° ● a. p°
23	------	22	93	73	------	------	11.9	Ω a. ↙ ● p.
24	------	23	94	85	------	------	16.5	↙ ● d p.
25	------	22.8	96	70	------	------	1	d a.
26	------	22	96	76	------	------	3	↙° p a.
27	------	22	96	69	------	------	------	Ω a.
28	------	22.2	96	96	------	------	29.5	Ω a. ↙ ● a. p.
29	------	23	98	80	------	------	------	
30	------	23	97	78	------	------	1.5	Ω a. p p.
31	------	22	96	81	------	------	------	Ω a. p° p.
Mean	------	21.9	95.5	75	------	------	------	
Total	------	------	------	------	------	------	200.4	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.9	23.4	89	75	6	10	0.8	● p.
2	27	22.1	88	87	2	10	1.5	● a.
3	28.3	22.4	88	69	10	10	3.6	● a.
4	30.8	22.6	90	73	3	9	------	
5	30.8	23.9	74	70	3	2	------	
6	30.3	24	83	78	6	8	------	
7	30.1	22.2	82	80	9	1	------	
8	30.5	23.9	86	81	4	4	------	
9	30.5	23	88	73	4	2	------	
10	31	24	88	75	5	3	------	
11	30.9	22.1	88	73	3	4	------	
12	31.5	22.5	88	73	4	2	------	
13	31.1	23	89	73	4	1	------	
14	31.6	24	86	69	3	5	------	
15	30.5	23.2	87	69	4	3	------	
16	30.8	23	88	73	5	5	------	
17	30.1	23	89	66	10	5	1.5	● a.
18	29.5	22.4	90	73	2	5	------	
19	30.6	23	87	73	6	10	------	
20	28.6	23	87	72	4	9	------	d p.
21	28.4	23.6	84	77	7	9	------	
22	28	23.1	84	79	7	9	1.8	● p.
23	29.9	23	89	72	7	5	------	
24	29.3	21.3	94	85	9	9	15.2	● p.
25	28.6	20.6	80	78	10	8	.5	●° a.
26	29	23	90	79	5	9	------	
27	29.7	23	85	80	6	9	------	
28	28.7	23	84	85	6	9	.3	●° p.
29	29.3	22.8	85	78	3	7	------	
30	30.5	23.3	84	76	2	3	------	
31	30.1	23.6	87	76	4	5	------	
Mean	29.8	22.9	86.5	75.5	5.3	6.1	------	
Total	------	------	------	------	------	------	25.2	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	21.1	98	67	6	5	------	⟨ p.
2	33.1	22.1	98	65	5	7	------	⊤ p.
3	32.5	21.5	98	71	6	5	------	d p.
4	32.8	21	99	71	7	7	------	
5	32.2	22	98	65	6	7	------	
6	32.2	22.7	97	72	7	5	------	
7	32.5	22	98	69	6	5	------	
8	33.1	22.3	95	84	6	9	27.7	● p.
9	33	22.6	97	65	6	6	------	⌈ζ p.
10	32.6	22.2	96	64	7	5	------	
11	32.8	23	95	62	6	5	------	⊤ p.
12	32.4	22	96	72	7	5	------	
13	33.2	22.5	97	69	7	5	32.3	● p.
14	33.7	23.1	98	69	6	7	------	
15	32.1	22.2	94	68	5	6	------	
16	32.1	22.5	98	65	6	7	------	
17	33.3	22.3	95	77	6	5	------	
18	33.5	22.6	98	65	6	6	------	
19	33.4	22.7	97	72	5	7	------	
20	33	22.2	94	68	5	6	21.8	● p.
21	32.7	22.4	96	66	7	7	------	
22	33.1	22.6	96	62	6	5	------	
23	32.9	22.5	92	67	5	7	------	
24	32.7	22.2	97	75	8	8	45.5	● p.
25	31.9	23.3	97	83	6	9	27.9	● p.
26	32	22.1	97	70	7	6	------	
27	33.7	22.6	94	65	5	8	------	
28	33.2	22.5	94	62	7	7	------	
29	33.6	23.1	93	66	5	7	------	
30	32.3	23.1	92	66	6	7	------	
31	33.3	22.2	94	68	6	5	------	
Mean	32.8	22.4	96.1	68.7	6.1	6.3	------	
Total	------	------	------	------	------	------	155.2	

METEOROLOGICAL DATA, ETC.—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	------	------	------	------	------	------	
2	------	------	------	------	------	------	------	
3	------	------	------	------	------	------	------	
4	------	------	------	------	------	------	------	
5	------	------	------	------	------	------	------	
6	------	------	------	------	------	------	------	
7	------	------	------	------	------	------	------	
8	------	------	------	------	------	------	------	
9	------	------	------	------	------	------	------	
10	------	------	------	------	------	------	------	
11	30.4	21.2	91	66	3	5	------	Ω a. ◯ ψ p.
12	32.6	22.1	91	63	4	3	------	Ω a. ↙^{0} p.
13	31.8	23.1	92	65	2	3	------	Ω a. ⛈^{0} p.
14	32.6	23.3	93	68	6	4	------	◯ a. ⛈^{0} p.
15	31.9	23.3	94	65	3	4	------	◯ a. ↙^{0} ζ p.
16	32.1	23.5	95	63	3	5	68.6	◯^{2} ⛈^{2} ●^{2} p.
17	31.7	23.1	96	67	9	4	------	d a. ⊤ p.
18	30.2	23.6	92	70	8	7	------	⊤ a. ⛈^{0} d p.
19	31 4	22.9	96	77	3	5	------	Ω a. ↙^{0} p.
20	30.2	23.1	93	75	7	8	5.3	● p.
21	30.2	21.7	93	70	5	4	2.5	●^{0}≡a. ◯^{2} ↙^{0}p.
22	30.4	22.7	95	74	10	8	71.1	d a. ⛈^{0} ↙ ●^{2} p.
23	31.6	22.2	97	63	3	4	------	
24	30.6	22.9	96	70	10	4	66	↙ ● a. ◯^{2} p.
25	27.5	22.4	95	94	10	10	80	● a. p. ↙^{0} p.
26	30.6	21.6	94	74	5	5	1.3	◯ a. p p.
27	31.4	22.9	93	68	5	6	1.3	⛈ p.
28	32.2	22.8	95	73	6	8	2	● p.
29	32.4	22.7	94	62	8	3	8.9	●a. ◯^{2} ↙^{0} ⛈p.
30	32.6	22.3	94	65	1	3	5.1	∞ a. ⛈ p.
31	31.8	23.6	91	76	9	8	------	◯ ζ p.
Mean	31.2	22.7	93.8	69.9	5.7	5.3	------	
Total	------	------	------	------	------	------	312.1	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.3	------	95	83	10	10	14.7	● a. ζ p.
2	31.5	------	97	92	8	9	.8	p ⊤ d p.
3	34	------	93	58	8	9	------	
4	34.4	------	95	55	6	9	------	↙^{0} ɸ p.
5	34.2	------	90	61	7	9	2.5	d ● p.
6	34.4	------	91	61	6	5	1	●^{0} ⊤ p.
7	34.5	------	95	54	4	4	------	
8	34	------	93	56	8	5	------	ɸ ζ a.
9	33.7	------	99	60	1	1	------	ζ ψ a.
10	33.6	------	95	57	5	8	------	ψ a. ⊕ p.
11	34.9	------	81	64	8	7	------	ψ a.
12	34.7	------	92	53	6	3	------	⛈ p.
13	34.6	------	94	66	2	6	------	p^{0} ζ p.
14	35.2	------	93	55	9	4	------	∞ ζ^{2} p.
15	33.5	------	93	68	4	9	------	⊤ ζ^{0} p.
16	33	------	95	62	6	9	11.9	ζ^{2} ● p.
17	32.5	------	99	71	7	8	------	ζ^{0} p.
18	32.7	------	96	59	2	2	1.8	●^{0} p.
19	32.3	------	96	74	4	9	------	ζ^{0} p.
20	32.8	------	95	67	9	9	1.8	●^{0} ⊤^{0} ζ^{0} p.
21	33.7	------	97	64	3	7	54.9	⛈^{2} ●^{2} p.
22	30.5	------	99	71	8	9	46.7	⊤^{0} ●^{2} d p.
23	31.7	------	99	70	8	9	1.3	⛈ a. ⊕ ●^{0} p.
24	32.7	------	99	69	7	9	2	●^{0} ζ p.
25	31.8	------	97	92	9	10	9.7	● d p.
26	32.1	------	100	73	8	7	7.9	⛈ d ● p.
27	33.9	------	97	65	9	6	3.3	●^{0} p.
28	29.4	------	99	96	10	9	16.3	● a. p.
29	32.2	------	100	81	10	9	21.3	d^{0} ●^{2} p.
30	33.3	------	99	72	2	7	15.2	⛈ ●^{2} p.
31	33	------	97	72	2	6	16	◠ ●^{2} ⊤^{0} ζ^{2} p.
Mean	33.2	------	95.5	67.8	6.3	7.2	------	
Total	------	------	------	------	------	------	229.1	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	22.5	94	80	10	10	3.0	↙ ● ⊤ a. ◯ ζ p.
2	------	22.7	88	70	10	9	1.8	↙ ●^{0} a. ● ψ p.
3	32.7	22.4	94	91	10	10	1.3	● a. ζ p.
4	33.9	22.8	83	72	9	9	------	◯ ɸ p.
5	34.1	22.9	93	------	2	6	------	ψ p.
6	35.2	23	96	59	4	2	------	ψ p.
7	34.9	23.2	95	------	3	3	------	ψ p.
8	34.8	22.6	92	62	4	3	------	Ω a. ψ p.
9	34.5	22.3	96	59	4	4	------	Ω a. ψ ζ p.
10	34.5	21.3	96	65	6	4	------	Ω a. ψ p.
11	33.5	22.2	90	62	5	3	------	Ω a. ψ p.
12	34.2	22.4	95	69	3	6	------	Ω a. ◯ d^{0} p.
13	35.6	22.9	95	------	4	7	------	Ω a. ⊤^{0} p.
14	35.2	23.1	93	63	5	7	------	
15	35.3	22.9	95	59	4	7	------	ζ p.
16	35.3	23	96	------	5	7	------	ζ p.
17	34.9	23.1	93	58	10	5	------	
18	35.1	23	95	60	4	3	------	Ω a.
19	33.3	23.8	93	70	4	10	------	Ω a. ◯ ζ ⊤ p.
20	35.1	21.9	91	62	10	8	------	⛈ p.
21	33.9	23.2	92	65	10	7	------	◯ d ζ p.
22	34	23.5	95	66	10	8	1.8	● a. ↙^{0} p.
23	34.6	22.5	96	60	4	7	1	Ω a. ● p.
24	34.1	22.3	97	61	5	6	------	
25	33.2	23.2	88	63	9	8	------	↙^{0} a. ζ p.
26	34.8	23.8	85	61	10	5	------	ζ p.
27	33.9	23.6	93	60	6	5	------	ζ p.
28	31.8	22.8	87	90	7	10	------	⛈ p.
29	34	22.1	97	------	10	7	------	≡ a.
30	34.7	23	96	56	8	5	------	⊤^{0} ζ p.
31	34.5	22.6	96	85	4	10	2.3	● p.
Mean	34.2	22.8	93.1	66.5	6.4	6.5	------	
Total	------	------	------	------	------	------	11.2	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.8	23.7	96	87	10	10	3.8	↙ ● a. d^{0} p.
2	30.5	23.1	95	82	9	9	.3	Ω^{0} ↙^{0} a. ●^{0} p.
3	32.5	23.6	95	62	8	9	------	Ω ≡ a.
4	32.5	24	91	71	9	9	------	Ω a.
5	33.2	24,2	91	58	7	7	------	
6	32.1	22.8	92	56	3	6	------	⛈ p.
7	32.5	23	91	51	4	6	------	↙^{0} a. p. ⊤ ζ p.
8	32.3	22.4	90	53	9	6	------	↙^{0} a. p. ζ ψ p.
9	31.5	23.1	92	60	1	6	------	⊕ ↙^{0} p.
10	30.8	23.2	96	61	7	10	------	≡ a. ψ ζ p.
11	32	22.9	91	56	9	8	------	
12	32.1	22.8	87	53	4	2	------	Ω ≡^{0} a. ζ p.
13	32.8	24.2	89	64	1	6	------	⊤ ζ p.
14	34.3	23.3	92	60	7	7	------	Ω^{0} ≡^{0} a. ⛈ p.
15	32.8	23.6	87	70	6	9	------	⊤ p.
16	32	24.1	88	54	8	8	1.5	Ω^{0}a. ◯ ⛈ ●p.
17	31.1	22.7	93	64	7	5	------	Ω a.
18	32.3	22.7	97	60	2	5	8.9	Ω ≡^{0} a. ⛈ ● p.
19	30.3	23	97	74	7	10	------	⊤ a. p. ζ p.
20	31.1	22.9	91	82	10	9	2.3	Ω^{0} a. ●^{0} p.
21	31.7	21.5	96	68	7	7	------	Ω a. ⊤ ↙^{0} p.
22	31.3	21.7	91	68	7	8	.8	⛈ ↙^{0} ●^{0} p.
23	30.5	22.9	97	64	9	6	------	Ω^{0} ⊕ a. ↙ ⊤ p.
24	31.3	23	92	68	8	7	------	Ω^{0} a. ↙^{0} p.
25	31.5	22.2	91	66	6	9	7.9	↙^{0} ⛈ ● p.
26	30	23	95	67	8	9	1	Ω a. ●^{0} p.
27	30.3	22.8	93	68	10	9	------	p^{0} ↙^{0} a.
28	27.3	23	97	93	8	10	38.9	⛈ ↙ ●^{2}a. ● ⊤
29	30	23.7	94	75	9	9	------	⊤ d^{0} p.
30	32.3	23.7	92	64	7	5	------	Ω a. ↙^{0} p.
31	32.8	22.8	95	63	7	5	------	↙^{0} ⛈ p.
Mean	31.5	23.1	92.7	65.9	6.9	7.5	------	
Total	------	------	------	------	------	------	65.4	

METEOROLOGICAL DATA, ETC.—Continued.

YAP (Western Carolines.)

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.2	22.5	92	73	6	4	5.3	
2	33.1	22.5	96	80	7	6	------	
3	32	24	86	90	5	6	4.6	
4	27.2	21.7	94	86	10	9	69.8	
5	30.7	21.7	96	73	9	7	19	
6	31.6	21.6	94	70	6	4	15.7	
7	31.7	21.7	95	78	7	7	------	
8	31	21.4	92	87	10	10	31.7	
9	27	21.8	88	88	10	10	47.8	
10	32.7	21.7	97	79	6	5	2.5	
11	33.1	22.5	96	78	7	10	2.3	
12	32.4	22.5	93	72	8	7	------	
13	33.2	23.4	96	81	9	6	29.2	
14	31.2	22.9	94	73	8	9	------	
15	32.8	22.8	92	79	8	9	13.5	
16	30.9	22.6	91	73	8	6	3.3	
17	32.1	22.5	84	68	10	8	11.4	
18	29.6	22.4	96	95	8	10	122.4	
19	31.5	21.9	98	71	10	6	17.3	
20	32.8	22.9	88	76	5	5	------	
21	32.7	24	92	82	3	5	4.3	
22	32.7	23.9	97	84	8	7	.8	
23	34.5	22.8	88	68	8	8	3	
24	30.1	23.3	89	88	8	7	16.5	
25	30.2	22.5	89	91	5	10	27.9	
26	29	22.4	95	85	10	10	.5	
27	33.3	22.3	92	70	6	7	2.5	
28	34	23.2	85	70	6	5	5.6	
29	34	23	90	71	5	7	------	
30	34	24	88	77	6	6	14	
31	33.2	23.6	93	88	8	7	61.2	
Mean	31.9	22.6	92.1	78.8	7.4	7.2	------	
Total	------	------	------	------	------	------	532.1	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.1	23.5	93	81	10	10	------	d a. p. ≡ T ϟ p.
2	28.6	24.3	81	78	10	10	------	ϟ d p.
3	29.5	23.9	85	82	10	10	------	
4	29.5	23.5	91	80	10	10	------	ϟ T° p.
5	29.7	26	94	80	10	9	------	⌣ ϖ ϟ p.
6	31	23.5	83	84	8	10	------	⌣ ϖ ϟ p.
7	30.4	23	94	81	10	8	------	d ≡ ↙° a.
8	30.8	23.1	93	80	8	9	------	ϖ ⌣ ϟ p.
9	30.6	23.4	91	78	8	9	------	○ a.
10	32	24.3	93	80	10	10	------	ϟ ⌣ ϖ p.
11	31.9	24.5	93	76	10	10	------	d a.
12	32.6	24.2	92	81	10	8	------	⌣ ⌈ϟ d p.
13	30	23.8	93	77	6	7	------	ϟ ⌣ ϖ p.
14	32.5	25	87	74	10	10	------	ϟ ⌣ ϖ p.
15	31.5	24.2	94	78	10	9	------	ϖ a. p. ϟ ⌣ d p.
16	31.5	25.3	92	79	10	10	------	ϟ ⌣ p.
17	32	24.5	91	76	10	10	------	●° a. T p.
18	32	23.7	88	78	10	8	------	
19	32.4	24.5	89	84	10	10	26.7	⌈ϟ² ↙ ●² p.
20	31	22.8	91	85	10	10	------	d T a. ●° T ϟ²
21	29.8	24	88	80	10	9	------	d ≡² a.
22	30.2	24	92	81	10	10	------	
23	29.5	23.9	87	79	10	10	------	d a. p. ↙° ⌈ϟ p.
24	31	24.4	90	78	10	9	13.7	ϟ ↙ ● p.
25	28.8	26.6	86	77	10	10	------	ϟ p.
26	29.6	24.4	92	78	10	10	------	ϟ p.
27	30.9	23.5	83	63	10	9	------	ϟ² p.
28	32	24.5	92	76	8	10	20.6	⌒ p a. ● ⌈ϟ p.
29	30.5	23.3	95	90	9	10	18	d a. p p.
30	30.6	23	87	77	10	10	------	ϟ° p.
31	31	24.6	92	75	10	7	------	d ⌒ a. ∞ ⌈ϟ p.
Mean	30.7	24.1	90.1	78.9	9.6	9.4	------	
Total	------	------	------	------	------	------	79	

BACOLOD.

[ϕ=10° 41′ N; λ=122° 56′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.9	22.7	95	94	10	10	37.8	↙ ● ⌈ϟ p.
2	27.8	22.5	96	87	10	9	31.5	↙ ● a. p. ⌈ϟ° p.
3	29.3	22.6	91	77	10	9	16.3	↙ ● a.
4	30.1	23.3	87	78	8	8	------	
5	30.5	24.1	92	76	7	8	4.8	p a. ↙° p.
6	30.4	23.7	92	77	8	7	2	p a. ϟ p.
7	30.7	23.1	91	73	6	7	------	⌣ p.
8	30.6	23.9	92	78	7	8	------	≡° a. ϖ p.
9	31.7	23.3	95	72	7	4	------	≡ a. ⌣ p.
10	30.6	23.5	91	76	5	7	------	⌣ p.
11	30.9	23.7	90	72	8	7	------	⌈ϟ° ⌣ p.
12	30.6	23.3	92	72	10	8	6.6	p a. ϟ p.
13	30.3	23.3	96	77	7	6	11.7	↙ ● a.
14	30.2	23.5	91	77	8	7	------	ϟ p.
15	30.7	24	93	72	7	8	------	ϟ p.
16	30.6	23.4	95	75	7	5	16.5	↙ ● a.
17	31.4	23.3	93	75	6	7	------	⌈ϟ p.
18	31.6	22.8	90	80	5	6	------	ϖ a. ⌈ϟ d p.
19	30.8	23.6	93	76	8	9	.3	○ a. ϟ p.
20	30.7	22.8	95	72	10	8	3.6	⌣ a. ⌈ϟ ↙ ● p.
21	30.2	22.8	97	77	8	7	------	ϟ p.
22	30.5	23.5	96	77	8	7	------	d° a.
23	29.7	23.1	93	77	9	6	31.7	↙ ●² a. ϟ p.
24	30.7	23.5	94	75	7	6	------	Ω a. ϟ p.
25	29	23.7	94	73	8	9	1	d a. p.
26	29.5	23	91	93	9	10	12.2	d° a. p. ●° p.
27	30.5	22.6	95	77	10	7	------	
28	32	23.7	95	80	6	8	17.8	⌈ϟ ● ↙° p.
29	30.6	22.4	97	77	6	7	------	T° p.
30	31.3	23.1	96	73	4	6	------	ϟ p.
31	32	23	95	73	4	6	10.7	⌒ ↙ ● ϟ p.
Mean	30.4	23.2	93.3	77	7.5	7.3	------	
Total	------	------	------	------	------	------	204.5	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	23.9	92	89	10	10	25.9	↙ ● a. ⌈ϟ p.
2	28.9	23.4	93	87	10	10	28.2	↙ ● a. T ϟ p.
3	29.6	22.4	92	81	10	10	8.9	● a. ↙° a. p.
4	30.4	27	84	77	10	10	.5	●° a. p. ⊕ p.
5	30.5	26.5	86	76	10	10	6.1	●° a. p.
6	31.5	26.3	91	74	10	10	.3	d a. ⊕ ⌣ p.
7	31	25.2	92	72	10	8	------	
8	32	24.5	88	72	10	10	------	p a.
9	31.9	24	92	69	10	4	------	
10	32	24	92	70	8	10	------	
11	30.9	22.9	87	73	10	10	15.7	d ⌈ϟ a. ⌈ϟ ● p.
12	31	22.8	96	72	10	7	31.5	● ⌈ϟ p.
13	30.8	23.3	96	82	10	10	18	↙ ● a.
14	30.5	23.7	95	77	10	10	------	
15	30.1	24	95	77	10	10	27.4	● a. p. ϟ p.
16	30.2	23.6	93	79	10	10	20.6	● a. p.
17	31	23.1	91	75	10	10	------	⊕ p.
18	31	23.6	91	77	10	10	------	d° p.
19	30.1	23.4	91	76	10	10	1.8	ϟ d ● p.
20	31	23	92	76	10	10	49.3	● a. p. ⌈ϟ p.
21	30	22.6	96	85	7	10	57.1	● a. p.
22	29.6	23.5	97	84	10	10	13.7	● a. p.
23	28	23.3	92	82	10	10	3.3	● d a.
24	30.6	23	96	77	10	6	52.6	● a. p.
25	29.6	23.5	96	78	10	10	49	⌒ a. ● a. p.
26	25.7	22.3	96	96	10	10	188.5	●² a. p.
27	30.1	22.5	96	71	10	10	------	
28	31	23	90	74	1	8	1.3	●° ϟ p.
29	31	23.4	91	88	7	10	30.2	⌈ϟ ● p.
30	31	22.7	91	78	5	10	18.8	● d ⌈ϟ p.
31	31	22.2	91	75	2	7	------	ϟ p.
Mean	30	23.6	92.3	78	9	9.4	------	
Total	------	------	------	------	------	------	648.7	

METEOROLOGICAL DATA, ETC.—Continued.

TUBURAN.

[ϕ=10° 45′ N; λ=123° 50′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	24.4	83	71	10	9	------	d ↙ a. d ↯° p.
2	29.4	23.7	78	70	10	10	------	d ↙ a. ◯² ↯² p.
3	30.5	24.4	83	63	10	10	------	◯² p.
4	32.7	23.7	72	54	10	10	------	↙° a. ◯² a. p.
5	32.8	24.6	76	59	10	10	------	↙ ϖ² p.
6	33.6	23.4	84	50	10	8	------	◯° a. ∪² ↯ p.
7	33.9	22.5	84	50	9	9	------	◯° ↯² ϖ² p.
8	33.8	22.6	79	51	8	6	------	ϖ² p.
9	33.5	22.6	87	56	5	6	------	≡² ◯° a. ϖ² ∪² p.
10	33.4	22.9	89	53	8	9	------	≡² ◯ a. ◯² ∪² p.
11	33.1	23.4	87	55	10	8	------	↯.² p.
12	33.9	25.3	79	50	10	8	------	↯² ϖ° p.
13	34.7	24.8	82	45	5	8	------	◯° a. ⊤° ↯² ∪² p.
14	34.1	24.2	85	52	10	9	------	◯° p.
15	34.2	24	86	54	9	9	------	⌈K² d p.
16	33.8	23.3	89	59	10	7	------	↯² p.
17	32.8	23.4	86	59	10	9	------	⊤ ◯° ↯² p.
18	33	22.8	88	62	9	9	7.6	⌈K² ● p.
19	32	23.5	94	64	10	8	------	◯° d ↯² p.
20	32.2	24.2	92	65	10	10	------	⌈K² d p.
21	32.8	23.2	94	61	9	7	------	↯² p.
22	31.8	24.6	88	63	10	9	------	◯² ↯² p.
23	32.9	24.6	83	58	10	8	------	↙° ◯° ↯² p.
24	33.8	24.5	86	56	9	6	------	◯² a. ↙° ⌒ ↯² p.
25	33.4	23.9	89	66	8	9	------	↙ d a. p. ⌈K² p.
26	32.9	23.9	89	57	10	8	6.6	◯² a. ↙° ● ↯² p.
27	31.6	22.3	91	66	10	9	------	◯² a. p. ↯² p.
28	32.1	23.4	94	65	4	9	12.2	⊤ d a. ◯° ● ⌈K²
29	31	23	95	76	9	9	------	◯² d ↯² p.
30	30.6	22.7	94	72	5	8	------	↯² p.
31	31.8	23.4	92	69	8	7	------	d a. ⌒ ↯² p.
Mean	32.6	23.7	86.4	59.7	8.9	8.4	------	
Total	------	------	------	------	------	------	26.4	

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.7	22.6	85	90	10	10	31.5	⊤ ↙ ● p.
2	29.6	22.5	87	83	10	8	25.4	↙ ● a. p.
3	29.4	22	84	78	10	9	------	↙° a. p.
4	30	25.4	83	92	6	10	13.2	↙° ● p.
5	30.2	24.4	81	77	8	8	.8	
6	30.7	25.2	85	74	9	7	------	
7	31.4	26.2	86	74	6	5	3.6	
8	31.2	22.7	88	80	4	7	------	
9	31.7	24.2	84	73	3	1	------	
10	31.4	25.6	84	74	5	7	------	
11	31.8	23.2	84	76	7	3	24.9	↯ ● p.
12	30.7	22.3	92	79	9	4	18.3	d a ● p.
13	29.2	23.2	93	84	10	9	10.9	● p.
14	30.3	23.5	86	79	9	5	------	⊤ p.
15	30.3	25	84	81	7	7	------	d a.
16	30.8	25.2	90	79	9	5	------	d a.
17	31.2	23.2	89	76	6	5	------	
18	31.8	23.5	93	75	6	6	------	
19	30.8	25.3	88	77	9	7	1.8	● a.
20	31.4	24.9	84	73	8	6	3.8	↯ p.
21	31.3	22.8	92	81	4	3	2.5	●° p.
22	30.7	24.4	83	77	9	7	5.3	
23	30	24.7	89	81	9	9	21.3	⌒ d a. ● p.
24	30.7	23	92	78	8	6	3.6	d a. ● p.
25	29.4	24	88	74	9	9	31.7	● p.
26	28.3	22.5	91	86	10	9	9.9	● a.
27	30.5	22.5	94	73	9	6	.3	d a.
28	31.8	23.4	90	73	1	3	1	
29	31.6	24	86	74	2	2	1	
30	31.8	23.4	94	91	2	9	8.4	● p.
31	31.5	23.7	88	76	1	4	2	d a.
Mean	30.7	23.8	87.6	78.6	6.9	6.3	------	
Total	------	------	------	------	------	------	221.2	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	23.4	97	73	10	10	3.3	●° a. ⌈K p.
2	30.4	23.1	96	68	10	10	.5	≡ a. ●° ↯ p.
3	30.3	22.1	96	71	10	9	------	≡ a. ↯ p.
4	32	21.5	98	62	7	6	------	Ω ≡ ◯° a. ↙ p.
5	33.1	21.6	95	70	2	9	1	Ω ≡ ◯ a. ⌈K ●°
6	33.8	22.7	95	64	8	8	------	Ω ≡ ◯ a. ∪ p.
7	33.3	22.6	95	63	2	6	------	Ω ≡ ◯° a. ∪ ↯
8	34	22.5	95	58	5	8	------	Ω a. ◯ ↯ p.
9	34.1	22.3	93	55	4	9	------	Ω ◯° a. ∪ ↯ p.
10	32.3	22	94	73	10	10	------	Ω ◯ a. ⊤ p.
11	33.7	23.1	97	65	10	9	1.5	Ω a. ⊤ ●° ↯ p.
12	33.9	22.8	94	59	10	8	------	≡ a. ↙ p.
13	33.1	22.8	95	72	6	8	------	Ω a. ∪ p.
14	34	23,5	96	59	9	6	------	Ω a. ↯ p.
15	32.7	23.2	93	71	8	7	------	Ω a. ⌈K p.
16	33.6	22.6	95	74	6	9	------	Ω ◯ a. ⌈K p.
17	32.4	22.9	94	70	8	7	.3	⌈K ●° a. ⊤ p.
18	33.1	22.7	93	69	6	8	------	Ω ◯ a. ⌈K p.
19	33	23.8	92	65	10	10	------	Ω ◯° a. ⌈K p.
20	30.3	23.7	83	70	10	8	------	↙ a.
21	33.6	23.5	93	62	4	9	------	Ω a. ⊤ p.
22	34	24	90	60	10	8	------	Ω ◯ a. ⊤ p.
23	33.8	23.5	94	60	10	10	------	Ω ◯² a. ⊤ p.
24	32.9	24	95	63	7	9	6.4	≡ a. ⌈K ● p.
25	33	23.8	94	59	5	8	5.8	Ω ≡ a. ⌈K ● p.
26	32.1	22.4	93	76	9	7	36.1	Ω ≡ a. ⌈K ● p.
27	32.4	22.3	93	72	6	10	5.3	Ω ≡ a. ⌈K ● p.
28	32.3	22.3	96	74	3	8	------	Ω ≡ a. ↯ p.
29	32.7	22.7	96	68	6	7	------	Ω a. ↯ p.
30	32.5	22.1	96	71	5	9	------	Ω a. ↯ p.
31	32.6	22.9	95	74	6	8	0.8	Ω a. ●° ⌈K p.
Mean	32.7	22.9	94.2	66.8	7.2	8.3	------	
Total	------	------	------	------	------	------	61	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.2	25	88	86	10	10	21.1	↙° ● a. p.
2	28.7	23.8	92	79	10	10	35.3	● a. ↙° a. p.
3	29.6	23.8	87	74	10	9	12.2	↙° ● a. p.
4	31.1	24.8	84	71	6	5	10.4	⌒ a. ↙° ⌈K ● p.
5	31.2	24.2	81	66	10	9	------	↙° a. p. ∪ p.
6	30.1	25.2	81	71	10	10	------	↙° a. p. ∪ p.
7	31.2	26.2	86	70	10	4	1.3	↙° a. p. ● ⌈K p.
8	32	25.3	77	65	3	5	------	↙° a. p.
9	32.2	26.2	83	69	7	3	------	↯ p.
10	31.6	26.5	80	66	4	6	------	↙° p.
11	31.5	26	87	66	10	8	.5	↙° a. p. p p.
12	31.6	25.3	79	71	9	7	------	↙° a. p.
13	29.8	25.4	82	78	10	10	20.6	↙° ● a. p.
14	30.4	24.2	88	79	10	10	16.5	↙° a. p. ● p.
15	31.7	24	89	69	10	7	.8	●° a. ↙° a.p.
16	31.5	25.5	87	67	8	7	------	↙° a. p. ↯ p.
17	32	26.1	87	63	9	6	------	↙° a. ↯ p.
18	31.8	24.8	90	69	6	8	------	
19	32.2	25	96	67	10	7	------	
20	31.4	24.7	91	67	10	10	------	⊤° a. ↯ p.
21	31	25.5	86	72	4	6	------	↙° p.
22	31	26.4	83	73	10	10	------	↙° a. p.
23	30.6	25.6	84	74	10	8	4.1	↙° a. p. ↯ p p.
24	30.1	25	87	73	5	6	------	↙° a. p. ◯ p.
25	31.5	25.5	92	67	6	6	------	↙° ↯ p.
26	30.6	25.2	88	69	9	8	2.3	↙° ● a. p.
27	32.4	25.8	83	72	10	8	------	
28	32	24.3	93	76	4	8	------	↯ p.
29	31.4	24.1	96	68	6	6	------	p p.
30	32	24	97	70	5	5	10.7	● a. p ⌈K p.
31	31.3	24.5	96	72	6	7	------	↯ p.
Mean	31.2	25.1	87.1	70.9	8	7.4	------	
Total	------	------	------	------	------	------	135.8	

METEOROLOGICAL DATA, ETC.—Continued.

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	23.6	95	81	7	8	1.3	
2	29.4	24.3	90	78	7	10	8.9	● ↙ p.
3	30.5	22.9	94	74	9	7	------	
4	31.7	24.7	86	72	5	6	------	
5	31.2	24.7	87	69	4	7	------	
6	32.1	25.7	92	71	8	5	------	
7	32.4	24.6	89	69	3	6	------	
8	32.6	24.7	88	70	5	7	------	
9	32.8	24.4	93	69	6	5	------	
10	31.4	24.4	96	68	8	9	------	
11	31.1	25.1	90	72	8	7	8.1	● ↙ p.
12	30.7	24.7	93	72	10	8	1.3	● a.
13	31.6	23.6	96	75	4	8	------	
14	33.1	24.7	93	78	10	9	1.3	● a.
15	31.5	23.8	89	89	8	10	2.8	● p.
16	32.4	23.9	90	78	3	6	------	
17	31.9	23.7	91	78	4	9	------	
18	31.6	23.7	95	74	8	7	------	
19	31.7	23.9	96	73	6	9	5.1	● ↙ p.
20	29.3	23.6	94	82	8	8	2	● a. p. ⌈ϟ p.
21	32.6	24.4	88	63	3	6	------	
22	31.6	24.6	88	80	6	9	10.2	●² a.
23	32.4	24.5	88	71	8	9	.3	●° p.
24	32.8	24.4	93	69	7	5	------	
25	31.8	24.4	96	95	4	10	1.8	● p.
26	30.9	24.1	89	96	8	9	19	●² p.
27	30.5	23.6	98	74	9	5	------	
28	30.9	23.5	97	84	5	8	17.8	● p.
29	30.7	23.1	98	77	5	6	.5	●° a.
30	30.7	23.2	88	75	3	4	------	
31	31.1	24.8	91	71	7	8	------	
Mean	31.4	24.2	92	75.7	6.3	7.4	------	
Total	------	------	------	------	------	------	80.4	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10	0–10.	mm.	
1	31	23.4	90	75	10	10	------	d p.
2	31.5	23.9	87	71	10	10	17.8	↙ ● p.
3	31.1	23	91	71	8	10	------	d p.
4	33.5	24.9	87	64	7	6	------	⌈ϟ p.
5	33.6	24	88	63	10	10	------	ϟ p.
6	33.5	24	89	63	10	8	------	ϟ p.
7	34.5	24.2	89	66	6	8	------	ϟ p.
8	33.9	24.5	87	66	7	9	------	ϟ p.
9	34	23.8	91	62	6	10	------	
10	33.4	24	85	66	8	10	------	ϟ p.
11	34.4	24.3	89	61	10	10	16.5	● ⌈ϟ p.
12	33.5	23.1	95	69	10	10	2	d a. ● p.
13	34.5	24.4	83	75	6	10	12.7	● p.
14	32.8	23.3	96	67	10	10	1.3	p ⌈ϟ p.
15	34.2	23.7	94	68	10	10	------	
16	35	24.5	89	60	5	8	------	
17	35.2	23	97	55	6	8	------	
18	34	22	97	68	8	10	------	
19	36	23.5	93	68	10	10	10.2	⌈ϟ ● p.
20	33	22.8	94	64	10	10	------	⌈ϟ d p.
21	34	24	90	66	5	8	2.5	↙ ● ∩ p.
22	33.7	24	88	62	8	8	------	ϟ p.
23	33.8	24.1	92	63	10	7	------	ϟ p.
24	34.5	24.2	89	58	6	8	------	
25	33.6	24	97	66	5	8	------	d a.
26	33.6	24	96	72	9	10	------	d p.
27	32.4	22.9	95	66	10	10	------	
28	35.1	23	98	60	6	8	5.6	⌈ϟ ● p.
29	34.5	23.2	98	58	8	4	42.7	↙ ● ϟ p.
30	33.5	22.7	97	62	7	8	------	d ϟ p.
31	34	23.7	97	61	9	6	------	
Mean	33.7	23.7	91.9	65	8.1	8.8	------	
Total	------	------	------	------	------	------	111.3	

SUMAY, GUAM (Ladrones Islands).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.9	22.7	94	74	10	7	47.1	∩ ϟ ● p.
2	29.4	23.3	95	83	8	10	.1	
3	28.5	23.2	94	92	3	6	8	● p.
4	28.8	23.8	90	80	6	8	.5	● a.
5	28.2	23.6	93	93	7	7	15.6	● a. p. ѱ p.
6	28.5	23.6	93	85	1	5	1.5	● a. ѱ p.
7	28.4	24.2	93	82	7	8	26.8	ѱ p.
8	29.7	23.3	95	75	8	8	.5	ѱ p.
9	28.4	24.2	97	78	8	9	1.3	●° p.
10	29.8	24.2	90	77	6	8	.5	
11	28.3	24.5	93	93	7	8	17.8	● a. p.
12	28.9	22.9	95	83	1	9	.3	●° p.
13	29.1	23.8	84	81	2	6	.8	
14	30.2	24	95	77	1	6	21.1	Ω² a. ● p.
15	28	23.5	95	90	10	10	25	●° a. p.
16	28.3	23.4	97	84	7	8	33.2	d ● a. ●² p.
17	29.6	23.9	92	73	8	7	3.9	
18	28.9	24.4	95	86	6	5	9.4	● p.
19	28.6	23.5	94	80	8	9	3.3	● a.
20	27.8	24.2	91	90	8	8	15	●² p.
21	29.4	25.5	92	78	7	8	5.8	
22	29.3	24.3	93	78	8	7	.3	
23	29.2	24.1	94	94	9	10	10.4	● p.
24	28.9	23.9	94	82	5	8	10.8	
25	29.4	24.6	96	84	9	6	11.3	● a.
26	29.8	25.3	81	74	4	4	------	
27	30	24.5	92	74	1	3	------	
28	29.5	24.5	94	83	7	7	.3	
29	29.4	23.7	95	78	5	9	4.3	Ω² a. ● p.
30	29.2	24.4	92	81	10	9	24.1	● p.
31	27.8	22.5	93	83	7	10	1	●° p.
Mean	29	23.9	92.9	82.1	6.3	7.5	------	
Total	------	------	------	------	------	------	300	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.1	23.4	96	94	10	10	10.4	●° a. ↙ ● p.
2	31.7	24.1	83	75	10	10	3	↙ ● a. d ↙ p.
3	31.5	24.1	90	75	10	9	2	d a. ⊕ ○ ϖ° p.
4	32.5	26.1	87	70	8	8	------	↙° a. p. ϟ ϖ p.
5	32.9	26	85	67	10	8	------	⊕ ○ ↙° ѱ ϟ p.
6	33.3	26.6	85	69	9	10	------	ϖ ѱ ϟ p.
7	34.1	25	87	62	4	5	------	∞ a. ϖ ϟ p.
8	34.5	25.1	86	66	5	8	------	ϖ ϟ p.
9	34.5	24.4	92	60	8	9	------	ϟ p.
10	34.4	24.1	94	63	8	9	.3	∞ a ⊕ ○ ⊤° ϟ d
11	33.6	25.1	93	67	10	10	21.6	⌈ϟ d ● p.
12	34.5	23.9	96	69	10	8	4.8	⊕ ○ ● ϟ p.
13	34	24	94	64	8	8	------	d° ϟ p.
14	32.7	25.6	89	66	9	8	------	ϟ p.
15	32.8	25	90	67	10	8	------	
16	34.2	25	94	58	8	8	------	
17	------	------	95	------	5	------	------	
18	33.5	23.5	------	66	------	9	------	⊕ ○ ⊤ p.
19	34.7	23.6	93	63	10	8	------	ϟ p.
20	33.9	23.9	95	66	10	9	4.1	⊤ ● a. ⌈ϟ p.
21	34.1	24.4	96	66	8	8	------	↙° d° ϟ p.
22	33.3	24.7	93	68	9	9	------	
23	35	24.8	90	61	8	7	------	∞ d° a. ⊕ ○ ↙
24	34.9	26	89	59	8	8	------	ϟ p.
25	34	24.4	92	68	5	8	.5	⊕ ○ ⊤ ϟ ●° p.
26	33.5	25	93	68	9	9	------	⊕ ○ ϟ p.
27	33.4	23.9	93	71	9	10	------	⊤ ϟ p.
28	33.2	23.3	94	88	5	10	2.5	● ⊤ ϟ p.
29	33.6	23	95	93	3	10	19.8	● p.
30	33	23.5	97	75	5	8	------	
31	33.5	23.6	96	76	4	7	------	d ϟ ϖ° p.
Mean	33.5	24.5	91.7	69.3	7.8	8.5	------	
Total	------	------	------	------	------	------	69	

METEOROLOGICAL DATA, ETC.—Continued.

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.2	22.1	97	81	6	10	6.6	↙ ● p.
2	30.5	22.6	88	74	9	9	12.7	↙ ● p.
3	29.9	21.6	97	80	10	10	1.8	● a.
4	30.2	23.3	85	78	10	8	2.3	↙° ●° a. p. ⚡° p.
5	30.8	23.1	89	82	9	7	------	
6	31.3	23.3	84	70	8	8	9.9	↙° ●° a. p.
7	29.8	22	87	74	9	9	8.1	↙ ● ◯ p.
8	30.4	21.7	95	74	7	6	------	
9	31.1	22.6	93	76	5	7	.8	
10	31.5	22.5	96	70	9	7	------	
11	28.8	22.4	95	85	9	9	.3	●° a.
12	30.9	22.2	96	65	6	4	------	⊤° a.
13	30	21.9	97	75	7	7	5.1	⛈ p.
14	31.8	22.6	96	64	9	7	1.8	●° a. p.
15	31	22.8	97	83	9	9	1.3	d° ● p.
16	31.3	21	97	71	6	7	.5	●° a.
17	31.7	22.4	93	71	7	6	------	
18	31.8	21.8	97	65	4	7	------	
19	32.8	21.9	97	62	5	5	------	
20	31	23.4	97	79	9	9	------	d° a. ⛈ p.
21	32	23	97	72	7	7	1.3	p a. p.
22	31.2	23.3	88	71	8	7	------	◯ p.
23	32	23.1	96	70	8	7	------	◯ p.
24	32.6	22.6	97	62	6	5	------	
25	32.1	22.9	97	64	5	7	.5	◯ a. p. ⛈ ⌒ d p.
26	32.2	22.7	97	76	7	7	------	⊤ p.
27	31.8	23.1	93	69	9	9	------	◯ a. p. ⛈ p.
28	32.4	21.6	97	64	5	6	------	
29	33	22	96	64	5	5	.5	⊤ ●° p.
30	32.7	21.9	97	75	4	6	2	⛈ ● ⌒ p.
31	33.4	22.2	97	70	4	6	.3	⛈ a. p. ●° p.
Mean	31.4	22.4	94.4	72.1	7.1	7.2	------	
Total	------	------	------	------	------	------	55.8	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.8	17.8	98	71	9	10	57.9	⛈ ● a.
2	27.2	18.2	98	68	5	8	63.8	Ω a. ●² ⚡ p.
3	27	18.6	98	69	8	10	50.8	⊤ a. ● a. p.
4	28.6	18.5	98	63	7	7	------	p° p.
5	28.3	18	98	66	8	9	18.5	d a. ⛈ ● p.
6	28.8	18.8	98	65	5	6	16.8	●² p.
7	29	18.9	98	66	6	5	------	
8	28.5	18.9	98	64	7	8	53.3	●² ⊤ a.
9	28.5	17.9	97	65	8	8	60.5	●² a. p.
10	28.7	18.5	98	66	9	9	5.6	Ω a. ● p.
11	28.3	18.7	98	66	5	7	22.9	●² p.
12	29.4	18.7	98	64	8	10	28.7	Ω a. ⛈ ● p.
13	29.6	18.9	98	67	5	5	4.1	● p.
14	28.4	18.6	98	67	7	8	5.3	● ⊤° p.
15	27.6	17.5	96	68	8	10	55.6	● a. p.
16	28	17.3	97	70	9	9	55.4	d a. ● a. p.
17	28.3	17.8	98	68	3	5	------	
18	28.8	17.9	97	66	7	6	------	
19	29.5	17.6	97	67	5	7	------	Ω a. ⚡ p.
20	29.5	17.7	97	71	3	6	14.2	● p.
21	29.9	17.2	97	65	8	8	------	d a. ⚡ ⊤° p.
22	29.6	17.5	97	66	7	4	20.8	● a.
23	29.6	17.8	98	66	7	8	7.1	● a.
24	30.3	18	98	64	5	5	------	Ω a. d ⚡ p.
25	30.7	17.6	98	63	5	7	31.5	● a. p.
26	29.9	17.8	98	64	6	8	4.3	● a. ⊤° p.
27	30	17.8	98	64	7	7	8.4	● p.
28	30	17.9	98	64	4	7	------	d p.
29	30.1	17.6	98	63	5	7	------	Ω a. ⊤ p.
30	30.7	17.6	98	64	7	6	------	
31	31	17.8	97	65	3	8	------	⊤° ⚡ p.
Mean	29.1	18	97.7	66	6.3	7.4	------	
Total	------	------	------	------	------	------	585.5	

SAN ANTONIO.

[ϕ=14° 22′ N; λ=121° 32′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	18.5	98	91	10	10	6.1	
2	25.2	20.1	83	98	10	10	38.1	
3	28	20	89	93	10	10	28.4	
4	25	20.1	98	83	10	10	45.7	
5	26.2	20.1	91	90	10	10	27.4	
6	28.2	20.2	99	79	10	10	2.5	
7	26.2	20.1	83	85	10	10	8.1	
8	26.4	20	98	90	10	10	2.5	
9	29.6	20.3	98	80	10	10	------	
10	27.6	22	99	90	10	10	10.7	
11	27.2	20.6	98	98	10	10	6.6	
12	28.1	20.1	98	85	10	10	------	
13	30	21	97	76	10	10	------	
14	29.2	20.1	93	96	10	10	5.1	
15	29	20.1	92	91	10	10	17	
16	30	20.1	93	77	10	10	------	
17	30.1	20.2	98	66	10	10	------	
18	30	20.3	97	70	10	8	7.6	
19	30	22.6	99	61	10	3	------	
20	30	21	92	85	10	10	7.1	
21	29.1	20.2	91	85	10	10	------	
22	28	21.2	83	81	10	10	------	
23	27	20.1	92	82	10	10	------	
24	30	20.1	98	76	10	5	------	
25	29	20.1	93	72	7	6	40.6	
26	28	20.1	93	83	5	10	------	
27	30	20.1	93	79	10	8	------	
28	31	20.1	93	71	5	9	------	
29	30	21.1	90	73	7	3	------	
30	31	20.1	92	67	3	3	------	
31	31	20.1	93	67	1	4	------	
Mean	28.7	20.3	93.7	81.3	9	8.7	------	
Total	------	------	------	------	------	------	253.5	

CORREGIDOR.

[ϕ=14° 23′ N; λ=120° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	23	91	87	10	10	17	● a. p.
2	28	22.5	92	97	10	10	86.1	● a. p.
3	28.7	21.2	97	95	10	10	86.9	● a. p. ⛈ p.
4	28	------	94	97	10	10	52.8	● a. p.
5	29.5	21.8	98	92	10	10	155.7	● a. p. ⛈ p.
6	30.2	23.1	91	82	10	10	------	
7	30.2	22.9	88	89	10	10	49.5	● p.
8	30.7	------	95	80	10	10	------	
9	31.3	24.2	97	92	10	10	25.7	● ⛈ p.
10	30.7	21.3	96	85	10	10	63.5	● a. p. ⛈ p.
11	33	21.4	95	72	10	10	17.8	● a.
12	30.8	22.6	96	78	10	10	68.6	● a. p.
13	30.8	21.5	95	88	10	10	------	
14	30.5	23.7	90	90	10	10	34.3	● p.
15	29.3	22.1	98	89	10	10	14	● a. p.
16	29.7	------	89	85	10	10	------	
17	30.6	------	92	84	10	10	17.8	● p.
18	32.2	23.4	93	75	10	8	------	
19	32.7	23.2	97	66	10	3	------	
20	32.2	23.2	97	73	10	10	------	
21	31.7	22.6	96	84	10	10	43.9	● a. p.
22	30.5	------	90	78	10	10	15.2	● p.
23	31.7	22.7	96	78	10	10	------	
24	31	22.3	96	75	10	10	17.8	● a.
25	32	23.5	94	87	10	10	------	⌒ a.
26	31.5	24.3	92	95	10	10	7.6	⊤ ● p.
27	31.5	23	96	66	10	10	------	
28	32.7	23.2	95	65	10	10	------	
29	33.3	23.7	82	71	10	10	------	
30	34	23	84	62	10	3	2.5	● a.
31	33	------	94	60	3	8	------	
Mean	31	22.8	93.4	81.2	9.8	9.4	------	
Total	------	------	------	------	------	------	776.7	

METEOROLOGICAL DATA, ETC.—Continued.

BALANGA.

[ϕ=14° 41′ N; λ=120° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	22.3	91	78	9	10	41.1	d ● a. ⊤ ● p.
2	26.5	22.5	91	91	10	10	116.1	d a. ●^{2} a. p.
3	26.4	21.9	91	92	10	10	30.7	d ● a. p. ⊤ ↙ p.
4	28.6	23.5	92	87	10	10	68.6	↙° ● a. ↙ ● ⚡ p.
5	27.3	22.9	91	89	10	10	78	● ↙ a. p. ⚡^{2} p.
6	29.7	22.3	96	89	10	10	94.5	● ↙ a. p. ⚡ p.
7	28.6	22	94	91	10	10	79.8	● d a. p. ⚡° p.
8	29.9	22.3	95	85	10	10	26.9	⚡ a. ↙ ● a. p.
9	31	23.4	92	75	10	10	4.6	d ↙ a. p. ↯ p.
10	28.7	23.2	92	90	10	10	92.2	● ⊤ a. ●^{2} ⊤ p.
11	30.9	21.2	92	75	10	10	13.7	● d a.
12	30	22.6	91	75	9	10	14.2	p^{2} ↯ ϖ° ω ● p.
13	31.3	22.5	91	71	9	9	42.4	● a. p.
14	28.4	23.1	92	87	10	10	65.3	● a. p^{2} p.
15	26.2	22.4	94	92	10	10	35.3	● a. p.
16	28	22.5	92	84	10	10	22.1	● d a. p. ⚡° p.
17	30.8	22.9	92	84	10	10	9.4	⊤ a. d a. p.
18	31.5	22.9	91	72	10	10	------	d° p.
19	31.8	22.5	91	69	10	6	1.8	⚡° d p.
20	31.4	23.1	91	84	10	10	2	d ⊤ p.
21	31.6	22.9	91	76	10	10	2.5	d p.
22	29.7	23.4	92	79	10	10	26.7	d a. p. ● p.
23	30.5	23	92	83	10	10	3.8	d a. p.
24	30.6	23.3	92	77	10	6	1.3	d a.
25	30.8	23.2	91	73	10	10	------	⊤° ↯ p.
26	32.1	23.3	90	74	10	10	------	⊤° d° ↯° p.
27	31.5	23.4	88	69	10	7	------	↯ p.
28	32.1	23.1	91	68	9	7	------	Ω^{2} a.
29	32.9	22.7	91	70	8	6	------	Ω^{2} a. ⊤° ↯ p.
30	34.4	23.7	90	57	10	3	26.9	⊤ ↯ ●^{2} p.
31	33.1	23.4	90	64	5	6	9.4	● ⚡° p.
Mean	30.2	22.8	91.6	79	9.6	9	------	
Total	------	------	------	------	------	------	909.3	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	22.1	97	85	7	8	19.6	≡^{2} a. ● ↙ a. p. ↯°
2	31.8	23.1	95	94	6	10	23.1	≡^{2} a. d ● p.
3	27.3	22.2	97	90	10	10	20.3	● a. ●^{2} ⚡ p.
4	30.4	23	98	84	8	10	2.5	○ a. ● ↙ ↯° p.
5	25.9	23.3	96	98	10	10	27.4	≡° ● a. ⚡ ●^{2} p.
6	26.3	22.2	99	96	10	10	111	● a. d° ●^{2} p.
7	26.1	22	98	95	10	10	7.6	●° a. p. ● ↯° p.
8	27.1	23.1	99	94	10	10	6.9	● a.
9	30.4	23.1	99	90	10	10	3.8	⊤ ≡ a. ⚡ ● p.
10	28.2	22.4	99	96	7	10	30.2	≡ a. ● ↙ p.
11	31.2	21.5	100	73	10	5	2.8	≡^{2} ○ a. ⊤ ⌒^{2} ●°
12	31.2	22.9	98	74	10	10	18.3	≡ a. ○ ● ↙ p.
13	31.6	22.8	98	92	7	10	5.1	● ↙ d p.
14	29.2	22.9	98	92	10	10	45.2	d a. ● p.
15	28.1	22.5	98	93	10	10	49.8	●° a. ● p.
16	27.6	22	98	93	10	10	19.6	● ↙ ⊤° a. ●° ↯ p.
17	29.4	22.5	98	85	10	10	5.1	●° a. p p.
18	32.8	22.7	99	62	10	7	------	≡^{2} a.
19	33.2	21.7	95	58	4	6	------	Ω ≡° a. ⚡° p.
20	30.4	23	96	74	10	10	------	○ ⚡ p.
21	32.3	22.5	97	89	7	10	4.1	●° p.
22	31.7	22.7	98	74	8	10	13.7	⊕ a. ○ ⚡ ●° p.
23	31.6	22.8	98	79	10	10	1.3	d° a. p. ●° p.
24	32.2	22.9	97	75	6	10	10.4	● p.
25	32.6	23.2	97	75	10	7	.8	●° ↯° p.
26	33.2	23.4	97	62	10	6	.5	≡^{2} a. ○ d ↯° p.
27	33.2	23.2	97	60	10	4	------	≡^{2} a. ↯° p.
28	34.4	22.5	96	55	3	4	3.3	Ω^{2} ≡° a. ⌒° ●° p.
29	34.1	22.3	96	59	4	4	77	⚡^{2} ● p.
30	34	22.4	97	59	0	3	7.9	≡° a. ●° ⚡° p.
31	34.6	23.8	97	60	1	4	------	≡° ⚡ p.
Mean	30.8	22.7	97.5	79.5	8	8.3	------	
Total	------	------	------	------	------	------	517.3	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.4	22.5	95	59	3	2	------	
2	32.5	24.5	83	65	7	10	2.5	
3	29.4	24.5	98	77	10	10	15.2	≡ ↙° p.
4	30	23.9	92	87	10	10	3.3	d a. p. ↙ ● p.
5	30	24.7	84	74	10	10	11.4	↙° a. p.
6	30.7	23.8	91	70	10	10	6.1	≡ ● p.
7	30.8	23.3	83	71	10	10	.8	∞ a. ● p.
8	30.6	23	91	75	3	10	------	d° p.
9	32.7	25	81	73	8	8	------	ϖ p.
10	32.1	23.9	84	71	2	10	------	
11	32	23.5	83	72	6	10	1.3	
12	30.9	23.2	90	76	6	10	------	d° p.
13	34.6	23.3	90	58	10	3	------	
14	31.6	25	84	74	4	10	7.9	⌒ a.
15	31	24	82	82	10	10	3	d a. p.
16	28.4	23.5	91	86	10	10	1	≡ a. ●° ↙° a. p.
17	31	24	91	74	10	10	------	≡ d° a.
18	33.5	23.4	90	67	4	7	------	
19	32.5	24.8	87	71	6	8	2	↙ ●° p.
20	33.3	23.4	86	63	6	7	------	
21	33.4	23.9	86	60	8	10	------	
22	30.7	25.7	98	71	6	10	------	
23	33.6	24.7	98	68	3	7	------	
24	34.8	25.1	98	60	3	0	------	
25	34.5	25	86	64	8	10	------	○ a.
26	33.4	24.9	90	65	5	10	7.6	●° a. ⚡ p.
27	31.8	24.5	93	68	6	2	------	
28	32.4	22.8	95	70	0	1	------	
29	33.2	22.9	95	65	3	1	8.9	
30	32.4	23.2	93	67	1	0	------	
31	32.5	24.3	93	68	10	1	5.1	
Mean	32.1	24	89.7	70	6.4	7.3	------	
Total	------	------	------	------	------	------	76.1	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.9	23.6	92	78	6	7	5.8	●° a ↯ p.
2	30.7	23.8	99	82	8	9	9.1	
3	28.8	23.9	92	92	6	10	36.3	●^{2} p.
4	29.2	23.5	97	80	10	10	15	● a. ↙ a. p.
5	29.8	23.6	85	90	10	10	61.2	p a. ● p.
6	29.8	23.6	96	83	10	10	21.6	● a. ↙° p.
7	28.6	23.5	96	94	10	10	3.8	●° a. p.
8	27.6	23.7	94	91	10	10	22.1	● a. ●° ⊤° p.
9	30	23.8	96	79	10	10	87.4	●^{2} a. d ⚡ p.
10	26.6	23.7	96	97	9	10	105.2	●^{2} a. p.
11	28.8	21.4	96	92	7	10	19.3	●° p.
12	29.4	23.1	97	92	7	10	56.6	●^{2} ↙° p.
13	28.9	23.8	95	95	7	7	30.2	≡° ⌒ a. ● p.
14	28.8	23.4	95	89	7	10	48	● p.
15	25.9	23.3	97	96	10	10	93.7	● a. p.
16	26.9	22.6	96	96	10	10	77.7	● a. p. ⚡ p.
17	25.8	22.9	97	97	10	10	72.1	● a. p. ⊤ p.
18	30	23	97	88	9	7	1.5	ω a. ●° a. p.
19	31.7	22.8	93	78	8	7	------	Ω a.
20	29.6	24.5	94	83	10	10	------	Ω ≡° a.
21	31.2	23.7	94	74	6	7	.5	Ω ≡° a.
22	30.9	25.1	92	------	9	10	50.3	d° ↙° a. ⚡ ● p.
23	30.9	23.4	------	------	10	9	1	d a. ●° p.
24	31	23.9	------	------	7	7	------	Ω ≡° a.
25	31.4	23.4	------	------	8	7	.5	Ω ≡° a. d ↯ p.
26	31.6	24.5	------	------	6	8	.5	Ω ≡° a. ↙ ⚡ d
27	32.8	24.9	------	------	7	6	------	≡° a. ↙ ↯ p.
28	31.4	24.5	------	------	7	6	------	Ω ≡° a. ↙ d° p.
29	31.6	24.4	------	------	6	7	------	Ω ≡° a. d ⊤° p.
30	32.8	24.5	------	------	3	4	3.6	Ω a. ⊤ p.
31	31.7	26.1	------	------	9	4	42.9	● ⚡ a. ↯ p.
Mean	29.8	23.7	94.8	87.9	8.1	8.5	------	
Total	------	------	------	------	------	------	865.4	

METEOROLOGICAL DATA, ETC.—Continued.

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	22.1	15.5	99	98	10	10	104.6	●^{2} a. p.
2	20.6	15.5	98	99	7	10	32.5	● p.
3	19.8	15.5	90	96	8	10	55.9	≡ a. ● p.
4	18.5	14.6	99	99	10	10	103.9	●^{2} a. p.
5	18.1	13.6	99	99	10	10	143	●^{2} a. p.
6	20.4	16	99	99	10	10	84.3	● a. p.
7	17.5	14.8	99	99	10	10	94	● a. p.
8	18.1	15.5	99	99	10	10	101.6	●^{2} a. p.
9	18	15.8	99	99	10	10	40.9	● a. p.
10	18.2	16	99	99	10	10	114.3	●^{2} a. p.
11	21.5	13.5	92	81	6	5	30.5	● p.
12	21.5	13.5	88	99	4	10	57.4	d ● p.
13	20	15.1	99	98	9	10	15.2	●° p.
14	19.1	15	99	99	9	10	52.6	● p.
15	17.6	15	99	99	10	10	75.7	● a. p.
16	17.6	13.3	99	99	10	10	73.7	● a. p. ≡ ⊤ p.
17	18.3	14.5	99	98	10	10	26.4	● a. d p.
18	21.5	15.4	96	98	10	9	------	d a.
19	22.5	13.5	87	81	6	8	------	
20	20	15.2	93	89	8	10	.8	d p.
21	21	15	96	90	6	8	5.1	≡ p.
22	18	15.4	99	99	10	10	29.7	● a. p.
23	18.5	15	99	98	10	10	5.1	d a. p.
24	21.5	14.5	98	98	4	10	16.5	● p.
25	21.2	13.9	99	96	7	10	16.3	≡ a. ● p.
26	24.5	15.5	98	66	5	5	1.5	
27	24.3	16.1	99	85	7	7	------	⌒ p.
28	22.1	14.5	98	92	2	10	9.1	●° ≡ ⊤ p.
29	21.9	14.5	99	98	2	10	14.2	≡ a. ● p.
30	22.5	13.6	99	88	2	7	3	≡ a. p. d p.
31	23	16.3	99	90	3	4	------	
Mean	20.3	14.9	97.2	94.4	7.6	9.1	------	
Total	------	------	------	------	------	------	1307.8	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	------	92	70	3	6	24.4	Ω a. ↯ ● ↙ p.
2	32.4	------	91	68	6	8	57.1	Ω a. ● p.
3	31.4	------	90	82	6	10	34.8	Ω a. ● p.
4	29.4	------	90	82	10	10	24.1	Ω a. ● a. p.
5	28	------	92	97	10	10	53.8	Ω a. ● ↙° a. p.
6	28	------	91	89	10	10	49.3	Ω a. ● a. p.
7	28.6	------	90	92	10	10	92.2	↙ ● a. p.
8	28.5	------	93	93	10	10	54.9	Ω a. ⊤ ● p.
9	30.6	------	92	78	10	8	21.3	Ω a. ● p.
10	28.6	------	93	97	10	10	127.8	●^{2} a. p.
11	29.8	------	90	70	6	4	7.9	Ω a. d ● p.
12	31.4	------	88	69	3	3	50.8	Ω a. ●^{2} p.
13	31.6	------	93	74	6	3	21.6	Ω a. ● p.
14	30.6	------	91	90	6	10	31.7	Ω a. ● p.
15	27.6	------	91	89	10	10	54.4	↯ ● p.
16	28.8	------	87	96	10	10	50.8	● a. p. ⊤ p.
17	27.6	------	90	95	10	10	139.7	⊤ a. ●^{2} a. p.
18	32	------	93	68	10	8	------	Ω a.
19	33	------	90	60	6	3	1.3	Ω a. ●° p.
20	30	------	96	82	10	10	------	Ω a.
21	33	------	90	63	10	4	59.7	Ω a. ● p.
22	32.6	------	95	90	10	10	46.2	Ω a. ● a. p. ⊤ p.
23	29	------	95	77	10	10	5.3	Ω ● a. ⊤ p.
24	31.6	------	92	76	3	8	5.6	Ω a. ● p.
25	32.4	------	95	70	4	8	4.3	Ω a. < d p.
26	33.8	------	92	69	4	3	13.7	Ω a. ↯^{2} ● ↙ p.
27	33	------	97	66	6	6	15.7	Ω a. ● ↯^{2} p.
28	32.2	------	98	66	6	6	3.8	Ω a. ⊤ d p.
29	32.6	------	95	75	3	8	3	Ω a. ⌒ ● ⊤ p.
30	32.5	------	93	65	2	3	------	Ω a.
31	33	------	89	69	3	4	------	Ω a.
Mean	30.8	------	92.1	78.3	7.2	7.5	------	
Total	------	------	------	------	------	------	1055.2	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.5	21.4	99	60	10	9	17.5	○° a. ↯ ⊕° ● p.
2	29.2	21.2	99	82	10	10	9.7	●° ↯ a. ↙° ● p.
3	31.1	21.3	100	75	10	10	.5	≡^{2} ⊕° a. d° ↯ p.
4	32.9	22.3	99	65	10	10	.8	●° ○° a. ○° ↯ p.
5	30.9	22	98	79	10	10	1	Ω^2 ○° a. ●° ↯ ◒°
6	32.9	21.8	96	63	10	10	.3	d° ⊕° a. ○° ↯ d°
7	35.2	21.2	92	59	10	10	.3	○° a. d^2 p.
8	35.2	21.1	97	55	9	9	7.9	○^{2} a. ↯^{2} ● p.
9	34.4	21.9	100	59	10	7	------	≡^{2} ○^{2} a. ↯ ◒^{2} p.
10	34.8	20.7	100	70	5	10	48.8	Ω^2 ≡^{2} ⊕^{2} a. ↯ ●^{2}
11	33.8	20.6	100	61	10	6	------	≡^{2} a. ↯ a. p.
12	34	22.1	99	67	10	9	45.2	●° ○° ↯ a. p.
13	31.7	21	100	70	10	9	11.9	d^2 ○° a. ↯ ● p.
14	33.6	21.3	100	64	9	9	6.9	≡^{2} ○° a. ↯ ● p.
15	31.2	20.9	99	72	10	10	1.3	○° a. d a. p.
16	31.4	21.4	90	74	10	10	1.8	↙° ●° ○° a. d° p.
17	32.6	21.7	99	66	10	10	------	⌒° a. d° ◒^{2} p.
18	35.1	20.8	98	53	7	9	------	Ω^2 ○^{2} a. ↯ p.
19	34.8	22.4	98	58	8	8	43.4	Ω^2 ○° a. ↯ ●^{2} p.
20	29.6	20.3	99	90	10	10	.1	⊕ a. ●° ↯^{2} p.
21	34	21	100	60	10	9	------	○^{2} a. ↯ ○° ↙° p.
22	28.8	22.2	97	80	10	10	------	Ω° a. ↙° a. p.
23	34.6	21.8	100	58	9	9	------	Ω^2 ⊕° ○° a. ↯ d°
24	35.2	21.3	95	56	8	5	.8	Ω^2 ○° a. ↯ ●° ↙°
25	34	21.6	99	59	8	9	------	Ω^2 ≡° ○^{2} a. ↯ p.
26	34.5	21.9	98	60	8	7	------	Ω^2 ○^{2} a. ↯ p.
27	35.4	22	97	54	8	8	------	Ω^2 ○° a. ↯ ↙° p.
28	34.8	22	93	55	8	8	5.1	Ω° ⊕° a. ↯ ↙° ●
29	34.5	20.3	99	57	6	7	------	≡^{2} ⊕° a. ↯ p.
30	34.7	21.6	98	59	10	4	------	Ω° ⊕° a. ↯ p.
31	35.6	21.5	99	56	3	3	------	Ω^2 a. ↯ p.
Mean	33.4	21.4	98	64.4	8.9	8.5	------	
Total	------	------	------	------	------	------	204.2	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.7	24.5	86	73	4	9	21.6	≡ a. ⊤° ● p.
2	28.9	25	88	78	9	10	11.7	d a. ● ↙° p.
3	29.6	24.6	84	72	8	10	12.7	↙° a. ●° p.
4	27.6	25.2	87	84	10	10	62	●^{2} ⊤° a. ↙ ●° <
5	26.2	25.1	89	89	10	10	91.2	●^{2} ⊤° a. p.
6	25.9	24.2	92	92	10	10	71.1	⊤° ⌒ ●^{2} a. ●^{2} ↙°
7	26.4	24.2	83	90	10	10	45.7	● a. p. ⊤° p.
8	28.9	24.1	92	87	10	9	24.1	● ⊤° a. ↯° p.
9	29.7	25.4	91	82	10	9	26.2	⊤° ↙ a. ● a. p.
10	26.6	24.8	87	89	9	10	132.6	⊤° a. ●^{2} a. p.
11	28.7	22.6	92	80	7	8	25.4	●^{2} p.
12	28.5	22.6	91	79	7	8	19.3	d a. ● p.
13	29.2	24.5	89	77	9	5	38.9	d ●^{2} p.
14	29.2	24.5	89	74	9	9	112	↙° ●^{2} p.
15	26.9	24	89	86	10	10	20.3	d ↙° a. ●° a. p.
16	25.9	24	83	91	10	10	67.6	d a. ● ↙° a. p.
17	26.5	23.9	87	90	10	10	34	●^{2} a. p.
18	29.7	23.7	96	74	9	10	------	d a.
19	30.4	24.2	87	72	10	7	------	Ω^2 ≡^{2} a. ⌒° p.
20	28.7	24.2	89	81	10	10	------	Ω ≡ a. d p.
21	30.5	24.2	87	69	7	8	19.8	Ω ≡ ⌒° d a. ●°
22	28	25.1	89	84	10	10	30.7	● a. p.
23	29.7	24.2	88	70	9	9	------	d ↙° p.
24	29.5	25.5	88	81	9	10	------	⌒° d a.
25	30.5	24.9	88	76	9	7	9.1	Ω^2 ≡^{2} a. ⌒° ●° ↯°
26	31	24.4	87	79	9	8	9.1	↯° ●° p.
27	30.8	26	88	78	10	4	36.1	d a. ↯° ●° p.
28	30.1	26	89	74	8	9	------	↯° d p.
29	31.2	26.2	86	74	7	6	------	Ω^2 ≡^{2} a. ⊤° d <
30	31.1	25.2	87	76	4	5	2.8	Ω^2 ≡ a. p ↯° p.
31	32	27.3	86	75	8	1	------	⌒° a. < p.
Mean	29	24.7	88.2	79.9	8.7	8.4	------	
Total	------	------	------	------	------	------	924	

METEOROLOGICAL DATA, ETC.—Continued.

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	23.7	91	75	3	10	2.8	⊤ ● p.
2	28.3	23.2	95	93	10	10	8.9	● a. p.
3	30.6	24.2	96	74	10	10	22.1	d a. ⊤ ● p.
4	29	23.5	96	88	10	10	82.3	● ↙ a. p.
5	25.8	23.6	97	97	10	10	27.4	● a. p. ↙ p.
6	27	23	91	94	6	10	56.6	↙ a. ● a. p.
7	26.5	23.3	87	95	10	10	27.9	● a. p.
8	28.3	23.4	93	94	10	10	25.4	● a. p. ⊤ p.
9	30.7	23.5	97	92	10	10	37.1	● a. p. ⊤ ⚡ p.
10	26.4	24	93	92	10	10	20.3	● a. p.
11	31.8	22.1	96	70	6	8	1.3	● p.
12	30.8	23	97	73	4	6	22.9	● p.
13	30.5	23.6	95	81	10	10	68.6	● a. p.
14	29.9	23.3	97	84	9	10	89.9	● p.
15	25.8	23	98	91	10	10	128.5	●² a. p.
16	26	22.4	98	95	10	10	63.5	● a. p.
17	29.2	23.4	88	85	10	10	16	↙ a. p. ● p.
18	29.4	23.4	96	76	9	10	2	d a. ● p.
19	32.5	23	92	79?	10	9	------	
20	30.8	24	95	86?	10	10	------	d p.
21	31.1	23.4	95	75	8	10	127	↙ a. p. ●² ⌈⚡ p.
22	27.4	23	98	86	10	10	4.6	● a. p.
23	31.5	22.6	96	67	9	7	1.8	⊤ a. ● p.
24	31.7	23.5	97	79	3	8	2.5	● ∩ p.
25	32.1	23.7	94	84?	8	5	1.3	↙ ● p.
26	32.2	24.1	96	89?	4	6	2.8	⊤ ● ⚡ p.
27	31.5	25.3	94	87?	8	10	33	● ⌈⚡ p.
28	32.5	22.5	97	69	10	8	2.5	● a. d ⌈⚡ p.
29	32.3	23.5	95	68	4	9	------	
30	32	23.4	92	72	3	6	------	
31	32.3	24	93	71	2	5	------	⊤ p.
Mean	29.9	23.4	94.7	82.6	7.9	8.9	------	
Total	------	------	------	------	------	------	879	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.1	24.7	90	84	10	10	19.8	●° a. d a. p.
2	31	26.1	86	74	10	8	24.3	●° ∩ ↙° a. ≡ ●° p.
3	27.8	24.2	85	86	10	10	28.7	● a. ⌈⚡ p.
4	28.2	24	86	83	10	10	5.1	● a. ↙° a. p.
5	27.4	23.7	84	90	10	10	80.8	● a. p ↙° ⚡ p.
6	30	24.2	84	79	10	10	2.5	↙° a. ●° ↙ p.
7	29.5	25.4	83	78	10	9	18.3	●° a. ↙° ≡ ● p.
8	29.8	24.1	88	81	10	7	4.1	↙° ● a. ≡ ↙° p.
9	30.4	26.8	87	79	7	9	.4	d° a. ↙° ≡ p.
10	29.7	24.6	94	86	10	10	27.4	● a. ⚡ ↙° p.
11	30.8	25.7	88	82	7	7	6.8	●° a. ● ↙° Ω² p.
12	31.4	23.2	95	74	1	4	------	v a. ↙ a. p.
13	31.8	25.1	90	71	4	8	7.1	●° a. p. ● Ω p.
14	30.6	24.8	95	79	10	7	4.6	● ↙ a. v ●° p.
15	27.4	24.2	93	90	10	10	41.9	● ↙ a. ● d p.
16	28.4	24.3	87	84	10	10	16.3	d a. p. ● ↙° ⚡² p.
17	27.5	23.3	86	90	10	10	67.3	●° a. ↙ ●² p.
18	26.7	23.4	87	94	10	10	21	●° a. p.
19	29.5	24.9	90	85	10	10	------	↙° a. p.
20	30.6	24.3	90	81	8	10	1.5	↙° p.
21	26.8	23.2	87	93	10	10	111.2	●² ↙ a. ⊤ ↙° ● p.
22	29.5	23.4	88	82	10	10	10.4	↙° a. ⊤ ●° p.
23	29.6	26.1	91	86	8	8	2.8	↙° d a. d ⚡ p.
24	29.8	26.3	90	79	5	9	1.5	↙° a. ≡ ◯ ⚡ p.
25	30.2	26.8	88	79	10	9	------	p° a. ≡ p.
26	30.4	26.3	88	81	7	10	------	⌈⚡ p.
27	31.3	25.7	91	80	5	8	2.7	●° a. ≡ p.
28	32	25.7	95	76	8	9	9.9	● a. ≡ ⚡ p.
29	30.8	24.2	95	75	9	9	3.3	●° ↙ a. ≡ Ω² p.
30	31.1	23.7	95	70	3	3	------	Ω² v a. ≡ ↙ ⚡ p.
31	30.7	23.5	95	77	2	2	------	Ω² a. p. ⚡ p.
Mean	29.6	24.7	89.4	81.5	8.2	8.6	------	
Total	------	------	------	------	------	------	519.7	

SEISMOLOGICAL BULLETIN FOR AUGUST, 1908.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

3, 19^h 36^m 41^s. **Aparri** (NE of Luzon). Vertical shocks of intensity III; short duration.

5, 6^h 28^m. **Butuan** (N of Mindanao). Earthquake tremors, intensity II.

8, 1^h 07^m 36^s. **Aparri** (NE of Luzon). Oscillatory earthquake; direction NE–SW; intensity III; duration 10^s.

12, 15^h 10^m. **Candon** (NW of Luzon). Earthquake tremors; intensity II.

16, 9^h 45^m 49^s.* **Butuan and Talacogon** (E of Mindanao). Earthquake of intensity V, duration about 50^s. Its origin lay within the Agusan River valley, where one of the most active seismic centers of the Archipelago exists.

16, 10^h 12^m. **Borongan** (E of Samar). Earthquake shocks of intensity III; three series of shocks were distinctly felt during 60^s approximately.

16, 10^h 49^m. **Surigao and Butuan** (NE of Mindanao). Earthquake of intensity IV at Surigao and III at Butuan. Probably the origin of this quake lay near Lake Mainit or along the eastern shore of Butuan Bay.

16, 11^h 56^m. **Southern Samar and northern Leyte.** Earthquake of intensity IV.

21, 18^h 38^m. **Butuan and Talacogon** (E of Mindanao). Earthquake shocks of intensity III; they were perceptible in the whole Agusan River valley.

23, 10^h 35^m. **Butuan and Talacogon** (E of Mindanao). Oscillatory earthquake; waves distinctly observed in the SW–NE and SSE–NNW directions; intensity IV. It was also felt in the whole Agusan valley.

29, 3^h 49^m. **Atimonan** (SE of Luzon). Oscillatory earthquake; direction E–W; intensity III; duration 5^s.

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[1] **The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.**

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight $=0^h$.]

No.	Date.	Component.	Beginning.			Maximum range of motion.			End.	Instrument.	Remarks.
			First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2 a.).	Period.			
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
115	8	NNW-SSE	18 30 14	--	18 30 22	18 30 34	0.50	2.4	18 34	V. M.	Vertical C. 0.16 mm.
		WSW-ENE	18 30 13	--	18 30 25	18 30 37	.46	2.4	18 34	V. M.	
116	8	NNW-SSE	--	--	18 39 55	18 40 09	.17	2	18 44	V. M.	V. C. 0.14 mm.
		WSW-ENE	--	--	18 39 54	18 40 02	.21	2.2	18 44	V. M.	
117	9	NNW-SSE	13 20 51	--	13 22 34	13 22 50	.17	2.4	13 32	V. M.	V. C. 0.04 mm.
		WSW-ENE	13 20 51	--	13 22 35	13 23 15	.06	2.4	13 32	V. M.	
		WSW-ENE	13 21 20	--	13 22 38	13 22 58	.04	7.2	13 34	H. P.	
118	10	NNW-SSE	0 00 43	--	--	--	--	--	1 05	V. M.	
		WSW-ENE	0 00 51	--	--	--	--	--	1 05	V. M.	
		WSW-ENE	0 00 41	--	--	--	--	--	1 13	H. P.	
119	11	NNW-SSE	4 27 27	--	4 27 52	4 28 09	.44	2.4	4 35	V. M.	V. C. 0.44 mm.
		WSW-ENE	4 27 28	--	4 27 54	4 27 56	1.06	1.2	4 32	V. M.	
		WSW-ENE	4 27 37	--	4 27 51	4 27 53	1.09	1.8	4 35	H. P.	
120	11	NNW-SSE	--	--	22 30 42	--	--	--	22 34	V. M.	V. C. 0.03 mm.
121	12	NNW-SSE	23 52 04	--	--	--	--	--	24 39	V. M.	
		WSW-ENE	23 52 03	--	--	--	--	--	24 43	V. M.	
122	13	NNW-SSE	2 49 12	2 53 14	2 57 12	2 58 36	.02	10.8	3 29	V. M.	
		WSW-ENE	2 49 12	2 53 18	2 57 19	2 57 34	.01	9.6	3 32	V. M.	
		WSW-ENE	2 49 21	2 53 12	2 57 16	2 57 41	.41	10.2	4 05	H. P.	
123	14	NNW-SSE	--	--	7 54 33	7 54 36	.10	2	7 58	V. M.	V. C. 0.03 mm.
124	15	WSW-ENE	13 19 08	--	13 19 18	13 19 20	.03	2	13 22	V. M.	
125	16	NNW-SSE	9 45 55	--	9 47 51	9 48 05	.07	2.2	10 01	V. M.	Earthquake, V in the Agusan Valley.
		WSW-ENE	9 45 49	--	9 47 40	9 49 00	.06	2.4	10 03	V. M.	
		WSW-ENE	9 45 50	--	9 47 37	9 49 48	1.73	7.8	10 09	H. P.	
126	17	WSW-ENE	18 57 30	--	--	--	--	--	21 ?	V. M.	
		WSW-ENE	18 57 27	--	--	--	--	--	21 15	H. P.	
127	20	NNW-SSE	18 00 56	18 08 09	18 14 12	18 16 06	.02	12.8	19 17	V. M.	
		WSW-ENE	18 00 54	18 08 03	18 14 45	18 18 12	.02	14.4	19 05	V. M.	
		WSW-ENE	18 00 44	18 07 16	18 13 44	18 18 10	.40	14.1	19 26	H. P.	
128	23	NNW-SSE	3 21 02	--	--	--	--	--	--	V. M.	
		WSW-ENE	3 21 04	--	--	--	--	--	--	H. P.	
129	23	NNW-SSE	3 29 26	--	--	--	--	--	4 05	V. M.	Second Earthquake?
		WSW-ENE	3 29 30	--	--	--	--	--	4 07	H. P.	

Instrumental constants.—Vicentini microseismograph (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=9.2 seconds; WSW–ENE pendulum, T=10.8 seconds. Magnification of the record: NNW–SSE, 15 times; WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters which extends many kilometers toward north and south and only four to the east, where volcanic tuff outcrops. To the west there lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

3, 19^h 36^m 41^s. **Aparri** (NE de Luzón). Sacudidas susultorias, de intensidad III, duración corta.

5, 6^h 28^m. **Butúan** (N de Mindanao). Temblor de tierra de intensidad II.

8, 1^h 07^m 36^s. **Aparri** (NE de Luzón). Temblor oscilatorio, dirección NE–SW, intensidad III, duración 10^s.

12, 15^h 10^m. **Candón** (NW de Luzón). Temblor de tierra de intensidad II.

16, 9^h 45^m 49^s.* **Butúan y Talacogon** (E de Mindanao). Temblor de tierra de intensidad V, duración 50^s. El origen de este terremoto se hallaba dentro del valle del Río Agusan, donde existe uno de los centros más activos del Archipiélago.

16, 10^h 12^m. **Borongan** (E de Sámar). Temblor oscilatorio de intensidad III; distinguiéronse tres series de choques durante un minuto.

16, 10^h 49^m. **Butúan y Surigao** (NE de Mindanao). Temblor de tierra de intensidad IV, en Surigao y III en Butúan. Es probable que el origen de este terremoto se hallaba hacia la laguna de Mainit ó en la parte oriental de la bahía de Butúan.

16, 11^h 56^m. **Sur de Sámar y norte de Leyte**. Temblor de tierra de intensidad IV.

21, 18^h 38^m. **Butúan y Talacogon** (E de Mindanao). Temblor de tierra de intensidad III. Se sintió en todo el valle del Río Agusan.

23, 10^h 35^m. **Butúan y Talacogon** (E de Mindanao). Temblor oscilatorio, direcciones observadas SW–NE y SSE–NNW, intensidad IV. Sentido en todo el valle del Río Agusan.

29, 3^h 49^m. **Atimonan** (SE de Luzón). Temblor oscilatorio, dirección E–W, intensidad III, duración 5^s.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la table correspondiente que contiene una lista completa de estos registros.

[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120° E de Greenwich.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1890–1907.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF AUGUST.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1890	*h. m.*			*Km.*	*Km.*		
12	7 36	Manila	N of Lake Bay	12	10	III	
1891							
5	0 29	Southern Mindanao	E Illana Bay	120	60	IV	
5	23 50	Western Luzon	N of Cape Bolinao	200	40	V	
8	22 49	Southern Mindanao	E Illana Bay	120	60	IV	
11	16 0	Northwestern Luzon	Near the NW coast	180	70	III	
20	23 20	Western Luzon	N of Cape Bolinao	200	40	IV	
21	1 40	do	do	140	30	III	
21	1 50	Southern Mindanao	E Illana Bay	150	80	IV	
31	10 0	Negros Island	Near the Canlaon Volcano	80	60	III	
1892							
15	6 40	Northern Camarines	N of Camarines coast	110	60	IV	
27	19 36	Manila	N of Lake Bay	10	8	II	
27	23 40	Central Luzon	NE Pangasinan Province	160	80	IV	
29	15 37	Western Mindanao	SE Sulu Sea	120	50	V	Repeated at 23h. Sounds like the reports of cannon.
29	23 44	Albay Province	Off the E coast	100	60	IV	
30	0 10	do	do	100	60	IV	
1893							
9	22 10	Northeastern Mindanao	Near Lake Mainit	80	40	III	
16	14 40	Northern Camarines	N of Camarines coast	150	60	IV	Indicated at Manila by the Bertelli tromometer.
29	4 40	Northeastern Mindanao	Near Lake Mainit	80	40	II	
30	18 0	Northern Camarines	N of Camarines coast	100	60	IV	
30	21 0	Southern Mindanao	E Illana Bay	100	40	III	
31	2 31	do	do	100	40	IV	
31	21 58	Northeastern Mindanao	Near Lake Mainit	90	50	IV	Accompanied by rumbling sounds.
1894							
5	2 55	do	do	80	40	III	
13	1 9	Manila and E provinces	NE of Lake Bay	110	90	IV	
16	13 40	Northern Samar	Near the N coast	120	80	IV	
21	10 34	Southern Luzon	Near the Taal Volcano	180	100	V	Repeated 10 minutes later.
28	9 0	Eastern Mindanao	S Agusan River Valley	140	80	III	
1895							
9	18 6	Southeastern Luzon	E Lamon Bay	180	100	IV	Indicated at Manila by the Bertelli tromometer.
10	3 38	Northeastern Mindanao	Near the NE coast	90	40	III	
13	7 50	Southeastern Panay	Near the SE coast	80	30	III	
14	16 29	Central Luzon	Zambales Range	200	150	IV	
17	10 2	Eastern Mindanao	Agusan River Valley	140	80	IV	
18	3 50	do	do	140	80	IV	
26	23 41	Northeastern Mindanao	Near Lake Mainit	80	60	IV	Accompanied by rumblings.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF AUGUST—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1896	*h. m.*			*Km.*	*Km.*		
1	15 0	Eastern Mindanao	Near the E coast	100	40	III	
6	16 50	Southern Mindanao	E Illana Bay	90	30	III	
7		Northeastern Mindanao	Near Lake Mainit	60	40	III	In the afternoon.
10	14 13	do	do	90	50	IV	
11	3 42	Northern Negros	Off the N coast				
12	2 10	Eastern Mindanao	Near the E coast	110	30	III	Repeated some 20 minutes later.
14	3 20	do	do	110	30	III	
23	20 58	do	do	140	50	IV	
26	4 0	do	do	200	80	V	Two aftershocks some minutes later.
1897							
6	3 59	Albay Province	Near the SE coast	80	20	III	
10	8 13	Eastern Mindanao	Near the E coast	100	40	III	
13	2 53	do	do	100	40	III	
15	20 17	Luzon Island	N of Cape Bolinao, about $\varphi=17°$ 30′.	480	280	VIII	Registered in Europe. Many aftershocks during the night: twelve very perceptible.
16	7 1	Northwestern Luzon	do	310	200	V	Repeated at 10^h.
16	12 10	Eastern Mindanao	Near the E coast	120	60	IV	
17	0 15	Northwestern Luzon	N of Cape Bolinao, about $\varphi=17°$ 30′.	200	100	IV	Repeated at 6^h 46^m.
21	6 40	Northern Luzon	Central Range	220	190	V	Light repetition at 14^h 50^m.
23	9 8	Eastern Mindanao	Near the E coast	110	40	III	
24	14 56	Western Mindanao	Illana Bay	300	100	VI	Registered in Europe.
25	23 4	Eastern Mindanao	Near the E coast	100	40	III	
1898							
1	8 1	Western Mindanao	SE Sulu Sea			IV	
11	4 6	Southeastern Mindanao	E Davao Gulf	200	80	IV	
28	11 46	Albay Province	Near the SE coast	100	60	IV	
1899							
13	20 45	Eastern Mindanao	Agusan River Valley			III	
23	14 26	Western Luzon	Zambales Range			IV	
1900							
14	4 14	Eastern Visayas	S of Masbate Island			V	Indicated at Manila by the Bertelli tromometer. During the morning strong telluric currents were observed, which interfered with the messages passing over the cable which rounds the northern part of Cebu Island.
29	3 12	Panay Island	SE part of the Island			V	Indicated at Manila by the Bertelli tromometer.
30	22 15	Manila				III	
1901							
3	1 32	Eastern Mindanao	Off the E coast	300	150	IV	Do.
6	22 46	Union and Benguet Province	N Mount Santo Tomas			III	
9	21 12	Manila	Outside of the Archipelago			II	
1902							
6	20 32	Samar and Leyte	Near the E coast	250	180	V	Registered at Manila.
16	15 1	Rizal Province	N of Lake Bay	70	60	III	
17	21 44	Eastern Luzon	S of Casiguran Bay	140	40	III	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF AUGUST—Continned.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1902	*h. m.*			*Km.*	*Km.*		
21	19 17	Mindanao and the Visayas	N Illana Bay	700	680	X	Rumblings heard at great distance. Frequent aftershocks, some very strong, during the 22 and following days. Registered at Manila and European observatories.
26	1 9	Panay and Negros Islands	About φ=10° 55′; λ=122° 24′	300	280	IX	Rumblings; only one aftershock is reported. Registered at Manila.
29	21 0	Western Mindanao	N Illana Bay	200	150	IV	
30	1 35	do	do	200	150	IV	
1903							
1	0 52	Camarines Province	W of Lake Bato	40	30	II	
1	9 7	Eastern Mindanao	Agusan River Valley	80	60	III	
2	3 2	do	do	180	90	IV	
2	10 0	Northwestern Mindanao	About φ=8° 40′; λ=123° 50′	120	80	IV	Rumbling sounds.
3	16 0	Eastern Samar	Near the SE coast	80	30	III	
7	9 7	Eastern Mindanao	Agusan River Valley	70	60	III	
7	20 59	Western Luzon	NW Zambales Range	300	150	IV	
8	16 3	Eastern Mindanao	Agusan River Valley	200	120	IV	
10	5 45	do	do	200	120	IV	
11	4 42	Camarines Province	W of Lake Bato	50	40	II	
11	6 15	Eastern Mindanao	Agusan River Valley	60	40	III	
11	18 25	do	do	240	160	V	Aftershocks at $18^h\ 35^m$ and $19^h\ 5^m$.
12	8 18	do	do	80	70	IV	Second shock at $19^h\ 50^m$.
12	20 10	Jolo Island	S Sulu Sea			III	
14	1 53	Camarines Province	W of Lake Bato	40	20	III	
15	14 40	Eastern Mindanao	Agusan River Valley	80	60	IV	
15	18 59	Northwestern Mindanao	About φ=8° 40′; λ=123° 50′	90	50	III	
16	11 11	Ilocos Sur	Off the Ilocos coast	120	30	III	Registered at Manila.
20	11 44	Eastern Visayas Islands	Near SE coast of Samar	320	180	V	Do.
21	19 30	Northeastern Mindanao	Near the NE coast	180	100	IV	
26	2 30	Western Luzon	Near Cape Bolinao	60	30	II	
28	6 18	Western Samar	Near Biliran Island	70	20	III	
31	2 59	Western Luzon	Near Cape Bolinao	80	40	III	
31	9 10	Southeastern Luzon	Near NW coast of Samar	50	30	III	
1904							
3	13 23	Eastern Mindanao	Agusan River Valley	220	140	V	Do.
4	13 17	Northern Luzon	Near the N coast	90	40	III	
13	8 29	Northern Mindanao	N Agusan River Valley	80	60	III	
22	5 20	do	do	80	60	III	
27	6 20	SE Luzon and the Visayas	NW of Masbate Island	300	220	V	Do.
1905							
1	11 42	Eastern Samar	Near the E coast	40	10	III	
1	13 14	Northeastern Leyte	Near SW Samar	60	40	III	Aftershock at $13^h\ 38^m$.
4	15 7	do	do	60	40	III	Aftershock at $17^h\ 35^m$.
5	12 54	NE Leyte and S Samar	do	120	80	V	Registered at Manila.
24	3 20	Northern Mindanao	N Agusan River Valley	80	60	III	
24	16 6	Albay Province	Near the Mayon Volcano	40	30	III	
26	7 43	Eastern Samar	Near the SE coast	80	30	III	
27	23 45	Batanes Islands	S of the group			III	
28	22 0	Northern Mindanao	N Agusan River Valley	40	40	II	
31	19 17	Northeastern Leyte	Near SW Samar	60	40	III	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF AUGUST—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1906	*h. m.*			*Km.*	*Km.*		
3	2 5	Northeastern Mindanao	Near the NE coast	80	40	III	
3	5 35	Eastern Mindanao	Agusan River Valley	180	130	IV	
5	9 52	Eastern Samar	Off the E coast	160	40	IV	Registered at Manila.
7	20 30	Southeastern Mindanao	Off the SE coast	140	50	III	
10	3 46	Northeastern Leyte	Near SW Samar	40	30	III	
11	4 5	Eastern Samar	Near the E coast	60	20	III	
14	4 7	E Visayas and NE Mindanao	S of Samar	200	130	IV	Do.
17	4 10	Western Leyte	Near the W coast	80	20	III	
21	4 36	Samar and Leyte	SW Samar	140	100	IV	
1907							
1	9 25	Eastern Samar	Near the SE coast	200	60	IV	
1	22 15	Panay Island	Near the NW coast	130	70	III	Do.
3	5 45	Western Leyte	Near the W coast	80	40	III	
3	17 38	Southeastern Mindanao	Near the SE coast	100	40	III	
7	6 30	Eastern Mindanao	Near the E coast	60	20	III	
7	20 10	Northern Mindanao	Butuan Bay	80	30	III	
9	15 51	Panay Island	Near the NW coast	100	60	III	Do.
9	21 56	Southern Mindanao	Near the SE coast	80	30	III	
10	18 31	Western Luzon	S Zambales Range	60	40	II	Do.
17	4 27	Albay Province	Near the SE coast	80	50	III	Do.
17	17 35	Western Mindanao	SE Sulu Sea	80	30	II	
19	10 45	Northern Mindanao	Butuan Bay	80	40	III	
22	19 30	do	Near Camiguin Volcano	100	40	III	
24	16 37	Western Leyte	Near the W coast	60	30	II	
29	18 20	Northern Luzon	Babuyanes group	170	40	III	
31	8 18	N Luzon and Batanes Islands	do	180	60	V	Do.

BULLETIN FOR SEPTEMBER, 1908.

METEOROLOGICAL BULLETIN FOR SEPTEMBER, 1908.

By Rev. José Coronas, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The monthly mean of atmospheric pressure for the Philippines does not differ much from the normal for September. Thus in Manila, for example, this difference is only —0.18 mm. If we compare the means of our stations with those of the preceding year, we will find that the differences are positive in nearly all of them and somewhat pronounced in the whole Island of Luzon, and especially so in the northern part. We give below, as usually, the table of pressure and temperature. The highest pressures were recorded everywhere on the 14th, except in Tuguegarao and Aparri, where they were registered on the 17th. The lowest pressures took place during the heaviest typhoon of the month: on the 23d in the eastern section of the Philippines, and on the 24th in the western part.

The mean temperature for the month likewise differs very little from the normal of this month. Compared with that of September, 1907, it generally appears to be a little lower in the Visayas and a little higher in Luzon. The absolute maximum and minimum for Manila were 33.7° C. and 22.3° C., respectively.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, SEPTEMBER, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from September, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from September, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.34	—0.11	759.11	14	751.61	23	27.2	—0.7	34.2	27	22.4	15
Surigao	57.52	— .01	59.45	14	50.88	23	27.1	----------	33.9	11	22.5	16, 25
Cebu	57.70	+ .50	59.54	14	50.64	23	26.7	— .4	32.9	10	22.4	6, 15
Iloilo	57.75	+ .04	59.65	14	51.08	23	26.7	+ .5	33.2	16	22	24
Ormoc	57.73	+ .18	59.70	14	48.72	23	25.9	— .6	32.1	25, 27	20.6	16
Tacloban	57.54	+ .42	59.97	14	46.58	23	27	— .6	35.2	2	22.5	21
Capiz	57.60	+ .07	59.76	14	49.23	23	26.4	0	32.4	25	18.5?	23
Calbayog	57.60	+ .12	60.15	14	45.61	23	----------	----------	----------	----------	21.8	21
Legaspi	57.34	+ .59	59.77	14	50	23	26.9	— .1	36	1	22.4	16, 26
Atimonan	57.25	+ .71	59.67	14	50.78	24	26.9	— .2	35.9	2	22.3	19
Olongapo	57.22	+ .57	59.43	14	49.18	24	26.6	+1	34.7	18	22.5	27
San Isidro	57.55	+ .78	59.70	14	50.87	24	26.8	+ .6	35.4	1	22.4	21
Dagupan	57.20	+ .69	59.43	14	50.40	24	----------	----------	----------	----------	22.4	21
Vigan	57.29	+ .87	59.57	14	50.59	24	----------	----------	33	6, 25	23.2	7
Tuguegarao	57.35	----------	59.62	17	53.78	24	27.4	----------	34.8	16	22.5	2, 10, 13
Aparri	57.84	+1.28	60.16	17	54.53	24	27.5	+ .7	34	16	22.8	17

Precipitation.—The quantity of rainfall during this month in all the stations of Mindanao, the Visayas, and southeastern Luzon was greater than that for September of last year, but on the other hand, it was less in the stations of central and northern Luzon. The total for Manila was 225.5 mm., an amount which falls 137.8 mm. short of the normal for September.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF SEPTEMBER, 1908.

Station.	Total.	Departure from September, 1907.	Rainy days.	Departure from September, 1907.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from September, 1907.	Rainy days.	Departure from September, 1907.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	330.3	+149.2	18	+ 6	126	4	Sumay, Guam, Ladrones Is.	174.3	--------	21	------	26.2	3
Isabela, Basilan	385.5	+247.5	20	+ 7	67.3	23	Legaspi	427.5	+250.6	25	+ 6	110	23
Zamboanga	168.9	+ 69.4	8	+ 2	114	23	Virac	148.6	--------	22	------	31.2	22
Davao	227.7	+ 93.3	7	+ 3	49	16	Batangas	404.4	--------	16	------	105.7	23
Cotabato	405.5	+122.2	19	+ 2	80	23	Atimonan	726.8	+645.8	23	+12	208.6	19
Cagayan, Misamis	362.4	--------	22	------	107.1	22	Silang	431.8	+200.4	13	+ 2	85.3	24
Butuan	238	--------	19	------	37.1	21	San Antonio, Laguna	311.8	+ 22.1	15	− 6	59.7	19
Yap, W. Carolines	311.7	− 89.6	21	0	41.1	24	Corregidor	313	−197.5	8	− 8	96.5	5, 19
Tagbilaran	310.7	+279.3	14	+ 8	70.7	16	Manila	225.5	− 53.2	25	+ 6	54.8	19
Surigao	290.6	+176.8	17	+ 7	60.5	19	Balanga	215.5	−280	23	+ 4	54.1	19
Maasin	381.3	+100.2	14	+ 1	106.9	22	Olongapo	259.8	−458.4	21	0	86.7	19
Cebu	391.5	+319.9	20	+ 8	122.7	1	San Isidro	296.6	− 23	20	− 2	78.7	12
Bacolod	417.1	+168.9	17	+ 1	110.7	23	Tarlac	306.4	− 51	18	− 4	84.6	24
Iloilo	300.7	+ 2	19	+ 2	100.9	24	Dagupan	233.9	−181.2	17	− 5	63.8	1
San Jose, Buenavista	866.4	+146.7	22	+ 1	253.5	29	Bolinao	297.1	−273.9	18	− 8	49.8	28
Tuburan	342.8	+317.9	14	+10	94.2	28	Baguio, Benguet	172.5	−414.4	18	− 8	20.8	10
Cuyo	534.7	+130.1	22	+ 7	91.9	20	Sán Fernando, Union	82.1	−475.7	13	− 3	17.8	30
Ormoc	601.3	+460.3	19	+ 6	190.8	23	Echague	228.5	--------	22	------	45.5	24
Tacloban	254.5	+180.5	18	+ 1	60.9	28	Candon	122.5	−395.8	14	− 4	27.9	21
Capiz	373.6	+225.6	17	+ 4	77.5	23	Vigan	224.7	−159.5	16	− 6	104.4	28
Calbayog	666.2	+571.5	22	+ 6	191.3	23	Tuguegarao	164.4	− 28.9	9	− 6	35.3	16
Romblon	217.3	+ 69.7	16	+ 8	41.1	4	Laoag	182.3	--------	15	------	61.2	27
Laoang	270.7	--------	14	------	109	22	Aparri	120.4	−113.5	10	−11	42.4	23
Gubat	306.5	+208.4	14	0	71.1	18	Sto. Domingo, Batanes Is.	201.1	−356.2	20	− 2	45.6	26

DEPRESSIONS AND TYPHOONS.

Passing over a few unimportant depressions whose track it would be difficult to determine, we shall fix our attention only on the five typhoons observed in the Far East during this month. Of these, three crossed over our Archipelago and two recurved in the Pacific without touching the Philippines or Japan. We will speak at some length on the typhoon of the 23d and 24th, as it was one of those storms of extraordinary intensity, which only at long intervals visit the Archipelago, spreading desolation and fearful ruin far and wide along its path.

Among the depressions which we pass over is one that the Observatory announced as existing in the Pacific to the NE of Luzon and SE of the Loochoos Islands on the 3d and 4th. All we wish to say here about this depression is that in all probability it did not advance far, but rather filled up on the 5th in the Pacific.

TYPHOON IN THE PACIFIC, SEPTEMBER 7 TO 13.

This typhoon first appeared on the 7th to the E of Luzon and at a great distance from the Philippines. On the 8th the Manila Observatory announced it to be NE of Luzon and moving in a northwesterly direction. However, from observations received later on, we may say that the direction was probably more inclined to the north. On the 9th, at 10 a. m., the following telegram was sent to Japan, Formosa, the China coast, and Indo-China:

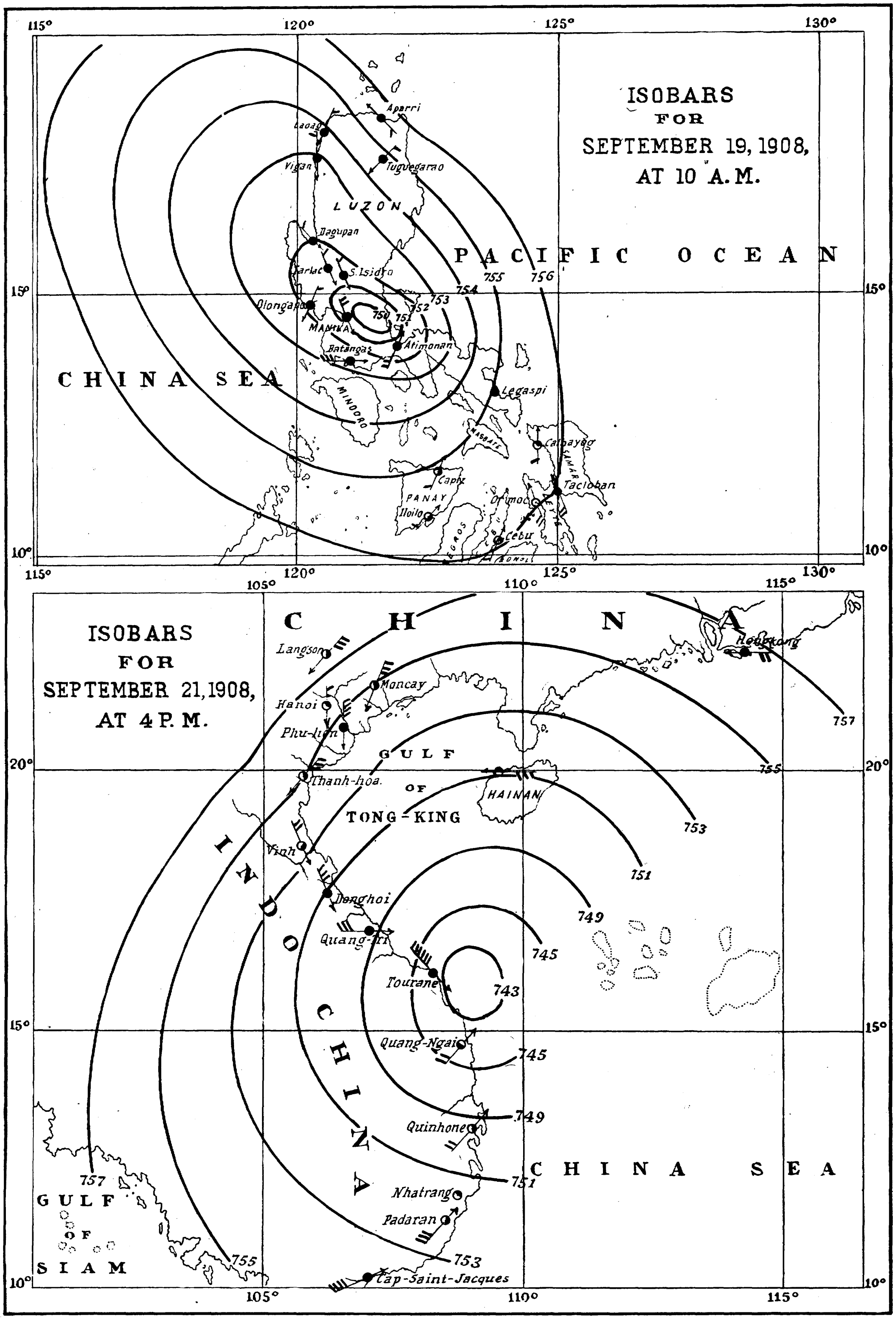
Typhoon SE of Naha (Loochoos Islands) recurving northeastward.

In the ordinary weather notes of the 10th, 11th and 12th, the Observatory confirmed the recurving of the typhoon in the following words:

10th, 12.15 p. m.: The typhoon over the Pacific has recurved and is moving at present NNE toward Japan.
11th, 10.45 a. m.: The typhoon of the preceding days seems to be moving at present northeastward.
12th, 12.15 p. m.: The typhoon is situated NNW of the Bonin Islands moving NE or ENE.

The data received afterwards fully agree with the warnings sent out by Manila Observatory. According to the track published in the "Journal of the Meteorological Society of Japan," October, 1908, the center was located at 10 p. m. of the 9th in the vicinity of 25° lat. N and 129½° long. E, moving northeastward. It advanced approximately in the same direction during the 10th, 11th and 12th, and at 10 p. m. of the latter date passed very close by the south of Hachijo Island, where the barometer fell to 740 mm. (not reduced to standard gravity).

Plate IX.



N.B.-The barometric readings have been reduced to standard gravity.

TYPHOON OF TOURANE (INDO-CHINA), SEPTEMBER 18 TO 23.

The Manila Observatory sent to Japan, Formosa, the China coast, and Indo-China the following warnings of this typhoon:

18th, 3 p. m.: Typhoon E of the Visayas Islands developing.
19th, 9 a. m.: Typhoon E of Manila, less than 300 miles distant, moving W.
19th, 5 p. m.: Typhoon NW of Manila, moving WNW.
20th, noon: Typhoon over N China Sea, moving WNW or NW.
21st, 11.40 a. m.: Typhoon over N China Sea, moving W.

We believe it necessary to make a few remarks about the first two warnings, those corresponding to the 18th and 19th. In the first place, when we announced on the 19th, at 9 a. m., that a typhoon was situated to the east of Manila at a distance of less than 300 miles, we knew perfectly well that the cyclonic center was less than 60 miles from that city, as the 6 a. m. observations of Atimonan showed unmistakably that the vortex was already near the meridian of that station. Nevertheless, as we are obliged in sending our storm warnings by telegraph to use a code published for this purpose during the past year, and in this code there are only two series of words for a typhoon to the east of Manila, one signifying a cyclone more than 300 miles distant, and the other, one less than 300 miles, so we were forced to send to the foreign Observatories and to our own stations the above telegram. However, we wired to the latter a more explicit telegram at noon of that day, announcing that the center was located near the meridian of Manila between the parallels 15° and 17° N and moving toward the China Sea.

In the second place, we do not believe it at all probable that the depression, which on the morning of the 19th appeared to the east of Manila, was the same typhoon or depression that, in the afternoon of the 18th, had been situated on the weather map of the Philippines to the east of the Visayas, as had been announced at 3 p. m. of that day. This would suppose a very extraordinary velocity, possible, it is true, in high latitudes, but unheard of in the Philippines.

It is not our intention to enter upon a long discussion on the origin and formation of this typhoon. We will say only that after a careful examination of all the observations we have received from our stations in the Visayas and in Luzon, we believe we can state with some probability that, although during the whole of the 18th a depression more or less developed existed in the Pacific to the east of the Visayas, nevertheless the cyclonic center that passed north of Manila at noon of the 19th was formed during the night of the 18th somewhere near the northern part of Ambos Camarines province, nearer to Legaspi and Virac (Catanduanes) than to Atimonan. This typhoon seems to have moved westward from midnight of the 18th or 2 a. m. of the 19th until 10 a. m. of the same day; from 10 a. m. to 4 or 5 p. m. it moved northwestward; at 5 p. m. it began again to move westward and kept this direction while crossing the China Sea until it entered Indo-China in the evening of the 21st.

The cyclonic center at 4 or 5 p. m. of the 19th was almost half way between Dagupan and Olongapo, and after 6 p. m. of the 21st it entered Indo-China north of Tourane and very close to that place.

The development this typhoon had when it reached Indo-China had been acquired for the most part in the China Sea. See Plate IX in which we give the distribution of the isobars at 10 a. m. of the 19th and 4 p. m. of the 21st. From these it can be easily seen how different the form of this typhoon was when crossing Luzon from that it had two days later when approaching the Continent.

THE "TARLAC" TYPHOON, SEPTEMBER 18 TO 27.

This cyclone deserves an important place in the annals of the Philippine storms. We have called it by the name of "Tarlac," for the reason that it caused the wreck of a ship bearing that name, not far from Borongan on the eastern coast of Samar. It is true that owing to the prompt action of the "Compañía General de Tabacos de Filipinas" to which the ship belongs, they were able to save the vessel, and, after the necessary repairs are made, she will again ply the waters of these seas; but this will only be accomplished after an expenditure of about ₱90,000.

Origin.—Once more the importance of the station in Yap, Western Carolines, has been demonstrated. The stations on the eastern coasts of Samar and Mindanao did not show certain signs of a typhoon until early on the morning of the 22d; nevertheless, owing entirely to the telegrams received from Yap, the Manila Observatory was able on the morning of the 20th to announce the existence of the storm in a telegram to Japan, Formosa, the China coast and Indo-China:

September 20th, 9 a. m.: Typhoon W of Yap (Western Carolines); direction unknown.

The ordinary weather note of the 20th published in the newspapers of Manila gives the same warning in the following words:

20th, 12.15 p. m.: A new typhoon appeared last night about west of Yap; its actual direction can not yet be ascertained. It will probably influence the weather of the Philippines within one or two days.

Although it was not considered necessary to hoist any storm signal in the Philippines until the morning of the 22d, when there was no longer any doubt that the typhoon threatened to cross the Archipelago, still the fact that on the 20th a cyclonic center existed to the west of the Carolines was sufficient to make everyone alert on the following days and act with greater promptness in hoisting the proper signals as soon as the farthermost eastern stations of the Philippines gave the first signs of the atmospheric disturbance.

For the purpose of showing more clearly the point or place of origin of this typhoon, we publish here a table containing the observations taken at Yap from September 17 to 21:

METEOROLOGICAL OBSERVATIONS AT YAP, WESTERN CAROLINES, SEPTEMBER 17 TO 21, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.	Rainfall (daily total).
			Direction.	Force.		
September 17:	*mm.*	*mm.*		*0-12.*		*mm.*
6 a. m	759.47	+0.01	NE	1	c	----------
2 p. m	57.75	—0.13	NE	3	c	2.5
September 18:						
6 a. m	57.46	—2.01	NE	3	o	----------
2 p. m	55.88	—1.87	NE	4	o	5.3
September 19:						
6 a. m	55.34	—2.12	ESE	5	o	----------
2 p. m	55.48	—0.40	NE	4	o	20.3
September 20:						
6 a. m	55.34	0	ESE	4	o	----------
2 p. m	54.83	—0.65	ESE	5	c	38.9
September 21:						
6 a. m	57.00	+1.66	NE.	1	o	----------
2 p. m	56.06	+1.23	NE	3	o	34.8

According to these data, it seems that the typhoon was forming south of Yap on the 17th and 18th; and since the fall in the barometer, although moderate, was not very pronounced, the formation of the center must have taken place at a considerable distance from that station. On the 20th the winds were steady from ESE, a fact that situated the center to the WSW. Probably it was then somewhat farther from Yap than on the previous day, supposing that it had moved WNW: but it seems certain it was acquiring greater development, and hence the barometer remained at about the same height or even a little lower than on the 19th.

The typhoon in the Philippines.—As we shall presently see, the typhoon entered the Island of Samar on the morning of the 23d. Twenty-four hours before, the Manila Observatory sent this explicit typhoon warning to the observatories of Tokio, Zikawei (Shanghai), Taihoku (Formosa), Hongkong, and Phulien (Indo-China):

22d, 9 a. m.: Typhoon E of the Visayas moving W or WNW.

The same telegram was sent to all the stations of the Philippines on the same morning. The Director of the Weather Bureau wired to the Executive Secretary the following note:

22d, 10.08 a. m.: Typhoon E Visayas moving W or WNW. Samar, northern Leyte, Masbate, Albay Province, islands between Panay and Luzon are threatened. Notice to proper authorities useful.

About the same time we ordered the fourth typhoon signal (typhoon dangerous but not as yet imminent) to be hoisted in the whole Island of Samar and northern Leyte.

The following table shows the state of the atmosphere in the Philippines at 6 a. m. and 2 p. m. of the 21st, and 6 a. m. and and 2 p. m. of the 22d.

METEOROLOGICAL OBSERVATIONS FOR SEPTEMBER 21 AND 22, 1908.

SEPTEMBER 21, 1908.

Stations.	6 a. m.					2 p. m.				
	Pressure.	Difference in 24 hours.	Wind.		Weather.	Pressure.	Difference in 24 hours.	Wind.		Weather.
			Direction.	Force.				Direction.	Force.	
	mm.	*mm.*		*0-12.*		*mm.*	*mm.*		*0-12.*	
Jolo	759.13	+0.19	Calm	------	o	757.16	+0.11	WSW	2	o
Zamboanga	58.19	—0.05	Calm	------	o	58.24	+0.62	W	3	o
Tagbilaran	57.50	+0.29	NE	1	o	56.71	+0.54	NW	2	o
Surigao	57.08	—0.04	Calm	------	o	57.09	+0.55	Calm	------	r
Cebu	57.50	+0.07	Calm	------	c	57.47	+0.88	S	1	o
Iloilo	57.95	+0.10	Calm	------	o	57.70	+0.70	SW	1	d
Cuyo	57.31	+0.47	S	2	o	57.27	+0.57	S	2	c
Tacloban	57.80	+0.50	WNW	1	o	57.20	+0.53	WNW	1	o
Calbayog	57.92	+0.74	N	1	c	57.28	+0.36	W	1	d
Masbate	58.27	+0.80	SW	2	c	57.55	+0.77	SW	3	c
Romblon	57.36	+1.40	SW	4	o	57.00	+1.09	SE	4	o
Laoang	58.17	+0.38	Calm	------	c	57.25	+0.32	W	2	c
Legaspi	57.96	+1.24	Calm	------	b	57.01	+1.28	E	1	c
Calapan	55.73	+1.35	Calm	------	c	56.07	+1.75	E	1	c
Atimonan	57.35	+1.34	Calm	------	c	57.38	+1.89	NNW	1	t, l, d
Manila	57.31	+1.52	Calm	------	o	56.33	+1.30	WNW	0	c
Vigan	57.13	+3.16	SE	1	b	56.42	+2.31	NW by N	3	c
Aparri	57.59	+1.19	S	1	b	57.52	+2.33	NE	2	b
SEPTEMBER 22, 1908.										
Jolo	758.92	—0.21	Calm	------	o	756.96	—0.20	SW	2	o
Zamboanga	58.26	+0.07	Calm	------	o	56.57	—1.67	W	3	o
Tagbilaran	56.55	—0.95	NNE	1	o	54.70	—2.01	W	3	q
Surigao	55.97	—1.11	W by S	4	u, d	53.21	—3.88	WSW	6	d
Cebu	56.81	—0.69	W by S	1	t, l	55.08	—2.39	N	1	r
Iloilo	57.60	—0.35	NW	0	o	55.97	—1.73	W	1	o
Cuyo	58.16	+0.85	W	4	o	56.65	—0.62	NW	4	c
Tacloban	56.77	—1.03	NNW	2	d	53.71	—3.49	N by W	5	q
Borongan	56.20	----------	Calm	------	r	53.37	----------	NNW	7	q
Calbayog	57.37	—0.55	N	1	p	54.80	—2.48	WNW	1	d
Masbate	57.79	—0.48	SW	2	o	55.28	—2.27	NW	3	o
Romblon	57.50	+0.14	NE	3	r	54.94	—2.06	N	5	c
Laoang	56.67	—1.50	N	4	o	54.48	—2.77	NNE	6	q
Legaspi	57.65	—0.31	Calm	------	c	55.34	—1.67	ENE	3	d
Calapan	57.09	+1.36	Calm	------	c	56.00	—0.07	Calm	------	t, l
Atimonan	58.17	+0.82	Calm	------	c	56.11	—1.27	N	2	c
Manila	58.68	+1.37	Calm	------	o	56.99	+0.66	NNW	2	t, d
Vigan	58.49	+1.36	SE	1	b	56.94	+0.52	NNW	3	o
Aparri	59.31	+1.72	SSW	1	c	57.95	+0.43	NE	2	b

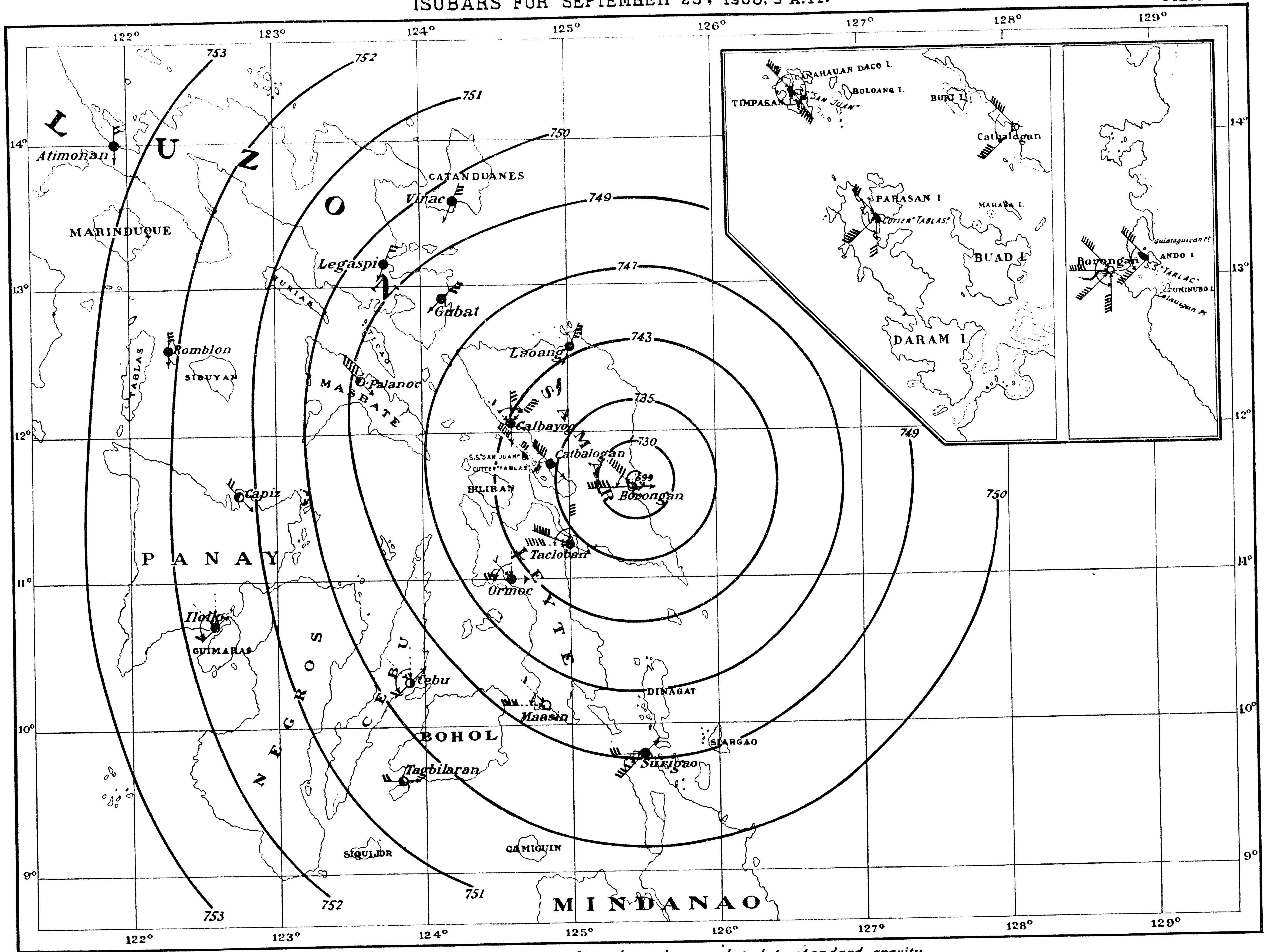
The observations of the 21st as yet gave no signs of the typhoon and for this reason the Observatory did not take any special precaution, but simply gave out the following in the ordinary weather note for that day:

> 21st, 12.05 p. m.: The other typhoon over the Pacific may be situated about north or northwest of the Pelew Islands; but the stations over the eastern Visayas and eastern Mindanao do not give yet any sign of its existence.

On the morning of the 22d the barometric gradient was very marked toward the east of the Visayas and it kept getting steeper during the day; so that in the afternoon the Observatory announced that it was a typhoon of extraordinary intensity and threatened to cross the Island of Samar.

ISOBARS FOR SEPTEMBER 23, 1908, 9 A.M.

Plate X.



N. B.- The barometric readings have been reduced to standard gravity.

We will see now where the center entered Samar and the path through the island and across the rest of the Archipelago.

The station of Borongan was a little south of the vortex. The excellent observations of the diligent observer in that place, Father Cesareo Montes, are very interesting. No calm was noted there in spite of the fact that the barometer fell to 699.12 mm.; but it was observed in the Island of Ando, 3 miles NE of Borongan where the steamer *Tarlac* took refuge from the storm. According to the captain of the ship the calm lasted there about five minutes.

Fr. Cesareo Montes has also sent us a special report, which is well worth reading, on the passage of the typhoon over Borongan and the Island of Ando. It will be found at the end of this discussion.

Plate X represents the distribution of the isobars and the position of the center at 9 a. m. of the 23d when the typhoon was at its least distance from Borongan. Plate XI is a reproduction of the curve obtained in that place from the Richard barograph. The part which is drawn by the dotted line was traced with the aid of the direct observations of a mercurial barometer as the barograph was unable to complete the record.[1] A glance of this curve will suffice to form some idea of the steep gradient of the barometer in the vicinity of the center and likewise of the extreme violence of the winds which nothing was able to resist.

The following table shows the atmospheric conditions in the Philippines at 6 a. m. and 2 p. m. of the 23d:

METEOROLOGICAL OBSERVATIONS FOR SEPTEMBER 23, 1908.

Stations.	6 a. m.					2 p. m.				
	Pressure.	Difference in 24 hours.	Wind.		Weather.	Pressure.	Difference in 24 hours.	Wind.		Weather.
			Direction.	Force.				Direction.	Force.	
	mm.	*mm.*		*0-12.*		*mm.*	*mm.*		*0-12.*	
Jolo	757.05	— 1.87	S	4	u	755.29	— 1.67	SW	5	d
Zamboanga	55.79	— 2.47	W	3	q	53	— 3.57	W	4	q
Tagbilaran	52.53	— 4.02	WSW	2	o	49.55	— 5.15	SW	5	q
Surigao	49.81	— 6.16	SW	6	o	49.94	— 3.27	S	2	d
Cebu	51.90	— 4.91	WSW	1	u, r	48.35	— 6.73	SW	2	q
Iloilo	54.02	— 3.58	SW	0	r	49.20	— 6.77	W	2	u, r
Cuyo	55.38	— 2.78	W	2	r	52.21	— 4.44	NW	7	u
Tacloban	45.53	—11.24	NW	11	q	45.74	— 7.97	SSW	10	q
Borongan	41.16	—15.04	NWbyW	11	q	--------	--------	--------	--------	--------
Calbayog	48.57	— 8.80	NNW	2	q	34.05	—20.75	SE	10	q
Masbate	52.69	— 5.10	NW	7	q	41.93	—13.35	NW	9	q
Romblon	54.23	— 3.27	N	6	q	49.28	— 5.66	NNW	10	q
Laoang	48.70	— 7.97	NNE	5	q	44.67	— 9.81	ESE	11	q
Legaspi	52.73	— 4.92	NE	2	o	46.15	— 9.19	ENE	6	q
Calapan	55.11	— 1.98	NNW	1	o	52.25	— 3.75	Calm	------	r
Atimonan	55.51	— 2.66	N	1	r	51.75	— 4.36	N	2	q
Manila	56.58	— 2.10	Calm	------	r	53.53	— 3.46	NNW	2	d
Vigan	56.38	— 2.11	NE	1	c	53.76	— 3.18	ENE	4	o
Aparri	57.98	— 1.33	SE	0	r	56.06	— 1.89	NE	3	q

The center left the Island of Samar very near to the north of Catbalogan a little after 11 a. m. On the 24th Dr. Cullen, the voluntary observer there, sent to the Central Office the following telegram giving some details about the intensity and the effects of the typhoon:

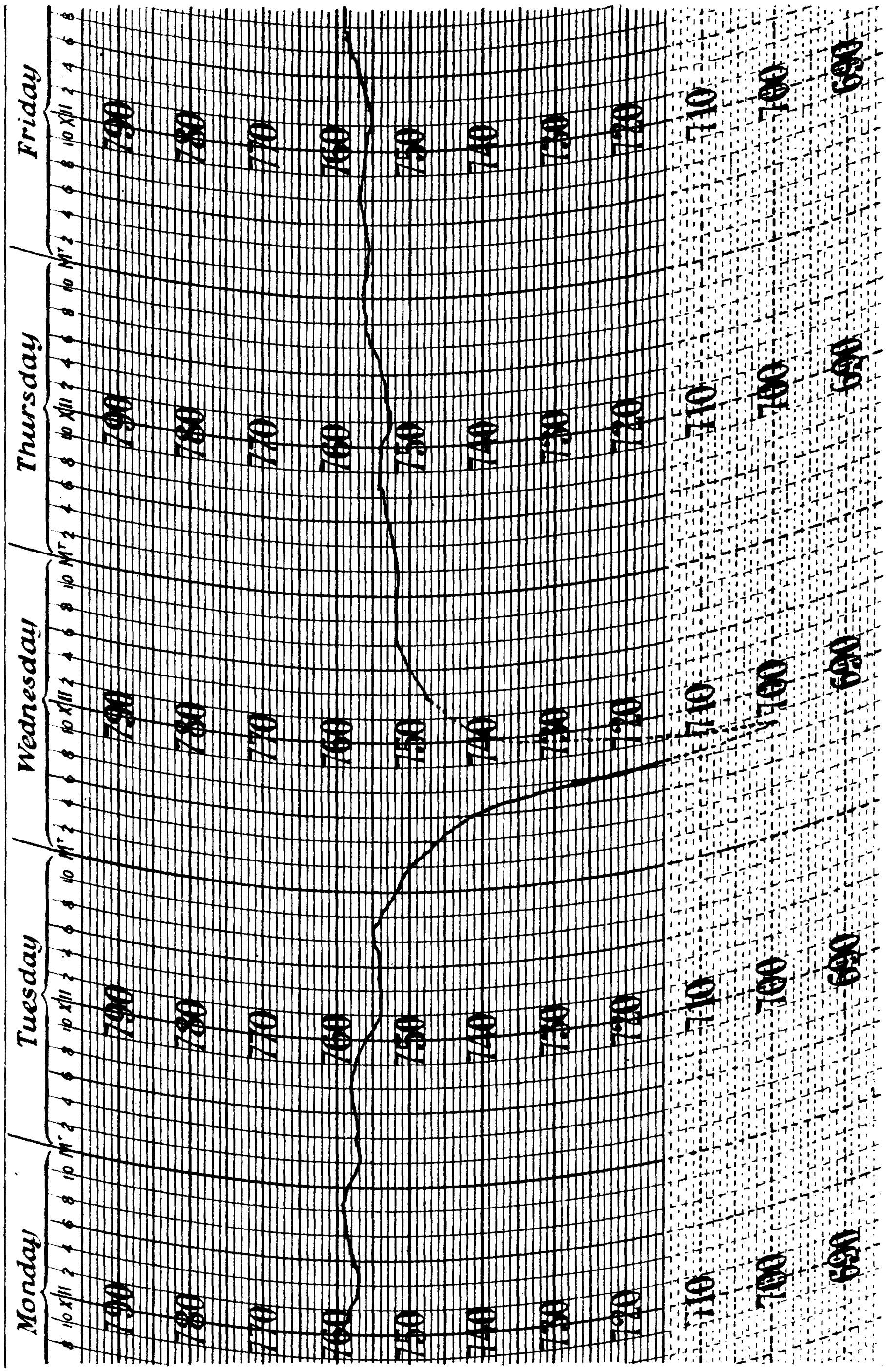
Two hundred fifty houses completely destroyed: station damaged but instruments and mast saved. Sea rose two meters.

Further on we publish the entire report of Mr. Pooley, captain of the steamer *San Juan* which gives with sufficient exactness another point in the track of the typhoon. The ship *San Juan*

[1] We suppose in this curve that the barometric minimum was 699.10 mm., as Fr. Montes observed with his mercurial barometer. It is true that the same authority had assured us that his aneroid barometer had given minimum of 698 mm. but we think it likely that this reading had not been reduced to sea level. By making the proper correction we see that the aneroid almost agrees with the minimum of the mercurial, and we consequently take this to be the correct minimum of the typhoon.

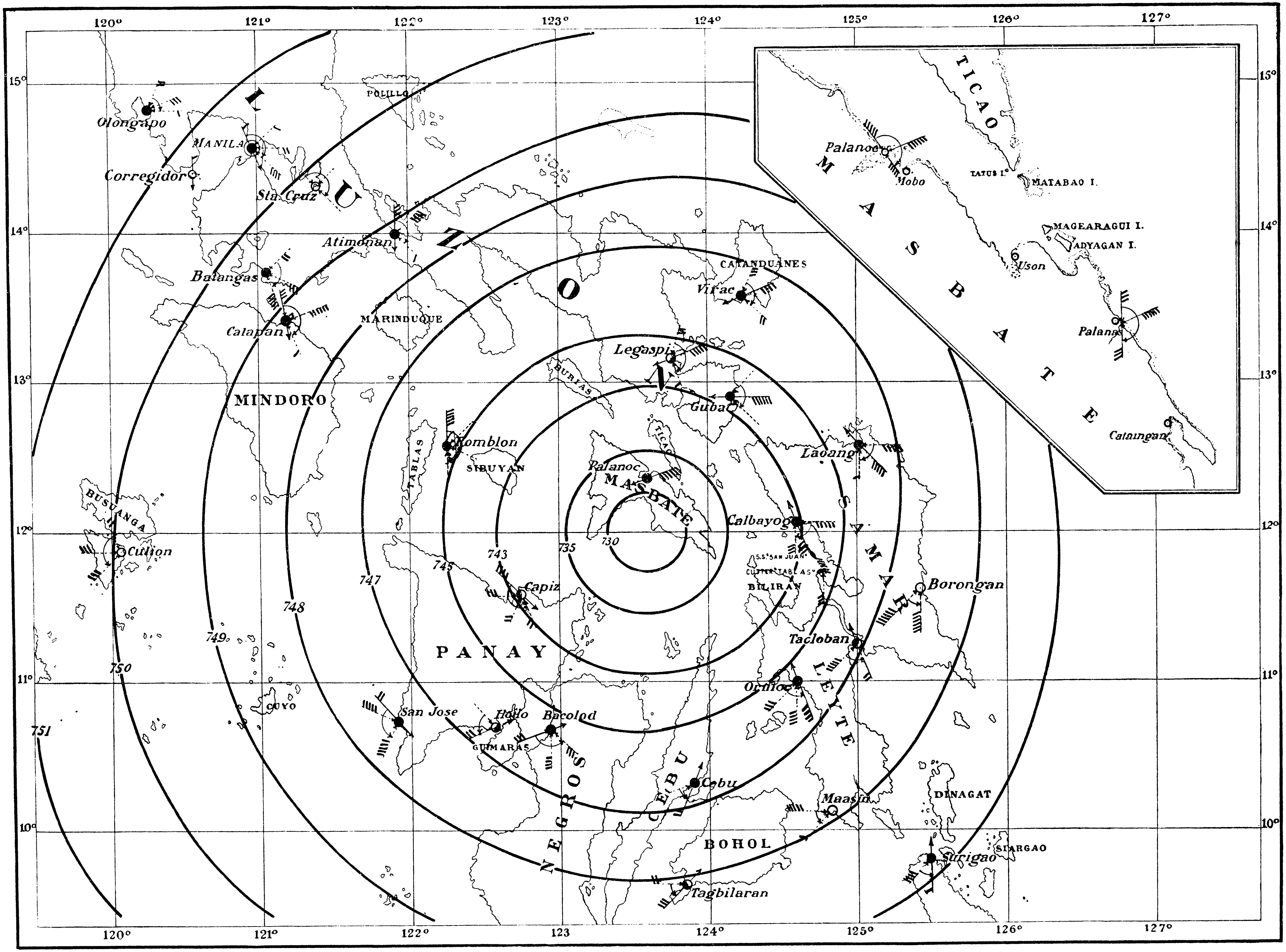
Plate XI.

BAROGRAPHIC RECORD AT BORONGAN, SAMAR
SEPTEMBER 21 TO 25, 1908.



ISOBARS FOR SEPTEMBER 23, 1908, 5 P. M.

Plate XII.



N. B.- The barometric readings have been reduced to standard gravity.

had taken refuge in the port of Aguirre on the Island of Canahauan to the WNW of Catbalogan. A little after 11.30 a. m. the calm was observed and it lasted seven minutes during which the barometer was as low as 707.01 mm.

Palanoc (Masbate) and Romblon are the next stations which will serve us as a guide to study the track of this typhoon in its course across the interisland seas between Luzon and the Visayas. The barometric minima were almost identical in both stations, whence it follows that since Romblon is situated almost in the same degree of latitude as Palanoc, the typhoon must have moved during this time more inclined to the west than when it entered the Archipelago by the Island of Samar. The minimum took place in Palanoc at 5.20 p. m. and in Romblon at 10.30 p. m. and the winds veered in both stations from NW to N, E and SE; but no calm was observed.

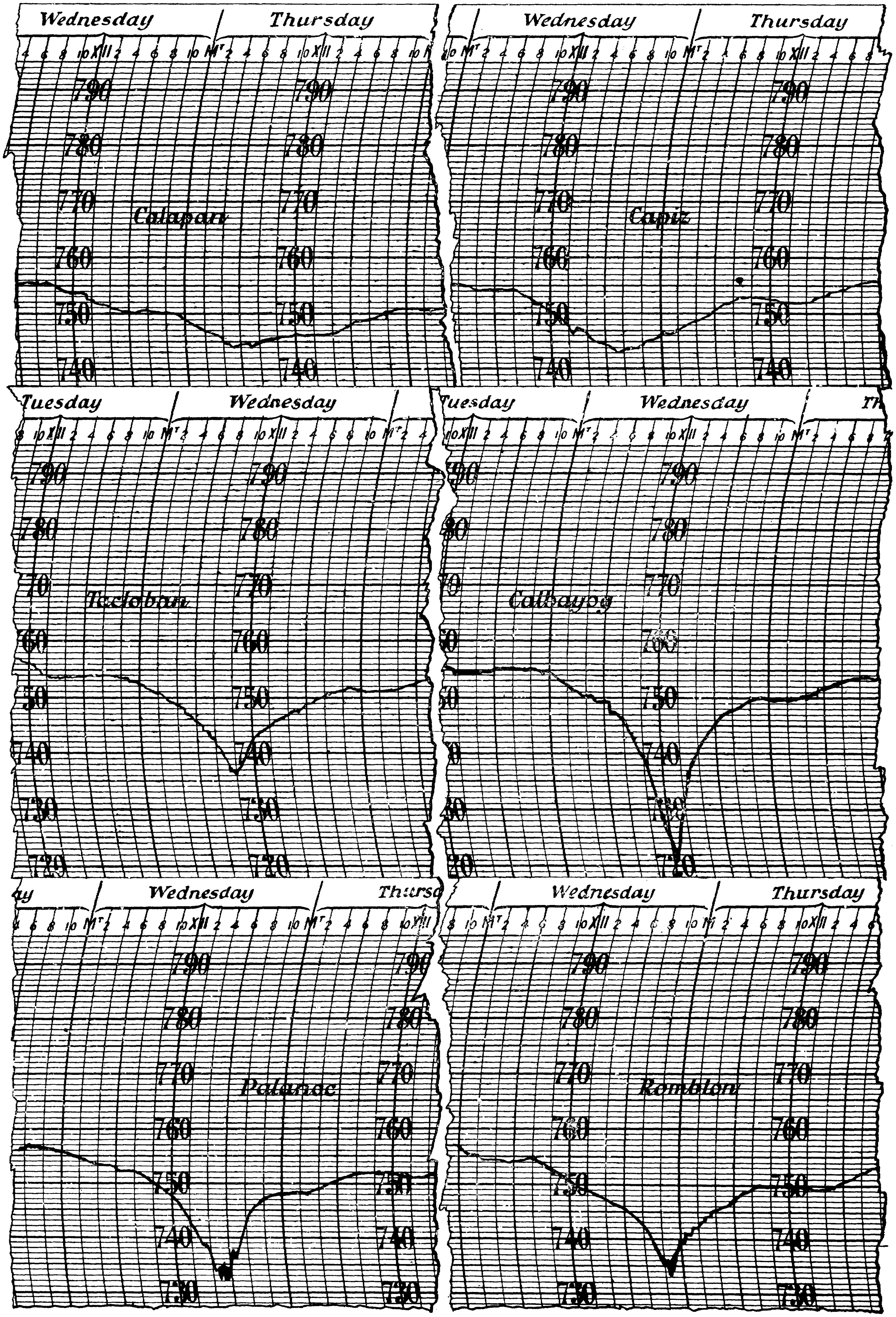
Plate XII represents the typhoon when it was at its shortest distance from Palanoc at 5 p. m. of the 23d. We give here in a table a résumé of the observations of Borongan, Calbayog, Palanoc, Tacloban, Romblon, and Calapan from noon of the 22d to noon of the 24th. The barometric minimum in the last station was registered early on the morning of the 24th, and was much less pronounced than those of Palanoc and Romblon. The center crossed the southern part of the Island of Mindoro at some distance from Calapan.

METEOROLOGICAL OBSERVATIONS FOR SEPTEMBER 22 TO 24, 1908.

Date.	Borongan.				Calbayog.						Palanoc.				
	Pressure.	Wind.		Weather.	Pressure.	Difference in 24 hours.	Wind.		Rainfall. (Daily total.)	Weather.	Pressure.	Difference in 24 hours.	Wind.		Weather.
		Direction.	Force.				Direction.	Force.					Direction.	Force.	
September 22:	*mm.*		*0-12*		*mm.*	*mm.*		*0-12*	*mm.*		*mm.*	*mm.*		*0-12.*	
2 p. m	753.37	NNW	7	q	754.80	-- 2.48	WNW	1		o, p	755.28	— 2.27	NW	3	o
7 p. m	53.72	NW	3	q	55.53	— 2.77	WNW	1		o, p, l	56.80	— 1.40			
10 p. m	53.12	NW	4	q	55.32	— 3.40	NW	1		o, p, l	57	— 2.40			
Midnight	51.26	NW	4	q	54.40	— 4			116.1		56.60	— 2.10			
September 23:															
2 a. m	48.96	NW	4		52.00	— 5.41	NNW	2		q	54.90	— 3.30			
4 a. m	45.98	NW	5		50.40	— 6.60	NNW	1		q	53.70	— 3.80			
5 a. m	44.45	NW	7		49.67	— 7.33	NNW	2		q	53.30	— 4.30			
6 a. m	41.16	NW, WNW	11	r², u	48.57	— 8.80	NNW	2		p	52.69	— 5.10	NW	7	o, r
7 a. m	34.20	NW, WNW	12	r², u	47.56	— 9.84	NNW	3		q	52.46	— 5.94	NW	7	o
8 a. m	21.72	W, WNW	12	r², u	47.21	—10.39	NNW	3		q	51.94	— 6.56	NW	8	o
9 a. m	700.68	W	12	q²	44.58	--10.82	N	5		q	50.74	— 7.06	NW	9	o
9.03 a. m	699.10	W, WSW	12	q²											
9.15 a. m	705.76	SW	12	q²											
10 a. m	12.94	S, SW	12	q²	40.15	—17.69	N	6		q	49.56	— 8.14	NW	9	o
11 a. m	24.60	S	12	q²	34.20	—23.38	N	7		q	48.86	— 8.74	NW	9	o
Noon					26.15	—30.42	NE	10		q	46.86	—10.04	NW	9	o
1 p. m					27.83	—27.80	E	10		q	45.17	—10.83	NW	9	o
2 p. m					34.05	-20.75	SE	10		q	41.93	--13.35	NW	9	o
3 p. m					39.97	—14.82	SSE	10		q	39.16	—16.04	N	10	o
4 p. m					43.30	—11.48	SSE	10		q	36.87	—19.43	N	11	o, r
5 p. m					44.75	—10.09	SSE	6		q	34.34	—21.86	ENE	12	o, r
6 p. m					47.72	— 7.54	S	4		q	36.42	—20.48	ESE	11	o, r
10 p. m					51.18	— 4.14	S	4	191.3	q, l	48.78	— 8.22	SE	9	o, r

BAROGRAPHIC RECORDS
SEPTEMBER 22 TO 24, 1908.

Plate XIII.



METEOROLOGICAL OBSERVATIONS FOR SEPTEMBER 22 TO 24, 1908—Continued.

Date.	Tacloban.						Romblon.						Calapan.				
	Pressure.	Difference in 24 hours.	Wind.		Rainfall. (Daily total.)	Weather.	Pressure.	Difference in 24 hours.	Wind.		Rainfall. (Daily total.)	Weather.	Pressure.	Difference in 24 hours.	Wind.		Weather.
			Direction.	Force.					Direction.	Force.					Direction.	Force.	
September 22:	mm.	mm.		0-12.	mm.		mm.	mm.		0-12.	mm.		mm.	mm.		0-12.	
2 p. m	753.71	— 3.49	NNW	5		o, q	754.94	— 2.06	N	5		c, t	756	— 0.07	Calm		t
6 p. m	54.03	— 3.22	NNE	6		o, q	55.40	— 1.50					55.22	— .88	NNW	2	c
10 p. m	53.70	— 4.81	NNW	8		o, q	57	— 1.60					57	— .90			
Midnight	52.13	— 5.57	NNW	10	19.1	o, q	56.60	— 1.50			19.8		57.30	— .50			
September 23:																	
2 a. m	50.49	— 5.93	NNW	4		o, q	55.10	— 2.40					56.10	— 1			
4 a. m	48.32	— 8.09	NNW	10		u	54.30	— 2.60					55	— 1.70			
5 a. m	46.92	—10.68	NW	10		u	54.10	— 3					54.90	— 1.90			
6 a. m	45.53	—11.24	NW	11		q	54.23	— 3.27	N	6		q	55.11	— 1.98	NNW	1	o
6.30 a. m	43.89	—12.81	WNW	12		u											
8 a. m	41.04	—16.22	W	12		u	54.70	— 3.10					55.46	— 1.74	NNE	1	o
9 a. m	37.84	—19.11	WNW	12		u	53.99	— 3.71	N	6		q	55.50	— 2.20			
9.30 a. m	37.36	—19.34	W	12		u											
10 a. m	36.14	—20.54	W	12		u	53.31	— 4.19	NNW	7		q	54.74	— 2.96	NW	2	o
10.30 a. m	37.09	—19.61	WSW	11		u											
11 a. m	38.66	—17.88	SW	11		u	51.49	— 5.31	N	7		q	54.10	— 3.30			
Noon.	42.04	—13.58	SSW	8		o, q	50.02	— 6.78	N	10		q	53.74	— 3.16	Calm		o, r
2 p. m	45.74	— 7.97	SSW	10		o, q	49.28	— 5.66	NNW	10		q	52.25	— 3.75	Calm		o, r
4 p. m	47.87	— 5.70	SSE	10		o, q	47.21	— 7.69	N	10		q	50.74	— 4.26	NNW	6	o, q
5 p. m	48.72	— 5.05	SSE	4		o, q	47.04	— 7.86	N	10		q	50.31	— 4.69	N by W	6	o
7 p. m	50.43	— 3.80	SSE	2		o	44.75	—11.55	NW	11		q	49.91	— 6.46	NNW	7	o, r
10 p. m	51.93	— 1.77	SSE	1		o	37.01	—19.99	NE	12		q	50	— 7			
Midnight	51.84	— .29	SE	1	39.2	o	45.37	—11.23	E	12	33	q	49	— 8.30			
September 24:																	
2 a. m	51.69	+ 1.20	SSE	1		o	46.91	— 8.19	ESE	11		o	47.10	— 9			
6 a. m	53.28	+ 7.75	SE by E	1		o	48.01	— 6.22	SE	4		o, q	44.54	—10.57	ENE	11	o, q
8 a. m	54.12	+13.08	SE	1		o	50.23	— 4.47	SE	5		o, q	44.87	—10.59	E by N	11	o, q
9 a. m	54.77	+16.93	SE	1		c	50.90	— 3.09					45.04	—10.46	ESE	10	o, q
10 a. m	54.95	+18.81	SE	1		o	51.02	— 2.29	SE	5		o, q	45.75	— 8.99	SE by S	9	o
2 p. m	53.47	+ 7.73	SE	1	1.3	o	50.55	+ 1.27	SE	3	36.1	o, r	46.04	— 6.21	ESE	8	o

The Islands of Cebu, Negros, and Panay experienced during the passing of the storm winds more or less violent from the NW and SW quadrants. In Plate XIII we reproduce exact copies of the barographic curves from the stations of Calapan, Capiz, Tacloban, Calbayog, Palanoc, and Romblon.

We now give the principal warnings of the storm sent out by this Observatory on the 23d while the typhoon was crossing the central part of our Archipelago.

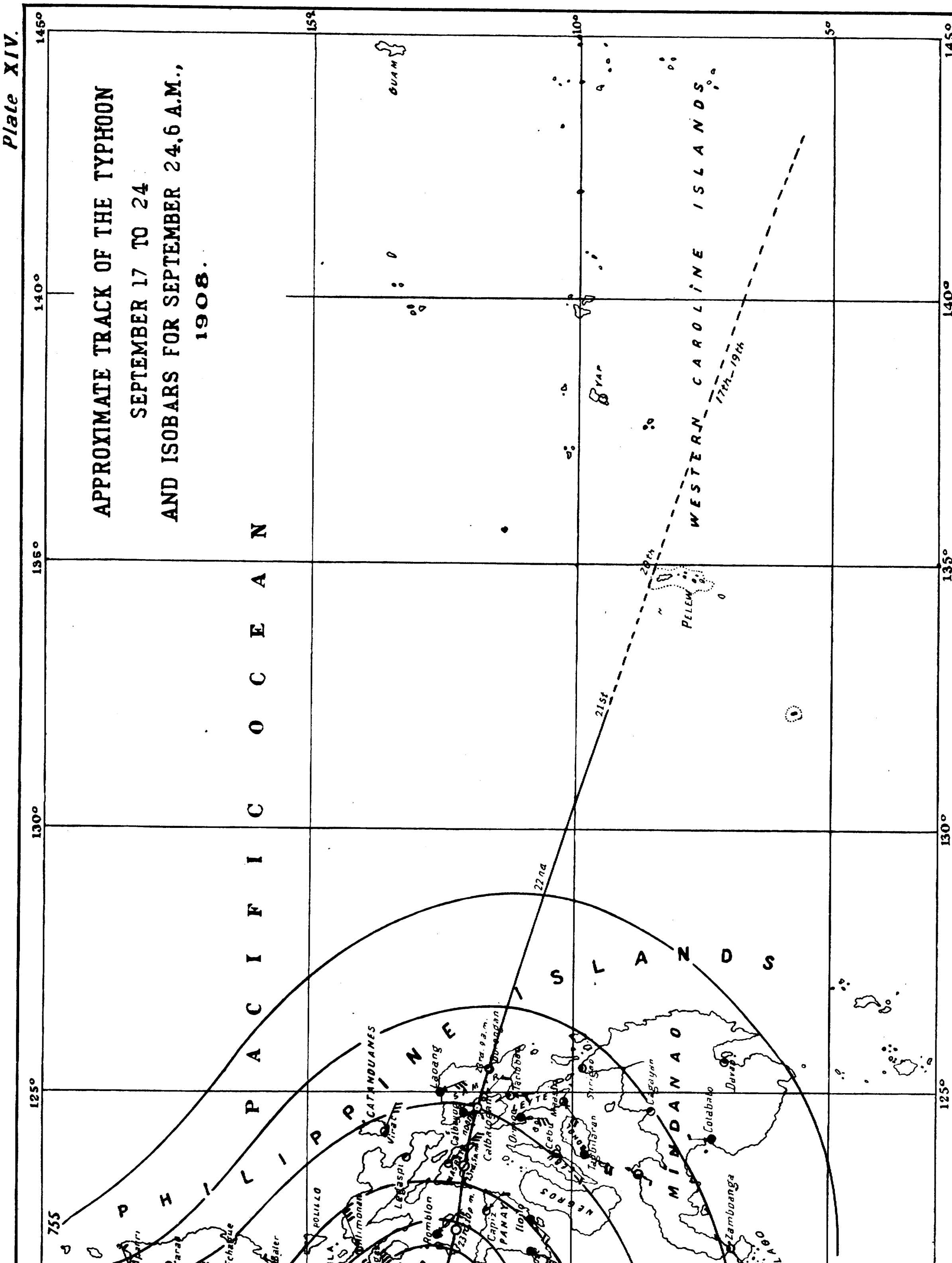
23d, 9.40 a. m. (to Tokio, Zikawei, Taihoku, Hongkong, and Phulien): "Typhoon over tne eastern Visayas, moving WNW."

23d, 10.38 a. m. (to Executive Secretary, Manila): "Terrific typhoon over Samar moving west-northwest."

23d, 5.50 p. m. (to the newspapers of Manila): "The typhoon is crossing Masbate Island and will probably cross Mindoro Island to-night or to-morrow in the early morning."

23d, 6 p. m. (to Tokio, Zikawei, Taihoku, Hongkong, and Phulien): "Typhoon between the Visayas and Luzon, moving WNW."

Plate XIV.



N.B-The barometric readings have been reduced to standard gravity.

The typhoon in the China Sea.—It was approximately about 6 a. m. on the 24th, when the center left the Island of Mindoro and entered the China Sea. Some of the observations taken in our stations at 6 a. m. and 2 p. m. of the 24th are embodied in the following table:

METEOROLOGICAL OBSERVATIONS FOR SEPTEMBER 24, 1908.

Stations.	6 a. m.					2 p. m.				
	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.
	mm.	*mm.*		*0–12*		*mm.*	*mm.*		*0–12*	
Jolo	755.55	— 1.50	S	3	o	754.50	— 0.79	SSW	4	o
Zamboanga	53.59	— 2.20	SW	3	o	54.82	+ 1.82	SSW	4	o
Tagbilaran	52.93	+ 0.40	SSW	4	r	53.10	+ 3.55	S	6	o
Surigao	53.76	+ 3.95	Calm		o	53.60	+ 3.66	Calm		o
Cebu	53.10	+ 1.20	SSW	2	o	53.30	+ 4.95	SSW	3	p
Iloilo	51.08	— 2.94	SW	3	d	52.24	+ 3.04	SW	6	q
Cuyo	49.10	— 6.28	SW	8	u	50.56	— 1.65	S	6	o
Tacloban	53.28	+ 7.75	S	1	o	53.47	+ 7.73	SE	1	o
Calbayog	52.50	+ 3.93	S	2	o	53.44	+19.39	S	3	o
Masbate	51.31	— 1.38	SE	7	o	52.69	+10.76	S	3	o
Romblon	48.01	— 6.22	SE	4	q	50.55	+ 1.27	SE	3	r
Laoang	52.99	+ 4.29	SSE	5	q	53.11	+ 8.44	S	2	o
Legaspi	51.45	— 1.28	Calm		d	52.13	+ 5.98	SSE	1	o
Calapan	44.54	—10.57	ENE	11	q	46.04	— 6.21	ESE	8	o
Atimonan	48.77	— 6.74	ENE	6	o	50.07	— 1.68	SE	2	r
Manila	48.27	— 8.31	N	1	o	48.11	— 5.42	E by S	3	o
Vigan	50.75	— 5.63	N	3	c	49.12	— 4.64	ENE	3	o
Aparri	54.36	— 3.62	ENE	2	r	53.16	— 2.90	ENE	3	o

The Observatory sent the following telegram to Japan, Formosa, the China coast, and Indo-China:

24th, 9 a. m.: Typhoon W of Mindoro, moving WNW.

In the large expanse of the China Sea that separates the Philippines from Indo-China we did not hear of any boat having been in the center of this typhoon, but we have observations from the steamers *Japan, Kaiphong, Solstad,* and *Fri,* which felt strongly the force of the storm. The first two vessels were not very far from the center, as the barometric minimum registered in both was 737 mm.

We give here a table of the excellent observations made on board these vessels, which were kindly sent to us by the respective captains:

METEOROLOGICAL OBSERVATIONS IN THE CHINA SEA, SEPTEMBER 24 TO 27, 1908.

STEAMER "FRI."

[Captain, Mr. C. Wægle.]

Date.	Position. Latitude north.	Position. Longitude east.	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Date.	Position. Latitude north.	Position. Longitude east.	Pressure.	Wind. Direction.	Wind. Force.	Weather.
September 24:	° ′	° ′	*mm.*		*0–12.*		September 25:	° ′	° ′	*mm.*		*0–12.*	
Noon	11 59	113 43	751.91	WNW	3		6 a. m			745.05	SW	6	
2 p. m			49.62	WNW	3		8 a. m	12 44	116 04	46.32	SW	8	
4 p. m	12 08	114 10	48.86	NW	3		10 a. m			47.59	SW	8	
6 p. m			48.86	NW	3	r	Noon	12 38	116 35	48.35	SW	8	
8 p. m	12 17	114 39	48.86	W	3		2 p. m			48.35	SW	11	
10 p. m			48.60	NW	3		4 p. m	12 50	117 03	49.37	SW	11	
Midnight	12 26	115 06	47.59	W	3		6 p. m			50.38	SSW	9	
September 25:							8 p. m	13 02	117 31	52.41	SSW	9	
2 a. m			46.06	WNW	3		Midnight	13 13	117 58	54.45	SSW	7	
4 a. m	12 34	115 33	45.81	NW	3								

METEOROLOGICAL OBSERVATIONS IN THE CHINA SEA, SEPTEMBER 24 TO 27, 1908—Continued.

STEAMER "JAPAN."

[Captain, Mr. J. G. Olifent.]

Date.	Position. Latitude north.	Position. Longitude east.	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Date.	Position. Latitude north.	Position. Longitude east.	Pressure.	Wind. Direction.	Wind. Force.	Weather.
September 25:	° ′	° ′	*mm.*		*0-12.*		September 26:	° ′	° ′	*mm.*		*0-12.*	
Noon	18 20	113 05	751.21	NE	9	orq	6 a. m.	16 05	110 30	736.74	NNW	11	oqr
2 p. m.			49.94	NE	9	orq	8 a. m.			38.51	NW by W	12	oqr
4 p. m.			49.18	NNE	9	oq	10 a. m.			41.82	SW	12	oqr
6 p. m.	17 50	111 50	48.67	NE	10	orq	Noon	15 21	110 18	43.52	SW by S	10	oqr
8 p. m.			48.67	NE by N	10	orq	2 p. m.			45.12	SSW	7	oqr
10 p. m.			47.91	NE by N	10	orq	4 p. m.			46.90	SSW	7	oqr
Midnight	17 16	110 50	46.39	NNE	10	qr	6 p. m.	14 48	110 18	48.17	S	7	oqr
September 26:							8 p. m.			49.69	S	7	o
2 a. m.			42.83	NNE	11	qr	Midnight	14 00	110 16	51.98	SSW	6	c
4 a. m.			39.28	N by E	11	qr							

STEAMER "KAIFONG."

[Captain, Mr. H. Mathias.]

Date.	Latitude north.	Longitude east.	Pressure.	Direction.	Force.	Weather.	Date.	Latitude north.	Longitude east.	Pressure.	Direction.	Force.	Weather.
September 24:	° ′	° ′	*mm.*				September 25:	° ′	° ′	*mm.*			
11 a. m.	16 43	116 00	751.83	NE			Noon	14 50	115 30	737.86	E		
Noon							2 p. m.			39.63	ESE		
4 p. m.			49.54	NE			4 p. m.			41.67	SE		
Midnight			48.02	NE		q	8 p. m.			44.97	SE		
September 25:							11.30 p. m.			48.27	SSE		
2 a. m.			45.98	NE			September 26:						
4 a. m.			43.44	NE			8 a. m.			53.35	S by E		
8 a. m.			39.13	NE			Noon	15 37	116 23	55.38	S by E		
9 a. m.			37.09	ENE			Midnight			59.45	Sly		

STEAMER "SOLSTAD."

[Captain, Mr. H. Melsom.]

Date.	Latitude north.	Longitude east.	Pressure.	Direction.	Force.	Weather.	Date.	Latitude north.	Longitude east.	Pressure.	Direction.	Force.	Weather.
September 24:	° ′	° ′	*mm.*[a]		*0-12.*		September 26:	° ′	° ′	*mm.*[a]		*0-12.*	
7.28 p. m.	13 20	112 20		NW by N	6	rq	7.40 p. m.	13 48	115 52	755.0	SSE	6	p
September 25:							September 27:						
7.35 p. m.	13 53	114 30	746.0	SW	12	rq	7.56 p. m.	14 08	119 42	57.0	WSW	2	b

[a] Probable error of the barometer, 1.5 mm. too low.

According to these observations, it can be said with sufficient accuracy that the center at noon of the 25th was situated in the vicinity of 14° 25′ lat. N and 115° 00′ long. E; and at 6 a. m. of the 26th, near to 15° 50′ lat. N and 111° 10′ long. E.

The typhoon in Indo-China.—If the typhoon had not slackened its speed and inclined more to the northwest, the center undoubtedly would have reached the central part of Indo-China before midnight of the 26th. But as a matter of fact it did not arrive until the afternoon of the 27th, and then it crossed the northern part of Indo-China. The further inclination of the track to the northwest began to take place, it seems, in the morning of the 26th, and the lessening of the velocity in the afternoon or evening of the same day.

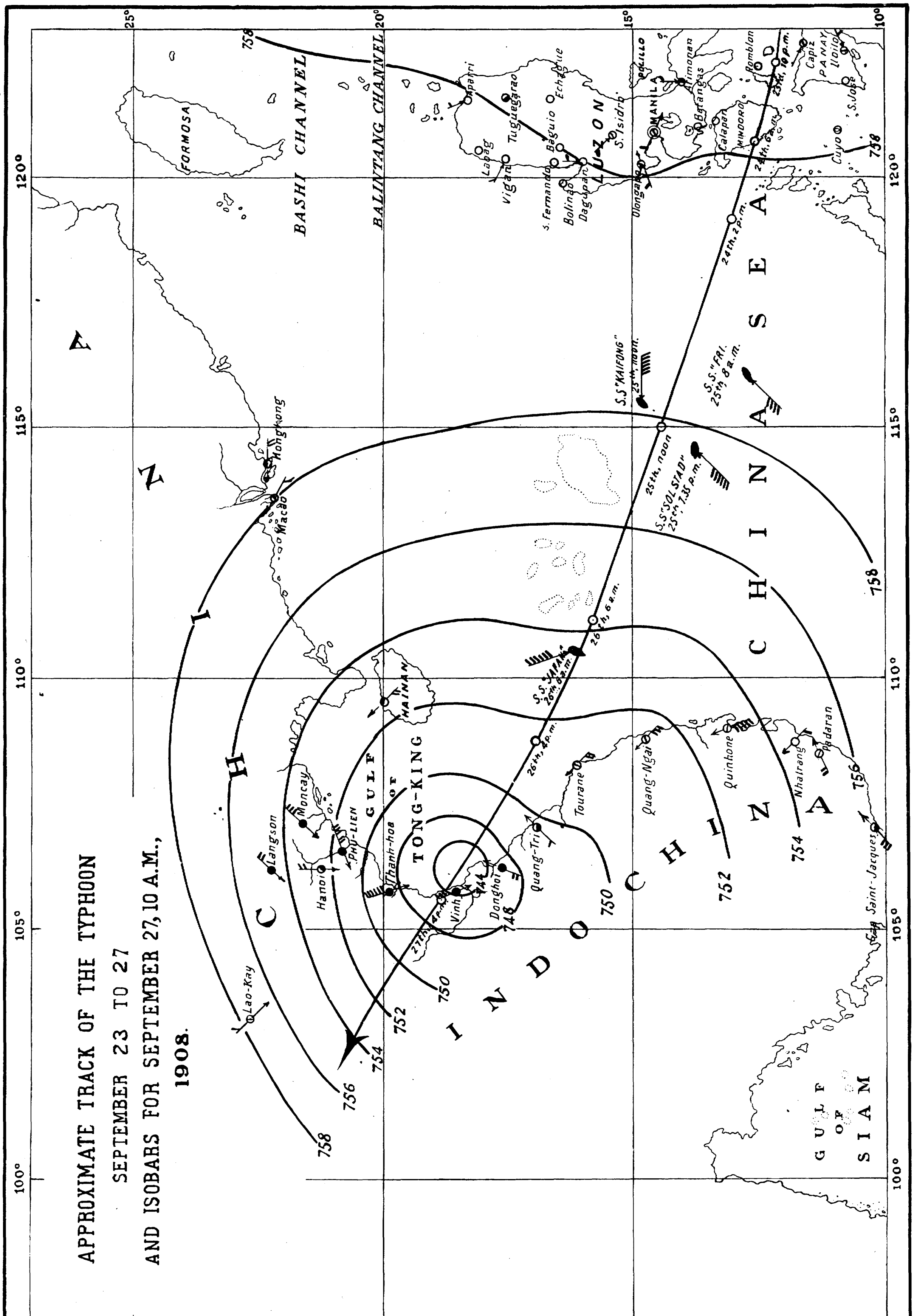
We are greatly indebted to Monsieur Ferraz, chief of the meteorological service of Indo-China for the observations which have helped us to trace on Plate XV the isobars showing the storm not long before the center entered the Continent to the north of Vinh. The center at 10 a. m. of the 27th must have been in 18° 25′ lat. N and 106° 15′ long. E. At 4 p. m. of the same day it was in Indo-China to the northwest of Vinh in the vicinity of 18° 50′ lat. N and 105° 35′ long. E.

Some remarks on this typhoon.—First of all we must say something on the rate of progress of this typhoon.

As regards the first part of the track from south of Yap to the Philippines, all we have to say is that it moved very slowly especially from the 18th to the 21st inclusive. In all probability the typhoon was still forming during those days as we do not believe that before the 22d it had acquired the complete development which it showed when it entered Samar on the 23d.

Let us begin then with Borongan and consider first the large portion of the path between 9 a. m. of the 23d, when the vortex was nearest to that place, and 10 a. m. of the 27th, a few hours

Plate XV.



APPROXIMATE TRACK OF THE TYPHOON
SEPTEMBER 23 TO 27
AND ISOBARS FOR SEPTEMBER 27, 10 A.M.,
1908.

N.B.-The barometric readings have been reduced to standard gravity.

before it entered Indo-China. The form of the whole typhoon and the situation of the cyclonic center on both dates are sufficiently accurate, as shown by the distribution of isobars in Plates X and XV.

In order to find out the distance in nautical miles between the two points just mentioned we will make use of the well-known formula

$$\cos. d = \text{sen. } \phi \text{ sen. } \phi' + \cos. \phi \cos. \phi' \cos. (\lambda - \lambda')$$

d being the distance between the two points, ϕ, ϕ' and λ, λ' the corresponding latitudes and longitudes.

The position of the vortex at 9 a. m. of the 23d was approximately 125° 28′ long. E, 11° 35′ lat. N; and at 10 a. m. of the 27th 106° 15′ long. E 18° 25′ lat. N. This known, we get from the preceding formula a distance of 1,185 nautical miles; and since the typhoon took ninety-seven hours to traverse this distance, the average velocity was 12.2 miles per hour.

We will consider now separately the different sections of the path, and determine for each of them the average velocity of the vortex. This velocity when entering the Archipelago and while crossing the Island of Samar was approximately 15.1 miles per hour. We obtain this result from the observations of Borongan and Calbayog, by taking into account the space of time that elapsed between the minima of both stations, which was three hours and a half, and the distance between the two points on the track that are nearest to these two stations, which is found to be 53 miles. But if we take the whole section of the path comprehended between the eastern coast of Samar and the western coast of Mindoro, we will find that the typhoon took twenty-one hours to cross over that area, which supposes a mean velocity of 13.7 miles per hour. As to the China Sea, taking into consideration that portion corresponding to the time between 6 a. m. of the 24th and 10 a. m. of the 27th, we will find a mean velocity of 11.9 miles per hour.

This change in velocity, however, was not gradual, constant and uniform. So within the Philippines the mean hourly speed of the typhoon was 15.1 miles from 9 a. m. to 12.30 p. m. of the 23d; 14 miles from 12.30 to 5 p. m.; 15.6 miles from 5 to 10 p. m.; and 12.4 miles from 10 p. m. of the 23d to 6 a. m. of the 24th. Hence, the maximum velocity was observed when the typhoon was crossing the interisland seas between Masbate and Romblon, and the minimum velocity, when it was traversing Mindoro Island. In the China Sea it is probable that (1) from 6 a. m. of the 24th to noon of the 25th the typhoon moved at a rate somewhat lower than when it left the Archipelago, that is, 11.8 miles per hour; (2) from noon of the 25th to 6 a. m. of the 26th it increased in speed to an average of 13.2 miles per hour; (3) from 6 a. m. of the 26th to 4 p. m. of the same day there was a further increase to 15.4 miles per hour, which was almost identical with the rate it had within the Archipelago between Masbate and Romblon; (4) from the afternoon of the 26th, it began to decrease rapidly so that from 4 p. m. of the 26th until 10 a. m. of the 27th we have an average velocity of 9.6 miles per hour, and on entering the Continent in the afternoon of the 27th the rate was not greater than 7 miles per hour.

Moreover, the form of this typhoon was not constant, in the distribution of the isobars, the area of the center, etc. To be convinced of this it will suffice to recall the fact that on board the steamer *San Juan* the complete calm was observed for the space of seven minutes, though the barometer did not fall lower than 707.1 mm., while in Borongan no calm was noticed even with the barometer at 699.12 mm. Also the vortical calm was observed on board the cutter *Tablas* although this ship was not quite so deep in the center as the *San Juan*. Likewise the distribution of the isobars and the whole area of the storm at 10 a. m. of the 27th as shown in Plate XV is very different from that represented by Plates X, XII, and XIV when the typhoon was in the Philippines.

The direction of the progressive movement of the typhoon underwent some little changes. From its formation south of Yap until it passed south of Calbayog the typhoon moved in a WNW direction; then it crossed the section of the Archipelago between Samar and Romblon with a greater inclination to the west; from Romblon to south of the Paracels Islands moved again to WNW, and finally from these islands to Indo-China it moved approximately NW by W.

Another item of interest in typhoons is the velocity of the winds near the center. It is much to be regretted, that none of those stations, which were within the hurricane zone were provided with recording anemometers to measure exactly the velocity of the wind. The various observations we have given above and the reports we publish later on show very clearly the extraordinary violence of the storm. This could not have been otherwise, since the barometric gradient was so steep. For example, the barometer of Tacloban registered 737.8 mm. at 9 a. m. of the 23d, when that of Borongan had fallen to 700.7 mm. Tacloban is 33 miles distant from Borongan. Therefore the difference in the barometer from Tacloban to Borongan was 1.1 mm. per mile, or in other terms, the barometric gradient between the two stations was 66 mm. or 0.66 inch.[1]

It has often been asked if the hurricane winds are ascending or descending; and indeed, it is a pity that there are so few observers who mention this particular in giving an account of storm phenomena. In the present case we call attention to the fact cited by Mr. Diot in the report that we give below, when he assures us, as an eyewitness, that the roof of the church at Palanas "was literally blown up, going up into the air like a huge kite," while the convent "was simply crushed down." The latter event happened twenty minutes after the former, and both took place in the front semicircle of the storm. From this we see that there were ascending and descending currents on the same side of the center the winds being in both cases from the same direction.

In regard to the area of the whole body of the storm, we will only indicate how large it was when the storm entered the Archipelago, as this was then in its most complete state of development. Taking then, as a limit of the typhoon during the time of the maximum daily pressure the isobar 757 mm. (not reduced to standard gravity), we find that at 9 a. m. of the 23d this isobar passed very close to Manila; and since this city is about 300 miles distant from Borongan, the diameter of the storm would be about 600 miles. The area of destructive winds had an average radius of about 50 miles. We say an average radius because in considering some particular place, where local circumstances favored to a remarkable degree the direction of the winds, we might perhaps find a somewhat larger area.

Interesting reports on this typhoon.—Among the many reports we have received on the intensity and destructive effects of this typhoon we have selected the most important and, as we believe, the most interesting ones. We begin with the report of Father Cesareo Montes, the observer in Borongan.

WEATHER BUREAU, BORONGAN, *September, 1908.*

The first signs of the typhoon that crossed over this place on the 23d of September were noted on the afternoon of the 21st, to wit: Intense coloration of S.-Cu., black clouds over the east quadrants and the sea swell from the SE which broke on Guintaguican point. At 6 a. m. of the 22d the barometer registered 756.28 millimeters, having fallen from 757.90 millimeters of the preceding day and the sea swell which now came from east-southeast had become very heavy. At 11 a. m. the first cyclonic winds from the northwest quadrant began to be observed. Before the heavy winds set in at 10 a. m. the S.-Cu. and Cu. were coming from the north: at 11 a. m. the following warning from Manila Observatory was received: "Typhoon to the east of the Visayas, direction WNW or W." This warning was distributed to the military commander, the municipal government, and the captain of the steamer *Tarlac.* During the afternoon of the 22d the barometer without losing its daily oscillation continued to fall slowly, while the winds remained steady from the NW quadrant and were gusty at times with some rain. The Nimbus and S.-Cu. continued coming from the north. During the night the winds from the NW quadrant increased and at times were very strong accompanied by heavy rains. The barometer continued to fall. At 5 a. m. of the 23d the winds blew a steady hurricane with force 10 of the Beaufort scale; the Cu.-N. came with great velocity from the north. At 6 a. m. the first destructive effects of the typhoon began to be felt when some houses were leveled and cocoanut trees uprooted. At 8 a. m. the wind changed to the west. At this time there were few houses left standing and most of these were inclined to the east and east-southeast, in spite of the supports which had been placed to withstand the violence of the storm.

The church and convent met with the same bad fortune as the other houses. It was 8.30 a. m. when the wind from west-southwest began to raise and tear off the sheet-iron roofing, and to pull out beams mortised in the masonry wall by raising the stones that secured them and then heaving the iron sheets and wooden beams sometimes to great distances. When the wind changed to the southwest its force was extraordinary so that it destroyed everything that had escaped destruction hitherto, leaving the town of Borongan a heap of ruins.

No calm was observed, but the wind continued to back through the various points of the NW and SW quadrants. Nevertheless, at 9.03 a. m. when the barometric minimum was registered, there was a relative

[1] It should be remembered that according to International Congresses of Meteorology, the unit of distance for the barometric gradient expressed in English measures is one-fourth of an equatorial degree of latitude or 15 nautical miles, while if expressed in millimeters the unit is one degree or 60 nautical miles.

clearing up which rent the black veil that enveloped the sky to the east and east-northeast. At this same hour according to the inhabitants of Tuminubo and Ando Islands there was an absolute calm in those places for ten minutes, but they did not have a clear sky though there was relative clearness with a light drizzle.

At this same moment, the inhabitants of the above mentioned Islands, as well as those of Lalawigan Point say that the sea rose suddenly to a height of 2 meters and then fell and remained as before. This was probably the hurricane wave which, when the center passed by, broke and caused the instantaneous rising and falling of the water.

Tuminubo Island is situated 3 miles to the east of Borongan at the entrance of the port. On the north-east and south sides it is steep and rockbound and is only accessible on the western side where the inhabitants live. It has an elevation of 33 meters above sea level. It is no wonder then, that when the center entered by the eastern side of the Island the wave met this great obstacle and caused the above-mentioned rapid rise and fall of the sea.

Ando Island is situated about 3 miles to the northeast of Borongan and almost 2 miles to the N by W of Tuminubo Island. The space between the two Islands forms a channel which is the entrance to the port. The eastern side is a steep rocky bluff while the western side is accessible and the only relatively secure refuge for large ships in case of storms and typhoons. The Island measures from north to south three-quarters of a mile, and from east to west one-quarter of a mile and its elevation above sea level on the eastern side is 13 meters. On the afternoon of the 22d the steamer *Tarlac* took refuge on the western side of this Island. During the night hurricane winds from the NW quadrant were experienced accompanied by heavy rains. At dawn of the 23d the winds continued to blow from the NW quadrant but with increasing violence. The captain of the ship, Mr. Gastañega, seeing the danger the ship was in ordered the cables to be strengthened and with full head of steam kept his engines striving against the terrific northwest winds. While in this position he lost among other effects two life boats which were wrenched from the davits by the violence of the wind. Notwithstanding the fact that the ship's cables had been doubled and the engines were going full power against the storm, the force of the squalls from the northwest was so great that the ship was blown back to the southwestern end of Ando Island near the entrance to the port. At 9 a. m. the center passed over the place where the ship was and the captain says he observed the absolute calm which lasted ten minutes but he could not see the blue sky, though there was a considerable clearing up, which allowed him to take the bearings of the ship—a thing which he could not do before because of the dense darkness and the torrential rains. After the calm the winds backed from northwest to southwest, but now blew with much greater force than before and succeeded in dismantling the deck and sweeping away everything that was above it. The ship continued head on to the wind with her engines using full steam and resisting the force of the hurricane when other squalls from the southeast beat against the ship forcing it over until it rested on a shoal of coral near to a small islet between the north-western end of Ando Island and the coast of Samar at the entrance of Maypandan and Taguian Bay. Here the *Tarlac* remained which had so often faced the storms of the Pacific and especially the terrible northeastern monsoons.

The destruction caused by the typhoon is widespread and extremely severe. Besides the destruction to the houses in the town, the cocoanut trees suffered severely; some were uprooted, others broken off, at times, into two or three parts, while nearer to the center, sometimes two or three cocoanuts trees would be found twisted together like a strund of rope. The sea here at Borongan rose 2 meters above its ordinary level although it was low tide time and the wind blew from the northwest, west, and southwest.

(Signed) Cesareo Montes, *Observer*.

The following report, for which we have to thank the captain of the steamer *San Juan,* describes with many details the passing of the center over the Island of Canahauan, where this ship had taken refuge.

S. S. "San Juan," *September 27, 1908.*

If the following notes, taken on board the steamer *San Juan* during the typhoon of September 23d instant are of use to your Bureau, I gladly place the same for your information.

September 22: Steamer at anchor, at Calbayog, Samar. 11.30 a. m. received word from agent that a typhoon was reported, to hurry all cargo boats into the river. I also received copy of telegram: "Typhoon E of Visayas Islands, moving W or WNW. Weather corresponding to the fourth typhoon signal." At this time, light NW wind, cloudy weather; barometer, 757.92 mm. I immediately made preparation to proceed for safe anchorage. 12.40 p. m. under way, steaming south. 1 p. m. barometer 756.40 mm. with very thick rain, moderate NW wind. 2 p. m. barometer 755.64 mm., weather getting worse. And thinking it best to get to anchorage as soon as possible, steamed into Port Aguirre, Canahauan Islands. 3.15 p. m. anchored; heavy gloomy weather, strong NWly wind and heavy rain. This weather remained the same to midnight. Barometer steady at 755.64 mm.

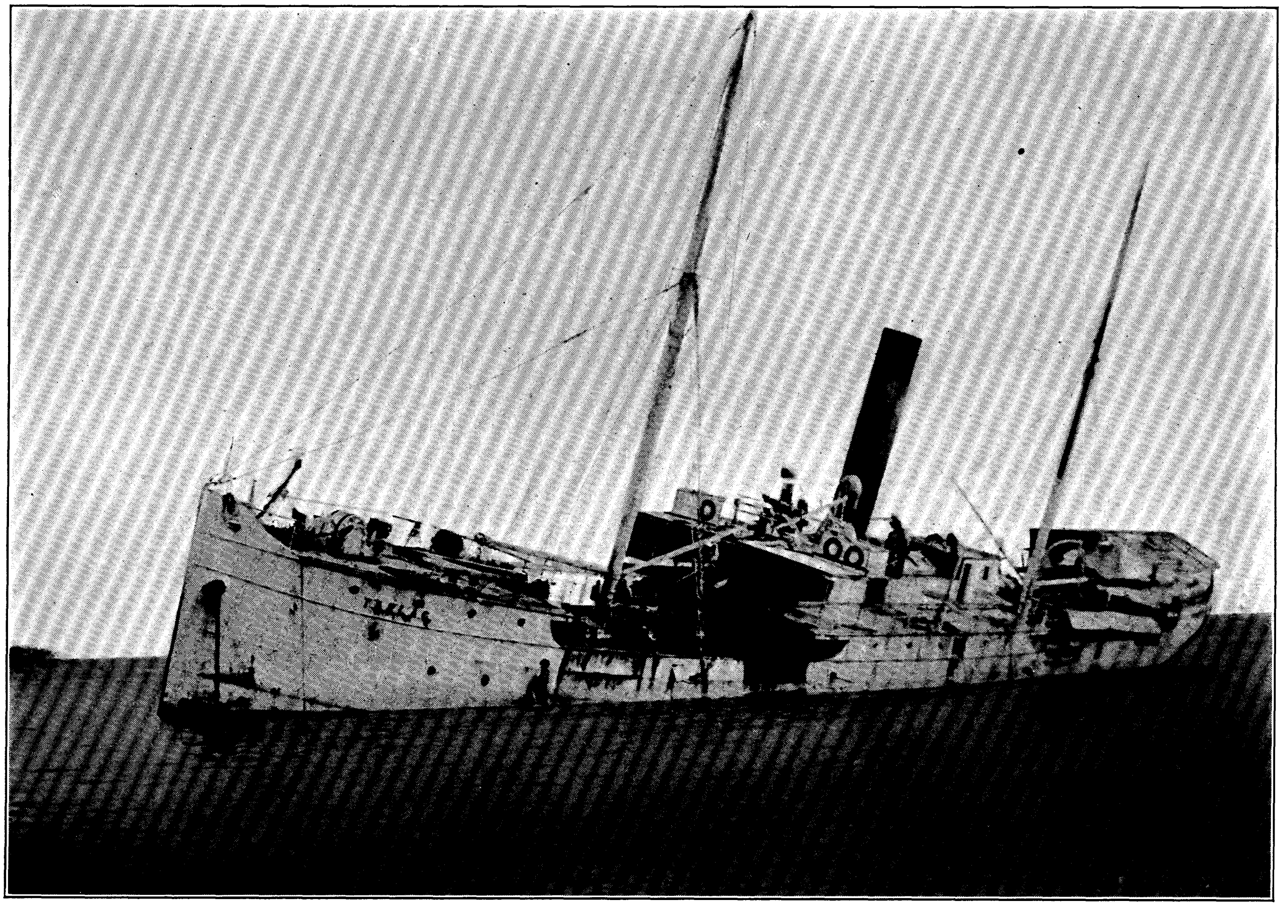


PLATE XVI. STEAMER "TARLAC" ASHORE ON AN ISLET CLOSE TO THE EASTERN COAST OF SAMAR.

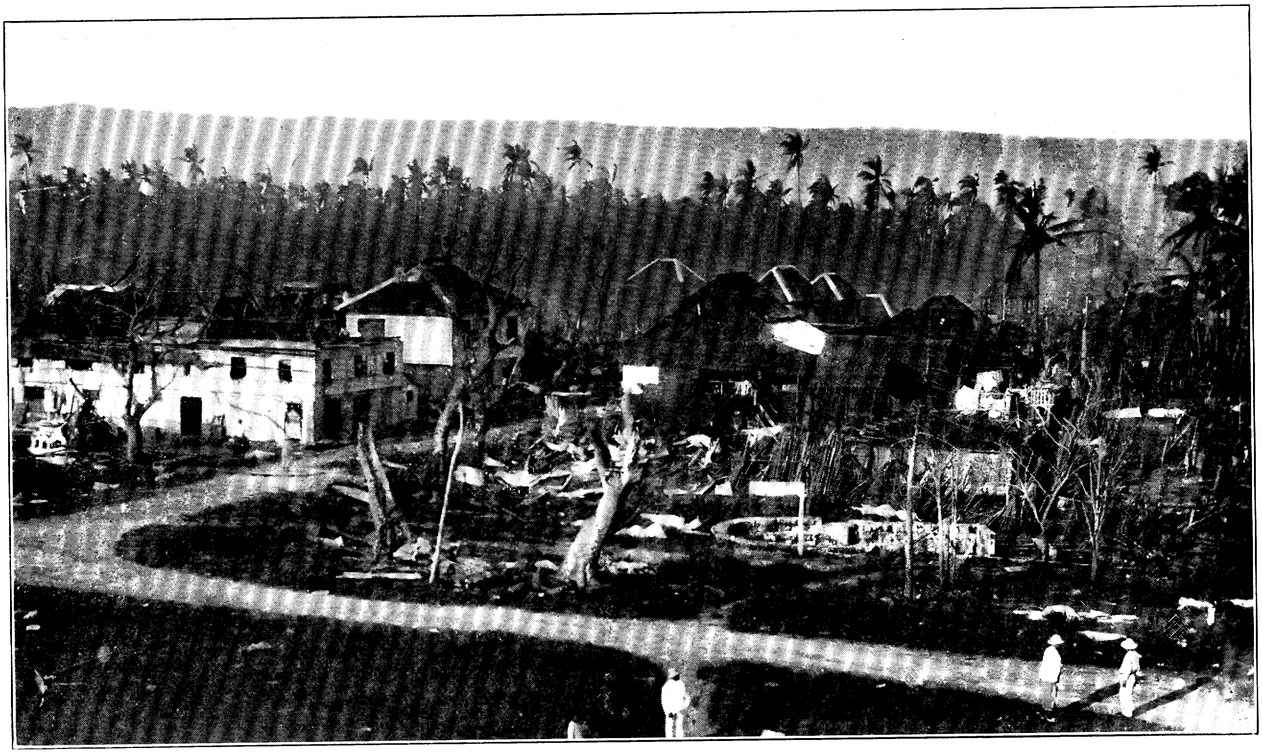


Plate XVII. MAIN STREET OF BORONGAN AFTER THE TYPHOON.

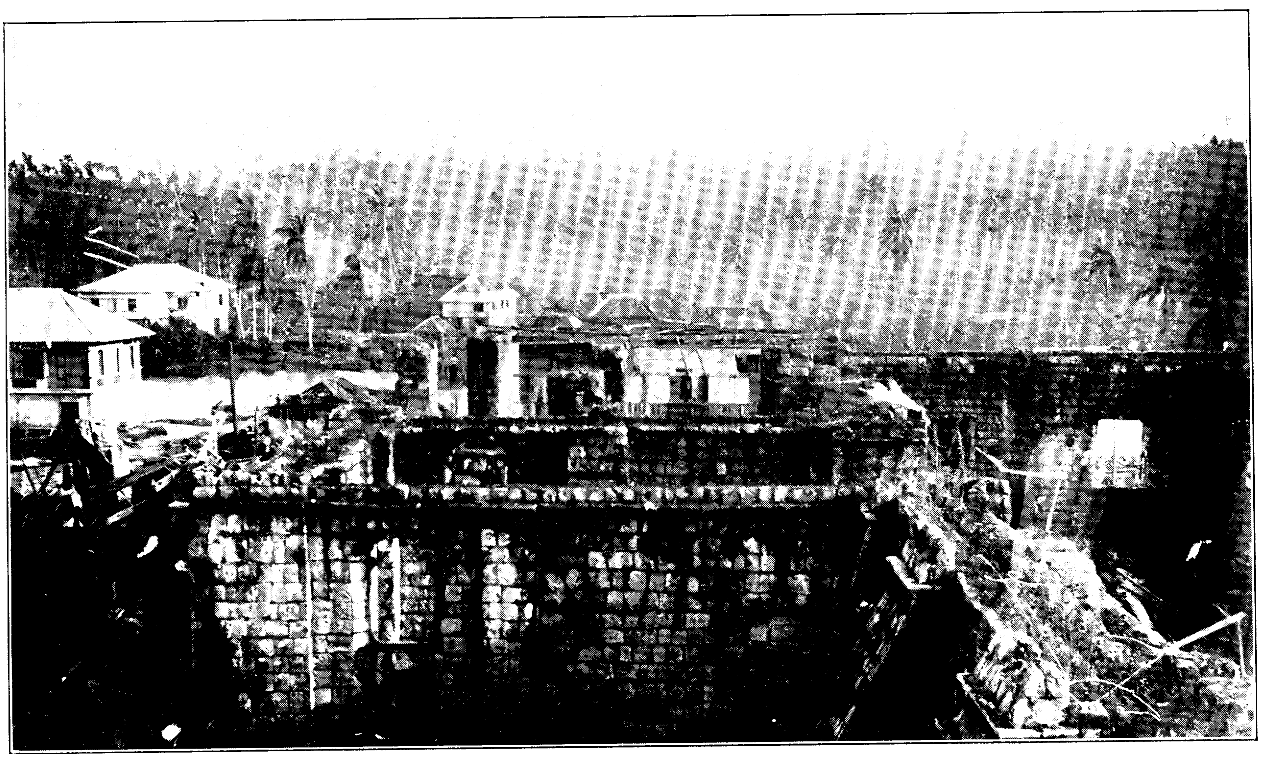


Plate XVIII. CHURCH AND CONVENT OF BORONGAN AFTER THE TYPHOON.

September 23: After midnight, the barometer commenced to fall:

Hour.	Barometer.	Hour.	Barometer.
	mm.		*mm.*
1 a. m	752.08	5 a. m	748.52
2 a. m	50.81	6 a. m	48.02
3 a. m	49.29	7 a. m	47.51
4 a. m	48.78	8 a. m	44.46

About 3 a. m. two very heavy claps of thunder in the SE. After 8.30 a. m. the barometer was of no use, the needle being so unsteady, that I could not get a true reading. During this time the wind was blowing at hurricane force, with some very hard squalls, with continuous heavy rain. It was impossible to get the true direction of the wind on account of the high hills surrounding the harbor. But there being an opening bearing north, the wind was mostly from that opening, though another cut in the hills at NW brought some very heavy squalls from that direction. These squalls coming alternately from these two directions and striking the ship on the sides made it very bad and very dangerous for ship's safety, having so little room in this harbor to allow of anchors to drag home. During this time had two anchors out and engines going full speed ahead, still the ship was being blown nearer the rocks. If this weather had kept up a half hour longer, I don't think the ship could have been kept afloat. As we found after, one of the anchors was gone. At 11.30 a. m. the weather the same: wind at hurricane force and thick heavy rain, unable to see 20 feet at times, and suddenly fell calm. The barometer then steady at 707.1 mm. It remained calm seven minutes, then a light SE air, ship gently swinging to the new direction, but before ship had got head to wind it was blowing harder, if possible, than it had been during the forenoon with heavy rain. At 12.05 p. m. the barometer then commenced to rise but the needle was very unsteady unable to get a true reading. At 2 p. m. needle steady, barometer 711.44 mm. It then rose rapidly.

3 p. m. barometer, 715.51 mm; 4 p. m. 743.95 mm; 5 p. m. 746.24 mm.

During these hours the wind was blowing at hurricane force with heavy squalls from SE to S through the openings between the hills, having used the engines as required to ease the strain in the cables.

6 p. m. barometer 747.51 mm.; 7 p. m. barometer 748.78 mm.; 8 p. m. barometer 749.03 mm.

At 5 p. m. the wind moderated and stopped using the engines, let ship ride at the anchor. From this to midnight the wind moderating, with passing squalls of wind and rain, with barometer 749.03 mm. steady. At midnight it cleared up a little and some stars were visible.

September 24, early: Weather dull and gloomy, with heavy hard clouds, some squalls of wind and rain from SSE.

Hour.	Barometer.	Remarks.
	mm.	
4 a. m	749.54	
5 a. m	51.06	
6 a. m	52.59	
7 a. m	54.11	
8 a. m	----------	Weather clearing up.

Hove up anchors and proceeded back to Calbayog. Finished loading and arrived in Manila this day.

(Signed.) FRED. I. POOLEY.

Owing to the kindness of Mr. Frank Helm, Director of Navigation, we are able to give here a report of the captain of the cutter *Tablas,* which weathered the storm in Parasan Bay.

MATI, MINDANAO, *September 30, 1908.*

I have the honor to submit the following report regarding the typhoon of September 23, 1908, which the *Tablas* rode out in Parasan Bay between Darum Island and Parasan, Zumarraga Channel.

In the morning of September 22 *Tablas* was at anchor at Calbayog which place we left 8 a. m. and proceeded to Catbalogan, the weather at the time being very cloudy with light variable winds. The barometer reading 756 mm.[1]

After passing Libucan Daco Island we noticed a heavy swell from NW which gradually increased as we proceeded and also encountered several rain squalls from the NE. Our barometer was falling gradually.

[1] The readings of this barometer seem to be 1.5 mm. too low.

At 11.40 anchored at Catbalogan and sent chief officer ashore with instructions to call at the Weather Bureau [station] and find out all particulars in regard to the depression. Chief officer returned in company with Dr. Cullen who informed me that No. 4 signal had been hoisted and that the typhoon was east of Samar. At noon barometer 754 mm. After completing the inspection and landing supplies at station, we proceeded to Parasan Harbor for shelter, encountering several light rain squalls from the NW. 2 p. m. anchored at Parasan in 12 fathoms of water.

At 4 o'clock wind had increased from moderate to fresh, barometer 753. At 8 p. m. weather remained the same; barometer 754 mm. Ordered the chief engineer to carry a good head of steam, and officers and engineers to take their respective stations with their men which was done. Barometer still falling and weather threatening, squalls increasing. At 1 a. m. of the 23d, barometer falling, wind increasing with heavy rain squalls at intervals of about fifteen minutes from the NW, and so I decided to moor ship by letting go the starboard anchor with 60 fathoms of chain and 45 on the port. Forward awnings stowed and after ones furled, and everything secured by 4 a. m. Barometer 749 mm.

At 10 a. m. barometer dropped suddenly to 730, squalls becoming more violent from the NW at short intervals. At 10.30 a. m. barometer 725 mm. and at that time everything was obscured and all possible steam being carried and engines going ahead according to the strength of the squalls. Ordered chief officer stationed at windlass and to report to me if chains parted and second officer in wheelhouse with two quartermasters to command ship. Chief officer by my orders directed crew to remain on deck. Both engineers were stationed in engine room with their force at their respective stations. Wind was steady from the NW but of a hurricane force. Moving about the deck was impossible or to attempt to communicate with officers. Ship suddenly sheered to starboard and dragged her anchors. At this time the injector refused to work and had no vacuum and it was necessary to stop engines. Chief engineers and first assistant was endeavoring to clear the injector. Finally injector cleared and we went full speed ahead. At 11 a. m. barometer 722 mm. Barometer remained stationary from 11 to 11.30 a. m.[1] Wind and sea suddenly died out, sky cleared and the sun appeared to show through.

Immediately stopped engines; calm lasted from 11.45 to 12.05 p. m. and immediately hove up anchors and moored ship in 16 fathoms of water with one anchor to the south and the other to SE with 60 fathoms of chain each.

After the calm interval, the wind came from the SW with hurricane force and we went full speed ahead. Barometer rising gradually. At 2 p. m. hurricane decreased in violence. Barometer rising rapidly, reading 740.5 mm.

At 3 p. m. found ship could ride her anchors and we stopped engines. Wind had then backed to the south with force 6.5.

At 4 p. m. barometer 745 mm. Chief engineer reported that the electric-light circuit had been damaged by water and lights could not be used and I decided to remain at Parasan Bay until daylight of the 24th.

Found town of Parasan SE of Parasan Island destroyed. At 5.30 p. m. hove anchor and proceeded toward Carigara through Zumarraga Channel, along which all villages and groves on both shores were destroyed.

(Signed.) N. T. VENTORINI,
Captain B. of N. Cutter "Tablas."

We owe the following report to the kindness of Mr. E. E. Diot, of the Philippine Plantation and Commercial Company in Masbate. We think that this description, as well as the opportune mention that Mr. Diot makes of the utility of the typhoon warnings sent out by the Manila Observatory, will prove of interest to our readers.

MASBATE, *September 30, 1908.*

Having taken a few notes during the typhoon of the 23d instant, I have the honor to submit a short report compiled from same.

In company with Mr. George W. Moore, the head teacher for the Island of Masbate, I left Palanoc in a small sailboat for a trip south, in the forenoon of the 22d. The weather was calm and we made very slow progress. We passed the night at Herminia, a barrio 14 miles south of Palanoc, and left this place the next morning at 8 o'clock with a fresh breeze from the NNW. The wind was of force 4 (Beaufort scale) and rapidly increased in velocity. By 9 o'clock it had ascended to force 6. We had just emerged from the narrow pass between Adyagan and Masbate Islands and noted that the entire coast of Samar, usually plainly visible, was completely hidden by a dark rain wall, leaving no doubt of a rapidly approaching typhoon.

A short distance from us was a "parao" of the type used by the Cebu and Bohol native traders. It was overloaded and labored heavily on a NNE course. It had aboard some fifteen or twenty people. Seeing their danger, we passed close to them and shouted to follow us into shelter in the Palanas River, as a violent typhoon was coming. They changed their course and followed us, but upon nearing the coast, for some reason or other, they again headed for the open sea and disappeared in a blinding rain which suddenly overtook us. It came with such fury that our own boat was swamped and capsized and we had quite a time in saving it, as well

[1] These barometric observations, at least near the vortex, do not seem very reliable. If the mechanism of the aneroid would have responded, the minimum ought to have been lower than 722 mm.

as ourselves and effects. A native fisherman seeing our plight, came bravely to our rescue, but was himself capsized and we in turn had to go to his relief.

It was 9.30 a. m.; going to the house of a native acquaintance and finding him absent, we proceeded to brace up the house and advised everyone we saw to do the same, as the storm was already very severe and the wind had only shifted to north. At 11 a. m. the wind was sufficiently strong to tear limbs from the trees and to destroy a few of the more dilapidated shacks. At 12.20 the town church, a substantial building 80 by 50 feet, was unroofed and the entrance and stone walls were partly demolished. The structure was literally blown up, the roof going up into the air like a huge kite. At 12.40 the convent went; this was the best building in the town and had been built during last year. Quite the reverse of the church, it was crushed down, a mass of ruins. Fortunately the occupants had left the building before this took place and it caused no loss of life. The schoolhouse, a new building in the course of construction and promising to be the best in the subprovince, was next to follow; at 1.10 p. m. one side blew in and the whole structure listed badly; at 1.30 nothing was left of it but a mass of wreckage. As the storm still increased in violence, it was plain that the town was doomed to destruction. The wind had shifted to the NE about noon and blew from this direction until 2.30 p. m., when it gradually shifted to ENE, from which direction it was more violent than ever. This lasted approximately for thirty or forty minutes, when the wind suddenly calmed down and the sky cleared up somewhat. The roar of the sea was terrific and the waves seemed to be from 20 to 30 feet high. Though it was not high tide at the time, the sea was higher than the highest tide mark, a height which I estimated to be at least 3 feet. The river itself showed a still greater rise, but this was probably due to the enormous amount of rain and to the drainage being retarded by the violence of the breakers over the outlet.

The relative calm lasted forty-five minutes, then the storm broke loose again with the same fury, the wind this time being from the south and lasting until 8.30 p. m., after which it gradually subsided. At 6 o'clock of the following morning it had decreased to force 4, direction south.

An inspection of the town disclosed complete destruction, there being only about ten houses in serviceable condition—everything else was wrecked beyond repair!

News was received that Cataingan was also wiped out. This I can easily believe on account of the location of the town. On the return trip to Masbate we passed the towns of Dimasalang, Uson, Herminia, Mobo—everything looked destroyed. We noted only two houses along the coast left standing. The splendid cocoanut groves along the seashore were a pitiful sight; we estimated that 40 per cent of the trees were broken off or uprooted. The hemp fields and banana patches were completely destroyed all over the Island of Masbate.

Upon arrival at Palanoc the same sight greeted us—ruin and desolation everywhere, the church, convent, municipal building, schoolhouses, and one hundred and ten private houses were wrecked. Had it not been for the timely warnings of the Weather Bureau at Manila and the efficient work done by Mr. Brazee, the gentleman at the time in charge of the meteorological station at Palanoc, probably everything would have been wiped out. Much credit is also due to the telegraph operators at Masbate, who kindly took notes of all the messages transmitted by the Samar and Leyte weather stations and immediately communicated them to the local station, which in turn notified the municipal authorities and everybody else that had, or could have, any influence in getting the people to make all possible preparations to avoid destruction of property.

Knowing of the peril to which the barkentine *Franz* was exposed, as she was anchored at Bolo, a place 2½ miles NW of the Masbate light and absolutely unprotected from the winds of the first and second quadrants, the observer personally warned the Chinese owners of the ship and its cargo of timber and "rajas," requesting them to carry or send the warnings to the captain of the vessel, a thing which they promised to do, but failed to carry out. As this was eighteen hours before the coming of the storm, a disaster might have been averted, four lives could have been saved, besides a valuable ship and a still more valuable cargo.

From all parts of the Island of Masbate, the same tales of destruction of property have been received. So far, fortunately, no loss of life has been reported from the towns; had the storm taken place during the night, many lives might have been lost.

From Adyagan Island comes the report that the wreck of a large "parao" and seven bodies have been found. The news needs confirmation, but it is likely the "parao" and crew met by Mr. Moore and myself.

(Signed) E. E. Diot.

The two reports that follow give some information about the effects of the typhoon in northern Leyte and the Islands of Tablas and Sibuyan.

They will help to form some idea of the destruction which the storm caused in many other places along its track.

Tacloban, *September, 1908.*

In the provincial building some damage was done; throughout the town 340 houses were destroyed, including the public school for girls; the greater part of the plantations of abacá, coco, and other products have been lost and no banana or other light trees remain standing.

The wharves were partially destroyed while the water from the sea covered the lower streets. It is calculated that the typhoon broke up more than 100 fish corrals, some old and others new, which the fishermen say were worth more than 30,000 pesos. Many small vessels were lost.

The lorcha *Cataingan* left Dulag and went aground in the bay of San Pedro y San Pablo; the captain and four of the crew were drowned and six saved their lives by swimming to land.

The lorcha *San Rafael,* coming from Capiz, was wrecked in San Juanico Strait in front of Nabae Island, but nothing has yet been learned of the fate of the crew.

A launch belonging to the steamer *Pathfinder* was lost near Dio Island. The sailors saved themselves by swimming but the master was seriously injured.

Parts of reports sent by municipal presidents of this province to the provincial government.—*Alang-alang.*—334 houses were damaged; the plantations of cocoanut, tobacco, corn, and rice have been entirely destroyed; loss is calculated to reach 20,000 pesos.

Bay-bay.—The loss from the destruction of houses and the ruin of plantations was about 20,000 pesos.

Caybiran.—188 houses were destroyed of which twelve were carried away by the violence of the storm in the direction toward the river. The lorcha *San Ambrosio* at anchor here broke its ship cables and was carried away. Up to the present it is not known what has become of the vessel. The plantations of abacá, rice, corn, bananas, and other products are totally destroyed.

Cauayan.—60 houses were destroyed. Of the abacá, rice, and banana nothing remains. About one-third of the cocoanut trees were destroyed.

Almeria.—258 houses including the two churches were destroyed. The wooden bridges were carried away by the floods. One-half of the cocoanut trees were uprooted. The hemp groves, rice paddies, and rice fields will prove a total loss. The damage caused by the storm is estimated at 45,000 pesos.

Carigara.—The municipal building was unroofed and the college badly damaged. The loss was between 30,000 and 40,000 pesos. One small ship anchored in this place was completely destroyed. Another ship coming from Palompon with a cargo of abacá was a complete loss and nothing is yet known of the crew. The water rose in the city market to a height of 1 meter.

Barugo.—150 houses including the school buildings were wrecked and the plantations of abacá and cocoanuts were completely destroyed.

Palo.—35 houses thrown down. The plantations report damages to the extent of 15,000 to 20,000 pesos.

Naval.—248 houses large and small were destroyed. The loss from the destruction of buildings was 15,000 pesos. The plantations of abacá, cacao, and bananas are a complete loss while those of cocoanuts and rice are greatly damaged.

Dagami.—69 houses in the city and 186 in the barrios were destroyed. The old barracks of the Scouts was leveled to the ground. Plantations of cocoanuts, abacá, bananas, and other products are all uprooted. The water rose 1 meter in the public streets.

Tolosa.—36 houses destroyed; the greater part of the abacá, cocoanut, and other plants has been lost; loss about 10,000 pesos.

Barauen.—76 houses in the town were destroyed.

Babatungon.—93 houses destroyed including the municipal building and the public schools.

(Signed) PERFECTO PAULINO, *Observer.*

ROMBLON, *September, 1908.*

The typhoon of the 23d and 24th caused great losses in the plantations of cocoanuts and abacá and in the seed beds of rice. Several houses constructed of mixed materials were thrown down. The total damage is estimated at 350,000 pesos of which the greater part represents the loss in the crops.

The majority of the cocoanut trees were stripped of their leaves, while about one-half were broken off or uprooted. The natives say that those that are left standing will not bear fruit for six or seven years. It is the common opinion here that this was the worst typhoon that has ever visited this locality.

From Tablas Island come reports that no house remains standing in Santa Fe and Guimbirayan, where the first hurricane winds tore off the roofs of the houses and hurled them through the air to great heights. In the towns of Odiongan, Loog, Alcantara, Badajoz, and Carmen almost all the houses were destroyed so that there are left only two or three buildings in each town.

The typhoon also wrought great damage in the cities of Magallanes, Cajidiocan, Azagra, and San Fernando in the Island of Sibuyan where not only the houses but also the powerful forest trees were thrown down on the ground.

The seed beds on these two islands suffered the same fate. Cocoanut and giant trees have been thrown down and the roads and mountain passes are obstructed by the débris.

There were many persons injured.

(Signed) DOMINADOR CALVO, *Observer.*

TYPHOON OR DEPRESSION OF SEPTEMBER 23 TO 30.

We give below the warnings sent by the Manila Observatory to Japan, Formosa, the China coast and Indo-China, from the first appearance of this typhoon to the north of the Caroline Islands, until after it had crossed north of Manila as a depression of little importance:

September 23, 6 p. m.: Typhoon N of the Western Carolines, direction unknown.

September 28, 10 a. m.: Typhoon E of Luzon, more than 300 miles distant, direction unknown.

September 28, 3 p. m.: Typhoon E of Manila, more than 300 miles distant, moving W or WNW.

September 29, noon: Typhoon E of Luzon, less than 300 miles distant, almost stationary.

September 30, 9 a. m.: The typhoon has crossed northern Luzon in the form of a shallow depression. It may increase in intensity in the China Sea.

When the first of these warnings was sent out in the afternoon of the 23d, the observations of Sumay, Guam (Ladrone Islands), and Yap (Western Carolines) clearly indicated the existence of a cyclonic center to the NE of Yap and W of Guam. The barometers had fallen regularly in both stations with winds from the W in the first station and from the SE in the second. What happened from the 23d until the stations of the Philippines gave signs of the depression or typhoon to the E of Luzon in the morning of the 28th, is difficult to say with the little data we possess. According to the observations of the Bonin Islands a depression or typhoon on the 27th seemed to cross by the S and SE of that group of Islands in a northeasterly direction. As the barometers of Yap and Guam remained rather low for several days, it might be that the typhoon announced on the 23d divided into two, one moving in a NE direction and the other toward the west. The latter is the one that crossed the Island of Luzon between parallels 15° and 18° on the night of the 29th as a shallow depression moving westward. Although in the afternoon of the 30th there were some signs that the depression would deepen in the China Sea, this did not happen, but rather it filled up during the first days of October.

TYPHOON OF THE BONIN ISLANDS, SEPTEMBER 29 AND 30.

On the 29th another cyclonic center of greater importance than the preceding one passed by the northwest and north of the Bonin Islands moving northeastward. The barometer fell in those islands to 736 mm. (not reduced to standard gravity). The track of this typhoon can be seen in the "Journal of the Meteorological Society of Japan" for October, 1908. It appeared to the SW of the Bonin Islands between meridian 135° and 140° E on the morning of the 29th. It moved in the beginning northward, but recurved to the NE in the afternoon of the same day. In the morning of the 30th it was already NNE of the Bonin and still moving northeastward.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La media mensual de la presión atmosférica no difiere mucho de la normal de Septiembre. Así en Manila, por ejemplo, esta diferencia es de —0.18 mm. Sin embargo, si se compara esta misma media mensual con la del año pasado, hallamos que las diferencias son positivas en casi todas las estaciones de Filipinas y bastante pronunciadas en toda la Isla de Luzón, especialmente en la región septentrional. Véase á este efecto el cuadro de presión y temperatura que, como de costumbre, acompaña el texto inglés. Las máximas presiones fueron registradas en todas partes el día 14, á excepción únicamente de Tuguegarao y Aparri donde se observaron el día 17. Las mínimas presiones tuvieron lugar durante el tifón más importante del mes, ó sea, el día 23 en la región oriental de Filipinas y el 24 en la región occidental.

La temperatura media mensual difiere muy poco de la normal de este mes. Comparada con la de Septiembre 1907, parece que, hablando en general, es un poco menor en Visayas y algo mayor en Luzón. La máxima y mínima absolutas en Manila fueron 33.7° C. y 22.3° C.

Precipitación acuosa.—La cantidad de agua caída durante este mes en todas las estaciones de Mindanao, Visayas y sudeste de Luzón fué superior á la de Septiembre del año próximo pasado: pero en cambio resulta inferior en las estaciones del oeste, centro y norte de Luzón. El total de Manila no pasa de 225.5 mm., cantidad inferior á la normal de Septiembre en 137.8 mm.

DEPRESIONES Y TIFONES.

Prescindiendo de algunas depresiones de menos importancia cuya trayectoria sería difícil de precisar, nos fijaremos únicamente en los cinco tifones observados este mes en el Extremo Oriente, de los cuales tres atravesaron nuestro Archipiélago y dos recurvaron en el Pacífico sin tocar ni las Filipinas ni el Japón. Procuraremos extendernos de un modo particular en el baguio del 23 y 24, por ser uno de esos tifones de extraordinaria intensidad que sólo de vez en cuando visitan el Archipiélago, sembrando por doquiera á lo largo de su trayectoria la desolación y ruina más espantosa.

Entre las depresiones que omitimos una es la que anunció el Observatorio como existente en el Pacífico al NE de Luzón y SE de las Islas Liukiu durante los días 3 y 4. Sólo diremos aquí que, según todas las probabilidades, parece que no siguió adelante esta depresión ó tifón, sino que se deshizo el día 5 en el mismo Pacífico.

TIFÓN EN EL PACÍFICO; 7 Á 13 SEPTIEMBRE.

Este tifón apareció el día 7 hacia el este de Luzón y á gran distancia de Filipinas. El día 8 lo anunció el Observatorio de Manila situándolo al NE de Luzón con dirección al NW. Sin embargo, examinando las observaciones recibidas posteriormente, es bastante probable que ya entonces se movía más inclinado al norte. El día 9 á 10 a. m. se envió á Japón, Formosa costas de China é Indochina el siguiente telegrama:

Tifón al SE de Naha (Islas Liukiu) recurvando al nordeste.

En las notas ordinarias del tiempo de los días 10, 11 y 12 pudo confirmar el Observatorio la recurva del tifón en los siguientes términos:

Día 10, 12.15 p. m.: "El tifón del Pacífico ha recurvado y se mueve al presente al NNE en dirección al Japón."

Día 11, 10.45 a. m.: "El tifón de los días anteriores parece moverse al presente hacia el NE."

Día 12, 12.15 p. m.: "El tifón se halla al NNW de las Islas Bonin moviéndose al NE ó ENE."

Los datos recibidos más tarde concuerdan perfectamente con estos anuncios del Observatorio de Manila. Según la trayectoria publicada en el "Journal of the Meteorological Society of Japan," Octubre 1908, el vórtice ciclónico se hallaba á 10 p. m. del 9 en los alrededores de 25° Lat. N y 129½° Long. E, moviéndose hacia el NE. Siguió avanzando próximamente en la misma dirección durante los días 10, 11 y 12, y á 10 p. m. de este último día pasó muy cerca por el sur de la Isla Hachijo donde bajó el barómetro hasta 740 mm. (no corregido por gravedad).

TIFÓN DE TOURANE (INDOCHINA), 18 Á 23 DE SEPTIEMBRE.

El Observatorio de Manila envió á Japón, Formosa, costas de China é Indochina los siguientes avisos referentes á este tifón.

Día 18, 3.00 p. m.: Tifón al E de las Islas Visayas, desarrollándose.
Día 19, 9.00 a. m.: Tifón al E de Manila, distancia menor de 300 millas, moviéndose al W.
Día 19, 5.00 p. m.: Tifón al NW de Manila, moviéndose al WNW.
Día 20, mediodía: Tifón en la parte N del mar de China, moviéndose al WNW ó NW.
Día 21, 11.40 a. m.: Tifón en la parte N del mar de China, moviéndose al W.

Acerca de los dos primeros anuncios correspondientes á los días 18 y 19 creemos necesario hacer las siguientes advertencias. En primer lugar cuando á 9 a. m. del día 19 anunciamos un tifón situado al E de Manila y á una distancia menor de 300 millas, sabíamos perfectamente que el centro ciclónico distaba de la capital menos de 60 millas, toda vez que las observaciones de Atimonan hechas á 6 a. m. indicaban con toda claridad que el vórtice se hallaba ya en los alrededores del meridiano de dicha estación. Sin embargo, como en nuestros avisos dados por telégrafo nos vemos precisados á usar del código publicado para este objeto el año próximo pasado y en este código no hay más que dos series de palabras para un tifón al este de Manila, una que lo supone á más de 300 millas y otra á menos de 300 millas; de ahí que enviásemos al extranjero y á las estaciones de Filipinas el aviso antes citado. Con todo, á estas últimas se envió á eso de mediodía otro telegrama más explícito anunciando que "el vórtice se hallaba cerca del meridiano de Manila entre los paralelos 15° y 17° moviéndose en dirección al mar de China."

En segundo lugar no creemos se pueda defender que el centro ciclónico que la mañana del 19 se hallaba al E de Manila era el mismo tifón ó depresión que la tarde del 18 aparecía en el mapa del tiempo de Filipinas al este de las Islas Visayas según se había anunciado á 3 p. m. de dicho día. Esto supondría una velocidad muy extraordinaria, posible es verdad en altas latitudes, pero nunca oída en Filipinas.

No es nuestro ánimo entrar en una larga discusión sobre el origen y formación de este baguio: nos contentaremos con decir que después de haber examinado detenidamente todas las observaciones hechas en las estaciones de Visayas y de Luzón, creemos poder asegurar con bastante probabilidad que aunque es verdad que durante todo el día 18 existía claramente una depresión más ó menos desarrollada en el Pacífico al este de las Islas Visayas; pero el centro ciclónico que pasó por el norte de Manila á eso de mediodía del 19 se formó la noche del 18 en los alrededores de la parte septentrional de la Provincia de Ambos Camarines y á una distancia menor de Legaspi y Virac (Catanduanes) que de Atimonan. Este tifón parece que se movió al W desde media noche del 18 ó 2 a. m. del 19 hasta 10 a. m. del mismo día; de 10 a. m. á 4 ó 5 p. m. se dirigió al NW; y desde esta hora emprendió de nuevo su marcha al oeste, dirección que conservó á través del mar de China hasta que penetró en Indochina la tarde del 21.

El centro ciclónico se hallaba de 4 á 5 p. m. del 19 entre Dagupan y Olongapó y casi á igual distancia de ambas estaciones, y entre 6 y 7 p. m. del 21 penetraba en Indochina pasando por el norte y muy cerca de Tourane.

El desarrollo que tenía este baguio cuando llegó á Indochina lo adquirió principalmente en el mar de China después de haber atravesado el centro de Luzón. Véase á este efecto la Lámina IX, en la que damos la distribución de isobaras á 10 a. m. del 19 y 4 p. m. del 21 y por ellas se comprenderá cuán diferente era la forma de este tifón cuando se hallaba dentro de Luzón de la que tenía dos días más tarde al acercarse al Continente.

EL BAGUIO DEL "TARLAC", 18-27 DE SEPTIEMBRE.

Este baguio merece formar época en los anales de tifones de Filipinas. Lo llamamos del *Tarlac* por haber causado el naufragio del vapor de este nombre de la Compañía General de Tabacos, no lejos de Borongan junto á la costa oriental de Sámar. Es verdad que gracias á los esfuerzos inauditos de dicha Compañía se consiguió salvar este vapor y se espera fundadamente que una vez hechas las debidas reparaciones prestará de nuevo sus servicios en Filipinas; pero esto no será sino después de un gasto que se calcula no bajará de ₱90,000.

Origen del tifón.—Una vez más se vió en esta ocasión la importancia de la estación que tiene establecida el Weather Bureau en Yap, Carolinas Occidentales. Nuestras estaciones más orientales de Sámar y del Este de Mindanao no dieron propiamente señales ciertas de tifón hasta la madrugada del 22; sin embargo, gracias á los telegramas recibidos de Yap, el Observatorio de Manila había anunciado ya su existencia la mañana del 20 con este telegrama enviado á Japón, Formosa, costas de China é Indochina:

Día 20, 9 a. m.: Tifón al W de Yap (Carolinas Occidentales); dirección desconocida.

Y en la nota ordinaria del tiempo del 20 publicada en los periódicos de la capital, se decía lo siguiente:

Día 20, 12.15 p. m.: * * * Un nuevo tifón apareció la noche pasada hacia el W de Yap; no se puede aún precisar su dirección. Influirá probablemente en el tiempo de Filipinas dentro de uno ó de dos días.

Es verdad que el Observatorio no creyó necesario izar ninguna señal de temporal en Filipinas hasta la mañana del 22 cuando no podía ya dudarse de que el tifón amenazaba atravesar el Archipiélago; sin embargo, el hecho de que el día 20 existía un centro ciclónico al W de Carolinas fué bastante para que se estuviese muy alerta los dos días siguientes y se procediese con la mayor prontitud en izar las señales correspondientes en cuanto las estaciones más orientales de Filipinas dieron los primeros indicios de perturbación atmosférica.

Para que mejor se vea ahora el punto de origen ó formación de este baguio publicamos en el texto inglés una tabla con las observaciones hechas en Yap los días 17 á 21 de Septiembre.

Según estos datos parece ser que el tifón se estaría formando del 17 al 18 hacia el S de Yap; y como el descenso barométrico, aunque regular, no llegó á ser muy marcado, la formación del centro ciclónico hubo de tener lugar á una distancia considerable de aquella estación. El día 20 los vientos eran bien entablados del ESE, lo cual suponía el vórtice hacia el WSW. Probablemente se hallaba éste entonces algo más lejos de Yap que el día anterior, suponiendo que se movía al WNW; pero parece cierto que iba adquiriendo todavía mayor desarrollo y de ahí que el barómetro se conservase en la misma altura y aún algo más bajo que el día 19.

El baguio en Filipinas.—Según veremos luego, el baguio penetró en la isla de Sámar el día 23 por la mañana. Pues bien; veinticuatro horas antes envió el Observatorio de Manila este explícito anuncio de tifón á los Observatorios de Tokio, Zikawei (Shanghai), Taihoku (Formosa), Hongkong y Phulien (Indochina):

Día 22, 9 a. m.: Tifón al E de las Islas Visayas, moviéndose al W ó WNW.

El mismo telegrama se envió la misma mañana á todas las estaciones de Filipinas. Al Secretario Ejecutivo se envió además esta nota apremiante:

Día 22, 10.08 a. m.: Tifón al E de las Islas Visayas, moviéndose al W ó WNW. Sámar, Norte de Leyte, Masbate, Provincia de Albay, islas entre Panay y Luzón están amenazadas por el temporal. Conviene avisar autoridades respectivas.

Entretanto se había izado ya la cuarta señal de temporal (baguio cuya situación es peligrosa sin ser todavía inminente) en toda la isla de Sámar y en el Norte de Leyte.

En el texto inglés puede verse el estado de la atmósfera en Filipinas á 6 a. m. y 2 p. m. del 21, 6 a. m. y 2 p. m. del 22. Las observaciones del 21 no dan aún indicios de tifón. Por esta causa el Observatorio se contentó en dicho día con decir en la nota ordinaria del tiempo:

Día 21, 12.05 p. m.: * * * El otro tifón del Pacífico parece demorar hacia el N ó NW de las Islas Palaos; pero las estaciones de las Visayas orientales y del E de Mindanao no dan aún señales de su existencia.

La mañana del 22 la pendiente barométrica era ya marcada hacia el E de las Visayas: pero se fué acentuando más y más, hasta tal punto, que por la tarde anunció el Observatorio que se trataba de un tifón de extraordinaria intensidad el cual amenazaba atravesar la Isla de Sámar.

Veamos ahora por donde penetró el vórtice en Sámar y el camino seguido por el mismo á través de nuestro Archipiélago.

La estación de Borongan se halló á muy poca distancia al S del vórtice. Las preciosísimas observaciones hechas por el diligente observador Fr. Cesáreo Montes son en verdad muy interesantes. No se observó calma en esta estación á pesar de haber bajado el barómetro de mercurio á 699.12 mm.; pero sí fué observada en la Isla Ando donde se hallaba refugiado el vapor *Tarlac,* unas tres millas al NE de Borongan. Según relación del capitán de dicho barco, la calma duró allí unos cinco minutos.

Es por demás digno de leerse el report que sobre el paso de este tifón por Borongan y por la Isla Ando donde se hallaba el *Tarlac* nos remitió el ya citado observador Fr. Cesáreo Montes. Lo publicamos íntegro, así en el texto inglés como en el castellano, al fin de esta discusión.

La Lámina X representa la distribución de las isobaras y posición del vórtice á 9 a. m. del 23, ó sea, cuando se hallaba éste próximamente á la menor distancia de Borongan. La Lámina XI es una reproducción de la curva allí obtenida con el barógrafo Richard, excepto la parte que va con puntos, la cual no pudo dar el aparato y hemos tenido que completar con las observaciones directas hechas con un barómetro de mercurio.[1] Basta la simple inspección de esta curva para formarse alguna idea de la escarpada pendiente barométrica en las cercanías del vórtice y por ende de la extraordinaria violencia de los vientos á la cual nada era capaz de resistir.

El vórtice abandonó la Isla de Sámar muy cerca y por el norte de Catbalogan poco después de 11 a. m. El día 24 el observador voluntario, Dr. Cullen, envió á la Oficina Central este telegrama dando algunos detalles sobre la intensidad y efectos de este tifón:

Doscientas cincuenta casas completamente destruídas en la población. La estación ha sufrido: pero se han salvado los instrumentos y el palo de señales. Mar subió dos metros.

El report que agradecemos á Mr. Pooley, Capitán del vapor *San Juan,* y que publicamos íntegro en inglés, sirve admirablemente para señalar con bastante exactitud otro punto de la trayectoria. Dicho vapor se hallaba refugiado en el puerto Aguirre, Isla Canahauan al WNW de Catbalogan. No mucho después de las 11.30 a. m. se observó la calma vortical que duró siete minutos habiendo bajado el barómetro hasta 707.1 mm.

Véanse en el texto inglés algunas de las observaciones hechas en las estaciones de Filipinas á 6 a. m. y 2 p. m. del 23.

Las estaciones de Palanoc (Masbate) y Romblón son las siguientes en servirnos de guía para estudiar la trayectoria de este tifón en su curso á través de los mares interinsulares entre Luzón y Visayas. La mínima barométrica fué casi idéntica en ambas estaciones. De donde se sigue que, hallándose Romblón en un paralelo muy poco más al norte que Palanoc, el tifón se debía mover muy inclinado al oeste, más que cuando penetró en el Archipiélago por la Isla de Sámar. Dicha mínima tuvo lugar en Palanoc á 5.20 p. m. y en Romblón á 10.30 p. m. habiendo rolado los vientos en ambos puntos del NW al N, E y SE, sin haberse observado calma ninguna.

La Lámina XII representa al baguio cuando cruzaba á la menor distancia y por el sur de Palanoc á 5 p. m. del 23. Además, en el texto inglés incluímos en una tabla un resumen de las observaciones hechas en Borongan, Calbáyog, Palanoc, Tacloban, Romblón y Calapán desde mediodía del 22 hasta mediodía del 24. La mínima barométrica se registró en esta última estación la madrugada del 24 y fué mucho menos pronunciada que en las dos anteriores; de donde el vórtice cruzó á una distancia mayor, atravesando probablemente la región meridional de la Isla de Mindoro.

En las Islas Cebú, Negros y Panay se sintió el paso del baguio por el norte con vientos más ó menos violentos del cuarto y tercer cuadrantes. En la Lámina XIII reproducimos una copia exacta de las curvas barográficas obtenidas en las estaciones de Calapán, Cápiz, Tacloban, Calbáyog, Palanoc y Romblón.

[1] Suponemos en esta curva que la mínima barométrica fué 699.12 mm. que es la que observó el P. Montes con su barómetro de mercurio. Es verdad que el mismo Padre nos había asegurado que su barómetro aneroide había bajado hasta 698 y esta es la mínima que publicamos á raíz del baguio; pero suponemos que el tal aneroide, aunque bien regulado, no estaría corregido al nivel del mar. Aplicándole la corrección correspondiente, vendría casi á coincidir con la mínima del barómetro de mercurio que juzgamos ser la verdadera.

Véanse á continuación los principales avisos de tifón, dados por el Observatorio el día 23, ó sea, mientras el tifón atravesaba la región central de nuestro Archipiélago.

Día 23, 9.40 a. m.: Á Tokio, Zikawei, Taihoku, Hongkong y Phulien: "Tifón cruzando las Visayas orientales, moviéndose al WNW."

Día 23, 10.38 a. m.: Al Secretario Ejecutivo, Manila: "Terrible tifón en Sámar, moviéndose al WNW."

Día 23, 5.50 p. m.: Á los periódicos de Manila: "El tifón está cruzando la Isla de Masbate y atravesará probablemente la Isla de Mindoro esta noche ó mañana por la madrugada."

Día 23, 6 p. m.: Á Tokio, Zikawei, Taihoku, Hongkong y Phulien: "Tifón entre las Visayas y Luzón, moviéndose al WNW."

El tifón en el Mar de China.—En el texto inglés pueden verse algunas de las observaciones hechas en Filipinas á 6 a. m. y 2 p. m. del 24. Eran próximamente las 6 a. m. de dicho día cuando el vórtice abandonaba la región meridional de Mindoro para internarse en el Mar de China. Véase la Lámina XVI. El Observatorio envió poco después á Japón, Formosa, costas de China é Indochina el siguiente telegrama:

Día 24, 9 a. m.: Tifón al W de Mindoro, moviéndose al WNW.

En la grande extensión que separa las Filipinas de Indochina no sabemos de ningún barco que se hallase en el vórtice de este tifón: pero sí tenemos observaciones de los vapores *Japan, Kaiphong, Solstad* y *Fri,* los cuales sintieron bien la violencia del temporal, especialmente los dos primeros que se internaron en el cuerpo de la tormenta hasta la isobara 737 mm.

En una tabla que acompaña el texto inglés damos un resumen de las preciosas observaciones, hechas á bordo de estos vapores y que agradecemos á sus capitanes respectivos.

Según estas observaciones, puede decirse con bastante aproximación que el vórtice se hallaba á mediodía del 25 en los alrededores de 14° 25′ lat. N. y 115° 00′ long. E.; y á 6 a. m. del 26 cerca de 15° 50′ lat. N, y de 111° 10′ long. E.

El tifón en Indochina.—Si el tifón no hubiese disminuído en velocidad desde la tarde del 26, ni se hubiese inclinado más al noroeste, el vórtice hubiera, sin duda, llegado á la región central de Indochina á eso de media noche de dicho día. Sin embargo, no llegó allá hasta después de mediodía del 27, atravesando más bien la parte septentrional de Indochina. La mayor inclinación de la trayectoria al noroeste, empezó la mañana del día 26, y la disminución en la velocidad de traslación, la tarde del mismo día.

Mucho agradecemos á Monsieur Ferraz, jefe del servicio meteorológico de Indochina, las observaciones que nos han servido para trazar las isobaras que damos en la Lámina XV pocas horas antes de que el vórtice penetrase en el Continente por el norte de Vinh. El centro ciclónico se puede situar, pues, á 10 a. m. del 27 en 18° 25′ lat. N. y 106° 15′ long. E. Á 4 p. m. del mismo día se hallaba dentro de Indochina, hacia el NW de Vinh en los alrededores de 18° 50′ lat. N y 105° 35′ long. E.

Detalles y observaciones sobre este tifón.—En primer lugar ocurre decir algo sobre la velocidad de traslación de este baguio. Cuanto á la primera parte de la trayectoria, comprendida entre el sur de Yap y las Filipinas, nos hemos de contentar con decir que se movía con mucha lentitud, especialmente del 18 al 21 inclusive. Con toda probabilidad el tifón se estaba desarrollando durante aquellos días, pues no creemos que antes del 22 hubiese adquirido el completo desarrollo con que se presentó en Sámar el 23.

Consideremos ante todc la parte de trayectoria comprendida entre 9 a. m. del 23 cuando se hallaba el vórtice á la menor distancia de Borongan hasta 10 a. m. del 27, pocas horas antes de que penetrase en Indochina. La forma del tifón y la posición del centro ciclónico en dichos días y horas está bastante bien asegurada, según consta por la distribución de las isobaras que pueden verse en las Láminas X y XV.

Para hallar la distancia en millas náuticas entre dichos dos puntos nos hemos servido de la conocida fórmula:

$$\cos. d = \text{sen. } \phi \text{ sen. } \phi' + \cos. \phi \cos. \phi' \cos. (\lambda - \lambda')$$

en la que, como es sabido, d representa la distancia entre los dos puntos de que se trata, ϕ, ϕ' y λ, λ' las latitudes y longitudes correspondientes.

Tomando, pues, como posición del vórtice á 9 a. m. del 23, 125° 28′ long. E y 11° 35′ lat. N, y á 10 a. m. del 27, 106° 15′ long. E y 18° 25′ lat. N; dicha fórmula nos da una distancia de 1,185 millas náuticas. Ahora bien, el baguio empleó 97 horas en recorrer esta distancia. Luego la velocidad media fué de 12.2 millas por hora.

Veamos ahora la velocidad del tifón en las diferentes secciones de la trayectoria, valiéndonos también para ello de la misma fórmula. Esta velocidad al penetrar el baguio en el Archipiélago y atravesar la Isla de Sámar puede decirse que fué con bastante aproximación de 15.1 millas por hora. Deducimos este resultado de las observaciones de Borongan y Calbáyog teniendo en cuenta el espacio de tiempo trascurrido entre la mínima de ambas estaciones, que fueron tres horas y media, y la distancia que media entre los dos puntos de la trayectoria más próximos á las mismas estaciones, ó sea, 53 millas. Pero, si tomamos toda la extensión comprendida entre la costa oriental de Sámar y la occidental de Mindoro, hallaremos que el tifón empleó en atravesarla unas 21 horas, lo cual supone una velocidad media de solas 13.2 millas por hora. Por lo que toca al Mar de China, si consideramos toda la parte de la trayectoria comprendida entre las 6 a. m. del 24 y 10 a. m. del 27, hallaremos una velocidad media de 11.9 millas por hora.

Sin embargo, no se crea que este decrecimiento en velocidad fué gradual, constante y uniforme. Así dentro de Filipinas el tifón se movió con una velocidad media bastante aproximada de 15.1 millas por hora desde 9 a. m. á 12.30 p. m. del 23; de 14 millas por hora desde 12.30 p. m. hasta 5 p. m.; de 15.6 millas por hora desde 5 p. m. á 10 p. m.; y de 12.4 desde 10 p. m. del 23 hasta 6 a. m. del 24. De suerte que alcanzó su máxima velocidad al atravesar los mares interinsulares comprendidos entre Masbate y Romblón y retardó considerablemente su marcha al cruzar la Isla de Mindoro. En el mar de China es bastante probable: 1.° que desde 6 a. m. del 24 á mediodía del 25 se movió el tifón con una velocidad algo menor que la que tenía al abandonar el Archipiélago, ó sea, de 11.8 millas por hora; 2.° que del mediodía del 25 á 6 a. m. del 26 aumentó de nuevo en velocidad, siendo el valor medio de 13.2 millas por hora; 3.° que desde 6 a. m. hasta 4 p. m. del 26 avanzó á razón de 15.4 millas por hora, velocidad casi idéntica á la que tenía el baguio dentro del Archipiélago entre Masbate y Romblón; 4.° que desde la tarde del 26 fué decreciendo de un modo tan notable esta velocidad que hasta 10 a. m. del 26 hallamos un promedio de solas 9.6 millas por hora, y al penetrar en el Continente poco después de mediodía del 27, no parece anduviese más que unas 7.0 millas por hora.

Tampoco fué constante la forma de este baguio, ó sea, la distribución de las isobaras, la extensión del vórtice, etc. Para convencernos de ello, bastaría recordar que á bordo del vapor *San Juan,* á pesar de no haber bajado el barómetro más que á 707.1 mm. se observó calma completa por espacio de siete minutos, siendo así que en Borongan con el barómetro á 699.12 mm. no se observó calma alguna. También se observó la calma vortical á bordo del guardacostas *Tablas* á pesar de no haberse hallado tan metido en el centro del tifón como el *San Juan.* (Véase la Lámina XII.) Asimismo la distribución de isobaras y extensión de todo el cuerpo del temporal á 10 a. m. del 27 tal como aparece en la Lámina XV es bien diferente de la representada por las Láminas X, XII y XIV, cuando el baguio se hallaba en Filipinas los días 23 y 24.

La dirección del baguio en su movimiento de traslación sufrió también algunos cambios, aunque á la verdad no muy notables. Empezó moviéndose próximamente al WNW desde su formación al sur de Yap hasta después de haber atravesado la Isla de Sámar; cruzó la parte del Archipiélago comprendida entre Sámar y Romblón bastante más inclinado al oeste; desde Romblón hasta el sur de las Islas Paracels se dirigió otra vez al WNW, y por fin desde Paracels hasta que penetró en Indochina se movió próximamente al NW $\frac{1}{4}$ W.

Otro dato interesante en materia de tifones es la velocidad adquirida por los vientos en las cercanías del vórtice. Por desgracia ninguna de las estaciones que se hallaron dentro de la zona de vientos huracanados estaba provista de anemómetro registrador para poder medir exactamente dicha velocidad. Las varias observaciones que hemos copiado arriba y los reports que incluiremos más abajo hablan bien claro sobre la extraordinaria violencia del temporal. Ni podía ser otra cosa si se atiende á lo escarpado de la pendiente barométrica. El barómetro de Tacloban, por ej., marcaba 737.8 mm. á las 9 a. m. del 23, cuando el de Borongan había bajado á 700.7 mm. Ahora bien, Tacloban dista de Borongan unas 33 millas. Luego la pendiente barométrica de Tacloban á Borongan era de 1.1 mm. por milla, ó en otros términos, el graduante barométrico entre ambas estaciones era de 66 milímetros ó 0.66 pulgadas.[1]

Suele á veces preguntarse como dato de mucha importancia para el mejor conocimiento de los tifones, si los vientos huracanados fueron ascendientes ó descendientes y, á la verdad, es lástima que sean tan pocos los que se fijen en este particular al dar cuenta de los fenómenos observados durante el paso de algún baguio por la localidad ó muy cerca. En el caso presente queremos llamar la atención sobre el hecho que cita Mr. Diot en el report que mencionamos abajo, al asegurarnos, como testigo de vista, que el tejado de la iglesia de Palanás fué materialmente volado y lanzado al aire á la manera de una enorme cometa, siendo así que el convento fué simplemente aplastado. Y nótese que estos dos hechos se sucedieron con solos 20 minutos de intervalo y en la parte anterior del temporal. De suerte que hubo corrientes ascendientes y descendientes á un mismo lado del vórtice y, por tanto, con vientos de la misma dirección.

Cuanto á la extensión de todo el cuerpo de la tormenta nos contentaremos con indicar la que tenía al penetrar en el Archipiélago, ó sea, cuando estaba más desarrollado. Tomando, pues, como límite de un baguio en las horas de máxima presión la isobara 757 mm. (sin aplicar la corrección por gravedad) hallamos que á 9 a. m. del 23 dicha isobara pasaba muy cerca de Manila; y como esta ciudad dista de Borongan unas 300 millas, de ahí que el díametro de este baguio era de unas 600 millas. El área de vientos destructores tenía por término medio un radio de unas 50 millas. Decimos por término medio, porque considerando en particular algún punto donde las circunstancias locales favorecían notablemente la dirección de los vientos, hallaríamos tal vez una extensión algo mayor.

Algunos reports interesantes sobre este tifón.—Entre los muchos reports que hemos recibido sobre la intensidad y efectos destructores de este tifón hemos escogido los más importantes y que creemos han de interesar más á nuestros lectores. Empezamos con el del P. Cesáreo Montes, observador de Borongan, del cual hemos hecho mención en su propio lugar.

WEATHER BUREAU, BORONGAN, *Septiembre, 1908.*

Referente al baguio que cruzó por esta localidad el 23 de Septiembre, las primeras señales se notaron la tarde del día 21; viva coloración en los S.-Cu., negra cerrazón al 2.° y parte del primer cuadrante y sobre todo, la rompiente en la punta de Guintaguican procedente de marejada que venía del SE. Por la mañana del 22 á las 6 a. m. la diferencia barométrica, con relación á la misma hora del día anterior, era bastante considerable 757.90–756.28, y la marejada que venía ya del ESE había aumentado considerablemente, llegando á ser mar gruesa. Á las 11 a. m. principiaron á notarse los primeros vientos ciclónicos del 4.° cuadrante con algunas llamadas al principio al NNE y NE. Antes que los vientos ciclónicos se entablaran, á las 10 a. m. se vieron los primeros S.-Cu. y Cu. que venían del N. Á las 11 a. m. se recibió parte de ese Observatorio que decía: "Un baguio al E de las Islas Visayas, dirección WNW ó W." Este parte se comunicó al Sr. Comandante militar, al Municipio y al Sr. Capitán del vapor *Tárlac.* Durante la tarde del 22, el barómetro, sin perder su oscilación diaria, seguía bajando lentamente; los vientos continuaron fijos del cuarto cuadrante, racheados y con algunas lluvias. Los nimbus y S.-Cu. venían del N. Ya por la noche, los vientos del cuarto cuadrante iban arreciando, en ocasiones eran racheados y acompañados de grande lluvia. El barómetro con descenso marcado. Á las 5 a. m. del día 23 los vientos eran ya continuos y huracanados con fuerza 10 de la escala Beaufort; los Cu.-N. corrían con gran velocidad del N. Á las 6 a. m. empezaron á sentirse los primeros efectos de destrucción del baguio, derribando algunas casas y tumbando cocos. Á las 8 a. m. roló el viento al W, siendo ya pocas entonces las casas que quedaban en pié, y de estas pocas, casi todas inclinadas hacia el E y ESE no valiendo en la mayoría de ellas los puntales que se habían puesto para detener la fuerza tan grande del huracán.

La Iglesia y Casa parroquial siguieron la misma suerte que las demás casas de la población. Eran las 8.30 a. m. cuando el viento del WSW principió en aquellos edificios á desmantelar y levantar planchas de hierro, arrancar las maderas empotradas en la pared de mampostería, levantando las piedras que las aseguraban, y arrojando planchas y maderas á grandes distancias. Al rolar el viento al SW, fué éste de fuerza extraordinaria, concluyendo por destruir todo lo que quedaba medio en pié, dejando la población de Borongan convertida toda en un montón de ruínas.

[1] Téngase presente que, según lo acordado en Congresos Internacionales de Meteorología, la unidad de distancia para el graduante barométrico expresado en medidas inglesas es un cuarto de grado, ó sea, 15 millas naúticas, al paso que si se expresa el graduante en milímetros, la unidad de distancia es un grado de 60 millas naúticas.

No se notó calma alguna; el viento siguió rolando por los varios puntos de los cuadrantes 4.º y 3.º. Sin embargo, al tiempo de la mínima barométrica, á las 9.03 a. m., se advirtió bastante claridad y como rasgado aquel negro velo que cubría el cielo al E y ENE. Á esta misma hora, según han manifestado los habitantes de las Islas Tuminubo y Ando, tuvieron calma absoluta por espacio de unos diez minutos; no vieron el azul del cielo, pero sí, una claridad blanquecina envuelta con ligera llovizna.

En aquel mismo momento y no antes, vieron los habitantes de las islas y punta Lalauigan que la mar les subió repentinamente como 2 metros, bajando después y quedando como antes. Es probable fuera la ola del huracán, que al entrar el vórtice por la Isla de Tuminubo chocó contra la isla deshaciéndose y causando en las inmediaciones una especie de flujo y reflujo instantáneo.

La Isla Tuminubo se halla situada tres millas al E de Borongan, á la entrada del puerto. Por el NE y S es toda ella acantilada y como cortada, formando un gran peñasco, sólo es accesible por la parte W donde viven sus habitantes. Tiene de elevación 33 metros sobre el nivel del mar. Al entrar el vórtice por el E de la isla, la ola chocó con aquel gran obstáculo, deshaciéndose y causando aquella subida y bajada rápida en las aguas del mar notorio á los mismos habitantes de las islas.

La Isla de Ando se halla situada tres millas hacia el NE de Borongan y cerca de dos millas al N ¼ NW de la Isla Tuminubo, formando entre ambas el canal para entrar al puerto. La parte E es toda acantilada: sólo por la parte W es accesible y el único refugio algo seguro para embarcaciones mayores en caso de temporales y de baguios. Mide de N á S tres cuartos de milla y de E á W un cuarto de milla, su elevación sobre el nivel del mar es de trece metros por la parte del E. Desde la tarde del 22 el vapor *Tárlac* se hallaba refugiado al W de esta isla. Durante toda la noche experimentó vientos duros y huracanados con bastantes lluvias del cuarto cuadrante. Al amanecer del día 23, los vientos del cuarto cuadrante arreciaron fuertemente. El capitán Sr. Gastañega, presintiendo el peligro que venía sobre el vapor, mandó reforzar todas las amarras, y con toda máquina estuvo aguantando los durísimos vientos huracanados que del NW le soplaban. En esta situación, perdió, primero, dos de sus botes y otros efectos, arrancados de sus puentes por la violencia del viento. Con la fuerza de las rachas del NW, no obstante tener el barco todas sus amarras reforzadas y toda su máquina, fué arrastrado y llevado por los vientos hasta la punta de la Isla de Ando, al SW, cerca ya de la entrada del puerto. Entonces fué cuando á 9 a. m. pasó el vórtice por donde se encontraba el barco, y según refiere el mismo Sr. Capitán se observó la calma vortical absoluta por espacio de 10 minutos; no vió tampoco el azul del cielo, pero sí una grande claridad que le hizo ver el lugar y situación del barco, pues antes de la calma, debido á la profunda y negra cerrazón acompañada de lluvia torrencial, no sabía dónde se encontraba. Después de la calma, le saltaron los vientos del NW al SW con muchísima más fuerza que antes, desmantelando la cubierta del buque y barriendo todo lo que sobre ella había. El barco continuó, no obstante, proa al viento y con toda su máquina, resistiendo al empuje del huracán, mientras que otras corrientes que llegaron del SE le batieron por la banda de babor, empujándolo hasta dejarlo acostado sobre unos bajos de coral, próximos á una pequeña islita que hay al NW de la Isla de Ando y á la Isla de Sámar, á la entrada de la ensenada de Maypandan y de Taguian.

Aquí vino á terminar, por ahora, el vapor *Tárlac* que tantas veces había desafiado las furias del Pacífico, sobre todo, en la temporada de los Nortes! [1]

Los destrozos causados por el baguio son grandísimos é incalculables. Además de la población que quedó toda ella deshecha, la mayoría de los cocoteros han sido, unos tumbados, tronchados otros, y por donde pasó el vórtice, se hallan bastantes retorcidos á manera de trenzas, no faltando entre ellos, algunos tronchados por dos y tres partes.

La mar subió aquí en Borongan como dos metros de su nivel medio ordinario, no obstante ser marea baja y los vientos del NW, W y SW.

(Firmado) CESAREO MONTES, *Observador*.

El siguiente report lo debemos á la amabilidad de Mr. E. E. Diot, de la "Philippine Plantation and Commercial Co." en Masbate. Estamos persuadidos de que nuestros lectores leerán con gusto esta descripción del baguio, así como también la mención oportuna que hace Mr. Diot de la utilidad de los avisos de tifones del Observatorio de Manila.

MASBATE, *30 de Septiembre, 1908.*

Habiendo tomado unas pocas notas durante el tifón de 23 de los corrientes, tengo el honor de enviarle este breve report que con ellas he preparado.

El 22 por la mañana salí de Palanoc para el sur en un pequeño barco de vela en compañía de Mr. George W. Moore, primer maestro de la Isla de Masbate. Reinaba mucha calma y así avanzábamos muy despacio. Pasamos la noche en Herminia, barrio que se halla á unas 14 millas al sur de Palanoc y salimos de allí la mañana siguiente á las ocho con una brisa fresca del NNW. El viento era de fuerza 4 de la escala Beaufort y aumen-

[1] Gracias á la amabilidad de D. Luis Llansó, de la Compañía General de Tabacos de Filipinas, podemos ofrecer en la Lámina XVI una vista del *Tárlac* tomada en el lugar del siniestro después del tifón.

taba gradualmente en intensidad. Á las 9 a. m. soplaba ya con fuerza 6. Acabábamos de salir del estrecho paso que hay entre las Islas Adyagan y Masbate, cuando notamos que nos era imposible distinguir la costa de Sámar envuelta como estaba completamente por una densa masa de lluvia; hecho que no nos dejó la menor duda de que un tifón se nos acercaba con toda rapidez.

Á poca distancia de nosotros había un "parao" de esos que suelen usar los mercaderes indígenas de Cebú y Bohol. Iba sobrecargado y se movía muy pesadamente hacia el NNE. Tendría á bordo como 15 ó 20 personas. En vista de su peligro, nos acercamos á ellos y les gritamos que nos siguiesen á buscar refugio en el río Palanás, pues amenazaba un violento tifón. Cambiaron de rumbo y nos siguieron: por una causa ó por otra en acercándose á la costa retrocedieron al mar abierto y desaparecieron en una espesa lluvia que de repente cayó sobre nosotros. Vino este chubasco con tal furia que se volcó nuestro bote costándonos buen trabajo el salvarlo y salvarnos á nosotros con él. Un pescador indígena que vió nuestro estado vino á socorrernos, pero él mismo se sumergió también y nosotros en turno tuvimos que ir en su ayuda.

Eran las 9.30 a. m. Fuímos á la casa de un amigo, y hallándole ausente, procedimos á asegurar la casa avisando á todo el mundo que hiciese lo mismo, toda vez que el temporal era ya fuerte y el viento había rolado solamente hasta el norte. Á las 11 a. m. el viento era bastante violento para arrancar hojas de los árboles y destruir algunas de las chozas más endebles. Á las 12.20 p. m. la iglesia del pueblo, edificio de materiales fuertes de 24 x 15 metros quedó destechada, y la fachada y paredes laterales arruínadas en parte. El edificio fué materialmente volado elevándose el techo en el aire á la manera de una enorme cometa. Á las 12.40 p. m. se fué el convento: era este el mejor edificio del pueblo y había sido construído durante el último año. Al revés de la iglesia, cayó simplemente aplastado, hecho un montón de ruínas. Afortunadamente los que lo ocupaban lo habían abandonado ya, y así no hubo desgracias personales. La casa-escuela que se estaba construyendo y prometía ser la mejor de esta provincia fué la siguiente en venirse abajo: á la 1.10 p. m. voló un lado y todo el edificio se inclinó notablemente; á la 1.30 p. m. no quedaba más que un montón de escombros. Como la violencia del huracán todavía iba en aumento, era evidente que todo el pueblo estaba condenado á desaparecer. El viento había rolado el NE á eso de mediodía y sopló de esta dirección hasta 2.30 p. m. cuando gradualmente fué rolando al ENE, siendo las rachas ahora más violentas que nunca. Esto duró aproximadamente unos 30 ó 40 minutos: entonces el viento calmó de repente y se esclareció algo el cielo. El rugido de la mar era espantoso y las olas parecían elevarse á 6 ó 9 metros de altura. Aunque no era tiempo de alta marea, el mar parecía estar á un metro por encima de las más altas mareas. El río subió aún más, pero esto fué debido probablemente á la enorme cantidad de lluvia y á que el ímpetu de las olas hacía poco menos que imposible el desagüe.

La calma relativa duró unos 45 minutos; entonces el huracán se renovó con la misma violencia que antes, siendo ahora los vientos de la parte del sur y durando hasta las 8.30 p. m. en que comenzó á amainar gradualmente. Á las 6 de la mañana siguiente había disminuído la fuerza del viento hasta fuerza 4, dirección sur.

Una simple inspección del pueblo nos descubrió que la destrucción había sido completa, quedando solo unas diez casas en condición de ser utilizadas.

Recibimos noticias de que Cataingan fué también barrido. Esto es bien creíble, atendida la posición de dicho pueblo. En nuestro viaje de vuelta á Masbate pasamos por los pueblos de Dimasalang, Uson, Herminia, Mobo; por todas partes aparecían las mismas señales de destrucción; sólo dos casas notamos en pié á lo largo de la costa. Las magníficas arboledas de cocos á la orilla del mar ofrecían un espectáculo desconsolador; calculamos que un 40 por ciento de los árboles habían sido tronchados ó tumbados. Los campos de abacá y de bananas aparecían completamente destruídos en toda la Isla de Masbate.

En llegando á Palanoc, se nos ofrecieron á la vista las mismas señales de ruina y desolación: la iglesia, el convento, la casa del municipio, las escuelas y ciento diez casas de particulares habían sido destruídas. Á no haber sido por los oportunos avisos del Weather Bureau de Manila y la eficaz cooperación de Mr. Brazee, que hacía á la sazón de Jefe de la estación meteorológica de Palanoc, no hubiera quedado nada en pié. Mucha alabanza merecen también los telegrafistas de Masbate que tuvieron la amabilidad de ir tomando nota de todos los telegramas trasmitidos á Manila por los observadores de Sámar y Leyte y los comunicaba inmediatamente á dicho Jefe de la estación local, quien á su vez los descifraba y los ponía en conocimiento de las autoridades municipales y de cuantos podían influir en hacer que todo el mundo se preparase para evitar en lo posible los efectos destructores del temporal.

Conociendo el peligro á que estaba expuesta la goleta *Franz* anclada á la sazón en Bolo, lugar dos millas y media al NW del faro de Masbate, enteramente expuesto á los vientos del 1.º y 2.º cuadrantes, el observador avisó personalmente á los chinos dueños de la goleta y de su cargamento pidiéndoles mandasen aviso del peligro al Capitán, lo cual ellos prometieron hacer, pero en realidad no lo cumplieron. Como esto sucedió diez y ocho horas antes de que llegase el huracán, el desastre pudo haberse evitado, pudieron haberse salvado cuatro vidas más una valiosa goleta y un cargamento más valioso todavía.

(Firmado) E. E. DIOT.

Los dos reports que siguen contienen simplemente una nota algo detallada de los efectos del tifón en el N de Leyte é Islas de Tablas y Sibuyán. Estos datos servirán para formarnos alguna idea de la destrucción que causaría el baguio en otros muchos puntos á lo largo de la trayectoria.

TACLOBAN, *Septiembre, 1908.*

En la casa-Gobierno provincial hubo desperfectos; se cuentan 340 casas entre tumbadas y destrozadas, incluyendo las Escuelas públicas de niños; ningún plátano ni árboles de poca consistencia quedaron en pié; la mayor parte de las plantaciones de abacá, coco y demás hortalizas se han perdido. Los pantalanes han sido destrozados en parte; el agua del mar subió en las calles bajas. Se calcula que los corrales de pesca entre viejos y nuevos que se ha llevado el fuerte baguio fueron más de 100 siendo su valor, según cálculo de pescadores, de 30,000 pesos. Muchas embarcaciones pequeñas se han perdido.

La lorcha *Catainĝan* salió del pueblo de Dulag yéndose á pique en la bahía de San Pedro y San Pablo: murieron 4 tripulantes y su patrón; 6 de ellos se salvaron á nado.

La lorcha *San Rafael* procedente de Cápiz naufragó en el canal de San Juanico frente de la Isla de Nabae: hasta ahora no se sabe el paradero de sus tripulantes.

Una lancha de vapor del vapor *Pathfinder* naufragó en la Isla de Dio. Gracias que sus marineros se salvaron á nado hasta la orilla: pero el oficial resultó herido.

La lorcha *Esperanza* perdió el timón.

Partes enviados por los presidentes municipales de algunos pueblos de esta provincia al gobierno provincial.—*Alang-alang.*—334 casas con desperfectos, las plantaciones de coco, tabaco, maíz y palay todas se han perdido; se calcula la pérdida en 20,000 pesos.

Baybay.—Entre las casas y plantaciones de este pueblo se calcula que la pérdida fué de 30,000 pesos.

Caybiran.—188 casas destrozadas, 12 de ellas fueron arrastradas por el fuerte baguio hacia el río. La lorcha *San Ambrosio* fondeada en esta población, se la llevó el baguio y hasta ahora no se sabe su paradero. Las plantaciones de abacá, palay, maíz, plátanos y demás hortalizas todo destruído.

Cauayan.—66 casas destruídas; de los abacales, palay, plátanos y demás siembras no ha quedado nada en pié. De los cocos fueron arrancados una tercera parte.

Almería.—258 casas destruídas incluyendo las dos iglesias. Dos puentes de madera fueron llevados por la inundación. La mitad de los cocos fueron tumbados: los abacales y palay de regadío y secano todo perdido: se calcula la pérdida en 45,000 pesos.

Carigara.—El tribunal se destechó y el Colegio se inclinó mucho: las pérdidas entre casas y plantaciones, según cálculo, fueron de 30,000 á 40,000 pesos. Naufragó una embarcación fondeada en este pueblo y se deshizo completamente: otra embarcación también, procedente del pueblo de Palompon, que iba cargada de abacá, fué arrastrada por el espantaso baguio con todos sus tripulantes y hasta ahora no se ha encontrado el cadáver de ninguno de ellos. En el mercado subió el agua un metro próximamente.

Barugo.—Los edificios escolares destruídos, 150 casas destrozadas; las plantaciones de abacá, coco y demás siembras todo arrasado.

Palo.—35 casas destrozadas. En cuanto á las haciendas, se calculan las pérdidas de 15,000 á 20,000 pesos.

Naval.—248 casas entre grandes y pequeñas fueron destrozadas: se calcula que la pérdida en edificios solamente ha sido de 15,000 pesos; las plantaciones de abacá, cacao, plátanos etc. todo destruído completamente, las de coco y palay solo en parte.

Dagami.—69 casas derribadas dentro de la población y 186 en los barrios; también el Cuartel antiguo de Scouts se ha derribado; las plantaciones de coco, abacá, plátanos y demás siembras todo al suelo. El agua subió en la calzada más de un metro.

Tolosa.—36 casas destrozadas; los abacales, cocos y demás siembras de tubérculos se han perdido la mayoría; se calculan las pérdidas en 10,000 pesos próximamente.

Burauen.—76 casas destrozadas solamente dentro de la población.

Babatunĝon.—93 casas derribadas, el Tribunal y las dos Escuelas públicas también derribados.

(Firmado) PERFECTO PAULINO, *Observador.*

ROMBLÓN, *Septiembre, 1908.*

El baguio de 23 y 24 de este mes ha causado grandes pérdidas en las plantaciones de cocos y abacá y en los sembrados de palay y en varias casas de materiales mixtos. Se calcula la pérdida general en unos ₱350,000, siendo la parte que más ha sufrida los cocales y sembrados de palay.

La mayoría de los cocos han quedado desnudos de sus hojas dejando casi el corazón fuera, sin contar los que fueron derribados y tronchados que serían como la mitad. Los que han quedado en pié, pero en el estado que acabo de describir, creen los naturales que no volverán á dar fruta sino después de seis ó siete años. Los vecinos de ésta dicen que ha sido uno de los baguios más fuertes que se han sentido en esta localidad.

De la Isla de Tablas llegan noticias que el temporal no dejó una casa en pié ni en Santa Fe ni en Guimbirayan, donde al impulso de los primeros vientos huracanados los tejados de las casas eran lanzados á grande altura como simples voladores de papel. En los pueblos de Odioñgan, Loog, Alcántara, Badajoz y Carmen casi todas las casas fueron barridas por el huracán, no quedando por término medio más que unas tres mal paradas en cada uno de ellos.

También hizo el baguio grandes destrozos en los pueblos de Magallanes, Cajidiocan, Azagar y San Fernando de la Isla de Sibuyán, donde no solamente arrasó las casas sino también los árboles más corpulentos de los campos y bosques.

La misma suerte cupo á los sembrados de estas dos islas. Cocos y árboles gigantescos se han venido al suelo obstruyendo el paso á los caminantes por las llanuras y montes.

Ha habido además muchas desgracias personales.

(Firmado) DOMINADOR CALVO, *Observador.*

En el texto inglés incluímos dos reports más que no traducimos al castellano por no alargar demasiado la discusión de este baguio.

TIFÓN Ó DEPRESIÓN DE 23 Á 30 DE SEPTIEMBRE.

Damos á continuación los avisos enviados por el Observatorio de Manila á Japón, Formosa, costas de China é Indo-China desde la aparición de este tifón al N de las Carolinas hasta después de haber cruzado por el N de Manila en forma de una depresión de muy poca importancia:

Día 23, 6 p. m.: Tifón al N de las Carolinas Occidentales; dirección desconocida.

Día 28, 10 a. m.: Tifón al E de Luzón; distancia mayor de 300 millas; dirección desconocida.

Día 28, 3 p. m.: Tifón al E de Manila, distancia mayor de 300 millas, dirigiéndose al W ó WNW.

Día 29, mediodía: Tifón al E de Luzón, distancia menor de 300 millas, casi estacionario.

Día 30, 9 a. m.: El tifón ha cruzado la parte N de Luzón en la forma de una depresión dilatada. Es probable que aumente en intensidad en el Mar de China.

Cuando se envió el primero de estos anuncios la tarde del 23 las observaciones de Sumay, Guam (Islas Marianas), y Yap (Carolinas Occidentales) indicaban claramente la existencia de un centro ciclónico hacia el NE de Yap y W de Guam. Los barómetros habían bajado regularmente en ambas estaciones con vientos del W en la primera y del SE en la segunda. Lo que pasó desde dicho día 23 hasta que las estaciones de Filipinas dieron señales de una depresión ó tifón al E de Luzón la mañana del 28, es difícil de determinar con los pocos datos que poseemos. Según las observaciones de las Islas Bonín una depresión ó tifón parece que cruzó el día 27 por el S y SE de aquel grupo de islas, moviéndose al NE. Como por otra parte los barómetros tanto de Yap como de Guam se conservaron algo bajos por espacio de varios días, bien pudiera ser que el tifón anunciado el 23 se dividiera en dos centros parciales dirigiéndose uno hacia el NE y otro al W. Este último es el que atravesó la Isla de Luzón por entre los paralelos 15° y 18° la noche del 29 al 30 en forma de una depresión dilatada y moviéndose al W. Aunque la tarde del día 30 había algunos indicios de que esta depresión iba á adquirir de nuevo mayor desarrollo en el Mar de China, con todo no fué así, sino que se fué deshaciendo al W del Norte de Luzón durante los primeros días de Octubre.

TIFÓN DE LAS ISLAS BONÍN, 29 Á 30 DE SEPTIEMBRE.

Al propio tiempo que la depresión anterior cruzaba la Isla de Luzón, otro centro ciclónico de más importancia pasaba por el NW y N de las Islas Bonín moviéndose al NE. El barómetro bajó en dichas islas hasta 736 mm. (sin corregir por gravedad). La trayectoria de este tifón puede verse en el "Journal of the Meteorological Society of Japan," de Octubre 1908. Apareció al SW de dichas islas, entre los meridianos 135° y 140° E, la mañana del 29. Movióse al principio al N, pero recurvó al NE después de mediodía del mismo 29. La mañana del 30 se hallaba ya al NNE de Bonín dirigiéndose aún al NE.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Temperature. Open air.[2] Mean.	Temperature. Open air.[2] Maximum.	Temperature. Open air.[2] Minimum.	Underground. 0.25 meter. 8 a. m.	Underground. 0.25 meter. 2 p. m.	Underground. 0.50 meter. 8 a. m.	Underground. 0.50 meter. 2 p. m.	Underground. 1.50 meters. 8 a. m.	Underground. 2.50 meters. 8 a. m.	Relative humidity, mean.	Vapor pressure, mean.	Evaporation. Free exposure, total.	Evaporation. Shelter, total.
	mm.	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	*Per ct.*	*mm.*	*mm.*	*mm.*
1	757.94	27.6	32.8	23.5	29.2	30.8	29.5	29.8	28.5	28.6	83.8	22.7	5.4	2.8
2	57.88	27.4	33	23.6	29.2	30.7	29.7	29.9	28.5	28.6	83.7	22.4	5.5	2.6
3	57.18	27.2	31.3	23.7	29.4	30.5	29.6	29.9	28.5	28.6	85.6	22.8	4.2	2.2
4	56.34	27.4	32.3	23.8	29	30.6	29.6	29.9	28.5	28.6	84.8	22.8	4.6	2.4
5	56.24	26.8	31.6	23.6	29.4	30.6	29.6	29.9	28.5	28.5	86.2	22.4	4.8	2.4
6	57.71	27.1	30.7	23.4	29.2	30.1	29.6	29.7	28.5	28.6	83.3	22	4.6	2.4
7	58.42	25.9	31.3	22.6	29	30.2	29.2	29.9	28.6	28.7	87	21.5	4	2
8	57.52	27.1	32	22.6	29	30	29.5	29.6	28.6	28.5	84.4	22.2	5.5	2.4
9	58.45	27.2	30.1	24	29.2	29.4	29.6	28.9	28.7	28.6	85.3	22.7	4.7	2.3
10	58.84	27	31.7	24.1	29.2	30.5	29.8	29.8	28.6	28.5	86.5	22.8	5.1	2.5
11	58.48	26.9	32.3	23.5	29.2	30.6	29.8	29.8	28.7	28.8	84.2	21.9	4.7	2.1
12	58.38	26.5	31.3	23.4	29.1	30.1	29.7	29.9	28.6	28.6	87.9	22.5	3.7	2.1
13	58.89	26.8	32.8	23.1	29	30.2	29.7	29.9	28.7	28.5	84.2	21.9	3.9	1.9
14	59.56	27	32.7	23.6	29	30.3	29.5	29.9	28.6	28.4	85.6	22.6	8.5	2.1
15	59.32	27.4	32.9	23.5	29.3	30.7	29.7	29.9	28.7	28.5	80.5	21.6	7.3	2.1
16	58.87	27.5	33.7	23.3	29.4	30.6	29.7	29.9	28.7	28.6	81.2	22	5.1	2.7
17	59.09	27.4	32.8	22.9	29.4	30.7	29.9	30	28.8	28.6	81.4	21.9	5.5	3
18	58.15	26.7	32.1	23.2	29	30.3	29.7	29.9	28.7	28.5	87.4	22.6	3.9	2.2
19	54.09	24.8	25.7	22.6	28.7	28	29.5	29.1	28.6	28.4	93.9	21.9	1.4	1.1
20	56.30	25.6	31.7	22.3	27.7	29.1	29	29.3	28.8	28.5	88.8	21.6	3.7	1.4
21	57.73	26.2	32.4	22.4	28.1	29.6	28.9	29.2	28.8	28.4	88.2	22.1	2.8	1.3
22	57.97	26.3	31.3	22.7	28.5	29.1	29	28.9	28.9	28.6	87.5	22.2	2	1.2
23	54.25	24.9	28.1	23.4	28.2	28.5	28.9	29	28.6	28.4	95.3	22.3	1.1	1
24	49.83	26.2	29	23.1	27.5	28.5	28.6	29.1	28.7	28.5	83.7	21.1	3.9	2.6
25	55.40	26.5	30.7	23.9	27.7	28.6	28.5	28.4	28.7	28.4	85.8	22	5.7	2.9
26	58.14	27.2	32.7	22.6	27.9	29.1	28.6	29.8	28.9	28.7	81.7	21.6	4.3	2.3
27	58.44	27	32.6	23	28.4	29.6	28.7	29.7	28.7	28.7	82.7	21.8	4.7	2.4
28	57.57	26.5	31.2	23.8	28.5	29.2	28.8	29	28.6	28.5	84.5	21.6	3.9	2.5
29	56.70	27.1	31.8	24	28.6	29.3	28.9	28.8	28.8	28.7	85.4	22.7	4.9	2.3
30	56.74	26.7	31.6	23.1	28.7	29.4	28.9	29	28.7	28.5	86.7	22.2	3.8	2.1
Mean	757.35	26.7	31.5	23.3	28.8	29.8	29.3	29.5	28.7	28.6	85.6	22.1	4.4	2.2
Total													133.2	65.3
Departure from normal	—0.18	—0.3	+0.9	—0.4							—0.1	—0.4	+6.3	

Date.	Wind. Prevailing direction.	Wind. Total movement.	Wind. Maximum hourly velocity.	Wind. Direction at the time of the maximum velocity.	Clouds. Amount, mean.	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Sunshine.	Rainfall.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h. m.*	*mm.*	
1	NE, WSW	181.0	18.0	WSW	4.1	Ci.-S. E, SE	Cu.-N.	9 15	2	≡° a. ⌈↯ ● ↯ p.
2	E, WSW	188	16	SW	4.4	A.-Cu. NW	Cu. N, W	9 45	6.2	≡° a. ⌒° ⌈↯●p.
3	E	115	12	ESE	9.1	Ci.-S. NE	Cu. W	2 00	29.5	≡° a. ⌈↯ ●^{2} p. ○
4	W	171.5	20	WSW	7	Ci.-S. E	Cu. NW	5 00		≡° ○ a.
5	E	139	15.5	SSW	8.2	Ci.-S. S	Cu.-N,NE, WSW	5 45		≡° a. ⌈↯ p d p.
6	SW quad.	328.5	24.5	WSW	7.8	Ci.-S.	Cu.-N SE, W	4 35	10.9	● ○ a. ↯ p.
7	NNE	168.5	19	WSW	9.4	A.-Cu. SW	Cu.	1 00	3.2	● a p p.
8	SW quad.	228	22.5	SW by W	6	Ci.-S. E	Cu. W by N	8 40		≡ ○^{2} a. ◡ p. ⌈↯°
9	SW	207	25.5	SW by W	8.9	Ci.-S.	Cu. WSW	5 25	1.8	Ω ≡ ●° d a.
10	WSW, NE	174	19.5	WSW	6.1	A.-Cu. WNW	Cu.-N. WNW	8 45	25.9	≡ a. ⊤ ↯° p. ●
11	NE, WSW	211.5	25.5	WNW	6.2	Ci. E	Cu. W	9 00	20.3	Ω^2 a. ○° ⌈↯° ●p.
12	Variable	132	14.5	WSW	6.6	Ci.-S.	Cu.-N.	5 20	.1	≡ a. ⌈↯° d p.
13	ENE	145.5	15.5	WSW	7.9	Ci. NE by E	Cu. E by S	5 50		Φ ◡° Ωa.○⌈↯°p.
14	E	136	13	NW	7.2	Ci.-S. SE	Cu. E	5 50	.3	≡ a. ⌈↯ ●° p.
15	N	136.5	23.5	NNE	5.6	Ci.-S.	Cu. E	7 30		≡° ⌒ a. ⊤ p.
16	SE, WNW	141	12.5	ESE	5	Ci. E	Cu. E	9 15	.5	● ≡° a. ⌈↯ ↯ p.
17	NE	156.5	15.5	W.	9.2	Ci.-S. N by W	Cu. E by N	4 05	2.5	● ≡° a. ↯ p. ○°
18	ESE	99	14	N	8.8	Ci.-S. SE by E	Cu. N	2 55	2.1	Ω ≡ a. ↙ ●° ↯ p.
19	NW	501.5	42.5	S by W	9.9	A.-Cu.	N. NNW	0 00	54.8	↙ ● a. p.
20	ESE	175	18.5	SE	9.2	Ci.-S. E	Cu. SE	3 05	8.5	Ω° ○ a. ⊤ ● p.
21	NNE	129.5	24.5	NE	7.3	Ci.-S.	Cu.-N. SE	7 30	3.9	≡ a. ⌈↯ ● ↯ p.
22	NNW	167	22.5	NNW	7.2	A.-Cu. NE	Cu.-N. NE	5 10	5.7	Ω a. ● ⊤ ⌒ p. ⊕
23	NNW	306.5	28	NNW	10	A.-Cu. E by N	N. NE	0 00	34	⌈↯ p. ● a. p.
24	SE quad.	575	39	E by S	10		Fr.-N. SE	0 00	6.2	↯ p. ↙ ●° a. p.
25	SE quad.	337.5	28	SE	9.5	Ci.-S. SW	Cu.-N.	3 30	5	≡° a. ● ⊤ p.
26	WNW	116.5	15	NW by W	7.2	Ci. N by E	Cu. WSW	7 25	.1	d Ω ≡ ○ a. ⌈↯p.
27	W quad.	152.5	15.5	SW by W	6.8	Ci.-S. NE by E	Cu. NNW	6 35	.7	≡° a. ⌈↯ d p.
28	N	268.5	18	NW	10	Ci.-S. E by N	Cu.-N. N	0 20	.1	≡° d ○ a.
29	NNW	206	18	N by W	7.6	Ci.-S. E by N	Cu. N	5 15	1.1	≡° ⊕ a. ⌈↯ ● p.
30	Variable	211.5	27.5	SW by W	7	A.-Cu. SSE	Cu. SE	5 25	.1	Ω^2 ≡° a. ⌒^{2} ● p.
Mean		206.8	20.8		7.6			5 08		
Total								154 10	225.5	
Departure from normal		—62.5			0.0			+11 21	—137.8	

[1] All the mean values given in this table are deduced from hourly observations.

[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*0-12.*	*0-10.*			*mm.*	
1	758.06	27.8	31.3	24	77.2	SW, SE	1.5	7.2	Ci.-S., A.-S.	Cu.-N., Cu. W	39.1	p a. ⛈ ⌒ ● ↙° p.
2	57.87	27.6	32.3	23.5	78.7	SE	1.2	7	A.-S.	S.-Cu., Cu. W	------	d° a.
3	57.41	27.7	30.1	24	79.9	SW	1.5	8.5	A.-S.	Cu.-N. S, W	------	↯ p.
4	56.71	27.4	30.5	23.8	78.5	Variable	1.8	9.2	A.-S.	Cu.-N. W, SW	39.6	⛈² ● ↙ p.
5	56.67	27.5	31.2	24	77	SSW	3	8.8	Variable	S.-Cu., Cu. SW	------	↙°
6	57.70	27.8	30.7	25.3	76.5	SW, SE	1.8	8.8	Ci.-S. ESE	S.-Cu., Cu. SW	------	○² ↯ ⊤ ⊍ p.
7	58.07	28.3	31.5	25.5	76.2	SW, SE	1.2	7.5	Ci.-S.	Cu. SW, W	------	○² ⊍²
8	57.56	28.5	31.2	25.5	74	SE	1.5	5.8	Ci.-S. SE	Cu. SW, W	------	⊍²
9	58.09	28.5	33.9	24.7	74.7	SE	1	7.5	Ci.-S.	Cu. W	------	⊍°
10	58.32	28.4	30.2	24.5	77	SE	1.5	9.2	Ci.-S.	Cu.-N. W	------	○° ⊤
11	57.89	28	32.1	24.9	79.2	NNE, SE	.7	5.5	Ci.-S. NE	Cu. E	------	⊤² p.
12	58.07	27.9	32.8	25.4	80.3	SE	1	7.2	Ci.-S. E	Cu.-N. ESE, E	3.8	○ a. ↯ ⊤ ● p.
13	58.58	27.4	32.9	24.4	78.2	NNE	.8	7.2	Ci.-S. NE	Cu.-N. E, W	------	⊤ a. p.
14	59.11	26.8	31.4	23.5	81.8	Variable	1	9.5	A.-S.	Cu.-N. E	9.7	d a. ⌒ ⛈° p.
15	58.63	27.1	30.6	22.4	78.4	Variable	1.2	9	Ci.-S.	Cu.-N. E	------	○ ↯ ⊤ p.
16	58.20	25.7	32	22.5	85.2	NNE	.8	8.5	Ci.-S. E	N. E	70.7	⛈ a. p.
17	58.01	26.8	30.4	22.9	83	SE, NNE	1	9.5	A.-S.	N., Cu.-N. E	1.5	●° ↯ ⊤ p.
18	57.42	26.8	29.4	24.1	85.3	SW	1	10	A.-S.	N., Cu.-N. E, W	------	
19	57.13	25.3	29	23.5	88.7	SSW	2.2	10	A.-S.	N. WSW, SW	54.1	⛈ a. ● p.
20	57.56	26.6	30.6	23	78.8	SW	1.3	9.8	A.-Cu. NE	N. SW	1	● p.
21	57.55	26.7	31.5	22.5	81	Variable	.8	9.8	A.-Cu. NE	S.-Cu.	------	
22	55.91	26.4	29.1	23.8	85.8	NNE, NW	1.7	10	A.-S.	N. W, NNW	17.3	● ↙° ↯ p.
23	51.61	25.4	27.1	23.5	86.4	WSW	4	10		N. WNW, W	22	● ↙ a. p.
24	53.72	26.3	29	23.2	82.8	SSW, S	4.7	9.8	A.-S.	N. SW	15.5	● ↙ a. p.
25	56.23	27.8	31.7	24.5	78.6	N, SE	1	6.5	A.-Cu. NE	Cu. S	------	
26	57.36	27.7	33.6	24	80.8	SE, N	1	4.5	Ci.-S., A.-S.	Cu. E	------	
27	57.41	27.8	34.2	24.5	80	SE, WSW	1.2	4.8	A.-S.	Cu. W	3.6	⛈ p.
28	57.84	25.8	29.9	23.4	88	SW	1.5	10	A.-S.	N. NW, W	29	⊤° ↙ ●
29	57.72	26	29.5	23.6	79.9	SW	1.8	9.5	A.-S.	N. W	3.8	d a.
30	57.82	27.4	31	25	77.2	NE, S	1.2	6	A.-Cu., Ci.-S.	Cu. SW	------	○°
Mean	757.34	27.2	31	24	80.2	------	1.3	8.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	310.7	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*0-12.*	*0-10.*			*mm.*	
1	757.98	28	32.8	23.4	79.2	SW	1.3	5.5	Ci.	Variable	2.3	Ω ≡° a. ∞ d ↯ p.
2	58.01	28.1	32.2	24	81	WSW, SW	1.3	4	A.-Cu. E	S.-Cu.	1	Ω² ≡° ↙°
3	57.56	27.8	32.2	23.4	83.5	WSW, SW	1.8	7	Ci. NE	Cu.-N. SW	------	⊤ ↯ Ω² ↙°
4	56.93	28.6	33.2	23.4	76.7	WSW	1.2	8	Ci.-S. E	Cu. SW	------	d° ≡° ∞ ⊍ ↯
5	57.02	27.7	31	23.8	77	SW, SSW	1.8	9.8	Ci.-S. NE	Variable	------	↯ ○
6	58.12	27.7	32.7	23.8	81.5	SSW	.7	8	Ci.-S. ENE, E	Cu. SW	------	⊤ ↯ ○ ⊍
7	58.34	27.6	32	23.4	80	WSW	.7	9.2	Ci.-S. E	Cu. W	------	↯ Ω ≡° ○ ↯
8	57.82	28	33.4	23.6	81.2	Variable	1	5.2	Ci.-S. NE, ENE	Cu. S, SSW	------	⊤ Ω ≡° ↯
9	58.46	27.6	33.3	23.9	81.7	WNW	.5	8	Ci.-S. ENE	Cu.-N. WSW	------	⊤ ⊍
10	58.76	27.4	32	23.6	84.8	N, NW	.3	8.2	Ci.-S. E, ENE	Cu.	------	↯ ≡° ○ ⊍
11	58.23	27.9	33.9	22.8	79.7	Variable	.7	3	Ci. E, ENE	Cu.-N.	------	↯ Ω ≡° ⊖
12	58.48	28	33.4	23.1	80.1	N	.7	5.5	Ci., Ci.-S.	Cu.-N.	------	↯ ≡° Ω° ⊤ ∞
13	58.98	27.5	31.1	22.9	80.5	Variable	.7	8.2	Ci.-S. ENE, E	Cu., Cu.-N.	------	Ω ≡ ⊖ ↯
14	59.45	26.4	29.2	23.4	86.2	ENE	1	9.5	Ci.-S.	N.-cf. E	21.3	Ω ● ↙° ↯
15	59.16	26.6	29.4	23.6	86.7	N, ENE	.5	9.5	Ci.-S.	N.-cf. E	9.1	↯ ●° ○ Ω
16	58.53	24.8	27	22.5	93.3	S, SW	.3	9.5	Ci.-S.	N. NE, ESE	21.1	⊍ ≡° ● ⛈
17	58.28	26.7	30.3	23.4	87.5	NNE	.7	9.5	A.-Cu. ESE	N.-cf. NE	15.2	● a. p.
18	57.32	26.1	28.6	23.6	91	ENE, WSW	.3	10	Ci.-S.	Fr.-N. WSW	39.9	● a. p. ↯
19	57.35	26	30.2	23.5	89.3	ENE, N	.5	9.5	Ci.-S. NNE	Fr.-N. SW	60.5	● a. p. ↯
20	57.57	27.3	32.2	23.5	82.5	SW quad.	.7	7.8	A.-Cu. SE	Fr.-Cu. SW	2.8	d a. p. ∞
21	57.53	26	27.7	23.6	88.8	W by S	.2	10	A.-S.	Fr.-N. W	5.1	●° a. p.
22	54.62	25.6	26.3	23.7	90.3	W quad.	5	10		Fr.-N. W	20.1	↯ ↙ ● a. p.
23	50.88	25.5	28	23.4	87	SW quad.	3.8	10		Fr.-N. SW	30	↙ ● a. p. ↯
24	54.31	27.3	32.5	22.9	80.8	S	.2	9.8	A.-Cu. S	Fr.-Cu. SW	31.5	⛈² p.
25	56.88	27.1	31.2	22.5	86.8	S, NE	.5	6.2	Ci.-S. NE	Cu.	------	≡° a. ∞ Ω p.
26	57.96	27.4	30.8	23.4	87	NE by E	.2	3	Ci.	Cu.	------	Ω² ≡° a. p.
27	57.73	27.5	32.2	23.2	82.7	WNW, SW	.5	5.2	A.-Cu. NNE, E	Cu. NW	2.3	Ω² ≡° a. ⛈ ∞ p.
28	57.58	25.3	26.9	22.6	86.7	SW	.8	10	Ci.-S.	Fr.-N. WSW	25.1	Ω° ● ↙°
29	57.62	27.9	33.2	23.1	74.8	SW	.8	8.5	A.-Cu.	Cu. SW	1	d ↙°
30	58.13	27.8	31.5	23.2	75.2	WSW	.7	2.5	Ci. ENE	Cu. SW	2.3	●° ↙° ≡° Ω
Mean	757.52	27.1	31	23.3	83.4	------	1	7.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	290.6	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	758.28	26.6	31	23.1	84.5	SW	7.4	5.2	Ci.	Cu., Cu.-N. SW	122.7	⌈ϟ^2 ↙ ●^{2} a. p.
2	58.33	26.9	31.9	23	82.2	S	5.5	3.8	Ci.	Cu. WSW, SSW	2.5	●° ≡° a. ⊤ ϟ p.
3	57.87	27.3	31	24.1	83.2	S, SSW	6	5.8	Ci.-S.	Cu. NE, WSW	------	ϟ Ω^2 ≡° ⊤
4	57.12	26.6	30.6	22.4	83.8	SW quad.	8.1	7	Ci.-S.	Cu., Cu.-N. SW	60.2	≡° ⌈ϟ ↙ ●^{2}
5	57.04	27.1	31	23.1	81.8	S	8.6	6.5	Ci.-S.	Cu. SW, WSW	18.5	Ω ≡° ↙ ● ϟ
6	58.35	27.1	30.6	24.4	80.3	W, S	7.9	6	A.-Cu., Ci.-S.	Cu. SW, WSW	3.8	ϟ ≡° ○ ⊤ ●°
7	58.51	26.8	30.5	23.3	84	SSW	6.4	7	Ci.-S.	Cu. SW	------	Ω ≡° ○ ⋓
8	57.97	27.8	31.5	25	81.5	S, SW	7.3	4.8	Ci.-S., Ci.	Cu. SW	------	Ω ϖ ≡° ○ ∞ ⋓
9	58.67	26.8	32	23.6	83	S	6.2	6.8	Ci.-S.	Cu. SSW	6.4	Ω ⋓ ↙ ● ⊤
10	58.84	27.2	32.9	24.5	84.2	S, SE	4.9	8	Ci.-S.	Cu. SSW	3.6	⋓ ≡° ○ ⌈ϟ
11	58.22	27.6	32	24.1	83	S	4.3	4	Ci.	Cu. NE, ENE	------	Ω ≡° ϟ ⊤ ∞
12	58.48	27.5	31.4	23.8	80.3	S, N	5.6	5	Ci., Ci.-S.	Cu. NNE	2	Ω^2 ≡° ⌈ϟ
13	59	27.5	31.5	24.9	84.2	SE, E	5.8	5.8	Ci., Ci.-S.	Cu. NE, ENE	------	Ω^2 ≡° ⊤ ϟ
14	59.54	27	30.6	23.1	83.2	SW, E	7.2	7.2	Ci.-S.	Cu.-N. NNE, E	6.6	Ω ≡° ⌈ϟ
15	59.35	26.6	30	22.4	82.8	W, E	6.5	8	Ci.-S.	N.-cf. ENE	5.1	Ω^2 ●° ≡° ○
16	58.64	26.6	31	23.5	82.2	E, ENE	7.5	6.8	Ci.	Cu. E, NNE	.5	Ω ≡° d
17	58.56	26.6	30.9	23	83.8	NE, E	5.5	8	Ci.-S.	Cu.-N. ENE	------	Ω^2 ≡°
18	57.77	26.2	29.8	23.4	87	SSW	4.5	8.8	Ci.-S.	Cu.-N. NE, WNW	11.4	Ω ≡° ● ○° ϟ
19	57.12	26.4	29.7	23.5	84	SSW	11	8	A.-Cu. WSW	Cu.-N. SW	24.1	Ω ϖ ≡° ↙ ●
20	57.89	26.3	30	24	84.7	SW	7.4	7.5	A.-Cu.	Cu. SW	3.3	≡° p.
21	58.01	26.2	29.5	22.8	81.5	S	3.4	7.5	Ci.-S.	N.-cf. WSW, NW	------	Ω ≡° ϟ
22	56.12	25.7	30.1	23.9	88.3	W, N	4.1	8.8	Ci.-S.	N.-cf. NNW	17.8	Ω ≡° ⊤ ●
23	50.64	24.8	27.1	23.5	92.3	SW quad.	17.7	10	------	N. NW, WSW	17.5	↙ ●° a. p.
24	53.81	26.5	29	23.8	84.5	SSW	22.2	7.5	A.-Cu., Ci.	Cu. SW	9.1	↙ ●° a. p.
25	56.92	27.7	31.9	23.9	78	Variable	5.1	3.2	Ci.	Cu. SW, S	------	Ω^2 ≡° ∞
26	58.03	26.8	32.5	23	81.5	S, E	5.1	2.8	Ci.	Cu. S, SSW	------	Ω ≡° ∞ ⊤
27	58.22	27	31.4	23.7	84	Variable	6.5	5	Ci.-S.	Cu. N, NNW	4.8	Ω ≡° p.
28	58.01	25.2	27.8	23.1	89.8	Variable	5.3	9.8	Ci.-S.	N. WNW, W	52.3	⌈ϟ ≡ ●
29	57.71	25.7	29.5	23	84.4	WSW, S	10.5	7.5	Ci.-S.	Cu. SW, WSW	19.3	● ≡°
30	58.06	26.6	30.3	23.4	81.3	SSW, SW	7.6	3.5	Ci.	Cu. W, SW	------	Ω^2 ≡°
Mean	757.70	26.7	30.6	23.5	83.6	------	7.4	6.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	391.5	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	758.47	27.2	29.7	24.1	84.2	SW	11.7	7.8	Ci.	Variable	1.3	d ϟ° ⊤° p.
2	58.39	27.4	30.1	24.8	81.2	SW	------	7.5	A.-S.	Cu.	------	○°
3	57.90	27	30.5	22.8	82.7	WSW	9.2	8.5	Ci.-S.	Cu., Fr.-N.	------	ϟ p.
4	57	27.2	30.5	23.5	80	W	9.1	9	Ci.-S. NE	Cu., Fr.-N.	.3	○ ⊕ d
5	57.46	26.5	29.8	23.6	80.7	SW	18.6	9.2	Variable	N. SW	1.8	●° ↙°
6	58.43	26.9	29.7	24.4	81.8	SW	15.2	7.5	A.-Cu. SW by W	S.-Cu. SW	2	●° ↙° ϖ
7	58.69	27.2	30.4	24.1	80.9	SW	13.5	8.5	Ci.-S.	Variable	------	○ ⊕ p. ⋓ ϖ
8	58.15	27.6	30.8	23.1	77.7	SW	15	5.5	Ci.-S., Ci.	Cu.	------	
9	58.65	27.6	30.6	24.5	80.3	SW	12.3	8	Ci.-S.	Cu.	------	ϟ°
10	58.99	26.2	30	23.6	84.1	NW	4	9	Ci.-S.	Cu.	------	⋓ ϖ ⊤
11	58.58	27	31.6	22.5	80	N, SW	6	6.8	Ci., Ci.-S.	Cu.	------	Ω
12	58.63	27.2	32.1	23.6	78.7	NW	4.8	5.5	Ci.	Cu.	------	Ω
13	59.04	27.4	31.9	23.2	78.7	SW	5.8	7	Ci.	Cu.	.5	ϖ Ω ⊤ d ϟ
14	59.65	26	32.9	24.1	85.1	N, NE	5.2	9.2	A.-S.	N.	5.1	⊤ ●
15	59.30	26.6	30.6	23.4	80.9	NE	7.2	9	A.-S.	Fr.-N.	4.1	● ϟ^2
16	58.61	26.7	33.2	22.8	79.6	N	7.9	7.5	Ci.	Variable	3.3	● ↙° ⊤
17	58.65	26.8	31.7	22.7	80.7	NE	9.4	8.8	A.-S.	Fr.-N. NE	5.1	ϟ ●
18	57.94	27	31	23.8	83.5	N, NE	5.7	10	A.-S.	N. NE	.3	d ⊤ ⊕
19	56.99	26.1	30	22.7	86.5	SW	19.5	9.8	A.-S.	N. SW	15.5	● ↙°
20	57.91	24.8	28.1	22.6	91.5	SW	17.1	10	------	N. SW	94.2	●^{2} a p.
21	58.33	26	29.4	23.5	86.6	SW	5.9	9.2	A.-S.	N. SW	4.8	●° a p.
22	56.93	25.7	31.9	22.6	86.7	Variable	6	9.5	Ci.-S. E	N. N	8.4	⌈ϟ ● ↙° p.
23	51.08	25.2	26.5	23.1	87.8	SW	18.7	10	------	N.	20.6	● a p. ↙°
24	52.32	25.5	27.9	22	89.2	SW	31.5	10	A.-S.	N. SSW	100.9	↙ ●^{2} a. p.
25	56.35	27.8	30.9	24.4	80.2	SW	11.9	7.5	Ci.-S., Ci.	Cu.	------	∞
26	58.14	27.7	30.8	24.6	80	SW	5.6	6.2	Ci.	Cu.	------	∞
27	58.38	27.3	32.8	23.8	83.7	Variable	4.2	6.8	Ci.-S.	Cu.	8.1	Ω ⌈ϟ
28	57.81	26.6	29.9	23.4	83.8	W	13.9	10	A.-S.	N. N, W	2.3	ϟ ● ↙°
29	57.84	24.8	25.5	23.4	89.9	SW	21.5	10	------	N. SW, WSW	22.1	● a. p.
30	58.14	27.1	29.5	24.5	76.3	SW	19.7	7.8	Ci.-S., Ci.	Cu. SW	------	d a.
Mean	757.76	26.7	30.3	23.5	82.8	------	11.6	8.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	300.7	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	758.38	26.5	30.5	23.8	87.7	SSE, SE	4	7	Ci.	Cu.	1.5	● ⊤ ⚡
2	58.32	26.1	30.5	22.7	87	S, SSE	4.9	4.5	Ci.	Cu.	13	⊏ a. ⚡ p.
3	57.76	25.5	30.9	21.3	87.7	SSE	4.1	8	Ci. E	Cu.	16.8	⚡ ⌓ ○ ⊤
4	57.21	26.2	30.3	23	85.7	S	7.2	7.5	Ci. ESE, E	Cu.	20.1	⊏ a. p.
5	57.34	26.2	30	22.8	84.3	Variable	6	8.8	Ci.-S.	Cu.	100.3	⊏² a. ⊤ ⚡ p.
6	58.40	27.4	30.6	23.7	79.3	SSE	7.5	5.2	Ci. FSE, E	Cu. SW	------	⚡ p.
7	58.60	27	30.4	23.7	83.5	SSE	4.6	8.8	Ci. NE	Cu. WSW	------	○ ⚡ ⊤ ⊍ d
8	58.05	27.3	31	24	82.5	S, SE	5.5	5.5	Ci. ESE	Cu. SW	------	⌓ ○ ⊍ ⚡
9	58.86	27.1	31.5	24.2	83.8	S, SSE	3.4	7.8	Ci.	Cu.	------	⚡ ⊤ ⊍
10	59.03	26	31.4	22.5	85.2	S	2.9	9.2	Ci.-S.	Cu.	------	⊤ d ⚡
11	58.70	25.8	31.4	22.2	85.7	SSW, S	3.3	4.2	Ci.	Cu.	------	⌓ ⊤ d ⚡
12	58.68	25.7	31.6	21.8	86.7	NNW, SW	3.5	4.8	Ci.	Cu.	------	⌓ ⊤ d ⚡
13	59.13	25.5	31.6	21.7	86.5	SW, SSW	3.6	5.2	Ci., Ci.-S.	Cu.	36.6	⌓ ⊏
14	59.70	25.4	29.5	22.3	88.2	N	2.8	9	Ci.-S.	Cu.	.5	p. ⚡
15	59.49	25.1	28.9	22.2	86.3	WNW, SSE	4	9.8	Ci.-S.	Cu.-N., Cu.	11.2	● ⚡
16	59.05	23.9	30.7	20.6	91.1	SW, SSW	3.3	6.8	Ci.	Cu. NE	23.1	⌓ ⊏
17	58.52	25.9	31.8	22.6	86.5	Variable	4.3	9.5	Ci.-S.	Cu. E	.5	d ⊤ ⚡
18	57.65	25.5	29.3	23.2	90.7	Calm	2.1	10	Ci.-S.	Cu. WNW	9.4	⚡ ●
19	57.32	25.7	29.1	22.7	88.3	SE	15.4	9.5	Ci.-S.	Cu. SSW, S	19	● ⇙°
20	57.97	26.6	30.2	23.4	81.8	SSE, SE	11.8	8	A.-Cu. S	Cu. SW	10.9	● ⇙° ⚡
21	58.12	25.7	29	21.6	85.8	N	1.9	9.5	Ci.-S.	Cu. NNW	.8	●°
22	55.78	25	27.7	23.5	92.2	N	7.4	10	Ci.-S.	Cu. N	25.4	● a. p.
23	48.72	24.9	27.6	23.4	94.2	Variable	42.3	10	Ci.-S.	N. NW, S	190.8	⇙ ●² a. p.
24	54.02	26.4	28.8	24.5	83.8	SSE, SE	30.1	8.5	Ci.-S.	Cu.-N. S	18.3	● ⚡
25	57.01	26.5	32.1	21.5	80.3	E	3.7	3.2	Ci. ENE	Cu.	------	
26	58.24	25.9	31.3	21	85	S, SSE	4.1	4.5	Ci. E	Cu.	------	⌓ ≡°
27	58.14	26.5	32.1	21.5	84.2	S, NNW	3.8	6.2	Ci., Ci.-S.	Cu. NW, N	------	⌓ ≡° ⊤ ⚡
28	57.85	23.8	26	22.5	96.2	NNE	3.8	10	Ci.-S.	N. NW	95	● a. p.
29	57.80	25.6	28.3	23.1	84.3	Variable	12.6	9.8	Ci.-S.	Cu. WSW, SW	8.1	●° a. p.
30	58.20	26.4	29.8	23.8	80.8	SSE	8.9	2.2	Ci. NE	Cu. SW	------	
Mean	757.73	25.9	30.1	22.7	86.2	------------	7.4	7.4	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	601.3	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.24	27.7	34.8	24.4	79.8	Variable	0.7	7.5	Ci.-S. N by E	Cu.-N. W	------	⌓ a. ⊤° ⚡ p.
2	58.10	28.5	35.2	24.4	79.1	Variable	1	5	Ci.-S. E	Cu. NNE, NE	------	⚡ a. ⊤² p.
3	57.68	27.6	33.8	24.5	81.2	Variable	.8	7.8	Ci.-S. E, S	Variable	1.5	⚡ ⊤° ●
4	57.03	27.9	33.5	24.2	79.3	Variable	.7	7.5	Ci. E	Cu. NW, WNW	------	⚡ ⊤²
5	57.01	28.1	33.2	24.4	76.2	Variable	.3	7.8	Ci.-Cu. E, SE	S.-Cu.	------	Φ°
6	58.10	27.7	32.5	24.8	79.2	NW, W	.8	7.5	Ci.-Cu. ENE, E	Cu. W	------	
7	58.32	28.5	33	24	75.2	NW	.8	7.8	Ci. E by N	Cu. W	------	⌓² ○² ⊍²
8	57.88	28	33	24.5	81	E	.3	6.5	Ci. NE	S.-Cu. W	7.1	⊍² ⊤ ●
9	58.64	27.6	33.4	25	85	Variable	.5	7.5	Ci.-S. ENE, E	S.-Cu.	3	● ⊤ ⊍²
10	58.91	27.4	33.1	24	81.2	SE	.7	7.5	Ci. E	Cu. SW	4.1	⊍² Φ² ○² ⊏
11	58.56	28	33.5	23.8	80	W	.5	6.2	Ci. S	Variable	------	⚡ ⊤²
12	58.79	26.8	33.6	24.4	85	WNW, ENE	1	6	Ci.-S.	S.-Cu. N	21.1	⌓² ⊏
13	59.25	27.1	32.5	24	83	Variable	1.5	5	Ci.-S.	S.-Cu.	------	
14	59.97	25.6	28.5	23.4	89.8	NW	.8	9.2	------------	Cu.-N. SSE	27.2	●² a.
15	59.79	25	28.2	22.7	88.7	Variable	1	9.5	------------	N. SE	22.1	● a.
16	59.11	25.3	30.5	23.3	89.4	W	1.5	7.5	Ci.-S. NE	N. E	17.3	● ⇙° ⊤ p.
17	58.68	27	31.5	24	87.2	NW, NNE	.8	8.5	Ci.-Cu., Ci.-S.	Cu.-N. E	6	● p.
18	57.31	26.1	30.7	24.2	89.5	WNW	1.2	9.8	------------	N. NNE, NW	6.8	●° ⇙°
19	57.10	26.5	30.6	23.3	84.3	SSE	1.5	8.2	Ci.-Cu. NE	Cu.-N. SW, SSW	5.6	● ⌒ a. p.
20	57.88	26	31.7	23.2	86	WNW	1	8.5	Ci.-Cu. N	Cu. SW	6.9	● ⊤ p.
21	58	25.9	30.5	22.5	87.8	WNW, NNW	.8	9	Ci.-Cu. NE	Cu.-N. NNW, N	2.3	●°
22	55.22	26.6	30	24.8	87.3	NNW	4.2	9.8	Ci. S	N. NNE, N	19.1	⚡ ⇙ ●° a. p.
23	46.58	25	26.2	23.1	------	SSE	6.7	10	------------	N. NNW, S	39.2	● ⇙²
24	54.21	27	30.8	23.8	80.4	SE	1	8	Ci.-Cu.	Cu.-N. S	1.3	● p.
25	57.06	28.1	33	23.6	78.3	SE	.8	6	Ci.-S. N, NNE	Cu. SSE, SSW	------	
26	58.09	27.8	32.7	24.7	83.1	E	.7	7.5	Ci.-Cu. N	Cu.-N. SSE	------	⊤°
27	58.10	27.4	32	24.3	82.4	Variable	.7	8.2	Ci.-Cu. N	Fr.-N. N	------	≡ ⌓² ○² ⚡
28	57.36	25.2	27.3	22.9	88.9	SE	.7	9.8	------------	N. NW	60.9	● a. p. ⌒²
29	57.39	26.5	31	23.3	81.5	W, ESE	.5	8	Ci.-S.	Cu. W	3	●° ○²
30	57.91	27.8	33.8	23.3	77.9	WNW	.7	5	A.-Cu. NW	S.-Cu., Cu. SW	------	⌓
Mean	757.54	27	31.8	23.9	83	------------	1.1	7.7	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	254.5	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	758.40	26.6	31.3	21.3	88	SW, NE	0.3	5	Ci.	Cu.-N.	------	☇° p.
2	58.17	27.1	31.3	22.9	90	Variable	.2	7	Ci.-S.,Ci.	Cu.-N. NE	------	⌒² a. d° p.
3	57.82	26.8	32.1	22	86.7	Variable	.2	6	Ci.-S.	Cu.-N. SW, S	------	☇° ⊤
4	57.14	26.4	31.1	22.4	90	Variable	.7	7.2	Ci.-S.,Ci.	Cu.-N. SW	71.1	Ω ≡° a. ⊤ ●² p.
5	57.15	26.2	30.2	22	89	SW	.8	9.2	Ci.-S.	Cu.-N. SW	9.4	☈ p.
6	58.36	26.1	30.6	21.5	89.8	SW	.3	7.8	Ci.-S.	Cu.-N.	1.5	⊤ ⌒ d p.
7	58.68	26.5	30.9	20.4	87	SW, N	.2	8	Ci.-S.	Cu.-N. SW	------	∪ ⊖ ☇ p.
8	57.90	26.6	31.6	21.5	86.3	SW	.2	6.5	Ci.-S.	Cu.-N. S, NE	1.8	Ω ≡° ⊤ ● ⌒ ∪ ⊖
9	58.60	26.4	30.8	21.3	89.3	SW	.2	6.2	Ci.	Variable	------	⊤° d° p.
10	58.90	27.2	31.2	21.6	86.7	NE	.3	4.2	Ci., Ci.-S.	S.-Cu.	------	Ω ≡°
11	58.55	26.8	31.9	19.9	86.8	NE	.5	6	Ci.	Cu.-N. NE	------	
12	58.58	27.4	30.8	21.9	87.5	ENE, N	.3	4.2	Ci.	Cu.-N. NE	------	Ω°
13	59.04	27.4	31.4	21.4	85.3	NE	.7	4.2	Ci., Ci.-S.	Cu. SE, NE	------	Ω a. ⊤ ☇ p.
14	59.76	26.1	30.2	21.8	91.8	Variable	.2	9.8	Ci.-S.	N., Cu.-N. NE	5.1	☈² d
15	59.58	26.1	29.7	21.9	90.5	ESE	.2	9.2	Ci.-S.	Cu.-N. SE	5.6	☈ a.
16	59.01	25.8	30.9	20.6	88.3	NE, SE	.7	5.2	Ci.	Variable	33.8	d a. ☈ p.
17	58.87	26.7	30.7	21.3	88.6	Variable	.5	8	Ci.-S.	Cu.-N. E	13.2	☈ p.
18	58.11	25.7	28.5	21.3	93.3	SSW	.2	10	------	N.	43.7	☈ a. ●² p.
19	56.51	26	30.1	21.6	91.5	SW	.8	9.5	Ci.-S.	N.	24.4	● a. p.
20	57.29	26.2	30.6	21.4	89.5	SW	1	9.8	Ci.-S.	Cu.-N. SW	3.6	d a. p.
21	58.45	26.3	30.7	21.3	89	SSW	.2	8.2	Ci.-S.	S.-Cu. NE	------	☇° p.
22	57.11	26.4	30.2	21.7	89.2	Variable	1.7	9	Ci.-S.	Cu.-N. SW, NW	37.7	☈ p.
23	49.23	25.3	26.7	18.5	93.6	N, NW	4.5	10	------	N. NW	77.5	↙ ● a. p. ⊤°
24	51.15	25.2	27.8	21.2	92	SE	1.3	10	Ci.-S.	N., Cu.-N. SE	22.4	● a.
25	56.24	27	32.4	21	84.2	SE, SSW	.3	7.2	Ci.-S., Ci.	Cu.-N. S	------	
26	58.29	27.1	31.1	20.7	84.8	Variable	.3	5.2	Ci.-S., Ci.	Cu. S	------	⊤° p.
27	58.42	27.3	30.6	21	85.8	Variable	.7	7	Ci.-S.	Cu.-N. NW	------	Ω°
28	57.57	26.8	29.1	22.6	88.5	W	.3	10	Ci.-S.	N.	8.1	● a. p.
29	57.58	24.8	26.8	21.3	93	SSW	.0	10	Ci.-S.	N.	8.9	● a. Ω p.
30	57.86	25.8	31.1	20.5	91.5	S, N	.3	6.8	Ci.-Cu., Ci.-S.	Cu.-N.	5.8	● p.
Mean	757.61	26.4	30.4	21.3	88.9	------	.6	7.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	373.6	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	758.32	------	------	23.2	------	N, W	1	7.2	Ci.	S.-Cu. W	------	⊤ ☇ p.
2	58.37	------	------	23.8	------	N, W	1	7.8	A.-Cu. W	S.-Cu. W	------	⊤ ☇ d ∪ p.
3	57.71	------	------	23.8	------	N, WSW	1	7.8	Ci.	Cu., S.-Cu. W	2.5	●° a. ☇ p.
4	56.98	------	------	25	------	N, WSW	1	7.5	Ci. NE	S.-Cu. W	.3	p ☇ ⊤
5	57.15	------	------	24	------	N, WSW	1	8	Ci.-S.	S.-Cu. W	28.2	● a. ○ ∪ ☇ p.
6	58.27	------	------	24.4	------	WSW	1.5	8	Ci.-S. NE	S.-Cu. W	9.1	☈ a. ○² ☇ ∪ p.
7	58.49	------	------	26.8	------	WSW	1	7.2	Ci.-S.	S.-Cu. W	------	○² ∪ ☇ p.
8	58.02	------	------	25.5	------	WSW	.8	7.5	Ci. E	S.-Cu., Cu. W	7.4	● a. ○² ☇ p.
9	58.81	------	------	25	------	N	1	8.2	Ci.-S.	Cu.-N., S.-Cu. W	7.6	⊤ ● a. ⊖ ☇ p.
10	59.09	------	------	23	------	N, W	1	7.5	Ci. E	S.-Cu. W	------	⊤ p.
11	58.56	------	------	22.6	------	N, W	1	7.2	Ci. E	S.-Cu. W	.3	⊤ ●° p.
12	58.90	------	------	23.2	------	N, W	1	7.8	Ci., Ci.-S.	S.-Cu. W	------	⊤ d ☇ p.
13	59.45	------	------	22	------	N, W	1	6.2	Ci.	Cu. W	4.6	●° ☇ p.
14	60.15	------	------	22.8	------	N	.8	7.8	A.-Cu. NE	S.-Cu. W	1.8	●° ☇ p.
15	59.92	------	------	22.6	------	N, S	1	8.8	Ci.-S.	S.-Cu. E	10.4	● a. ☇ p.
16	59.16	------	------	22	------	N, W	1	7.8	Ci., Ci.-S.	Cu.-N. N	20.3	☈
17	58.86	------	------	23	------	N	1	7.5	A.-Cu. SE	S.-Cu. E	7.4	●° ☇
18	57.35	------	------	23.4	------	N	1	8.5	Ci.-S.	Cu.-N. N	43.2	● ☇
19	56.89	------	------	22.4	------	SW, S	1.2	8	A.-Cu. SW	S.-Cu. S	50.8	●² a. d ☇ p.
20	57.92	------	------	24.5	------	SW	1.3	7.8	A.-Cu. W	S.-Cu. SW	1.3	⌒° d ☇ p.
21	58.16	------	------	21.8	------	W, N	1	7.8	Ci.-S.	S.-Cu. W, NW	1.8	d ⊤ ☇
22	56.33	------	------	22.8	------	N, WNW	1	8.8	Ci.-S.	Cu.-N. N, NE	116.1	● a. p. ☇
23	45.61	------	------	23.2	------	NNW, S	4.7	10	Ci.-S.	N. NE, S	191.3	↙ ●² a. p. ☇
24	53.81	------	------	24	------	S	2.2	8.8	Ci.-S.	Cu.-N. S, SW	4.3	●° ↙° ⊤ ☇
25	56.89	------	------	22.5	------	N, S	1	6.2	Ci.	S.-Cu. SW	------	☇ p.
26	58.37	------	------	22.6	------	N, SW	1	5.5	Ci.	S.-Cu. SW	------	⊤ d ⌒ ° ☇ p.
27	58.36	------	------	22	------	N	1	7.2	Ci.-S.	S.-Cu. N	1.3	d ☇ p.
28	57.01	------	------	23.4	------	Variable	1.8	8.5	Ci.-S.	Cu.-N. NW, W	84.3	●° ↙° a. p. ☈
29	57.09	------	------	23.8	------	SW	3	9.2	Ci.-S.	Cu.-N. SW, W	71.9	● ↙° ☈
30	58.02	------	------	24.7	------	WSW	2.7	6.2	Ci. N	S.-Cu. W	------	↙° ☇
Mean	757.60	------	------	23.5	------	------	1.3	7.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	666.2	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 4.2 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	757.81	28.6	36	23	79.8	W	3.8	3.8	------	Variable	9.7	☈ p.
2	57.79	27.3	33.5	23.9	87.5	E, W	2.9	5	Ci.	Cu., Cu.-N. W	16.8	⊤ ●² ⚡ p.
3	57.16	28.7	35	24	79.8	WNW	5.3	5	Ci.-S. E	Cu. W	------	○ ⊤ d ⚡ p.
4	56.56	26.5	33.5	23.9	88.8	NW, W	3.5	5.5	Ci. ENE, NE	Cu. W	42.9	⚡ a. ☈ ●² p.
5	56.58	26.7	32.4	23.6	83.5	SW	4.9	5.8	Ci.-S. E, SE	Cu. SW, W	1	⚡° p.
6	57.78	26.7	32.1	23.5	83.7	W	5	6.5	Ci.-S. NE	Cu. WSW	.8	d ⌒ ⚡° p.
7	57.87	27.8	32.7	23.9	77.5	W	6.8	7.5	Ci. E	Cu. W	13.2	●² a. ⚡ p.
8	57.58	26	32.6	23.5	90	W	4.1	7	Ci. N	Variable	45.5	☈ a. ⚡ p.
9	58.26	27.3	32.2	24.5	84.8	SW	4.8	6	A.-Cu. W	Cu.-N. SW, W	.8	d a. p.
10	58.64	26.8	33.6	24	85.3	Calm	1.8	4	Ci.	Cu. W	1.8	☈° a. ⚡° p.
11	58.46	26.5	31.9	23	87.5	S, W	2.3	6	Ci.	Cu. W	2	○ a. ● ⊤ p.
12	58.37	27	32.5	23	82.5	ESE, SE	3.4	3.5	Ci. E	Cu.-N. W	------	⚡ p.
13	59.03	27.7	32.7	22.6	79.3	Variable	4.8	.8	Ci.	Cu.	------	Ω a. ⚡° p.
14	59.77	26.6	30.9	23.9	85.8	NE, SE	3.7	7.5	Ci.-S.	Cu.-N. SE, ESE	4.3	p a. ● ⚡° p.
15	59.63	26.2	30.5	22.9	85.7	ENE	4.8	7.2	Ci.	Variable	4.8	● a. ○ p.
16	59.08	27.2	33	22.4	81.8	ENE	------	5	Ci. SE	Cu. NE	5.6	☈° p.
17	58.92	28.6	32	24.1	77.9	E	------	6.2	Ci. NW	Cu. E	1.3	p ⚡ p.
18	57.15	26	29.1	23.3	89.3	NNE, WSW	------	10	Ci.-S.	N. NE, N	49.8	● ⊤
19	55.70	26	30.5	23.1	88.2	SSW	------	7.2	Variable	Variable	49.8	● a. p.
20	57.25	27.5	32.2	23.8	80.7	W	------	4.8	Ci. E	Cu. SW, WSW	2.3	d a. ⚡ p.
21	58.07	27	32.3	22.9	80.9	SE, E	------	4.2	Ci. SE	Cu.	.3	⚡ p p.
22	56.84	26	33	23.5	87.8	NE quad.	7.5	8.5	Ci.-S.	Fr.-N. N	5.6	●° ↙° a. p.
23	50	26.3	28	22.8	85.9	NE quad.	28.3	10	------	Fr.-N. NE, E	110	↙ ●² a. p.
24	52.85	26.8	30.3	24.5	82.5	SSE	7.6	10	Ci.-S.	Fr.-N. S	8.4	● a. d p.
25	56.62	27.9	33.6	24.1	76.8	S, SSW	4	4.2	Ci. NNE	Cu. S	.3	
26	58.30	27.1	33.1	22.4	82	ESE, E	3	1.5	Ci.-Cu. NE, ENE	Cu. SW, WSW	------	
27	58.15	26.5	30.5	22.9	83.2	NE	3	8.5	Ci.-S.	N. NW, NNW	.5	d a. p.
28	56.36	26.4	30	24.5	84.8	W	7.8	9.8	Ci.-S.	Fr.-N. NNW	------	d° a. p.
29	56.44	25	26.7	23.2	94.3	SSW, W	3.2	10	Ci.-S.	Fr.-N. N, SW	39.1	● a. d ⚡ p.
30	57.22	26.6	31.5	22.5	82.9	WSW	6.6	4.8	Ci.-S., Ci.	Cu. WSW	10.9	● a. p p.
Mean	757.34	26.9	31.9	23.4	84	------	5.5	6.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	427.5	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 7.8 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	757.69	28.8	35.8	24.4	82.3	WSW	8.1	2.8	Ci. NE	Cu. SW	------	⚡ p.
2	57.57	28.4	35.9	24.6	84.5	WSW	9.5	5.5	Ci. SW	Cu. W, WNW	5.6	☈° p.
3	57.04	26.8	33.4	23.8	89.8	W	8.7	9.2	Ci. E	Cu. SW	1.5	⚡ ○ ⊤ d.
4	56.38	26.8	35	23.8	91.5	W	8.6	8.2	Ci. E	Cu.	1.8	⚡ ⊤ d.
5	56.30	27.4	33.2	23.5	88.3	SW	7.3	9	Ci.-S.	Cu. SW, S	------	⚡ Ω ≡° ⊕ ⊤ ∪ ϖ
6	57.50	26.8	33.1	23.6	88.5	W, SW	7.6	9.2	Ci. S	S.-Cu. S	1.8	⊤ d ⚡ p.
7	57.96	26.9	33.5	22.6	87.5	SW	8.9	9	Ci.	Cu. NW	19.3	⚡ Ω ≡° ⊕ ↙ ● ϖ
8	57.28	26.8	32.3	23	87.8	W, SW	9.9	8.8	Ci. E	Cu., S.-Cu. SW	3.3	☈° p.
9	58.07	26.6	33.9	23.5	88.3	Variable	7.1	6.2	Ci. E	Cu. W	4.6	ϖ ☈°
10	58.64	26	33,5	22.6	89.8	W, WSW	9	3.5	Ci.	Cu. WNW	2.8	⊤ d ⚡ ϖ ≡°
11	58.21	27.1	33.5	23	87.2	W	8.3	7	Ci. E	S.-Cu. N	35	Ω ≡° ⊤ ⚡ ●²
12	58.19	27.3	33.9	22.6	85.3	W, WSW	6.5	5.2	Ci. ESE, E	Cu. SW	------	ϖ ⊕ ⊤ ≡°
13	58.87	28.3	34.5	23.3	80.8	Variable	7.3	6	Ci. E	Cu. SE	------	ϖ ≡° Ω ⊕ ⊤ ⚡
14	59.67	26.5	32.9	23.8	91.8	SW	7.6	7.2	Ci. E	Cu. SE	14.7	ϖ ≡° Ω ⊕ ☈
15	59.42	27.4	32.4	22.8	86.8	NE	7.3	5.5	Ci. E	Cu. SE, NE	------	Ω ≡ ⊤ d ○ ⚡
16	59.03	27.9	31.8	24.4	86.7	NNW	12.8	8	Ci. NE	S.-Cu. NE	------	ϖ d ⊤ ⚡
17	59.11	27.8	31.9	25.4	88.8	NE	------	8.5	Ci.	S.-Cu. NE	28.2	●° a. ☈² p.
18	58.16	27.5	30.8	24	89.8	Variable	------	8.5	Ci. E	S.-Cu. NE	59.7	◯ ⊤ ↙ ●² p.
19	54.07	24.6	27.5	22.3	93.8	Variable	------	10	Ci.-S.	N. N, SSW	208.6	↙ ●² a.
20	56.40	26.5	31.4	23.1	88.5	Calm	------	9.5	Ci. SSE	S.-Cu. SE, S	4.5	d ◯
21	58	26.2	30.9	23.4	90.5	Variable	------	8.2	Ci. SSE	S.-Cu. S	7.3	≡° ⊤ ●° ⚡
22	57.59	26.2	30.9	23.1	91.5	Variable	------	7.8	Ci. SE	S.-Cu. NE, N	75.4	⌒ ● ↙° ☈
23	53.15	25.3	26.9	23.1	94.2	N	------	10	Ci.-S.	N. NE	120.1	☈° ↙ ●²
24	50.78	26.5	28.9	24.4	90	SE	------	10	Ci.-S.	N. S	35.8	↙ ●
25	55.69	26.8	30.3	24	87.5	S	------	9	Ci.	S.-Cu. S	6.4	↙ ● ⚡
26	58.10	27.6	34.6	23.1	86.2	S, W	------	6	Ci.	S.-Cu. SW	------	Ω ≡ ⊤°
27	58.31	27.1	32.7	22.9	87.5	SW, N	------	8.8	Ci. E	Cu.	3	Ω ≡° ○ d.
28	57.03	25.8	29	24	90.2	WSW, W	------	10	Ci.-S.	S.-Cu. N	3.8	Ω d.
29	56.70	26.4	30.8	23	90.2	NNW	------	6.8	Ci.-S., Ci.	N. N	80.1	●² a. d ⚡ p.
30	56.54	27.2	31.5	23.6	87	W, SW	------	7.5	Ci. E	S.-Cu. SW	3.5	d a. p.
Mean	757.25	26.9	32.2	23.5	88.4	------	8.4	7.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	726.8	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[$\phi=14° 49' N$; $\lambda=120° 16' E$; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	757.78	27.2	31.1	24.9	83.5	NNE	1	7	Ci.-S. SSE	Cu.-N. W	0.6	≡° a. ⊤ d. ∞ p.
2	57.82	27.8	33	23.6	78.2	NNE, NW	1.2	4.8	Ci.-S.	Cu.	------	≡° ⊤² a. ϟ p.
3	57.12	27.9	33	24.4	79.2	NNE, NW	1.1	8.8	Ci.-S. E, ENE	Cu. WNW	------	◯² ⊤ ϟ
4	56.39	26.9	30.5	23.8	79.5	NE, WSW	.9	8	Ci.-S. ENE	Cu.-N. ENE	------	◯ ⊤ ϟ
5	56.03	27	30	24.1	79.2	Variable	1.2	8.8	Ci.-S. S	Cu.	------	⊤ ψ°
6	57.66	26.3	27.9	24.4	86	SSW	1.4	9.5	Ci.-S. SSE	Cu., Cu.-N.	.5	d ⊤
7	58.41	26	28.2	24.4	86.5	NNE, SSW	.8	9.5	Ci.-S. N	Cu.-N. NW	8.3	d ⊤ ψ
8	57.47	26	28.9	22.8	86.7	NNE, SSW	1.2	8.5	Ci.-S. E, ESE	Cu.	1.5	◯ d ⌒
9	58.38	25.1	27.5	23.6	91.8	NNE	.7	9.2	Ci.-S.	Cu.-N. W, SW	34.7	⌒ ●
10	58.77	26.3	30	23.4	88.5	SSW	.8	7.5	Ci.-S.	Cu. WNW	4.4	● ⌒
11	58.53	25.7	28.8	23	86.5	N	.9	8	Ci.-S. NE	Cu.-N. NW	12.5	⊿ p.
12	58.45	25.8	29.9	23.5	88.7	NNE	.8	8.2	Ci.-S.	Cu.	16.9	● ⊤ ϟ
13	58.71	26.4	29.6	23	84.8	NNE, SW	1.2	7.2	Ci.-S. NE	Cu. ENE	------	◯ d ϟ p.
14	59.43	27.3	33.7	24.1	82.9	NNE	.8	6.8	Ci.-S. ENE	Cu.-N. E	.1	⊿ ∞
15	59.18	27.7	33.9	23.4	78.7	NE	1.4	7	Ci.-S. E	Cu. SE	------	ϟ ∞
16	58.70	28.7	34.7	24	76.6	N	1.2	6.8	Ci.-S. E, ESE	Cu. E	4.8	◯ d ⊿
17	58.85	28	34.2	24.2	78.8	ENE	1.3	8.2	Ci.-S. ESE	Cu. E	.5	ϟ d ◯° ∞
18	58.05	28.2	34.7	24.7	78.6	NNE	1	8.8	Ci.-S.	Cu. E	9	⊿ p.
19	53.76	25.6	26.7	23.2	91.3	NNE	2.5	10	Ci.-S.	N. NW, SW	86.7	d a. ↙ ● p.
20	55.97	25.7	28.6	23.4	88.2	S	1.2	9.5	Ci.-S.	Cu.-N. S, SSE	1.1	●° ⊤
21	57.47	26.7	32.2	23.3	85.3	SE	1	8	Ci.-S. ENE	Cu. E by S	5.7	⌒ d ⊿
22	58.03	25.6	32	23.6	91.7	NNE	1	9.5	Ci.-S.	Cu.-N. WSW	5.6	●° ⊿
23	54.65	25.2	28.4	23.6	93.5	NNE	.5	10	Ci.-S.	Cu.-N. NE	16.3	● p.
24	49.18	25.8	28.2	24.1	88.2	NE quad.	2.2	10	Ci.-S.	Cu.-N., N. E	41.2	↙ ● a. p. ⊤
25	54.76	26.6	30.7	24.7	86.1	E	1.6	9.8	Ci.-S.	Cu.-N. S, E	4.6	d a. p.
26	57.91	26.4	29.8	23.5	84.2	ENE	1	6.8	Ci.-S.	Cu. S, SSW	------	≡° ◯ ∞ ϟ
27	58.36	26.6	30.2	22.5	83.2	Variable	1.2	7	Ci.-S. ENE	Cu.	------	≡° ⊤ ∞ ϟ
28	57.58	26.5	28.9	23.6	83.4	NW	1.2	10	Ci.-S.	Cu.-N. NNE	------	≡° d ∞
29	56.74	25.7	31.6	23.4	89.3	NNE	.8	8.8	Ci.-S.	Cu. NNE	3.8	≡° ⊿
30	56.40	26.4	29.2	24.1	88.5	NNE, S	1.1	8	Ci.-S. E	Cu.-N. ESE	1	d ↙° ⌒
Mean	757.22	26.6	30.5	23.7	84.9	------------	1.1	8.3	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	259.8	

SAN ISIDRO.

[$\phi=15° 22' N$; $\lambda=120° 53' E$; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.11	28.1	35.4	24.5	83.6	Variable	0.1	7.8	A.-Cu. S	Cu.-N. W	23.6	ϟ ≡° a. ●² p.
2	58.12	28	33.8	24.5	81.1	Variable	.3	5.5	Ci.	Cu.-N. WSW	------	Ω ≡ a. ϟ p.
3	57.44	27.4	33.3	24.5	82.2	Variable	.2	8.2	Ci. S	N.-cf. W, WNW	------	Ω a. ⊤ ϟ p.
4	56.66	28	34.6	25	81.5	Variable	0	7	Ci.-S. SE	Cu. NW	------	⊤ ϟ p.
5	56.43	26.4	34.5	23	84.8	SSW	.1	6.5	Ci. SE, ESE	Variable	18.5	Ω a. ⊿ p.
6	57.83	26.7	33.3	22.7	83.5	Variable	.4	7.2	Ci. Variable	Cu. W, WSW	------	Ω² ≡ a. ⊤ ϟ
7	58.64	26.1	32.2	23	86	SSW	.2	8.2	A.-Cu. SW, S	Cu.-N. NW	6.8	≡° Ω a. d ⌒ p.
8	57.67	26.8	33.5	23	83.8	NW	.3	8.2	Ci.	Cu. N, W	23.4	≡ Ω ◯ ●² ⊤ ϟ
9	58.53	25.8	31.8	23.4	89.3	SSW	.2	7	Ci.-S.	Variable	1.3	Ω² a. d p.
10	59.17	25.3	31.3	23.5	91.5	SSW	.1	8.5	A.-Cu.	N W	5.6	Ω² ⊤ p ⊖²
11	58.68	26.6	33.6	23.4	84.2	NE	.1	7.5	Ci.	Cu. W	4.6	⊖ ≡ Ω ⊤ ϟ d
12	58.46	26.7	33.4	23.8	86.8	Variable	.3	6.2	Ci. NE	Cu. NW	78.7	Ω ≡° ⊿² ⌒
13	58.94	27.4	33.8	23.5	83.5	NNE	.2	4.8	Ci. NE	Cu.-N.	------	≡ a.
14	59.70	27.7	34.2	24.1	80.2	N, NNE	.4	4.5	Ci. NE	Cu.-N.	------	⊤ ϟ ≡ Ω
15	59.55	27.1	32.2	23.2	81.8	Variable	0	6	Ci. NE, S	S.-Cu.	------	Ω ≡° a. ⊤ p.
16	59.17	27.9	34	23.9	77	NNW	.5	4.8	Ci.	Cu. E	2.8	d ⌒ a. ϟ p.
17	59.40	27.9	33.4	24	77.7	NNE, ESE	.5	6.5	Ci.-S. S	Variable	------	Ω d a.
18	58.40	27.7	34.3	24	79.9	NE	.1	6.8	Ci. SE, E	Variable	18.8	Ω a. ϟ ●²
19	53.88	25.4	27.6	24.2	92.2	NNE, NNW	2.5	10	A.-S.	N. Variable	16.3	d a. ●² p.
20	56.43	25.2	31.5	22.9	91.8	S	.2	9	Ci.-S. NE	Variable	27.2	⊿ p.
21	57.82	26.4	32.8	22.4	85.7	SSW	.2	7	A.-Cu. SE, E	Cu.-N. E	1.5	d ≡ a. ⊤ ϟ p.
22	58.10	26.6	33.1	23.5	87	Variable	.3	7.5	A.-Cu. S, NE	Cu. ENE, NW	6.9	Ω² a. ⊿ p.
23	54.98	25.8	29.1	24.1	91.3	N	1.2	10	A.-S.	N. NE	12.7	ϟ ≡° Ω d ⊿
24	50.87	25	26.7	23.8	91.5	NNE	2.2	10	A.-S.	N. NE, ESE	43.1	↙° ●²
25	55.24	26.7	32	23.8	86.7	SE quad.	.3	9	Ci.-S.	N. SSW, S	1.5	Ω a. ⊤ d p.
26	58.38	27.4	32.9	23.5	83.3	NE	.2	5.5	Ci. SE, E	Cu. SW	------	Ω² a. ϟ p.
27	58.51	27.3	33.3	24	84.7	NW	.4	6	Ci. E	Cu.-N. NW	1.5	Ω ≡° a. d ⊤ p.
28	57.82	26.2	29.2	24.4	86.3	WNW	1	9.8	Ci.-S. SE	N. NW	1.3	Ω d ◯² a.
29	56.87	26.6	33.2	24.4	88.2	NW, NE	.2	7.8	Ci. SE	Cu. NW, NNW	.5	Ω ≡ a. d ⊤ p.
30	56.69	26.8	32.7	24	85.8	S, SW	.7	7.8	Variable	Cu. S	------	≡ Ω a. ⊤ ϟ p.
Mean	757.55	26.8	32.6	23.7	85.1	------------	.4	7.4	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	296.6	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force. (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	757.84	28.1	33.6	23.3	81.8	NW	9.8	5	Ci., Ci.-S.	Cu.	63.8	[ζ² a.
2	57.84	28.6	31.9	24 9	84.5	NW	13.1	5	Ci.	S.-Cu., Cu.	3.8	p a. ζ² p.
3	57.10	28.6	31.6	25.3	81.7	NW	15.4	8.8	Ci.-S.	S.-Cu. NW	30.2	ζ ●
4	56.27	28.6	32.1	25	77.7	NW	11.2	8.2	A.-Cu.	S.-Cu. NW	------	ζ ⊤ p.
5	56.06	28.5	34.1	25	79.5	NW	7.1	9	Ci.-S.	S.-Cu. SE	------	ζ d° p.
6	57.36	28.1	33.9	23.3	79.5	Variable	8.9	7.8	Ci.	Cu.	------	ζ ⊤° p.
7	58.22	27.6	32.5	23.6	84	SE, NW	7	8.2	A.-Cu.	Cu.	2	d ⌒ ⊤ p.
8	57.36	28.1	32.6	23.8	82	NW	7.8	9	Ci.	S.-Cu.	------	≡ a. ⊍ ϖ ζ p.
9	58.20	27.1	32.4	24	85.9	Variable	6.4	6.2	Ci.	Cu.	------	d° ⊤ ϖ p.
10	58.76	26.7	31.5	23	87.7	Variable	5.6	7.8	A.-Cu.	S.-Cu.	1	ϖ a. [ζ p.
11	58.41	27	33.3	23.8	87.2	Variable	10.2	9	Ci.-S., A.-Cu.	S.-Cu.	14.5	● p.
12	58.25	27.5	32.4	23.6	84.2	NW	8.7	6.5	Ci.	Cu.	19.6	⌒ [ζ p.
13	58.72	27.5	34.1	23.3	85.3	NW	8	7.5	Ci.	S.-Cu., Cu.	24.1	⌒ [ζ p.
14	59.43	28.3	35.5	23.2	82.7	Variable	8.3	5.8	Ci.	Cu.	------	ζ ⊤
15	59.27	28.7	35.6	23.2	76.7	SE	6.9	8	Ci.	Cu.	------	ϖ a. ζ p.
16	58.88	28.6	35.5	23.7	79.2	Variable	8.4	5.5	Ci.	S.-Cu., Cu.	12.7	[ζ p.
17	58.96	28.7	35.9	23.3	79.2	SSE	7.9	6.8	Variable	S.-Cu., Cu.	------	
18	58.12	29.2	34.7	24.4	76.7	NW	9.6	6	Ci.-S.	Cu.	------	ζ p.
19	53.50	26.6	30.6	23.5	88.7	NW, SE	17.5	10	A.-Cu.	N. NE	28.7	● ↙°
20	55.59	27.2	33.2	23.5	81	SE	19	9	Ci.-S.	S.-Cu. SE	3.3	↙ d
21	57.49	27.2	35	22.4	86.2	S	10.2	6	Ci.	Cu.	12.4	d a. [ζ p.
22	58	27.6	32.1	23.7	85.2	NW	7.2	8.5	Ci.	S.-Cu. SE	------	ζ ⊤
23	54.84	27.6	32.1	24.8	88.7	NW	5.4	9.5	Variable	S.-Cu. NE	.5	d ζ p.
24	50.40	26.1	30	24	87	E, S	11.9	10	------	S.-Cu. SE	7.4	d a. ● p.
25	54.41	28.2	35	25.1	75.8	SE	------	------	A.-Cu.	S.-Cu. SE	------	d° a. ζ p.
26	57.79	29	35.6	23.5	77.3	SE, S	10	6	Ci.	Cu.	------	⌒ ζ p.
27	58.52	28.8	31.9	25.1	80.7	NW	14.4	4.5	A.-Cu.	Cu.	------	ζ p.
28	57.72	27	28.6	25.2	83.3	NW	18.4	10	------	S.-Cu.	.5	↙° d p.
29	56.66	27.5	31.5	24.5	85.8	W, NW	9.4	8	Ci.-S.	S.-Cu. NW	3	p a. ⊤ ζ p.
30	56.05	28.4	34.5	24.6	80.8	SE	11.2	6.8	Ci.	Cu. SE	6.4	p [ζ p.
Mean	757.20	27.9	33.1	24	82.5	------	10.2	7.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	233.9	

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	757.92	28.4	32	25.7	82	Variable	1.3	3.8	A.-Cu. W by S	Cu. NW	------	Ω ⌒ ⊤ a.
2	58.25	28.2	31.9	25.1	80.3	Variable	.8	1	A.-Cu.	Cu. SSW, NW	------	⌒ a. ζ ϖ Ω p.
3	57.50	27.6	31	24	79.8	E, N	1	2	Ci. E	Cu. NW	------	Ω a. ○ ζ p.
4	56.58	27.1	31.2	23.3	77.8	SE, NW	1.2	1.8	Ci., A.-Cu.	Cu. NW	------	ζ p.
5	56.28	27.6	31.5	23.4	77.4	Variable	1.2	1	Ci.-S.	Cu.	------	Ω a. ζ ϖ p.
6	57.43	27.9	33	24.5	77.5	Variable	1.3	2	A.-Cu. SW	Cu.	0.8	⊤ d ⌒ ζ ϖ p.
7	58.34	27.2	31.7	23.2	81.8	S	1	3.5	Ci.-S.	Cu.	17.3	[ζ a. p. ⊍
8	57.47	27.4	32.8	23.4	80.9	Variable	1	4.5	Ci.-S.	Cu. NNE, WNW	9.9	● ϖ p.
9	58	27.9	32.3	24.6	79	Variable	1	1.8	Ci.-S.	Cu.	------	⊍ p.
10	58.58	27.4	32.4	24.5	79.7	Variable	1	2	Ci., Ci.-S.	Cu.	------	Ω a. ϖ p.
11	58.40	27.1	32.3	24.5	81.8	S	.8	5.2	Ci.-S., A.-Cu.	Cu.	2.3	Ω ⌒ d a. ● p.
12	58.16	27.4	32.1	24.5	82.3	Variable	1.2	4.5	Ci.	Cu.	6.9	● p.
13	58.80	27.7	31.6	24.6	83.2	SE, S	1	6	Ci.-S.	Cu. SW	10.4	● a. ϖ p.
14	59.57	28.2	32.9	25.2	77.3	SE	1	2.8	A.-Cu., Ci.-S.	Cu. SSW	------	⊤ d ζ p.
15	59.39	27.8	32.4	24.5	78	SE, E	1.2	1.5	Ci.-S. NE	Cu. S	.3	⊤ ζ d p.
16	59.06	27.7	32.3	24.2	74.7	Variable	1	2.2	Ci.	Cu.	.5	⊤ d ζ p.
17	59	28.2	32.7	24.3	76.5	Variable	1	.5	Ci.	Cu.	------	ζ p.
18	58.24	28.8	32.3	25.3	77.3	Variable	1.2	.5	Ci.	Cu.	------	ζ p.
19	53.43	28.2	30	26.1	69.8	N	2.8	10	Ci.-S.	N. E	1.3	d ↙°
20	55.05	27.4	32	25	82.7	Variable	1	5.5	Ci.-S.	Cu. SE	1.5	●° p.
21	57.49	27.2	31.4	24	84.7	NW, N	1.3	4.2	Ci.-S.	Cu. N	39.1	⊤ ● p.
22	57.95	27.7	31.5	25.1	86.5	Variable	1.3	4.5	Ci., Ci.-S.	Cu. NE, NW	.8	d ⊤ ζ
23	55.06	28.1	32.9	24	73.3	N	2.3	6.8	Ci.-S.	Cu. ENE	------	d° ↙° ζ p.
24	50.59	28.8	31.5	26.7	67.3	N, ENE	2.5	9	Ci.-S.	S.-Cu. E, ENE	------	↙° d° ζ
25	54.39	28.4	33	24.7	77	Variable	1.2	8.8	Ci.-S., A.-Cu.	Cu. NNE	28.4	[ζ p.
26	58.03	28.2	32.4	24.8	76.6	Variable	1	3.2	Ci.-S.	S.-Cu., Cu.	.3	○° ζ p.
27	58.96	28.1	32	24.9	76.7	Variable	1.2	0	Ci.	Cu. NW	------	
28	58.14	26.2	31	23.5	88.7	Variable	1	10	Ci.-S.	N.	104.4	● a. p.
29	56.62	27.4	30.6	24.2	84.3	SE, N	1.2	1.8	Ci.	Cu. NE, N	------	ζ d° p.
30	56.24	27.8	32.2	25.2	83.8	SE	1.2	3.2	Ci.	Cu. SSW	.5	[ζ° p.
Mean	757.30	27.8	32	24.6	79.3	------	1.2	3.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	224.7	

METEOROLOGICAL DATA, ETC.—Continued.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	757.35	27.5	34	24.1	80.6	S, NW	0.3	7	------	Cu. SSE, NW	------	Ω a. ⊤ p.
2	57.47	27.5	33.5	22.5	79.1	NW	.5	3.5	A.-S. S	Cu. SE, NW	------	Ω a. ϟ p.
3	56.60	28	33.3	24	76.5	NW	.3	5.2	Ci. E	Cu. ESE, NW	------	Ω a.
4	56.10	27.6	33.4	23.2	79.2	NW	.7	5.2	A.-S.	Variable	------	Ω a.
5	55.98	28.4	33.7	23.5	76.2	S	.8	7.2	Ci.	Cu. SW	------	Ω a. ⊓° p.
6	56.99	28.1	33.8	23.5	78.8	S, W	.5	4.2	Ci.	Cu. S	------	Ω a. ◡ p.
7	57.62	28.2	33.9	24.5	80.3	NW	.8	7	A.-S.	Cu. N	------	Ω a. ◡ p.
8	57.07	27.4	32.7	23	81	SE	.7	8.2	Variable	Cu. S, NW	------	Ω ◯° a. ◡ p.
9	57.63	27.6	33.7	23.8	79.7	SW	.7	7	A.-S.	Cu. SW	------	Ω a.
10	58.36	27.1	33.7	22.5	79.3	SE	.7	5.5	A.-S.	Variable	------	Ω ≡° a.
11	57.83	27.5	34.5	23.5	80.8	S, NW	.8	5.8	------	Variable	------	Ω a. ⊤ p.
12	57.67	28.2	34.3	23.5	78.8	NW, NNW	.3	7	------	Cu. W, NW	33.5	Ω a. ⊓² p.
13	58.26	28.1	33.5	22.5	80.5	SE, SW	.7	5	A.-S.	Cu. S	------	≡ a.
14	59.22	28.2	34	24.6	80.7	Variable	.5	4.5	A.-Cu.	Fr.-Cu. SE	------	Ω a. ⊤ p.
15	59.13	28	33.4	22.6	76.8	SE	.3	6.2	Ci. W, NW	Cu. SE	------	Ω a. ⊤ p.
16	58.93	27.6	34.8	23.5	80.5	SE	1.2	5.8	------	Fr.-Cu. SE	35.3	Ω a. ⊓² p.
17	59.62	27.7	33.5	22.8	82.3	Variable	.5	2.2	Ci.	Cu. SE	------	Ω a.
18	58.96	28.4	33.3	24	79.5	NE	.7	6.5	Ci.	Cu. E, ENE	3.5	Ω d a. ⊤ ● p.
19	55.93	25.8	27.6	23.7	91.3	NE	.7	9.5	------	Cu.-N. NE	15.8	● a. d p.
20	56.32	27	32.6	24	87.8	SE	1.3	7.2	Ci. N	Cu.-N. SE	5.6	⊓ ↙° ⌒ p.
21	57.85	27.7	33.3	23.2	83.8	Calm	0	4.5	Ci. N, NE	S.	------	Ω ≡° a.
22	58.18	27.2	32.6	23.8	84.8	NW	.8	6.5	Ci.-S.	Cu. E	------	Ω a. ⌒² ϟ p.
23	56.36	26.5	31	23.4	89.2	NE, NW	1.5	9	Ci.	Cu.-N. ENE, SE	9.9	● p.
24	53.78	25.2	26.4	23.7	94.7	NW	.7	10⁻	------	N.	30.5	● a. p ⊤
25	55.55	26.7	31.4	23.3	87.3	Calm	0	8.5	A.-S., Ci.-S.	Cu. SE	9.9	● a. p.
26	57.89	26.5	31.7	23.1	85.8	NNE	.3	8.5	Ci.-S., Ci.	N. NE	------	◯° a. ϟ p.
27	58.23	27.3	31.7	23.5	83.7	NE	.5	7.5	A.-Cu. NE	Cu. N, NE	------	⊤ p.
28	57.21	25.3	27.4	23.7	94.5	Variable	.5	9.5	Ci.-S.	N.	20.4	● a. p.
29	56.54	26.9	31.6	23.3	86	Calm	0	6	------	Cu. NE	------	
30	55.83	27.4	32.3	23.2	81.5	SSW, NW	.3	4.2	------	Variable	------	Ω a. ϟ p.
Mean	757.35	27.4	32.6	23.4	82.8	------	.6	6.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	164.4	

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

	mm.	°C.	°C.	°C.	Per ct.		Km.p.h.	0-10.			mm.	
1	757.82	28.4	32	24.5	82.7	SW, N	8.4	1.5	------	Cu.-N. SW	------	⊤ ϟ p.
2	57.90	28.1	31.6	24.3	85.7	S, NW	16.2	1.2	Ci.-S., Ci.	Cu.-N. NE	------	ϟ ⊤
3	57.12	27.7	30.6	23.5	82.2	NW	15.2	3.5	Ci. S	Cu.-N.	------	ϟ a. p.
4	56.49	27.4	30.8	23.5	85.1	NW	10.7	3.2	Ci. SE	Cu.-N.	------	ϟ a. p.
5	56.31	27.8	32.6	23.5	83.3	NW, NE	7.7	2.5	Ci. W	Cu.-N. N	------	ϟ p.
6	57.49	28.1	32.5	24.4	83.5	S, NE	10.1	1.2	Ci.-S.	S.-Cu.	------	ϟ a p.
7	58.16	27.8	31.4	24	86.2	SW, NW	10.1	4	Ci.	Cu.-N. N	2.8	ϟ ⊤ a. ◯ ◡ p p.
8	57.34	27.2	30.4	23.8	88.5	Variable	10.2	7.8	Ci. E	Cu.-N. N	------	ϟ ⊤ ⌒
9	58.04	27.7	31.4	23.9	85.8	W, SW	10.2	3	------	Cu.-N. NW, N	------	
10	58.77	27.4	32.5	23.5	85.2	S, N	8.8	1.2	Ci.	Cu. N	3.6	p p.
11	58.26	27.7	32.6	24.6	85.6	Variable	9	2.2	------	Cu.-N. N	9.1	p p.
12	58.02	27.8	32.9	24	84.3	SW, S	10.5	1.2	------	Variable	------	
13	58.76	28.1	32.7	23.8	84.8	S	12.8	1.8	------	Cu.-N. N	------	ϟ p.
14	59.69	28.2	32.8	25.1	84.8	Variable	9.9	2.8	A.-Cu. SE	S.-Cu.	------	⊤ ϟ p.
15	59.62	28	33.8	23.4	83.3	S, NE	9.3	6.8	Ci. E, N	Cu.-N.	------	ϟ p.
16	59.27	28.1	34	24.3	83.8	S, W	12.5	2	------	Cu.-N. N	------	⊤ p.
17	60.16	27.8	33.5	22.8	84.3	S, E	8.3	1.8	Ci. ENE	Cu.-N.	------	
18	59.69	28.8	33	24.5	83.3	ENE	12	2.2	Ci.	Cu.-N.	------	
19	56.72	26.1	29	24.2	90.3	SE, E	10.2	10	Ci.-S.	S.-Cu. E	6.9	↙° ●° a p.
20	56.53	27.3	32.6	23.5	86	SE, SSE	10	7	Ci. SE, E	S.-Cu.	.3	ϟ p.
21	58.18	28.2	33	24	83.7	S	9.3	3	Ci.	Cu.-N. SE	------	⊤ ϟ p.
22	58.98	28	32.5	24.5	86.2	Variable	7.7	4.5	Ci. E	Cu.-N. ENE	------	⊤ ϟ p.
23	57.30	27.7	32	24.8	85.8	NE, ENE	15.8	9.2	Ci. SE	Cu.-N. E	42.4	● ↙° ⊤ ϟ
24	54.53	26.1	28	23.2	92.9	ENE, ESE	16.1	10	------	N. E	26.7	● ↙°
25	55.81	27.4	32	24	87.8	Variable	6.6	9	Variable	S.-Cu. SW	8.1	● ⊤ ϟ
26	58.46	26.4	30	24.1	91.7	Variable	5.5	9.8	Ci.-S. W	S.-Cu. SW, W	1.5	d ⊤ ϟ
27	58.69	27	29.8	23.5	88	W, NNW	15.1	6.5	Ci. N	Cu.-N. NW	------	⊤ p ↙° ϟ
28	57.70	26	28	23.4	92.2	NW, quad.	11.4	10	Ci.-S.	N. N, NW	19	● a. d p.
29	57.07	26.9	31.5	23	88.3	SW, E	5.7	.5	------	Cu.-N. SE	------	Ω ≡° a.
30	56.34	27.2	32.1	23	85.8	Variable	9.3	1.5	Ci.-S.	Cu.-N., S.-Cu.	------	Ω ≡° ⊤ ϟ p.
Mean	757.84	27.5	31.7	23.9	86	------	10.5	4.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	120.4	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.3	23.4	95	80	6	7	26.9	Ω ● a. ●² p.
2	31.5	21.7	96	74	6	7	------	Ω a.
3	31	22.8	97	84	6	10	3.3	Ω a. ● ⚡ d p.
4	30.6	22.8	97	83	10	10	126	Ω ● ⚡ a. ●² p.
5	31.8	21.7	96	64	8	8	------	⌒ p.
6	32.3	22.1	93	79	7	8	------	Ω a. ⚡ d p.
7	32.3	22.4	91	74	5	7	------	Ω a. d a. p.
8	32.6	22.5	93	74	3	6	------	Ω² a.
9	32.4	22.6	97	75	8	9	------	Ω a. ⩽ p.
10	31.7	22.3	96	78	7	9	23.1	Ω² a. d ●² p.
11	31.6	22.3	96	75	9	9	------	Ω² a.
12	32.4	22.4	96	74	7	9	.8	Ω² ≡ a. ⊤ ●° p.
13	30.9	22.2	94	73	7	9	2.3	Ω ≡ ●° a. d p.
14	30	22.8	97	82	9	9	2.5	Ω ≡ a. ●° p.
15	30.3	22.7	95	85	8	9	4.6	Ω ≡ ● a. d p.
16	31.7	22.1	98	77	6	9	1.3	Ω ≡ a. d ⚡ ● p.
17	30.1	23.8	96	88	9	10	24.4	≡ d ⚡ ● a.
18	30.9	22.8	96	74	10	7	5.6	≡ ⚡ a. ● p.
19	31.3	22.7	90	66	8	10	5.3	⚡ ● a. ⩽ p.
20	29.2	23.2	96	71	10	9	------	d a.
21	32.1	21.9	94	68	9	9	------	Ω ≡ ⚡ a. ⩽ p.
22	32.3	23.4	90	73	8	9	15.2	Ω ≡ ⚡ a. ⚡ ● p.
23	28.6	22.8	83	89	10	10	39.9	⚡ a. p. ● p.
24	32	22.9	84	67	10	10	------	⚡ a. p. ⩽ p.
25	32.3	25.9	89	68	10	8	------	≡ ⚡ a. ⚡ ⩽ p.
26	34.1	24.4	92	60	7	6	------	Ω ≡ a.
27	32.5	23	99	83	5	10	4.6	Ω ≡ d a. ●° p.
28	30.5	22.9	98	90	5	10	29	Ω ≡ a. ● a. p.
29	32.1	22.9	97	74	4	9	13.2	Ω ≡ a. Γ⚡ ● p.
30	30.9	21.5	96	82	9	7	2.3	Ω ≡ ● a.
Mean	31.4	22.8	94.2	76.1	7.5	8.6	------	
Total	------	------	------	------	------	------	330.3	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	22.5	91	75	------	------	------	Ω a.
2	------	22.5	95	74	------	------	------	Ω a.
3	------	22.8	96	92	------	------	29.2	Ω a. ⚡ ●² p.
4	------	23.2	95	78	------	------	13.2	⚡ ● a. p p.
5	------	21.5	96	71	------	------	9.4	Ω ⚡ p° a. ● p.
6	------	21.5	96	88	------	------	3.8	Ω p° a. p p.
7	------	21	96	66	------	------	------	Ω a.
8	------	22	96	75	------	------	------	Ω a.
9	------	22	95	88	------	------	14.5	Ω a. ● ⚡° p.
10	------	22	96	75	------	------	.5	Ω a. d ⌵ p.
11	------	21.5	96	77	------	------	------	Ω a. ⊤ p.
12	------	22	96	80	------	------	3.6	Ω ● a.
13	------	22.5	96	83	------	------	5.1	Ω ≡° a. ● p.
14	------	22	96	77	------	------	3	● ⚡° p.
15	------	22	96	73	------	------	1.3	Ω a. p p.
16	------	21.8	95	83	------	------	22.6	Ω a. ● p.
17	------	22.5	96	96	------	------	55.6	d a. ● p.
18	------	23	95	86	------	------	6.1	● p.
19	------	22	91	81	------	------	4.8	d a. p p.
20	------	22	93	83	------	------	------	Ω a.
21	------	23	96	87	------	------	20.3	⚡ ● a. p.
22	------	22.2	96	89	------	------	25.9	Ω ⊤ d a. ⚡ ●² p.
23	------	22	96	92	------	------	67.3	⚡ ● a. ⚡ ●² p.
24	------	22	90	91	------	------	29.7	⚡² ●² a. ⚡ ●° p.
25	------	22.5	96	53	------	------	------	Ω a. ⚡ a. p.
26	------	22	96	72	------	------	------	Ω a.
27	------	23	96	92	------	------	10.2	Ω a. ● p.
28	------	22.5	96	100	------	------	59.4	Ω a. ⚡ ● p.
29	------	20.7	98	84	------	------	------	Ω a.
30	------	20.6	96	81	------	------	------	Ω a.
Mean	------	22.1	95.3	81.4	------	------	------	
Total	------	------	------	------	------	------	385.5	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.2	22.9	87	76	3	3	------	
2	30.9	23.1	88	78	4	4	------	
3	29.5	24.1	86	83	9	9	0.8	● p.
4	28.7	22.8	89	76	9	9	14.7	● p.
5	29	23	88	79	8	8	6.6	● p.
6	28.7	22.4	90	91	3	9	------	d p.
7	30.5	22.8	90	77	3	4	------	d a.
8	30	23.1	87	78	2	5	------	
9	30.8	23.1	88	81	3	4	------	
10	30.7	23	88	81	2	3	------	
11	30.4	23	86	83	4	4	------	
12	28.5	23.9	85	85	10	10	------	
13	30	23.3	88	77	5	4	------	
14	30.1	24	92	74	10	8	------	
15	29.2	24	87	77	8	9	------	
16	29.5	23.2	90	75	6	7	------	
17	29.2	24.7	87	69	5	6	------	
18	29.7	23	91	74	2	2	------	
19	28.9	23.3	87	73	8	10	13.2	● p.
20	28.5	23	86	73	10	10	7.4	● p.
21	27.5	23.9	87	82	9	10	------	
22	27	24.1	91	93	10	10	7.9	● p.
23	25	23.1	86	100	10	10	114	●² a. p. ⚡ p.
24	28.5	23.9	92	91	10	9	4.3	⚡ ● p.
25	29.2	23.7	88	75	4	4	------	
26	30	23	86	72	6	7	------	
27	30.1	23.3	88	81	3	4	------	
28	28.6	23	83	83	10	10	------	
29	30.2	23.9	87	74	8	10	------	
30	31	23	93	75	3	3	------	
Mean	29.3	23.4	88	79.5	6.2	6.8	------	
Total	------	------	------	------	------	------	168.9	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.9	22.7	93	71	7	7	------	
2	33.3	22.1	93	74	5	6	------	Γ⚡ p.
3	33.1	22.1	97	66	7	6	------	
4	32.3	22.3	95	71	5	7	------	⩽ p.
5	33.2	22.1	95	66	6	7	------	
6	33.5	22.3	97	65	7	5	------	
7	33	21.8	94	67	6	5	31.2	● p.
8	33.1	22.4	96	73	7	6	------	
9	32.9	22.8	97	69	5	7	------	
10	33.2	22.2	96	72	6	6	26.4	● p.
11	33.4	22.1	94	72	5	7	------	
12	33.2	22.1	98	69	6	5	39.6	● ⊤ p.
13	32.8	22	96	63	7	7	------	⊤ p.
14	32.4	22	96	68	5	7	------	
15	33	22.5	96	63	6	7	------	Γ⚡ p.
16	30.7	22	96	75	6	8	49	● p.
17	31.2	21.8	99	75	9	8	------	
18	31	23.3	87	76	7	9	------	
19	31.3	22.1	96	69	6	7	------	
20	31.8	22.3	94	64	6	8	------	
21	32	21.5	96	79	6	8	------	
22	28.7	22.9	97	86	6	8	41.1	● p.
23	29.9	22.3	90	81	7	9	22.1	● ⊤ p.
24	31.6	24	89	76	9	7	------	
25	32.7	22.3	94	69	6	6	------	Γ⚡ p.
26	33.2	22.1	92	70	5	7	------	
27	34.1	23.1	93	68	6	5	------	
28	32.7	22.3	90	79	8	9	18.3	● a.
29	31.8	22.1	96	74	7	5	------	
30	33.1	22	96	66	7	7	------	
Mean	32.4	22.3	94.6	71.2	6.4	6.9	------	
Total	------	------	------	------	------	------	227.7	

METEOROLOGICAL DATA, ETC.—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	22.1	96	62	3	4	6.9	Ω ≡ ○ a. ● p.
2	32.6	22.8	96	62	2	3	------	Ω a.
3	31.2	23.2	91	74	9	8	15.2	●^{2} a. ●° p.
4	30.6	21.7	92	74	3	5	2.5	Ω a. ●° p.
5	30.6	22.7	97	71	9	7	------	d a. Ϟ° p.
6	32.7	21.7	97	60	5	6	2.5	●° ⌒ p.
7	32.8	22.8	96	63	4	5	------	∞ a. Ϟ° ⊖^{2} p.
8	32.4	22.7	97	66	2	3	------	∞ a. ψ p.
9	32.6	23.2	96	62	5	3	------	↙ a. ○^{2} Ϟ° p.
10	33	23.2	92	65	5	5	3	○^{2} a. p. Ϟ ● p.
11	33.4	23.3	94	55	5	4	------	d a. Ϟ° p.
12	31 7	23.7	92	73	2	8	52.1	○^{2} a. p. Ϟ ● p.
13	31.8	21.7	88	69	9	3	10.2	⌒ ↙ ● p.
14	31.4	23.2	91	69	8	3	6.4	↙ ● p.
15	30.3	24.3	95	76	6	7	------	Ϟ p.
16	28.4	22.3	95	95	3	10	31	● a. p.
17	30.5	23.4	98	76	10	9	5.1	d a. ↙ ● p.
18	30	23.8	97	73	7	10	20.3	●° ↙ p.
19	29.4	23.6	96	82	10	10	20.3	●° a. Ϟ ↙ ● p.
20	29.8	22.3	94	72	6	8	8.9	↙ ● p.
21	30.1	23	92	75	9	9	53.3	○^{2} a. ↙ ●^{2} p.
22	27.4	22.6	97	82	10	10	62.2	● a. ↙ ●^{2} p.
23	30.3	22.6	87	78	10	10	80	● ↙ a. p.
24	31.4	22.7	89	69	10	10	------	●^{2} a. ●° p.
25	33.4	22.3	94	71	1	4	------	
26	33.7	23	96	70	1	3	1.5	Ω a. ●° p.
27	32.3	23.5	98	70	3	5	16.5	Ω a. Ϟ ● p.
28	29.2	23.3	92	76	10	10	7.5	●° a. ●^{2} p.
29	30.6	21.4	96	65	5	3	?	●^{2} a.
30	32.4	22.3	92	63	5	3	------	
Mean	31.3	22.8	94.1	70.6	5.9	6.3	------	
Total	------	------	------	------	------	------	405.5[1]	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	------	99	78	5	6	9.1	● p.
2	32.4	------	98	72	2	8	1.3	●° p.
3	32.5	------	97	78	9	8	------	⊤° p.
4	32.8	------	98	74	9	9	------	
5	32.9	------	97	69	8	9	9.4	⊤° a. ● p.
6	32	------	99	75	8	8	51.1	Ϟ ●^{2} d p.
7	32.3	------	99	69	8	8	------	
8	32.9	------	97	66	2	4	------	Ϟ ⊖ ↙° p.
9	32.6	------	98	73	7	8	1.7	●° p.
10	32.7	------	96	75	9	8	.3	●° p.
11	32.8	------	96	69	5	4	------	
12	33.4	------	96	71	8	7	1	Ϟ ● p.
13	32.6	------	96	76	5	6	3.5	Ϟ ●° p.
14	32.2	------	97	77	9	8	5.8	⊤° ○ ● p.
15	31.4	------	99	82	9	8	------	
16	31.6	------	99	90	4	10	17.4	∞ a. d ● p.
17	31.3	------	97	76	10	9	53.8	Ϟ ●^{2} p.
18	31.4	------	100	76	10	9	.4	⊕ Ϟ d p.
19	31.9	------	99	82	9	10	2.3	p d p.
20	32.9	------	99	72	9	9	.8	⊕ d p.
21	28.6	------	96	80	7	10	26.4	d ● p.
22	24	------	100	100	10	10	107.1	● a. ●^{2} p.
23	27.7	------	99	88	10	10	17.2	d ● p.
24	33.5	------	99	59	10	8	.3	↙° d p.
25	32.9	------	94	70	7	7	------	Ω a. ϟ° p.
26	30.2	------	94	75	4	8	------	∞ a.
27	32.8	------	94	75	2	7	8.3	Ω a. Ϟ° ●° p.
28	27.8	------	97	83	10	10	9	d a. p. ↙ ● p.
29	33.1	------	100	68	9	8	12.3	↙° ● ⊤° p.
30	32.5	------	96	68	8	4	23.9	Ω ∞ a. ϟ° ● p.
Mean	31.7	------	97.5	75.5	7.4	7.9	------	
Total	------	------	------	------	------	------	362.4	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.7	23	95	62	6	7	?	ϟ ● p.
2	34.2	22.9	97	66	4	4	------	≡ a. ⊖ ϟ p.
3	32.7	23.4	97	68	9	7	2.3	Ω a. ● ⊖ ϟ p.
4	34.4	22.9	96	64	10	8	1.5	⊤° ● ϟ p.
5	34.5	22.8	95	61	9	8	2.8	○ Ϟ ● p.
6	34	22.9	97	75	10	8	------	
7	34.1	21.5	98	63	5	6	------	Ω a.
8	35.6	22.8	98	62	4	3	------	Ω a.
9	35	23.3	97	72	4	10	3.3	Ω a. ● p.
10	34.1	24	98	62	9	9	?	⊤ ● a. ϟ p.
11	35.1	23.2	88	57	5	3	------	Ω a. ϟ p.
12	35.7	23.7	94	57	7	6	------	Ω a. Ϟ p.
13	35.4	23.4	97	60	7	7	1.8	Ω a. ϟ ● p.
14	34.9	23.3	91	59	9	10	?	⊤ ● p.
15	32.6	22.3	97	65	10	6	------	Ϟ p.
16	31.8	23.2	97	65	8	10	?	≡^{2} ● a. ○ ● p.
17	30.6	23.2	91	75	10	8	?	● a. p. ○ ϟ p.
18	32.1	23.5	95	75	10	10	58.4	● a. p. ○ ⊤ p.
19	31	22.4	94	98	10	10	13.7	● p.
20	32.6	22.4	97	61	10	10	2.3	● p.
21	29	21.6	98	79	7	10	43.7	● a. p.
22	28.5	22.3	96	98	10	10	5.1	●° a. ↙ ● p.
23	27.6	24.8	95	97	10	10	29	● a. ↙ d° p.
24	29.5	21.8	96	75	10	10	16	↙ ● d° a.
25	34.7	22.6	97	56	4	4	------	
26	35	23	96	63	4	5	------	Ω a.
27	35.3	23	88	55	3	4	2.5	Ω a. ● ϟ ↙ p.
28	30	23.1	95	93	10	10	36.3	↙ a. ● p.
29	32.9	22	94	76	6	9	?	↙ d ● p.
30	33.8	21.7	97	62	4	5	------	≡ a. ϟ p.
Mean	33	22.9	95.4	69.4	7.5	7.6	------	
Total	------	------	------	------	------	------	?	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.1	22.9	97	72	4	9	6.1	Ω ≡ a. ● p.
2	30.4	23.4	92	73	3	7	------	Ω ≡^{2} ○ a. Ϟ p.
3	31.3	21.9	94	70	8	8	25.7	Ω a. Ϟ ● p.
4	30.7	22.7	97	74	9	9	------	Ω ≡^{2} ⊕ a. Ϟ p.
5	31.3	22.6	93	77	7	10	5.6	Ω a. ↙ Ϟ ●° p.
6	31.5	22.8	96	69	6	8	------	Ω ⊕ a. ⊤ d° p.
7	30.8	23	94	66	8	8	------	Ω ≡° a. ○ Ϟ p.
8	33.1	23.4	96	67	2	5	------	Ω a. ⊤ ϟ ψ p.
9	31.1	23.7	95	66	7	8	------	Ω ∞ ⊕ a. ⌒ ⊤
10	32.6	23.7	93	60	8	7	2.8	Ω ○ a. ● p.
11	32.8	23.6	97	58	2	3	------	Ω a. ⊤ p.
12	31.4	23.1	97	80	3	7	------	Ω a. Ϟ p° p.
13	32.3	23.5	95	58	4	8	2.5	Ω a. ⊤ ● p.
14	29.7	22.7	93	77	9	7	1	Ω ● a. p ⊤ p.
15	32.1	22.2	98	88	7	9	6.6	≡° a. ● p.
16	27.6	22.7	97	84	9	10	4.8	Ω ∞ ● a. p p.
17	30.1	22.1	97	74	10	7	24.9	● a. p. Ϟ^{2} p.
18	28.8	22	99	73	10	10	15.5	Ω ≡ a. ↙ ● ⊤ p.
19	31.4	23.7	96	92	8	10	13.7	≡ a. ● Ϟ p.
20	30.1	22.3	92	68	8	8	2.8	Ω ∞ a. ⊤ ● p.
21	25.1	22.6	97	95	10	10	37.1	Ω ∞ a. ● a. p.
22	26	23.5	96	89	10	10	33.8	● d a.
23	29.2	23.5	96	86	10	10	7.4	↙ a. ● a. p.
24	32	23.4	94	59	7	6	2	p° a. ↙ Ϟ ●° p.
25	32.1	23.5	96	68	5	6	------	Ω ≡° a. ↙ a. p.
26	32.6	22.8	96	63	5	6	------	Ω ≡° a. ⊤ p.
27	30.5	23	96	74	7	6	18	Ω ≡^{2} a. Ϟ ● p.
28	26.3	23.1	97	87	10	10	27.4	● d a.
29	30.2	22.9	91	65	8	9	.3	∞ a. ⊤ d p.
30	30	22.1	97	68	7	2	------	Ω a. Ϟ p.
Mean	30.4	22.9	95.5	73.3	7	7.8	------	
Total	------	------	------	------	------	------	238	

[1] 29 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

YAP (Western Carolines.)

[$\phi=9° 29' N$; $\lambda=138° 08' E$]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.3	22.6	92	75	8	6	0.5	
2	33.5	22.4	96	74	9	6	14.2	
3	31.7	22.7	96	96	10	10	40.6	
4	28.5	22.2	86	83	8	8	1.3	
5	32.7	22	87	69	8	5	------	
6	32.8	21.8	90	79	6	4	------	
7	32.8	22	88	79	1	------	------	
8	31.8	24.5	81	77	1	9	------	
9	32	22.4	92	83	4	10	14	
10	33	22.3	93	75	6	8	12.7	
11	33.1	23	87	82	7	4	------	
12	33	22.8	91	85	3	2	------	
13	33.4	22.2	79	81	5	3	------	
14	33.3	22.3	92	83	8	10	6.6	
15	33	22.6	85	75	7	6	21.6	
16	33.1	22.6	96	74	10	6	11.4	
17	31	22.6	82	77	6	4	2.5	
18	28.5	22.3	96	94	9	10	5.3	
19	27	21.5	90	93	9	8	20.3	
20	29	21	80	93	9	7	38.9	
21	29.9	21.7	96	80	10	9	34.8	
22	30.3	22.8	97	84	8	7	2	
23	33.2	22.7	83	71	1	5	1.5	
24	33.2	22.7	92	78	10	8	41.1	
25	32	22.3	96	79	10	9	12.7	
26	30.2	22.3	96	87	10	8	4.3	
27	32.1	22.3	97	76	7	6	2.5	
28	33	22.2	86	72	6	7	------	
29	33.8	22.2	86	75	6	4	------	
30	33.8	22.5	76	70	3	5	22.9	
Mean	31.9	22.4	89.5	80	6.8	6.7	------	
Total	------	------	------	------	------	------	311.7	

MAASIN.

[$\phi=10° 08' N$; $\lambda=124° 50' E$]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.4	22.5	92	78	8	4	32	↙ ●² ⌈K p.
2	30.1	22.5	95	78	9	2	------	
3	29.8	24.9	95	83	8	9	39.4	p a. ⌈K² ● p.
4	29.9	23	92	80	10	8	6.9	⊤ ∪ <² d p p.
5	30.5	24.5	92	77	7	8	------	< p.
6	29.5	24.5	89	81	10	9	------	∪ ⊕ ⌈K p.
7	30.5	24.4	92	76	10	10	------	∞ ⊕ ∪ p.
8	31.1	25.5	87	78	10	5	------	< ∪ ⊕ p.
9	31.4	24.5	93	73	10	7	6.1	p a. ⊕ < ∪ p.
10	32.2	24.4	92	79	10	9	------	⊤ d < ⊕ ∪ p.
11	30.3	23.8	88	80	4	2	------	d a. p. ⊤ < ∪ ⊕
12	31.6	24.5	92	75	3	9	20.8	● ⊤ p.
13	30.7	24.5	92	71	10	8	------	⊤ p.
14	30.5	24.3	90	75	10	8	------	⌈K p.
15	30.5	23.7	96	74	10	8	------	d ≡² a. ⌈K p.
16	29.5	23.4	83	91	4	10	33.5	d p a. ● ≡² < p.
17	29.7	23.6	95	83	10	10	8.1	p a. ⌈K d p.
18	30.9	23.9	94	86	10	10	20.1	d ≡² a. ● < p.
19	28	23.5	93	85	10	10	5.8	d ≡² ⌈K ↙ ● p.
20	28.5	23.6	91	80	10	8	9.7	↙ ● ⌈K p.
21	29.2	22.9	91	84	10	10	16.3	d ↙ ● ⌈K p.
22	29.3	23.6	96	94	10	10	106.9	≡² a. ↙ ● a. p.
23	26.9	22.8	94	86	10	10	20.3	● a. p.
24	27.5	25.2	87	86	10	10	------	d ↙° a. < ↙° p.
25	29.5	25	93	82	10	10	------	↙ a. < p.
26	29.9	23.6	88	79	10	7	------	⊤ p.
27	31.2	24	87	77	3	8	------	⌈K p.
28	32	22.9	97	96	10	10	55.4	↙ ● a. d ≡² p.
29	29.2	22.9	91	81	10	10	------	d ↙° a.
30	28.6	23	90	82	10	7	------	↙° a. < p.
Mean	30	23.8	91.6	81	8.9	8.2	------	
Total	------	------	------	------	------	------	381.3	

BACOLOD.

[$\phi=10° 41' N$; $\lambda=122° 56' E$]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.2	23.2	95	75	6	6	1	d < p.
2	30.8	23.5	95	80	8	8	------	< ⊕ p.
3	31.3	23.2	95	85	6	7	------	⌈K ∪ p.
4	30.7	23.1	91	81	8	8	------	⌈K ∪ p.
5	30.3	23.1	94	75	7	8	48.5	↙ ●² a. < p.
6	30.3	22.7	96	78	8	6	9.1	↙ ● d° a.
7	30.7	23	94	76	7	8	------	⊕ ∪ p.
8	31	23.8	90	78	7	7	------	⊕ p.
9	31.4	23.3	95	78	8	7	6.9	↙ ●° a. ⌈K° ∪ p.
10	30.7	23.2	92	81	8	7	------	⌈K d° ∪ p.
11	32.3	22.3	96	60	8	6	------	⌈K ∪ p.
12	32.2	23.1	92	83	6	7	------	⊤ p.
13	32.1	22.8	95	91	4	7	.8	d ⌈K p.
14	30.6	23	95	88	6	8	19.8	≡ ↙ ● a. ⌈K ● p.
15	30	22.3	96	95	10	10	33.5	●° a. ↙ ●² ⌈K p.
16	31.1	22.1	95	72	4	6	3.3	d° a. ⊤ ↙ ●° < p.
17	30.5	23.5	97	77	8	10	------	< d° p.
18	30.3	23.3	95	82	10	10	10.2	⊤ ●° p.
19	29.6	23.1	96	83	10	8	60.7	↙ ●° a. ● p.
20	29.2	22.8	96	80	10	10	10.2	● a. d° ●° p.
21	29.6	22.3	89	80	10	10	1.3	d a.
22	30.6	23.6	96	83	10	9	48.5	↙ ● a. p. ⊤ < p.
23	25.7	22.8	97	92	10	10	110.7	↙ ● a. p.
24	26.6	22.8	97	88	10	10	6.9	↙ ● a. ⊤° ●° p.
25	32.8	21.7	95	60	6	6	------	≡ p.
26	31.2	22	96	81	6	5	------	≡² a. ≡° p.
27	32	23.4	94	72	4	6	------	≡ a. ⊤° < p.
28	28.2	24.8	94	91	8	10	7.6	↙ ●° p.
29	26.3	22.2	96	96	10	10	38.1	↙ ●° a. ● p.
30	29.9	22.7	96	70	10	6	------	●° ⌒ a. Γ° p.
Mean	30.3	23	94.7	80.4	7.8	7.9	------	
Total	------	------	------	------	------	------	417.1	

SAN JOSE BUENAVISTA.

[$\phi=10° 44' N$; $\lambda=121° 55' E$]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a.m.	2 p.m.	6 a.m.	2 p.m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.5	23.3	92	72	6	5	3.3	< ● p.
2	31.6	24.5	92	72	10	10	------	d a. p.
3	31.5	23.5	87	82	3	10	24.1	d ● ⌈K p.
4	30.4	23.4	92	81	10	10	4.3	● ⌈K p.
5	30.2	23.6	95	75	10	10	6.6	● a. p. ↙° p.
6	30.9	23	91	78	3	7	1.3	● a.
7	30.4	22.9	90	78	3	10	------	p a. ∪ p.
8	32	23.5	90	72	10	7	1.3	● a.
9	31.5	23.8	89	77	4	7	3.8	● d p.
10	31	23.3	86	76	10	10	------	< p.
11	32	22.5	86	71	7	2	------	
12	31.6	23.2	91	75	3	10	------	< p.
13	32.9	23.5	87	78	3	10	------	⊤ p.
14	31.4	23.7	91	96	5	10	30	● ⊤ a. ●° p.
15	30.1	22.5	94	75	10	10	.8	●° p.
16	32.1	22.9	88	83	2	10	23.4	● < d p.
17	31.9	22.2	95	78	3	10	6.1	d ● < p.
18	30	23.5	94	81	10	10	12.2	d ● p.
19	29.5	23.5	95	89	10	10	71.9	● a. p.
20	26.5	23.3	96	93	10	10	68.1	↙ a. ● a. p.
21	31.3	22.5	95	81	10	10	7.6	● a.
22	29.5	23.6	92	90	10	10	140.5	● a. p. ⌈K p.
23	28	22.3	98	86	10	10	66.8	↙ ● a. p.
24	27.9	24.6	95	86	10	10	45.7	↙² ● a. p.
25	30.3	24.2	85	71	10	10	4.1	↙ ● a.
26	33.2	22.9	89	71	5	3	------	
27	32.5	22.4	89	79	0	10	------	< ⊤ p.
28	32.6	24.1	94	82	10	10	89.7	● ⊤ a. ⊤ ●² p.
29	24.9	22	96	95	10	10	253.5	●² a. p.
30	31.2	23.4	91	74	7	8	1.3	● a.
Mean	30.7	23.3	91.5	79.9	7.1	9	------	
Total	------	------	------	------	------	------	866.4	

METEOROLOGICAL DATA, ETC.—Continued.

TUBURAN.

[ϕ=10° 45′ N; λ=123° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.6	24.4	94	75	6	9	11.4	●^{2} ⛈^{2} p.
2	32.5	23.1	93	68	8	9	------	T^2 ϟ^2 p.
3	32.3	23.6	91	63	10	9	------	○^{2} ⛈^{2} p.
4	32.5	23.6	92	71	9	9	------	⛈ p.
5	33.6	24.4	80	56	9	8	------	ϟ° ⊕^{2} p.
6	33.5	23.6	89	59	9	8	1.8	○° a. ●° ⛈^{2} p.
7	33	23.4	94	60	9	8	------	○^{2} a. p. ϟ° p.
8	34.3	23.6	91	56	10	7	------	○^{2} ⛈ p.
9	33.2	24.2	90	60	9	9	36.3	⛈° ●^{2} ∪^{2} p.
10	32.3	23.5	94	72	10	10	------	T^2 d° p.
11	31.8	23.7	95	63	6	9	------	⛈^{2} p.
12	32.2	23.4	92	68	3	9	------	≡° a. T^2 ϟ° p.
13	32	23.9	92	68	5	8	3	⛈^{2} ●° p.
14	30	23.5	92	82	9	10	41.4	●^{2} a. p. ⛈° p.
15	29.7	23.2	96	78	10	10	------	ϟ^2 p.
16	31	22.6	95	84	4	10	26.2	T^2 d ●^{2} p.
17	30.2	23	96	73	10	9	3	●° a. ○° ϟ^2 d p.
18	29.5	23.7	95	80	10	10	2	● p.
19	31.1	23.2	93	72	9	10	2.3	●° a. d p.
20	31.4	23.6	90	66	10	9	------	d p.
21	30.4	22.4	93	71	9	10	------	○^{2} p.
22	29.1	24	94	90	10	10	38.4	↙●°○°a.↙●^{2}ϟ°
23	27	23	88	91	10	10	56.4	↙ ●^{2} a. p.
24	30.6	23.4	92	65	10	9	23.9	d ●^{2} a. ϟ^2 p.
25	34.2	22.2	82	50	4	3	------	≡° a. Ω^2 ∞^{2} p.
26	31.7	22.6	91	71	2	4	------	Ω^2 ≡^{2} a.
27	31.6	23.2	95	75	4	10	------	Ω° ≡^{2} a. ○^{2} d ϟ^2
28	27.4	23.6	95	91	10	10	94.2	●^{2} ⛈^{2} a. d ● p.
29	30.4	23.1	90	68	10	10	2.5	○° a. ●° ϟ° p.
30	32.6	22.9	87	55	7	6	------	○^{2} a.
Mean	31.5	23.4	91.7	70	8	8.7	------	
Total	------	------	------	------	------	------	342.8	

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.8	23.2	92	73	3	4	3.3	
2	32.4	23.6	90	74	8	5	3.3	● p.
3	30.4	24.4	87	80	6	7	61.5	● p.
4	30.2	22	90	82	10	7	8.9	⛈ ↙ ● p.
5	30.6	22.3	87	77	8	7	28.2	● p.
6	31.4	23	84	71	3	1	------	
7	31.3	22.9	89	78	3	7	2.5	d^2 a.
8	30.6	22.8	93	83	5	6	17	● a. p.
9	32.2	24.1	84	74	5	4	.8	d a.
10	32.7	22.5	91	70	3	4	------	
11	32.2	23.8	93	67	4	1	9.7	
12	31	23.2	91	69	3	2	------	
13	32.1	23.5	92	77	5	4	4.1	● p.
14	26.4	23.2	92	90	5	9	4.3	⛈ ● a. ●° p.
15	30.7	22.8	90	78	7	8	------	
16	32.2	22.8	92	69	5	3	2.5	
17	31	22.6	89	76	4	8	------	⛈ p.
18	30.3	22.4	92	83	10	8	31	⛈ ● a.
19	28.6	22.5	90	86	10	8	48	● a. p.
20	26.8	22.5	90	91	10	10	91.9	● a. ↙ ● p.
21	31.7	22.4	86	73	8	7	1.8	
22	29.7	23.6	81	75	9	7	61.5	● a. ↙° a. p.
23	28.3	21.6	90	82	10	10	4.3	● a. ↙ p.
24	28.5	23.7	88	80	10	10	45	↙ a. p.
25	30.7	22.3	93	83	10	8	12.4	↙ ● a. ↙° p.
26	31.8	24.2	90	73	4	5	------	
27	32.8	22.7	90	70	1	6	------	
28	29.2	23.8	86	88	9	9	67.8	● p.
29	25.7	21.9	89	90	10	10	24.9	● ↙° a. p.
30	30.6	22.5	88	71	8	3	------	
Mean	30.5	23	89.3	77.8	6.5	6.3	------	
Total	------	------	------	------	------	------	534.7	

PALANOC.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.4	25.4	95	76	5	9	10.4	
2	33.2	25.6	95	90	8	8	1.8	
3	31.6	25.4	96	98	7	9	12.4	
4	31.8	24.5	88	97	6	9	58.4	
5	30	24.6	95	71	10	8	17.8	
6	31.8	25	92	81	7	8	------	
7	30.6	25.6	88	67	6	9	.8	
8	31.6	26.4	93	82	8	9	------	
9	31.5	26.4	90	73	8	9	2	
10	32.4	26	91	94	6	9	16.3	
11	32.6	24	97	81	6	7	.8	
12	31.5	24.6	95	69	7	8	------	
13	33.6	25.4	94	81	4	5	------	
14	32.8	25.6	94	74	7	9	------	
15	32	25.2	91	75	7	9	7.4	
16	32.2	24.2	95	76	2	9	4.6	
17	------	24.4	90	------	8	------	------	
18	33.5	------	------	86	------	10	36.6	
19	30.6	24.4	90	81	9	9	30.7	
20	30.2	24.4	89	71	9	8	2.5	
21	32.6	24.2	98	67	5	7	27.2	
22	29.6	24.2	94	83	10	9	54.4	
23	------	23.4	97	------	10	10	?	
24	29.8	------	------	72	10	10	12.7	
25	32.4	24.2	72?	60	8	7	------	
26	34.4	24.6	95	61	4	6	------	
27	30.4	25	96	83	7	9	11.4	
28	28.6	24.6	90	76	9	10	54.9	
29	26.5	23.6	98	92	10	10	70.1	
30	30	24	92	70	9	6	------	
Mean	31.4	24.8	92.5	78.1	7.3	8.4	------	
Total	------	------	------	------	------	------	?	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.4	24.3	96	63	7	3	------	ϟ p.
2	32	24.4	86	74	8	7	------	ϟ p.
3	32.1	26.7	89	71	8	8	------	T ϟ p.
4	32.1	24.1	94	70	9	6	41.1	⛈ ● ↙ a. ⛈ ●^{2}
5	29.1	25	89	78	9	10	5.6	● a.
6	31	24.4	90	70	9	5	------	↙ a. d p.
7	32.1	25.7	88	63	3	7	------	●° ⊕ ϟ p.
8	31.7	25.4	87	69	6	6	1.3	⛈ ● p.
9	32.4	26.3	86	68	6	4	------	
10	32.4	25.1	95	65	6	6	------	T p.
11	31.4	23.7	96	69	8	10	------	
12	31.4	24.4	93	69	3	5	------	ϟ p.
13	30.8	24.3	96	83	6	8	2	p p.
14	31	24.3	92	76	9	10	------	p° a. p. T p.
15	31.9	24.9	95	72	9	10	.8	p a.
16	32.9	24.2	95	64	0	5	------	T ϟ p.
17	32.2	24.9	98	65	9	7	8.6	● a. p. ⛈
18	30.6	25.6	96	78	8	10	9.7	● p.
19	28.7	23.7	92	85	10	9	22.9	● ↙ a. p.
20	29	24.2	86	88	10	10	6.4	● ↙ a. p.
21	30.8	23.7	97	72	9	10	------	p a.
22	31.6	24.4	97	77	8	7	19.8	● a. p. ⛈ p.
23	27	24.8	94	89	10	10	33	↙^{2} ● a. p. ⛈ p.
24	26.9	24.4	94	92	10	10	36.1	↙^{2} a. ● a. p.
25	32.2	24.6	87	66	10	8	1.8	● T a. ϟ p.
26	34.5	23.5	97	63	10	4	------	ϟ p.
27	31	24.2	95	79	4	10	------	
28	30.1	24.9	95	87	10	10	10.9	●° a. ↙ ● p.
29	30.2	25	89	93	10	10	16.3	●° a. ● p.
30	30.2	24.8	92	70	10	4	1	↙ a. ●° a. p.
Mean	31.1	24.7	92.5	74.3	7.8	7.6	------	
Total	------	------	------	------	------	------	217.3	

METEOROLOGICAL DATA, ETC.—Continued.

LAOANG.

[$\phi=12° 35' N$; $\lambda=125° 01' E$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.9	23.6	83	74	3	6	------	
2	31.9	23.6	85	71	4	5	------	
3	32.5	23.2	89	73	3	7	------	
4	32.2	23.9	88	66	3	8	5.1	< ● p.
5	29	23.6	94	84	8	7	------	
6	31.1	24.2	88	86	7	10	1.3	● p.
7	31.9	23.9	93	84	9	8	1.5	● ⊍ p.
8	31.8	24.3	91	70	5	10	21.6	●² p.
9	31.3	24.7	94	72	4	8	------	
10	32	24.6	94	72	5	4	------	
11	32.4	23.6	88	67	6	7	------	
12	31.3	24.1	88	71	5	6	------	
13	31.9	23.1	82	66	2	4	------	
14	31.4	23.8	89	91	3	9	17	●² ☈ a.
15	27.2	23.3	97	77	10	9	6.9	● a.
16	30	22.4	89	89	5	10	29.2	● a. ●² ☈ p.
17	30.6	23.2	89	76	6	8	3.6	
18	27.2	24.6	97	93	9	10	6.1	● a.
19	30.7	23.4	97	70	7	8	------	
20	30.4	23.7	92	92	9	10	10.2	●² p.
21	30.2	22.5	91	79	5	7	------	
22	28.6	23.5	94	90	9	10	109	●² ↙ a. p.
23	26.3	23.4	96	92	10	10	45.7	↙² ● a. p.
24	30.1	23.8	86	79	9	9	------	
25	33.7	22.6	91	53	8	7	------	
26	31.8	24	89	76	6	4	------	
27	31.8	22.5	90	88	8	9	1.3	●° p.
28	29.4	23.6	94	84	9	9	12.2	●° a. p. ● p.
29	30.3	23.6	93	80	9	8	------	
30	32.5	22.4	85	86	2	4	------	
Mean	30.8	23.6	90.5	78.4	6.3	7.7	------	
Total	------	------	------	------	------	------	270.7	

GUBAT.

[$\phi=12° 55' N$; $\lambda=124° 08' E$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	35	23	98	56	4	6	------	☈ p.
2	34.5	24.6	97	70	7	8	------	d ☈ p.
3	34.9	23.7	97	56	6	5	------	☈ p.
4	34.3	23.8	92	65	4	6	16.5	⊤ a. ☈ ● p.
5	32.2	23.1	97	65	8	9	------	
6	32.4	23.3	96	66	5	8	------	d < p.
7	33.1	23.8	96	67	10	10	------	d a. < p.
8	31.9	24.2	93	73	10	10	2	⊤ d ● a.
9	34.7	24.2	97	58	10	8	------	
10	34.8	23.5	97	94	6	10	3.8	☈ ● ↙ p.
11	33.5	22.6	97	81	8	8	15.2	☈ ● ↙ p.
12	34	23.1	97	62	10	5	------	⊤ a.
13	34.6	22.2	95	57	5	6	1.3	⊤ p p.
14	34.1	22.8	95	68	5	8	------	
15	29.5	23	96	79	8	10	12.7	● a.
16	33.9	22.8	98	72	6	10	6.4	☈ ● p.
17	34	23.8	90	65	8	10	------	d ↙ p.
18	29.7	23.5	97	84	10	10	71.1	●² a. ⊤ ● p.
19	31.6	22.9	92	70	10	5	11.4	● a.
20	33.1	23	92	66	10	10	------	↙ p.
21	33.6	23	93	61	8	8	------	
22	33	24	97	93	7	10	51.3	● a. ⊤ ↙ ●² d p.
23	29.5	23.4	92	83	10	10	55.9	●² ⊤ a. ↙² ● a. p.
24	29.4	24	84	84	10	8	11.4	d ● a. p.
25	33.4	25	92	62	8	8	------	
26	34.8	23.4	98	60	6	5	------	≡² a.
27	32.5	23.8	96	79	8	10	------	Ω a. d a. p.
28	31.9	24.5	91	73	10	10	------	d p.
29	27.7	23.2	98	85	10	10	42.4	⊤ a. ● a. p.
30	33.7	23.4	97	71	8	8	5.1	● a
Mean	32.8	23.5	94.9	70.8	7.8	8.3	------	
Total	------	------	------	------	------	------	306.5	

SUMAY, GUAM (Ladrones Islands).

[$\phi=13° 24' N$; $\lambda=144° 38' E$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.9	24.3	87	85	5	9	24.3	●² ⊤ a.
2	28.3	23.8	85	94	9	10	17.3	●² p.
3	27.8	23.5	94	90	10	10	26.2	● a. p.
4	28.1	23.8	95	83	10	8	8.9	
5	28.7	23.5	90	78	8	5	------	
6	29.6	25.6	84	76	4	7	------	
7	29.6	25.3	87	79	7	6	3.2	
8	29	26.7	87	79	5	8	------	⊍ p.
9	30.2	24.4	91	77	3	9	1.5	● a. p. ⊤ ⦶ p.
10	30.1	23.7	97	73	3	5	------	Ω² a. ⦶ p.
11	29.6	23.6	87	79	5	5	.5	⌒ ● p.
12	31.4	23.6	90	64	3	4	------	⊍ p.
13	29.7	24.2	94	80	4	3	------	Ω² a. ⦶ < p.
14	30.1	24.2	80	65	2	5	1.3	
15	31.3	25.9	86	62	3	5	1.5	< p.
16	28.3	24.7	84	85	8	10	13.7	● a.
17	30.4	25.3	84	70	5	7	.1	< p.
18	28.9	24.6	92	80	10	9	10.2	☈ ● a. < p.
19	29.2	25.1	90	80	8	10	.9	
20	30.3	25.3	84	70	7	8	.8	
21	30	24.5	90	84	6	9	11.2	☈ a. p. ● p.
22	28.9	24	87	79	7	7	14.7	
23	27.9	23.5	84	86	8	10	6.6	↙ a.
24	29.2	24.6	93	81	9	5	12.4	↙ ● p.
25	28.3	24.7	92	81	8	9	.5	
26	30.1	24	94	75	7	5	.5	
27	30	25.8	89	76	7	5	------	
28	29.9	24.2	88	76	9	7	------	
29	29.7	24.9	86	72	4	3	------	
30	28.1	24.1	83	80	7	5	18	☈ ↙ ● a.
Mean	29.4	24.5	88.5	78	6.4	6.9	------	
Total	------	------	------	------	------	------	174.3	

CALAPAN.

[$\phi=13° 25' N$; $\lambda=121° 11' E$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	------	------	------	------	------	------	------	
2	------	------	------	------	------	------	------	
3	------	------	------	------	------	------	------	
4	------	------	------	------	------	------	------	
5	------	------	------	------	------	------	------	
6	------	------	------	------	------	------	------	
7	------	------	------	------	------	------	------	
8	------	------	------	------	------	------	------	
9	------	------	------	------	------	------	------	
10	------	------	------	------	------	------	------	
11	------	------	------	------	------	------	------	
12	33.5	------		67	------	3	------	⊤ < p.
13	31.8	23.6	91	78	7	4	------	⊤ p.
14	30.6	23.6	88	66	7	5	------	⊤ d° a.
15	30.8	23.4	89	71	4	6	------	● < a. ☈° p.
16	31.3	23.8	91	67	8	1	------	
17	31	23.3	87	72	9	8	------	●² d° a. ⌒° p.
18	31.3	25.7	91	67	9	10	------	● ⌒° a. ☈ ● p.
19	25.8	22.2	97	88	10	10	------	● a. d p.
20	30.8	22.6	91	70	10	9	------	●° ⌒° a.
21	30.3	23.3	92	74	7	5	------	< p.
22	32.8	23.8	89	75	6	8	------	☈ ↙ ⌒° ● p.
23	25.9	23.8	94	95	10	10	------	●² a. p. ↙² p.
24	28	23.1	99	82	10	10	------	●² ↙² a. ↙ p.
25	30.7	24.6	90	87	10	10	------	⌒° d° a. < ●° p.
26	31.7	23	95	72	7	6	------	< p.
27	30.9	22.9	92	85	6	10	------	↙° p.
28	29.2	26.4	84	83	10	10	------	p° a. ↙° a. p.
29	32	24.9	90	65	8	4	------	d° a. ☈ p.
30	31.2	23.6	98	69	8	8	------	d° ● a.
Mean	30.5	23.8	91.6	75.4	8.1	7.2	------	
Total	------	------	------	------	------	------	------	

METEOROLOGICAL DATA, ETC.—Continued.

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.9	23.6	96	57	7	4	------	⊏ ⊖° p.
2	35	24.2	92	70	5	5	------	⊏ p.
3	35.3	24.8	95	71	4	8	4.1	∞ a. ⊤ p.
4	34.5	24.8	94	79	8	9	.5	⊏ d ⊖ ⋓ p.
5	33.2	23.2	95	72	9	8	5.6	⌒ ● a. ☇ p.
6	33	23.7	94	69	8	9	.5	●° a. ⊖ ⋓ ☇ p.
7	33.5	24.5	95	65	8	9	2.3	● a. ○ ⊏ ⋓ ●°
8	34.4	24.2	93	66	6	8	------	☇ p.
9	34.6	24.5	92	66	9	9	------	☇ p.
10	35	23.7	94	69	3	5	.5	●° ⊏ ⊖ p.
11	33.8	24.3	96	87	7	9	13.7	⊤ ⌒ ● a. ☇ ⊖ p.
12	33.2	22.6	96	78	4	4	------	⊤ ☇ ⊖ ⋓ p.
13	32.6	23.5	96	71	7	4	------	☇ p.
14	33	24.5	94	77	10	7	17.3	● ⊏ a. ↙ ●° ☇
15	31.4	23.3	98	82	8	8	3.8	⌒ ↙ ●° a. ⊏ p.
16	34.1	22.7	96	79	3	8	4.6	⌒ ⊏ ● p.
17	33.2	23.8	92	67	9	8	4.3	● a. ○ ☇ ●° p.
18	32.1	23.8	97	85	9	10	14	Ω° ● ⊤ a. ●° p.
19	31.8	24	86	82	9	7	2.5	↙ ● a.
20	33.6	25.6	94	68	9	9	2	☇ p.
21	31.6	23	96	84	4	9	2.3	●° a. p. ☇ p.
22	32.8	23.6	97	84	7	10	31.2	● ⊕ ○ a. ● ⊤ p.
23	32.4	23.7	93	90	10	10	18	⊏ ↙ ● a. ↙² p.
24	30.4	26.4	82	78	10	9	.5	↙ a. p. ●° p.
25	32.5	25.9	87	66	8	6	------	
26	33.5	23.4	96	77	8	7	------	⊤ p.
27	32.5	23.3	94	87	7	10	1.3	d a. d° p.
28	31.2	24.5	93	83	10	10	6.6	↙ ●° a. ↙ p.
29	31.1	24.3	97	76	9	9	12.7	● a. p. ⊏ p.
30	33.2	24.1	97	63	9	4	.3	●° ⌒ a.
Mean	33.1	24	93.9	74.9	7.5	7.7	------	
Total	------	------	------	------	------	------	148.6	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	22.6	97	65	6	4	------	⊏ p.
2	34.3	23.3	95	64	6	4	------	⊏ p.
3	33	24.2	95	64	6	8	------	●° a. ⊤ a. p.
4	32.8	24.1	92	66	9	7	------	d a. ⊏ p.
5	31.8	22.4	95	78	10	9	4.8	● a. ⊤ a. p.
6	31.1	21.1	96	65	5	7	1.3	● a. ⊤ p.
7	30.6	21	95	71	7	7	------	
8	32.3	22.7	96	66	8	6	------	⌒ a.
9	32.8	23	96	70	4	7	------	
10	32.9	21.9	96	61	5	4	------	
11	32.8	21.7	96	71	7	7	34.3	⊤ ● p.
12	30.7	21.1	97	78	6	7	------	● a. ⊤ p.
13	31.6	22.6	95	67	4	6	.3	d a.
14	32.4	22.3	95	83	5	8	10.2	⊤ a. p. ● p.
15	34.1	22.1	97	59	4	6	.3	⊤ a.
16	32	21.7	91	84	4	5	1.3	● a. ⊤ p.
17	33.3	21.9	93	67	5	9	.5	●° a. p. ⊤ p.
18	33.8	22.2	96	93	6	9	52.1	⊤ ● p.
19	25.4	21	97	97	10	10	75.9	⊤ a. ● a. p.
20	29.2	21.1	97	77	7	7	------	
21	31.3	22	97	87	6	7	29.9	●² ⊤ p.
22	30.3	21.9	97	92	6	10	62.2	⊤² ●² p.
23	25.4	21.8	98	98	10	10	105.7	● a. p. ⊤ p.
24	29.2	20.6	96	76	10	10	15.7	↙ ● a. ↙² d p.
25	31.7	23.4	89	84	7	10	7.6	●° a. ● p.
26	32.2	21.3	98	78	3	6	------	⊏ ⌒ p.
27	31.4	22.7	97	74	3	7	------	≡ a. ⊤ p.
28	29	24.3	97	81	9	9	------	
29	30.7	22.7	97	72	7	6	3	● a. ⊤ ●° p.
30	29.4	22.6	97	82	9	9	------	d a.
Mean	31.3	22.2	95.7	75.7	6.5	7.4	------	
Total	------	------	------	------	------	------	404.4	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.3	20.6	98	68	5	8	36.6	● ⊤ p.
2	29.6	20.5	97	69	7	6	------	Ω a. ☇ p.
3	29.4	20.2	98	69	2	7	------	
4	29.5	20.2	99	70	7	7	------	d a.
5	28.7	20.3	99	69	7	8	50.8	Ω a. ●² ⊤² p.
6	28.9	19.8	98	69	5	9	------	
7	28.9	19.6	98	64	3	7	------	Ω a. d p.
8	29.6	19.7	98	69	5	8	------	Ω a.
9	29.6	20.3	97	71	7	8	2.3	● a. d p.
10	29.5	19	97	69	7	7	------	Ω a.
11	29.8	19.3	98	71	5	8	22.4	● ⊤ p.
12	29.5	19.6	98	71	7	7	28.2	● p.
13	28.6	20.2	98	69	4	8	6.9	Ω a. ● ⊤ p.
14	29	19.7	98	69	8	8	------	d a. ⊤ p.
15	29.7	19.9	98	68	5	3	------	
16	29.5	19.7	98	67	7	8	------	p a.
17	29.9	19	97	70	5	6	------	Ω a. ⊤ p.
18	29.6	19.9	98	68	5	2	------	
19	29	19.3	98	70	9	9	21.6	● a. p.
20	28.1	18.5	98	64	10	5	55.1	● a. Ω p.
21	28.6	19.1	97	68	7	3	35.8	⊤ a. ● p.
22	27.4	18	98	68	4	6	------	d a.
23	28.3	19	98	68	9	10	70.6	● a. p.
24	27.2	18.8	97	72	10	10	85.3	● ↙ a. p.
25	28	19.2	98	69	6	7	13.2	● p.
26	28.8	19.6	98	68	7	7	------	Ω ≡ a. ⊤° p.
27	29.1	19.8	98	67	3	6	3	Ω ≡ a. ● p.
28	30.2	19.8	98	68	5	8	------	Ω ≡ a. ⊤° d p.
29	30.6	20.6	98	68	10	7	------	d a.
30	30.9	19.2	98	68	6	3	------	Ω ≡ a. ☇ ⊤° p.
Mean	29.1	19.6	97.9	68.6	6.2	6.9	------	
Total	------	------	------	------	------	------	431.8	

SAN ANTONIO.

[ϕ=14° 22′ N; λ=121° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	20.3	84	72	3	7	------	
2	30	20.2	90	73	10	5	------	
3	28	20.6	98	85	10	10	------	
4	30.2	21.5	98	70	10	2	------	
5	24.5	21.4	96	93	9	9	------	
6	28.4	19.5	98	78	9	9	------	
7	28.2	21	96	76	9	10	------	
8	30.3	21.8	97	67	10	8	3.8	
9	29.2	22.2	96	83	9	10	------	
10	28.3	22.8	97	80	6	10	------	
11	30.6	21.6	97	66	10	7	------	
12	29.6	21.6	96	73	7	7	------	
13	31	20.6	87	64	8	6	------	
14	29.7	21.9	98	71	6	7	7.6	
15	31.4	21.8	97	63	3	4	9.1	
16	30.5	20.5	98	67	1	8	3.8	
17	30.6	20.5	98	73	10	7	10.2	
18	26	21	95	92	10	7	39.9	
19	27.6	20.5	99	95	10	10	59.7	
20	29.8	20.5	96	94	10	10	34.3	
21	30	20.4	99	67	10	3	------	
22	29.8	20.6	96	76	9	7	39.6	
23	25.5	21	100	91	10	10	52.1	
24	27.9	22	99	96	10	9	25.1	
25	29	22.1	90	82	7	10	12.2	
26	29.6	20.1	98	82	1	9	------	
27	29.5	20.1	98	78	2	7	7.1	
28	29.7	20.5	93	86	10	10	4.3	
29	29.8	20.6	99	66	8	4	3	
30	30	20.6	95	92	9	9	------	
Mean	29.2	21	95.9	78.4	7.9	7.7	------	
Total	------	------	------	------	------	------	311.8	

METEOROLOGICAL DATA, ETC.—Continued.

CORREGIDOR.

[$\phi=14°\ 23'$ N; $\lambda=120°\ 35'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.3	24.4	------	------	10	2	------	
2	34.2	24	------	------	10	4	------	
3	33.4	24.2	------	------	9	10	------	
4	33.2	24.3	------	------	10	10	------	
5	32	23.5	------	------	10	10	96.5	⛈ ● p.
6	32	21.4	------	------	10	10	------	
7	32.4	22.2	------	------	10	10	14	● a.
8	32.4	21.5	------	------	10	8	------	
9	28	23	------	------	8	10	33	● a.
10	32.5	23.4	------	------	10	9	------	
11	33	22.1	------	------	7	9	------	
12	33	22.5	------	------	2	10	------	
13	33	22	------	------	10	10	------	
14	33	23.5	------	------	10	10	------	
15	33.5	23.7	------	------	10	10	------	
16	34	24.6	------	------	10	8	------	
17	32.7	24	------	------	10	9	12.7	● a.
18	32.6	24.2	------	------	9	9	------	
19	27.5	22.5	------	------	10	10	96.5	● a. p.
20	30.5	20.1	------	------	10	10	------	
21	33	22.8	------	------	9	9	5.1	⊤ ● p.
22	32.5	22.5	------	------	10	10	------	
23	29.7	23.7	------	------	10	10	29	● a. p.
24	28.1	24.2	------	------	10	10	26.2	↙° a. ● a. p.
25	31.2	20	------	------	10	10	------	
26	33	22.5	------	------	10	9	------	
27	33	23.2	------	------	10	10	------	
28	31.5	23.5	------	------	10	10	------	
29	32.7	23.1	------	------	10	10	------	
30	30.5	23	------	------	10	10	------	
Mean	32.1	23	------	------	9.5	9.2	------	
Total	------	------	------	------	------	------	313	

BALANGA.

[$\phi=14°\ 41'$ N; $\lambda=120°\ 32'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.6	24.4	91	72	7	4	1	d a. ⛈ p.
2	33	23.4	91	70	4	6	8.1	⊤ a. ⛈ p.
3	32.4	23.3	89	76	9	10	------	⛈ p.
4	32	23.5	91	70	10	4	------	⊤ p.
5	32.5	23.1	91	75	10	9	------	⊤ a. ⌒ ⛈ p.
6	32.5	23.2	90	70	10	9	20.3	⊤° a. ⚡ ● p.
7	30.7	22.7	91	79	10	10	4.1	d a. p. ⌒ ⚡ p.
8	31.4	22.4	92	72	10	6	1.5	d ⚡ p.
9	29.5	23.1	91	85	4	10	39.9	d ●² a.
10	31.5	23.1	95	81	8	9	1	d a. ⊤ p.
11	32.5	22.4	92	84	4	10	1.3	d a. ⛈° p.
12	32.6	23.4	93	78	7	8	------	⌒ a. ⛈ p.
13	32.8	23.4	92	69	9	4	------	⚡ p.
14	33	23.5	95	70	9	8	5.3	● d a. ⛈ a. p.
15	33	23.6	92	72	6	9	1	Ω a. ⚡ d p.
16	33	23.7	94	66	5	2	1	⛈ d p.
17	33	23.5	92	67	10	9	3.3	d² a. ⚡° p.
18	33.1	23.5	92	67	6	6	10.2	● ⛈° p.
19	28.7	23.2	96	95	10	10	54.1	● d a. p.
20	30.4	22.2	94	84	10	10	.8	d ⚡° p.
21	32.1	22.6	95	73	9	7	14.5	d ⛈° ● p.
22	32	22.9	94	79	9	9	7.6	d ⛈ ● p.
23	28.5	23.5	92	92	10	10	20.8	d a. p. ●² ⚡° p.
24	28	22.7	94	84	10	10	17.3	d●↙°a.↙²●⛈°
25	30.6	24	95	81	10	10	.3	d p.
26	32.4	22.9	93	76	8	8	------	⚡° p.
27	33	22.1	92	68	3	9	.3	d ⛈° p.
28	30	22.9	92	73	10	10	------	d° p.
29	32.5	22.8	91	62	9	9	.3	⊤ ⚡ d p.
30	32.1	23.1	91	68	9	9	1.5	d p.
Mean	31.7	23.1	92.4	75.3	8.2	8.1	------	
Total	------	------	------	------	------	------	215.5	

TARLAC.

[$\phi=15°\ 30'$ N; $\lambda=120°\ 35'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.5	24.3	97	63	0	9	1.3	Ω ≡ a. ⛈² ● ⌒
2	33.7	23.1	96	60	0	6	------	Ω ≡° a. ⛈ p.
3	34	23.1	95	64	10	8	------	Ω a. ⚡° p.
4	34	23.2	95	64	10	6	------	Ω ≡° a.
5	34.5	22.9	96	57	4	6	2.5	Ω² a. ⛈ ● ⌒² p.
6	33.7	22.2	97	57	4	4	------	≡ ⊕ a. ⛈° p.
7	33.2	23.1	96	59	4	9	2	●° a. ↙° ⋓ ⊖ p.
8	33.6	22.6	96	58	9	5	------	Ω ≡ ◯² a.
9	33.2	23	96	80	4	9	1.5	Ω ≡° a. ↙ ⛈ ●°
10	32.9	23	98	93	10	9	12.2	≡² a. ⛈ ● p.
11	33.2	22.3	98	73	1	10	12.7	≡ a. ⛈ ● ⌒² p.
12	33.2	23.7	97	59	0	4	34.3	⛈ ● ⌒ d p.
13	33.7	23	97	62	3	4	------	≡ ⊕ ↙° ⌒° ⊤° d°
14	34	23.7	97	57	10	5	------	⚡° p.
15	33.3	23	96	59	6	7	------	Ω a.
16	33.8	23.7	95	55	9	4	------	d° a.
17	34.5	23.2	96	63	8	4	.5	d² ↙° a.
18	34.5	23.4	94	60	4	5	1.3	Ω ◯ a. ●° ⊕ p.
19	28	23.7	96	92	10	10	74.7	↙ ● a. ↙² ●² p.
20	31	22.6	97	78	9	9	3.8	◯² a. ●° ↙° p.
21	33.1	22.2	99	58	3	4	10.7	≡ a. ● ⛈² p.
22	33.1	23	97	66	4	4	35.3	● ⛈² p.
23	30.3	23.7	97	74	9	10	7.6	◯° ⊤ ● p.
24	26	23	97	92	10	10	84.6	●² a. ●° ⚡° p.
25	31.3	23.3	97	69	10	10	17.3	≡° a. ↙ ● ⛈ p.
26	33.5	23	97	61	3	7	.5	≡²a. ◯² ●° ⌒ ⚡°
27	33.1	23.3	96	62	3	4	------	≡° a. ⚡° p.
28	29.1	23.3	89	77	10	10	3.6	↙ ● a. ↙° d° p.
29	33.1	23.3	95	67	9	8	------	⛈ d° p.
30	32.7	23.8	98	62	6	4	------	≡² ⊕² a. ↙° p.
Mean	32.7	23.2	96.2	66.7	6.1	6.8	------	
Total	------	------	------	------	------	------	306.4	

BALER.

[$\phi=15°\ 40'$ N; $\lambda=121°\ 34'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.2	23.5	91	64	0	1	------	⊤ d p.
2	35.3	23.8	93	69	0	1	------	
3	32.6	25.8	96	70	6	3	21.8	
4	33.3	23	94	65	10	6	------	
5	33	22.8	93	65	2	7	------	
6	34.4	23	91	77	6	6	10.2	⊤ ● p.
7	33.4	22.9	86	59	8	8	------	
8	35	22.4	87	64	10	2	------	
9	32.3	23	91	60	0	1	5.6	↙ ⌒ ² p.
10	31.6	22.8	95	69	0	2	18	● p.
11	32	23	92	72	0	1	------	⊤ p.
12	31.8	23.1	90	62	0	1	------	
13	31.2	23.5	94	71	2	2	------	
14	31.1	22.5	83	68	8	2	------	
15	30.8	21.4	93	61	9	2	------	
16	31.5	23	92	69	8	3	7.6	● p.
17	31.8	23.2	92	72	7	9	4.6	● a.
18	32	24.3	90	66	10	4	------	
19	29.8	25	82	61	10	10	18	● p.
20	30	23.7	96	65	10	9	34.3	● p.
21	30.3	23.4	------	------	10	8	35.6	
22	31.5	24	------	------	3	6	38.1	
23	28.2	23.4	------	------	10	10	?	
24	28.4	24.5	------	------	10	10	?	
25	30	26	------	------	10	10	?	
26	32.8	24	------	------	2	10	?	
27	32	23.5	------	------	8	9	------	
28	31.5	25	------	------	7	10	?	
29	31.5	23.4	------	------	4	5	------	
30	31.4	23.5	------	------	8	1	------	
Mean	31.8	23.5	91	66.4	5.9	5.3	------	
Total	------	------	------	------	------	------	?	

METEOROLOGICAL DATA, ETC.—Continued.

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.7	25.4	------	------	7	7	------	
2	31.8	26	------	------	8	5	------	
3	31.9	------	------	------	10	8	------	
4	31.8	24.5	------	------	8	4	------	
5	32.5	25.5	------	------	9	8	1.3	
6	31.4	25.2	------	------	4	8	14.7	
7	30.9	24.9	------	------	10	4	1	
8	31	24.9	------	------	10	9	------	
9	31.7	24.4	------	------	7	6	------	
10	30.6	25.1	------	------	6	9	16.3	
11	29.5	23.9	------	------	4	10	36.6	
12	30.3	24.4	------	------	7	6	5.1	
13	31.1	24	------	------	8	4	------	
14	32.8	25.1	------	------	4	10	49.5	
15	32.7	24	------	------	8	4	1	
16	32.6	25.3	93	70	4	3	2.3	
17	32	25.1	93	74	7	4	------	
18	32.8	25.4	91	69	2	7	------	
19	31.2	------	78	72	10	10	3.3	
20	31.5	24.8	84	71	8	6	.8	
21	32	24	91	71	8	8	.8	
22	31.9	25	93	74	7	9	35.8	
23	31	24.1	90	76	10	10	------	
24	29.9	26	77	89	10	10	5.1	
25	31.4	25.2	85	76	10	8	41.7	
26	31.9	24.9	91	73	7	10	------	
27	31.8	24.1	91	73	7	4	------	
28	28.1	25	84	93	10	10	49.8	
29	31.6	24.6	93	75	10	4	8.1	
30	29.5	25.5	91	91	9	10	23.9	
Mean	31.4	24.9	88.3	76.5	7.6	7.2	------	
Total	------	------	------	------	------	------	297.1	

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	22.8	15.7	97	99	4	10	------	≡ a. p.
2	23	15	80	84	2	7	------	
3	22.5	16.3	87	85	5	8	------	≡ p.
4	22.7	15.3	94	97	5	10	------	d p.
5	22.7	14.8	98	97	5	10	6.9	d p.
6	22.4	13.7	99	85	4	7	2	d ⚡ p.
7	22.3	15.5	95	89	3	10	10.7	≡ a. p. ● p.
8	22.4	15.5	96	77	7	6	------	
9	22.5	14.3	95	87	5	8	------	
10	21.5	13.7	94	95	3	10	20.8	d ● p.
11	21.6	13.7	98	90	7	7	18.5	d ● p.
12	22	14.2	80	99	2	10	14.5	● p.
13	22.5	15	97	94	3	10	------	
14	24.2	15.3	98	90	2	9	------	≡ a.
15	23.5	14	98	91	3	6	------	≡ p.
16	24.5	14.7	92	88	2	9	13.5	≡ ● p.
17	25.5	14.2	93	54	3	5	------	
18	25.3	13.5	89	77	2	5	2	
19	22.6	16.2	99	79	10	10	10.2	d a. p.
20	21.5	15.3	90	79	9	8	8.9	● p.
21	23.5	16	89	80	4	8	8.1	≡ d p.
22	22.1	14	99	97	3	10	3	d ≡ p.
23	24	14	97	95	5	10	3.6	≡ p.
24	20	16.2	94	95	10	10	14.7	d a. ● p.
25	24	15.5	94	66	10	3	4.3	d a. p.
26	23	16.2	91	77	10	5	------	
27	22	16.3	84	82	3	7	------	
28	18.5	15.3	96	98	10	10	13.2	d a. p.
29	22.2	14.2	99	99	5	10	14	● p.
30	22.9	16.5	97	87	4	6	3.6	d p.
Mean	22.7	15	93.6	87.1	5	8.1	------	
Total	------	------	------	------	------	------	172.5	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.6	23.2	94	77	3	8	------	Ω a.
2	33.2	24	93	65	3	3	------	Ω a. d° p.
3	32.8	24.3	95	66	8	6	------	Ω a.
4	32.8	22.2	97	66	6	4	------	Ω a. ⊖ p.
5	33.4	23	95	61	8	6	------	Ω a. ⊤ d p.
6	34.2	22.2	95	66	3	3	10.2	Ω a. ⚡² ● p.
7	32.2	21.6	95	72	6	3	5.6	Ω a. ● ⊤ p.
8	32	21.8	97	73	3	4	------	Ω a.
9	33	22.4	96	63	3	2	------	Ω a. ∪ p.
10	32.8	22.3	97	64	2	6	4.1	Ω a. ● ∪ p.
11	32.8	21.8	92	69	3	6	9.7	Ω ● a. ● ⚡ p.
12	32	22.8	96	68	3	6	------	Ω a. d° p.
13	33	22.6	92	65	2	4	------	Ω a.
14	33.2	23.2	93	66	3	4	------	Ω a. ⚡ p.
15	34.4	22	97	52	6	6	5.1	Ω a. ⚡ ⌒ ●° p.
16	34	22.4	96	60	2	3	------	Ω a. d° p.
17	34.2	22	91	58	2	6	------	Ω a.
18	33.6	22.8	97	68	2	6	------	Ω a.
19	29.2	23.5	97	80	10	10	1.8	Ω ●° a. ↙ p.
20	34.3	22.4	92	66	10	10	3	Ω a. ●° p.
21	33.4	22.4	97	68	3	8	5.3	Ω a. ●° p.
22	32.6	23.2	95	69	6	6	3.3	Ω a. ●° p.
23	33	22.4	98	66	6	6	------	Ω a.
24	32.2	22.3	92	92	10	10	3.3	Ω a. ● p.
25	33.4	22	94	70	6	6	3	Ω a. ●° p.
26	35.2	22.2	83	54	3	3	------	Ω a.
27	33.2	23	95	65	6	2	------	
28	31.8	21.8	90	90	10	10	9.9	● a.
29	32.4	23	97	72	6	3	------	⊤ ⌒ d° p.
30	33.6	23.4	95	68	3	3	17.8	⚡² ● p.
Mean	33	22.6	94.4	68	4.9	5.4	------	
Total	------	------	------	------	------	------	82.1	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	36	21.8	97	50	1	4	2.3	Ω²a. ↙ ● ⌒² ⚡²
2	34.5	20.1	99	57	2	2	.5	Ω° ↙° a. ⚡° d²
3	33.9	21.8	99	62	10	7	4.1	○° ↙ ● ⚡° p.
4	34.7	21	99	57	6	4	.3	↙° a. p. d² ⚡° p.
5	34.5	21.8	99	60	8	9	.8	○²a. ⊕° ↙ ● ⚡°
6	34.5	21	99	60	3	8	------	○² a. p. ⚡° d° p.
7	34.7	21.2	99	58	9	8	22.4	⊕° a. p. ↙ ●² ⚡°
8	33.2	19.9	100	67	10	6	.5	○° a. p. ⚡° d² ↙
9	34.6	21.2	98	59	4	7	37.6	○° a. p. ↙ ● ⚡°
10	33.4	20.4	100	63	10	2	13.2	⚡° ↙ ● p.
11	34	20.9	100	58	5	4	3.8	≡²a. ⚡° ↙ ● p.
12	34.2	20.4	99	60	1	4	.5	d² ⚡° p.
13	34.6	20.9	99	58	5	4	------	Ω²a. ⊤° ⌒° ⪡° p.
14	34.7	20.9	96	54	2	3	------	Ω²a. ⊤° ⌒° ⪡° p.
15	34	18.9	97	58	8	5	------	Ω² a. ⚡° p.
16	35.1	20.3	97	55	3	2	------	Ω² a. ⚡ p.
17	35	20.8	99	57	3	5	------	Ω² ⌒° ⊕ a. ⚡ p.
18	35.3	21.9	99	52	9	7	7.6	⊕ ↙ ● ⚡ ⌒° p.
19	28.9	21.7	100	96	10	10	16	↙° ●° a. p.
20	29.7	21.1	100	91	10	10	.8	○°a. d² ↙° ⪡° ⊖°
21	34.1	20.5	99	64	8	9	6.1	d² a. ⚡ ●° p.
22	34	21.5	99	77	7	4	8.1	d² ⊕° a. ↙° ●° ⚡°
23	30.8	21.3	99	83	10	10	34	↙ ● a. ⚡ ●° p.
24	27	21.8	100	98	10	10	45.5	↙ ● ⚡ a. p.
25	32.1	21.3	100	74	10	10	11.7	↙° ●° a. p. ⚡ p.
26	33	21	99	63	8	8	------	Ω° a. ○° ⚡° ↙ p.
27	33.9	21.3	99	62	7	7	10.9	Ω° ≡° d° ○° ⚡² ●
28	28.1	21.2	99	83	10	10	1.5	⚡ ↙ ●° a. p. ○° p.
29	34.3	21.6	100	62	8	5	.3	Ω² ≡° ⚡ ↙ d² ○°
30	34.1	20.7	98	59	3	4	------	Ω² a. ○° ↙ ⚡ p.
Mean	33.4	21	98.9	65.2	6.7	6.3	------	
Total	------	------	------	------	------	------	228.5	

METEOROLOGICAL DATA, ETC.—Continued.

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	26.7	88	75	6	8	------	Ω ≡ ⌒° a. ⊤° p.
2	31.4	25.5	88	72	1	0	------	Ω² ≡² a. ϟ p.
3	31.1	25.5	92	68	9	8	------	Ω ≡ a. ϟ p.
4	31.1	24.9	83	68	9	1	------	Ω ≡ a. ϟ p.
5	31	25.5	84	64	6	7	------	Ω² ≡² a. ⊤° p.
6	31.4	25.5	84	68	3	5	3.8	Ω ≡ a. ⊤° ϟ p.
7	31.5	25.8	84	68	10	4	10.4	⊤° p ⌒° a. ●° ϟ
8	30.4	24.6	84	70	9	8	2.5	Ω ≡ a. p p.
9	31.8	26.4	84	72	7	4	------	Ω ≡ ⌒° a.
10	31.2	25.5	84	76	0	9	------	Ω ≡ a. d p.
11	30.9	25.5	84	73	5	7	1	Ω² ≡² a. ↙° d p.
12	30.7	25.2	84	75	2	8	2.3	Ω² ≡² d ⊤° a. p°
13	31.5	25.6	83	71	8	2	------	Ω ≡ a. ⊤° ⌒° ϟ
14	32	26.5	84	63	2	1	------	Ω ≡ a. ⊤° ⌒° ϟ d
15	31.9	25	80	74	3	4	------	Ω² ≡² ⊤° ⌒² d ϟ
16	32.1	24.5	83	69	0	2	------	Ω ≡ ⊤° ⌒² d ϟ
17	32.2	24.2	80	65	1	4	------	Ω ≡ a.
18	32.4	24.1	81	70	0	3	5.1	Ω² ≡² a. ● ϟ p.
19	29.1	24.2	78	83	10	10	1	p p.
20	31	24.1	88	77	9	8	1	Ω² ≡ a. p ϟ p.
21	31.2	25.1	87	75	9	4	27.9	Ω² ≡² a. ●² ⌈ϟ°
22	29.7	25.4	91	88	4	10	15.2	● ⊤° ϟ p.
23	31.2	24.5	88	64	9	9	------	Ω ≡ a. ↙° d p.
24	27.7	26	80	84	9	10	5.3	● a. p.
25	31.4	25	89	75	9	7	11.7	d a. ● ⌈ϟ° p.
26	31.2	25.2	86	67	8	9	------	ϟ p.
27	31.2	25.5	83	68	4	5	------	Ω ≡ a.
28	27.6	25.2	87	88	10	10	18	●° a. p.
29	30.6	24.6	91	75	7	1	------	Ω ≡° a. ⌒° ⌈ϟ d
30	30.5	25.6	86	71	3	3	17.3	Ω² ≡² a. ●² ⌈ϟ p.
Mean	30.9	25.2	84.9	72.5	5.7	5.7	------	
Total	------	------	------	------	------	------	122.5	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	25.1	97	------	2	6	------	↙ p.
2	32.7	24.5	92	74	3	7	------	d a. ϟ p.
3	32.3	23.4	95	67	4	4	------	
4	31.8	22.7	93	68	2	7	5.6	● a. ϟ p.
5	32.2	22.4	94	68	1	6	------	d ⌈ϟ p.
6	32.5	22.6	92	64	1	5	------	Φ p.
7	32.6	24.3	96	73	6	8	4.8	⊤ ● p.
8	31.8	22.6	97	88	5	10	24.4	● a. p. ⊤ p.
9	32.3	22.6	97	68	3	5	------	
10	33	23.4	95	------	1	5	------	
11	32.5	23.7	97	------	1	6	------	≡° a. ⌒ ⊤ p.
12	32.3	23.8	97	------	4	6	15.2	≡° a. ⊤ ⌒ ϟ ● p.
13	32.2	23.7	95	70	1	3	------	⊤ p.
14	33	24	93	------	1	6	14.7	⊤ a. p. ● ϟ p.
15	32.3	23	95	66	2	7	5.1	≡° a. ⊤ ● ϟ p.
16	33	22.9	94	------	0	3	------	≡° a. ⊤ ϟ p.
17	35	23.6	97	------	0	5	------	≡° a. ϟ p.
18	36.5	23.4	95	------	1	4	------	≡° a.
19	29.8	25.4	81	79	10	10	2	● a. d ↙ a. p.
20	32	25.4	82	75	10	9	19.8	≡° a. ⊤ ● p.
21	31.6	23.6	97	77	10	6	3.3	⊤ ϟ p.
22	32	24.7	96	79	9	10	1	≡° a. ⊤ ● p.
23	33.5	24.3	81	------	7	7	1.3	↙ a. p. ● p.
24	31	26.4	76	60	8	10	2.8	↙ ● a. p.
25	32.6	24.5	92	70	10	9	15.5	≡° a. ↙ ⌈ϟ ● p.
26	32.3	23.7	95	------	10	6	------	
27	32.9	24	95	------	4	7	61.2	Ω ≡° a. ● p.
28	28.4	24	96	88	10	10	5.6	● a. p.
29	31.7	23.3	98	------	2	5	------	≡ a. ϟ p.
30	32.7	23.9	96	70	2	5	------	Ω ≡° a. ⌈ϟ d p.
Mean	32.4	23.8	93.2	72.4	4.3	6.6	------	
Total	------	------	------	------	------	------	182.3	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.7	23.4	93	74	2	8	------	⌒ d ↙ ○ ϟ Ω²
2	31.2	23.4	93	74	10	1	3.5	● v ↙ a. ≡ ↙° p.
3	30.1	25.7	82	70	5	3	1.5	p° ↙° a. ≡ ↙ d p.
4	30.9	23.3	95	71	0	1	1.2	Ω² ↙ a. p ϟ p.
5	31.2	23.2	94	75	1	7	11.7	p° a. ● p.
6	31.6	23.3	94	70	1	2	.8	d a. ≡ p.
7	31.3	24.7	92	73	6	3	2.5	●° ↙ a. ≡ p.
8	31.3	25.2	87	71	10	1	19	● a. ≡ Ω² p.
9	31.3	24.4	94	71	1	6	------	Ω² ↙ a. ≡ Ω² p.
10	31.4	23.3	92	72	4	3	------	≡ ↙ a. ≡ Ω² p.
11	31.3	23.5	92	72	1	3	------	Ω² ↙ a. ≡ p.
12	32	23.3	95	67	1	3	------	Ω² a. p. ϟ p.
13	31.5	24.3	84	72	4	2	24.8	● d° a. ≡ p.
14	32	26.8	80	68	1	2	------	v ↙ a. ≡ ϟ² p.
15	32.5	26.7	95	72	4	4	.5	↙ d a. ≡ ϟ Ω p.
16	32	23.7	92	67	0	0	------	Ω² ↙ a. ≡ ϟ° p.
17	32.5	24.6	88	71	8	3	3.6	⊤ a. ≡ ●° ϟ² p.
18	32	25.4	84	70	2	3	------	v a. ≡ p.
19	31	25.6	79	86	9	10	22.3	● a. ⊤ ●° ϟ² p.
20	30	25.9	83	78	10	9	4.1	d ↙ a. p.
21	31.2	25.4	87	75	4	9	1	⌒ a. ↙° p. d a. p.
22	31.3	26.4	86	81	4	10	10.8	⌒ ↙ ● a. ↙ ● ϟ
23	31.2	26.3	78	71	2	7	8	↙° a. p. ≡ ●° p.
24	30.7	24.8	81	73	3	5	12.7	● ⌒ a. ↙ ● ϟ p.
25	29.7	24.6	90	81	10	10	17.2	↙ ● a. p.
26	27.5	23.4	92	85	10	10	45.6	⌈ϟ ●² d a.
27	30.5	24.6	86	78	6	8	------	↙° a. p. ϟ² p.
28	30.8	25.3	94	82	9	5	4.6	●° p° ⌒² a.
29	30.8	23.6	94	74	9	4	------	↙ a.
30	30.6	24.8	93	72	10	2	5.7	● ↙ a. ≡ p.
Mean	31.1	24.6	89	73.9	4.9	4.8	------	
Total	------	------	------	------	------	------	201.1	

SEISMOLOGICAL BULLETIN FOR SEPTEMBER, 1908.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

3, 3^h 49^m. **Northern Leyte.** Earthquake shocks of force III.

13, 3^h 15^m. **Cagayan** (N of Mindanao). Earthquake shocks of intensity III; very short duration.

15, 22^h 39^m. **Butuan** (N of Mindanao). Oscillatory earthquake; direction SSW–NNE; intensity IV; duration 30^s.

16, 14^h 30^m. **Jolo Island.** Oscillatory earthquake; direction NE–SW; intensity III.

17, 14^h 30^m. **Talacogon** (E of Mindanao). Earthquake shocks of intensity IV. Felt in the whole southern part of the Agusan Valley.

23, 10^h 27^m. **Jolo Island.** Oscillatory earthquake, direction ENE–WSW; intensity III; duration 3^s.

24, 2^h 13^m. **Tacloban** (NE of Leyte). Oscillatory earthquake, direction E–W; intensity II.

24, 17^h 30^m. **Talacogon** (E of Mindanao). Earthquake shocks of intensity III.

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight $=0^h$.]

No.	Date.	Component.	Beginning.			Maximum range of motion.			End.	Instrument.	Remarks.
			First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2 a.).	Period.			
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
130	3	NNW-SSE	18 40 20	----	18 40 28	18 40 45	0.06	2.0	18 47	V. M.	
		WSW-ENE	18 40 18	----	18 40 30	18 40 42	.17	2.2	18 46	V. M.	V. C. 0.07 mm.
		WSW-ENE	18 40 28	----	18 40 30	18 40 55	.04	7.5	18 47	H. P.	
131	4	NNW-SSE	2 20 29	----	2 20 57	2 21 16	.12	2.4	2 28	V. M.	
		WSW-ENE	2 20 28	----	2 20 58	2 21 09	.30	2.4	2 28	V. M.	V. C. 0.03 mm.
		WSW-ENE	2 20 44	----	2 21 09	2 23 00	.08	9.6	2 30	H. P.	
132	6	NNW-SSE	----	----	23 20 19	23 20 27	.02	1.2	23 23	V. M.	
		WSW-ENE	----	----	23 20 18	23 20 30	.03	1.2	23 23	V. M.	
133	13	NNW-SSE	12 15 50	----	----	----	----	----	12 58	V. M.	
		WSW-ENE	12 15 52	----	----	----	----	----	12 58	V. M.	
		WSW-ENE	12 15 52	----	----	----	----	----	13 00	H. P.	
134	13	NNW-SSE	13 02 05	----	13 02 23	13 02 40	.03	2	13 05	V. M.	
		WSW-ENE	13 02 06	----	13 02 23	13 02 24	.05	1.8	13 05	V. M.	V. C. 0.02 mm.
135	13	NNW-SSE	15 41 01	----	15 41 18	15 41 37	.06	2.4	15 45	V. M.	
		WSW-ENE	15 41 02	----	15 41 19	15 41 20	.06	2.4	15 45	V. M.	V. C. 0.03 mm.
136	20	NNW-SSE	----	----	20 53 52	20 53 54	.04	1.2	20 56	V. M.	
		WSW-ENE	----	----	20 53 51	20 53 53	.04	2	20 56	V. M.	
137	21	NNW-SSE	14 47 53	----	----	----	----	----	16 18	V. M.	Earthquake at Hilo (Hawaii).
		WSW-ENE	14 47 52	----	----	----	----	----	15 56	V. M.	
		WSW-ENE	14 48 02	----	----	----	----	----	16 54	H. P.	
138	23	NNW-SSE	15 10 39?	----	----	----	----	----	15 41?	V. M.	
		WSW-ENE	15 11 39?	----	----	----	----	----	15 46?	H. P.	

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the note. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.

Instrumental constants.—Vicentini microseismograph (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=9.2 seconds; WSW–ENE pendulum, T=10.8 seconds. Magnification of the record: NNW–SSE, 15 times; WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters which extends many kilometers toward north and south and only four to the east, where volcanic tuff outcrops. To the west there lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

3, 3^h 49^m. **N de Leyte.** Temblor de tierra de intensidad III.

13, 3^h 15^m. **Cagayán** (N de Mindanao). Temblor de tierra de intensidad III, duración muy corta.

15, 22^h 39^m. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección SSW–NNE, intensidad IV, duración 30^s.

16, 14^h 30^m. **Joló.** Temblor oscilatorio, dirección NE–SW, intensidad III.

17, 14^h 30^m. **Talacogon** (E de Mindanao). Temblor de tierra de intensidad IV: fué perceptible en toda la parte S. del Valle del Agusan.

23, 10^h 27^m. **Joló.** Temblor oscilatorio, dirección ENE–WSW, intensidad III, duración 3^s.

24, 2^h 13^m. **Tacloban** (NE de Leyte). Temblor oscilatorio, dirección E–W, intensidad II.

24, 17^h 30^m. **Talacogon** (E de Mindanao). Temblor de tierra de intensidad III.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

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[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120° E de Greenwich.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1890–1907.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF SEPTEMBER.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance.		Intensity (Rossi-Forel).	Remarks.
				Longer axis.	Shorter axis.		
1890	*h. m.*			*Km.*	*Km.*		
30	18 32	N Luzon	N central range	170	170	V	
1891							
2	23 25	Camarines	SE of St. Miguel Bay	80	40	III	
5	12 53	Ilocos Norte	Near the Ilocos coast	60	40	III	
12	10 44	S Luzon	Near the S coast	280	130	IV	
12	23 15	Albay	Near Mayon Volcano	100	70	IV	
13	6 58	N Mindoro, S Luzon	Near the S coast of Luzon	200	110	IV	
13	20 1	S Luzon	E of Lake Bay	110	70	IV	Aftershock at 20h 10m.
15	10 46	N Mindoro, S Luzon	Near S coast of Luzon	80	60	III	Aftershock at 10m later.
25	5 3	N Mindanao	S Butuan Bay	60	20	III	
25	16 21	do	do	60	20	III	
27	12 0	do	do	60	20	III	
28	6 0	do	do	60	20	III	
1892							
1	23 22	W Mindanao	SE Sulu Sea	80	30	III	
4	22 0	N Mindanao	N of Iligan Bay	90	50	III	
6	4 15	do	do	90	50	III	
9	7 40	N Luzon	N central range	60	50	III	Repeated at 14h 16m.
16	3 45	N Mindanao	NE of Iligan Bay	250	40	V	Two perceptible aftershocks later.
18	8 10	do	do	90	50	III	
18	17 0	SE Mindanao	Near Apo Volcano	60	50	III	
22	21 41	Jolo	S Sulu Sea			III	
1893							
2	14 36	Nueva Vizcaya	About ϕ=16° 20′, λ=121° 8′	120	90	V	With rumbling sounds.
9	7 18	E Mindanao	Agusan River Valley	300	180	IV	
10	22 20	do	do	300	180	IV	Preceded by light shock at 4h, 6h 50m, and 7h 40m.
12	11 15	do	do	300	180	IV	
14	21 14	E and SE Luzon	Near Polillo Island	380	100	V	
16	21 35	Albay	Near Mayon Volcano	60	50	III	
20	1 6	S Luzon	Near Taal Volcano	50	50	IV	
26	9 53	E Mindanao	Agusan River Valley	320	200	IV	
30	17 50	Panay Island	About ϕ=11° 6′, λ=122° 25′	60	60	III	
1894							
2	3 0	E Mindanao	Agusan River Valley	60	50	III	
4	20 21	do	do	220	150	V	Repeated at 21h 2m.
8	3 50	Panay Island	About ϕ=11° 6′, λ=122° 25′	40	40	III	
11	2 45	E Mindanao	Agusan River Valley	40	40	III	
12	9 38	do	do	100	80	IV	
18	5 8	do	do	80	70	III	Repeated at 6h 10m, 6h 55m, and 13h 5m.
21	14 0	do	do	200	160	IV	
1895							
5	14 20	Panay and Negros	SE Panay	180	140	V	
7	19 0	NE Mindanao	Near Lake Mainit	120	120	V	Rumbling sounds.
8	4 10	E Mindanao	Agusan River Valley	100	100	III	
18	19 15	do	do	100	100	III	
20	19 0	do	do	100	100	III	
24	8 52	NE Mindanao	Near lake Mainit	120	80	IV	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF SEPTEMBER—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1896	*h. m.*			*Km.*	*Km.*		
13	12 58	N Luzon	N central range	200	180	VI	Registered in European observatories. Aftershocks at $16^h 45^m$ and $17^h 10^m$.
13	16 2	Camarines	Near the N coast	80	50	III	
20	15 54	E Luzon	NE of Casiguran Bay	350	80	V	
23	13 58	Albay	Off the SE coast	150	60	IV	
23	18 3	Negros Island	Near the north coast	100	80	IV	Repeated at 20^h.
1897							
12	14 1	S Luzon	E of Taal Volcano	100	100	IV	
14	9 48	do	Near Taal Volcano	80	80	IV	
21	3 10	W Mindanao, Jolo, and Visayas	SE Sulu Sea and Illana Bay	600	500	VII	Registered in European observatories: more than 36 aftershocks between this and the second quake.
21	13 15	do	SE Sulu Sea	800	800	IX	Registered in European observatories. Frequent aftershocks during the 21st and 22d.
22	1 36	SE Mindanao	Near the SE coast	80	30	III	Repeated at 3^h.
22	4 11	E Mindanao	Off the E coast	120	40	III	
22	23 30	W Mindanao and Jolo	SE Sulu Sea	400	300	V	
23	10 0	NW Mindanao	E Sulu Sea	200	120	IV	
23	19 25	W Mindanao	SE Sulu Sea	400	300	V	
24	2 25	do	do	400	300	V	More than 200 perceptible shocks were counted from the 21st. September to the 7th October.
24	16 06	E Mindanao	Off the E coast	90	40	III	
26	3 26	NW Mindanao	E Sulu Sea	80	30	III	
26	20 12	W Mindanao and Jolo	SE Sulu Sea	300	200	IV	
26	22 26	NW Mindanao and Panay	E Sulu Sea	300	200	V	Many aftershocks during the night.
27	5 45	W Mindanao and Panay	SE Sulu Sea	200	150	IV	
28	5 0	W Mindanao and Jolo	do	180	120	IV	
29	4 56	Albay	Near the SE coast	90	70	IV	Repeated at $6^h 2^m$ and 7^h.
29	11 30	W Mindanao and Jolo	SE Sulu Sea	300	280	IV	Repeated at $12^h 2^m$.
29	21 0	Albay	Near the SE coast	190	140	V	
30	9 26	Panay Island	SE part	60	60	III	
1898							
1	21 13	SE Mindanao	Near the SE coast	80	40	III	
25	4 0	W Mindanao	SE Sulu Sea	110	40	IV	
1899							
20	21 10	E Mindanao	Agusan River Valley	240	190	V	
22	11 8	do	do	150	100	IV	
1900							
5	11 36	W Luzon	S Zambales Range	120	110	IV	
1901							
8	6 36	SE Luzon	NE Lamon Bay	120	80	IV	
8	12 0	E Mindanao	Off the E coast	100	40	III	
10	7 46	SE Luzon	NE Lamon Bay	200	120	IV	
10	8 30	do	do	300	180	VIII	Rumbling sounds; and some light aftershocks.
17	1 26	E Mindanao	Off the E coast	280	120	V	
19	17 52	do	do	280	120	V	Felt in the Observatory by the Bertelli's tromometer.
1902							
2	19 5	E Samar	Near the E coast	60	20	III	
12	12 35	N Luzon	Near the N coast	80	40	III	Registered at Manila.
13	0 2	Jolo Island	S Sulu Sea			III	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF SEPTEMBER—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1902	*h. m.*			*Km.*	*Km.*		
16	18 56	Jolo and Basilan	Celebes Sea			III	Strong in Celebes, registered in Europe.
19	21 30	NW Mindanao	About ϕ=8° 20′, λ=123° 30′	100	60	III	
20	21 8	do	do	100	60	IV	
25	3 45	E Samar	Near the E coast	60	20	III	
27	15 55	W Leyte	Near the W coast	80	30	III	
1903							
1	4 3	SE Mindanao	Near the SE coast	60	40	III	
5	19 0	do	do	60	40	III	
6	20 11	Bulacan Province	Eastern range	80	30	III	
7	11 29	Ilocos Sur	Near the Ilocos coast	40	10	II	
10	1 15	W Mindanao	SW Illana Bay	300	80	IV	
10	8 00	SE Mindanao	Near the SE coast	60	40	III	Repeated at $10^h 3^m$.
12	19 30	Jolo Island	S Sulu sea			III	
14	22 39	NW Luzon and Batanes	Off the NW coast	300	60	IV	Registered at Manila.
14	23 35	W Mindanao	SE Sulu sea	120	50	IV	
19	12 30	SE Mindanao	Near the SE coast	160	90	IV	Repeated at $14^h 36^m$.
1904							
4	14 32	S Luzon	N Manila Bay	60	30	III	Registered at Manila.
4	22 42	Batanes Islands	S of the group			III	
6	21 25	Butuan, N Mindanao	S of Butuan Bay	80	30	III	
11	23 46	S Luzon	NW Manila Bay	80	40	III	
13	23 57	SE Mindanao	Near the SE coast	70	40	III	
14	14 35	Samar and Leyte	Near N coast of Leyte	140	120	IV	
17	12 41	SE Mindanao	Near the SE coast	90	40	IV	
20	15 13	Leyte Island	Near the N coast	80	70	III	
25	16 00	Samar	Near the E coast	120	40	III	
27	21 38	W Luzon	Zambales Range	180	100	IV	Do.
28	19 20	Samar	Near the E coast	140	60	IV	
1905							
3	0 20	E Samar	Near the E coast	60	20	III	
3	21 11	NE Mindanao	Near the NE coast	80	40	IV	
11	12 30	NW Mindanao	About ϕ=8° 20′, λ=123° 30′	60	60	III	
18	11 49	Samar Island	Near the E coast	180	60	V	Do.
18	19 50	SE Mindanao	Near the SE coast	50	20	III	
18	21 45	Ilocos Sur	Near the Ilocos coast	40	10	II	
22	15 2	NE Mindanao	Near the NE coast	50	40	II	
22	23 33	W Luzon	Near the Zambales coast	80	30	III	Do.
25	16 45	W Samar	Near the N coast of Leyte	80	50	IV	Do.
30	15 00	SE Mindanao	Near the SE coast	50	20	III	
30	20 20	E Mindanao	N Agusan River Valley	270	180	V	
1906							
1	13 46	Albay	Near Mayon Volcano	40	30	III	
5	22 13	City of Manila		6	6	II	
13	9 25	Panay and Negros	Off the N coast of Negros	160	100	III	
14	19 57	do	do	300	280	V	Do.
23	17 40	Camarines	S of St. Miguel Bay	160	80	IV	Do.
24	17 00	Batanes Islands	S of the group			III	
30	3 25	Butuan (N Mindanao)	N Agusan River Valley	80	60	III	
30	8 30	NE Mindanao	Near the NE coast	60	40	III	
30	10 12	Ilocos Sur	Near the Ilocos coast	80	30	IV	Do.
1907							
3	3 12	NE Luzon	Near the N coast	60	50	III	Do.
9	6 20	E Mindanao	Agusan River Valley	280	200	IV	
24	12 50	Calamianes Islands				III	
25	13 4	Ilocos Sur	Near the Ilocos coast	80	30	III	Do.
29	10 11	S Luzon	Near Taal Volcano	60	60	III	Do.

BULLETIN FOR OCTOBER, 1908.

METEOROLOGICAL BULLETIN FOR OCTOBER, 1908.

By Rev. José Coronas, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—As shown in the table below, the monthly means of atmospheric pressure have been everywhere throughout the Archipelago lower than those of October, 1907, the differences having been more pronounced in the central and northern part of Luzon. That of Manila differs from the normal of this month by—0.89 millimeter, and from the monthly mean of last year by—1.44 millimeters. The highest means have been observed on the 6th in the northern part of the Philippines, and on the 20th or 21st in the southern part. The minimum means took place generally on the 12th or 13th.

The monthly means of temperature are found to have been a little below that of October of the preceding year in Luzon, and somewhat higher in the Visayas Islands. The absolute maximum for Manila has been 33.2° C., and the absolute minimum, 20.2° C.: they have been registered on the 19th and 30th respectively.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, OCTOBER, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from October, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from October, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.66	—0.90	759.18	20	756.28	30	27.3	+0.3	34	7	22.5	25
Surigao	57.92	----------	59.45	20	56.29	12	27	----------	33.5	16	[1]22.2	23
Cebu	58	— .54	59.65	20	56.43	13	27	+ .3	32.5	15,17	22.3	1
Iloilo	58.10	— .75	59.78	20	56.13	13	26.9		33.4	7	22.1	15
Ormoc	58.08	— .80	59.79	20	56.22	12	26.1	+ .7	32.4	7,30	19.8	31
Tacloban	58.08	— .88	59.80	21	55.59	12	27.4	+ .4	34.6	2	22.8	26
Capiz	58.12	— .82	59.83	20	55.36	13	26.9	+ .1	32.6	5,8	20.5	16,27
Calbayog	58.20	—1.09	59.80	21	55.51	13	----------	----------	----------	----------	20.4	31
Legaspi	57.83	—1.22	59.66	21	53.85	13	27.1	— .1	34.9	2	21.9	19
Atimonan	57.71	—1.50	60.01	6	52.18	13	27	— .1	34.4	1	22.5	11,16
Olongapo	57.61	—1.33	59.77	6	52.05	13	26.1	— .6	33.3	6	20.9	9
San Isidro	57.76	—1.48	60.08	6	50.94	13	26.1	— .6	33.3	16,18	21	30,31
Dagupan	57.21	—1.82	59.64	6	49.66	13	[2]26.9	—1	34.8	31	[2]21.8	5
Bolinao	56.70	----------	59.05	6	49.29	9	26.9	----------	31.9	24	23	29
Vigan	56.99	—2.07	60.06	6	42.38	13	27	—1.1	32.8	26	23	9,13,24
Tuguegarao	57.14	----------	60.05	6	34.73	13	[3]26.5	----------	[2]34	20	[4]20.9	29
Aparri	57.76	—2.55	60.54	6,7	34.63	13	----------	----------	----------	----------	----------	----------

[1] From 27 days only. [2] From 30 days only. [3] From 26 days only. [4] From 28 days only.

Precipitation.—Owing to three typhoons which crossed Luzon during the first fortnight of this month, the total rainfall for all the stations situated in the central and northern part of that Island has been much greater than that of October, 1907. In southern Luzon, although the differences are generally positive, they are not so important. Throughout the Visayas and Mindanao we find these differences to be negative for all our stations, with the only exceptions of Palanoc, Cebu and Tagbilaran.

The total amount of rain collected at the Observatory surpassed the normal for October by 46.3 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF OCTOBER, 1908.

Station.	Total.	Departure from October, 1907.	Rainy days.	Departure from October, 1907.	Greatest rainfall in a single day.	Day.
	mm.	mm.			mm.	
Jolo	192.1	− 30.6	16	+ 2	35.1	23
Isabela, Basilan	128	− 72.5	15	+ 2	30	30
Zamboanga	31	− 22	6	− 1	6.9	10
Davao	218.1	−220.1	9	− 7	41.1	1, 24
Cotabato	223.6	− .2	16	+ 3	66	12
Cagayan, Misamis	121.1	-------	14	------	40	23
Dapitan[1]	254.1	-------	----	------	119.1	30
Butuan	99.5	-------	19	------	31	16
Yap, W. Carolines	265.6	+163.5	19	+ 2	88.9	10
Tagbilaran	158.4	+ 8.2	15	− 8	39.2	17
Surigao	286.5	-------	13	------	66.8	28
Maasin	84.5	− 46.4	8	+ 1	26.4	6
Cebu	128.6	+ 20.6	14	0	23.1	8
Bacolod	100.5	−108.5	13	− 3	22.6	25
Iloilo	87.9	− 62.4	15	− 6	13.7	14
San Jose Buenavista	209.6	-------	17	------	25.4	14
Tuburan	94.8	− 14.7	10	+ 4	40.1	23
Cuyo	85.7	−239	17	+ 2	25.7	20
Ormoc	63.9	−112.2	14	− 7	19.3	17
Tacloban	117.5	− 87.4	12	− 4	54.1	20
Capiz	95.2	−138.9	11	− 5	29.7	25
Calbayog	139.7	−111.3	15	−10	27.7	24
Palanoc, Masbate	76.9	+ 30.4	13	+ 1	17.8	19
Romblon[2]	209.3	-------	----	------	49.3	29
Laoang	190	-------	10	------	40.1	23

Station.	Total.	Departure from October, 1907.	Rainy days.	Departure from October, 1907.	Greatest rainfall in a single day.	Day.
	mm.	mm.			mm.	
Gubat	243.9	− 77	12	− 8	58.4	23
Sumay, Guam Ladrones Is	339.3	-------	24	------	144.8	8
Legaspi	238.7	+ 102.6	21	− 4	60.5	23
Virac	294.4	-------	14	------	101.6	3
Batangas	100.6	− 45.4	13	− 5	25.7	4
Atimonan	337.4	+ 66	19	+ 1	70.6	19
Silang	423.8	-------	13	------	62.5	4
San Antonio, Laguna	325.8	+ .5	15	− 1	46.2	4
Corregidor	173	+ 46.8	7	+ 1	55.6	14
Manila	238.6	+ 16.7	19	+ 3	72	4
Balanga	390.4	+ 265.5	16	+ 6	188.7	4
Olongapo	280.9	+ 184.1	16	+ 2	93.3	4
San Isidro	349	+ 254.4	15	+ 6	203.2	4
Tarlac	305.4	+ 103.1	19	+ 4	99.3	4
Dagupan	603.8	+ 534.2	17	+ 6	180.6	5
Bolinao	404.7	+ 331.4	13	+ 5	143.2	4
Baler	321.4	+ 43	15	+ 2	50.8	8, 26
Baguio, Benguet	1,509.1	+1,414.5	21	+ 9	568.4	13
San Fernando, Union	355.3	+ 330.6	9	+ 5	106.7	13
Echague	325.5	-------	23	------	56.4	16
Candon	333.9	+ 325.4	17	+13	152.4	13
Vigan	337.6	+ 322.3	15	+ 9	139.2	13
Laoag	310.4	+ 274.9	16	+ 9	168.4	13
Sto. Domingo, Batanes Is.	310.4	+ 231.1	23	+ 5	60.1	2

[1] 28 days of observation only. [2] 30 days of observation only.

THREE TYPHOONS IN LUZON,[1] OCTOBER 4 TO 13, 1908.

It happens very rarely that three well-developed typhoons cross our Archipelago, almost through the same region, within the short space of ten days. For this reason we will discuss here under the same title the three typhoons which during the first half of the month, crossed the central and northern part of Luzon, leaving everywhere along their path very sad traces of their passing. We will distinguish them by the names of Baler, Isabela de Luzon and Cagayan de Luzon, since the region around the town of Baler and the above-named provinces suffered the most severely from the effects of these cyclonic storms.

THE BALER TYPHOON, OCTOBER 4, 1908.

Origin of this typhoon.—We give below in two tables the observations taken in Guam from the 30th of September to the 2d of October and those of Yap from the 1st to the 3d of October. From a careful examination of the barometric movements and, more especially, of the direction of the winds observed in Guam, it can be shown as quite probable, that the cyclonic center of this typhoon was already formed on the 30th of September, and that on that date it was south of the Ladrones Islands and moving westward. On the other hand, the winds of Yap indicate the passage of a depression or typhoon by the north of that station, during the night of the 1st of October. We

[1] It can be said that these three typhoons were the only ones that exerted any influence over the Philippines during this month, though the Manila Observatory also announced two others in the Pacific, far from the Archipelago: one on the 18th and 19th, and the other on the 29th and 30th. Concerning the first one, the regular weather note of the 18th said: "There are signs of a depression, which seems to be moving northeastward between the Loochoos and the Bonin groups of islands." This was really the case, as may be seen in a chart showing the track of this typhoon, published in the "Journal of the Meteorological Society of Japan" for the month of November, 1908. It was probably formed on the 15th or 16th between the Ladrones Islands and the Philippines, and having moved northwestward at first, it afterwards recurved toward the NE on the 17th when it was situated in the vicinity of 21° lat. N and between 132° and 133° long. E. We have no means to ascertain whether the other depression acquired the development of a real typhoon. It first appeared E of Guam in the morning of the 29; then apparently moved NNW; and in all probability filled up in the neighboorhood of the northern part of the Ladrones Islands on the 31st.

believe these reasons are sufficient for us to designate as the place of origin of this typhoon the region of the Pacific situated north of the Carolines about east-southeast of Guam.

METEOROLOGICAL OBSERVATIONS MADE AT SUMAY, GUAM, LADRONES ISLANDS, SEPTEMBER 30 TO OCTOBER 2, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.	Rainfall (daily total).	Remarks.
			Direction.	Force.			
September 30:	*mm.*	*mm.*		*0-12.*		*mm.*	
6 a. m	757.94	—1.58	NE	3	c		Swell moderate; at 1.40 a. m. thunderstorm with rain, and at 3 a. m. with strong wind.
2 p. m	55.86	—2.59	NE	3	c		
6 p. m	56.69	—2.30	ENE	2	c	18	Swell decreasing rapidly.
October 1:							
6 a. m	57.22	— .72	ESE	1	c		Swell slight.
2 p. m	56.71	+ .85	ESE	3	o		Rain squalls during afternoon with wind force about 3. Swell very slight.
6 p. m	57.51	+ .82	SE	1	o	22.1	
October 2:							
6 a. m	59.31	+2.09	E	1	c		Swell gone. Light shower during morning.
2 p. m	58.79	+2.08	S	0	c		
6 p. m	59.69	+2.18	E	0	b	7.9	

METEOROLOGICAL OBSERVATIONS MADE AT YAP (WESTERN CAROLINES), OCTOBER 1 TO 3, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.	Rainfall (daily total).
			Direction.	Force.		
October 1:	*mm.*	*mm.*		*0-12.*		*mm.*
6 a. m	757.16	—1.89	NW	2	o	
2 p. m	55.53	—1.73	NNW [1]	4	o	29.2
October 2:						
6 a. m	57.02	— .14	W?	5	o	
2 p. m	56.19	+ .66	SW	5	o	2.3
October 3:						
6 a. m	59.07	+2.05	NE	2	o	
2 p. m	58.49	+2.30	S	2	b	3.8

[1] The direction of the lower clouds was WNW.

In Plate XIX the first part of the track of this typhoon begins on September 30, although in the track we published in the beginning of November, 1908, we gave as the first day of the storm October 3, for the reason that we did not have at the time the observations of the Carolines and Ladrones Islands.

The typhoon in the Philippines.—On October 3 and 4 the Manila Observatory sent to Japan, Formosa, the China coast and Indo-China the following typhoon warnings:

October 3, 7.07 a. m.: Depression east of the northern Visayas or southeastern Luzon; direction unknown.
October 4, 10 a. m.: Typhoon east of Luzon, less than 300 miles distant, moving W or WNW.
October 4, 5 p. m.: Typhoon N of Manila, moving WNW.

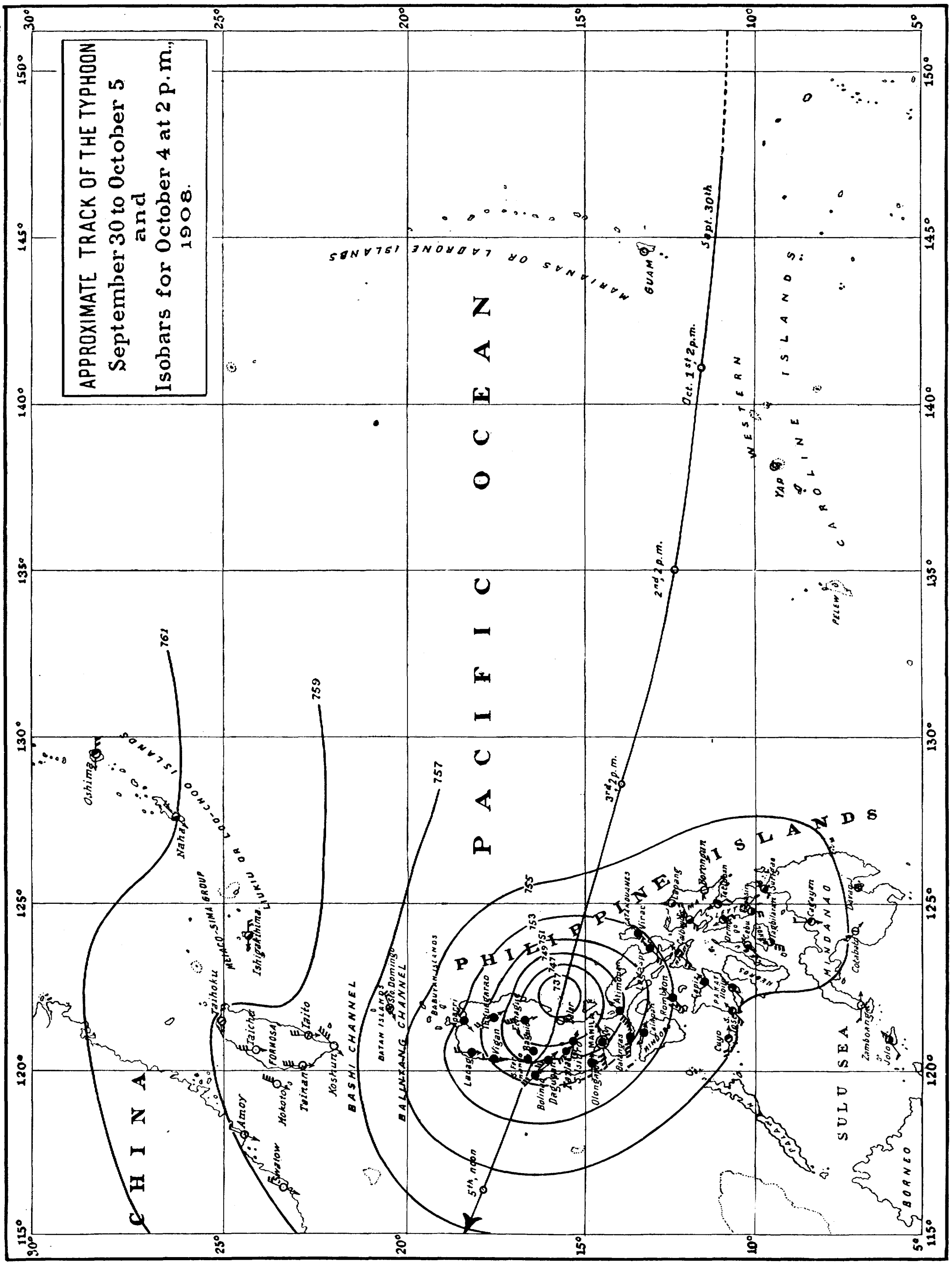
The regular weather note of the 4th read as follows:

October 4, 12.30 p. m.: The depression situated yesterday afternoon east of southern Luzon is a well-developed cyclone which is threatening the provinces of Luzon between 14° and 17° lat. N. It seems to be moving rapidly and is expected to pass north of, and near to, Manila this afternoon or this evening.

At 5 p. m. of the same day the following note was given out to the public in the city:

The typhoon is now passing N of Manila, moving WNW.

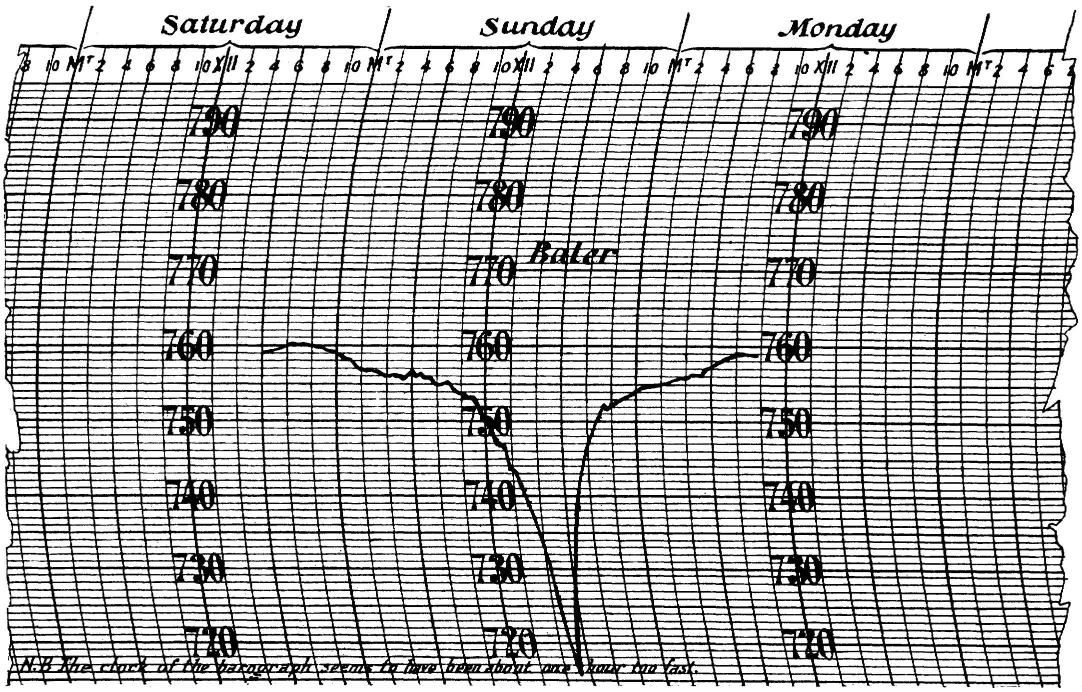
Plate XIX.



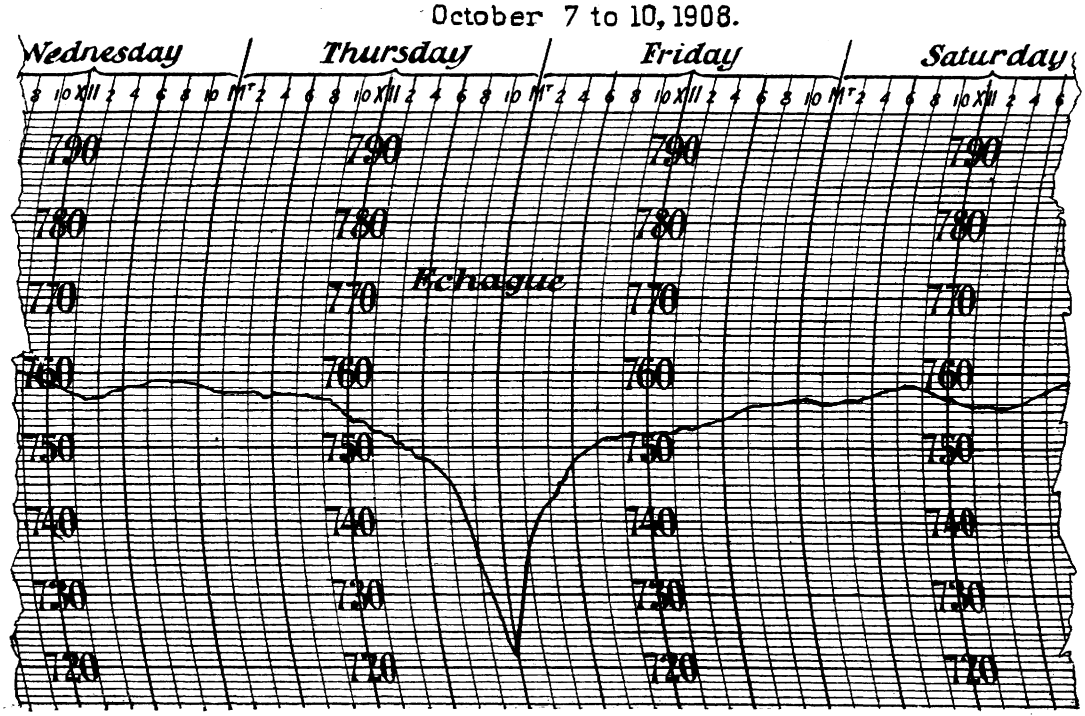
N. B.—The barometric readings have been reduced to standard gravity

BAROGRAPHIC RECORDS, OCTOBER 3 TO 5, 1908.

Plate XX.



October 7 to 10, 1908.



That the typhoon had acquired a complete development and was of extraordinary intensity, at least when it reached our Archipelago, is shown clearly by the barometric curve of Baler, which is given in Plate XX. In Plate XIX, we give together with the first part of the track of this typhoon, the distribution of isobars and the position of the cyclonic center on the 4th, at 2 p. m., two hours before it reached the point in its track nearest to Baler.

The vortex passed south of Baguio and San Fernando and north of Dagupan and Bolinao, the barometric minima of these stations having been recorded at 8 p. m., 9 p. m., 8.20 p. m., and 11 p. m., respectively. The winds veered from north to south in the first two stations and backed from NW to S and SE in the others.

See in Plate XXI the barographic curves of Baguio, San Fernando and Dagupan. In the table below are some of the observations made in Dagupan and Manila on the 4th.

METEOROLOGICAL OBSERVATIONS FOR OCTOBER 4, 1908.

Hour.	Manila.						Dagupan.					
	Pressure.	Wind.		Weather.	Rainfall.	Remarks.	Pressure.	Wind.		Weather.	Rainfall.	Remarks.
		Direction.	Velocity.					Direction.	Velocity.			
	mm.		*Km.p.h.*		*mm.*		*mm.*		*Km.p.h.*		*mm.*	
11 a. m.	753.86	NW	32	u.	1	Somewhat gusty NW winds in the morning.	754.70	NW	31.1	u.	------	
Noon	52.25	W	41.5	q.	.8	Strong or whole gale from SW quadrant with drizzle during the afternoon and evening.	53.81	NW	33.2	d, u.	0.3?	
1 p. m.	51.20	W by S	52.5	q.	2.3		53.10	NW	38.8	u.	1.5	
2 p. m.	49.96	W by S	63	q.	.8		50.80	NW	45.6	u, d.	.3	Gusty NW winds during the afternoon and evening.
3 p. m.	48.71	WSW	63	q.	1		49.39	WNW	41.6	q.	2.8	
4 p. m.	48.06	WSW	77	q.	1		47.72	NW	38.8	q.	14.7	
5 p. m.	47.91	SW by W	71	q.	6		46.25	NW	48.6	o.	------	
6 p. m.	48.41	SW by W	75	q.	11.4		43.56	NW	57.6	o.	------	
7 p. m.	49.42	SW	59	q.	18.2		41.86	NW	68.6	d.	------	The wind backed to W at 8.30 p. m. and to SE at 9.49 p. m.
8 p. m.	51.70	S by W	45	------	10.2		40.32	NW	77.4	q.	4.3	
9 p. m.	53.10	S	49	------	5		41.52	W	67.4	q.	24.6	
10 p. m.	54.15	S	40	------	5.[illegible]		43.27	SE	44	q.	36.1	
11 p. m.	54.60	SE by S	27	------	1.6		44.83	SE	47.7	q.	29.5	
Midnight	54.80	SE	22.5	------	3.4		45.53	SE	41.8	q.	32.3	

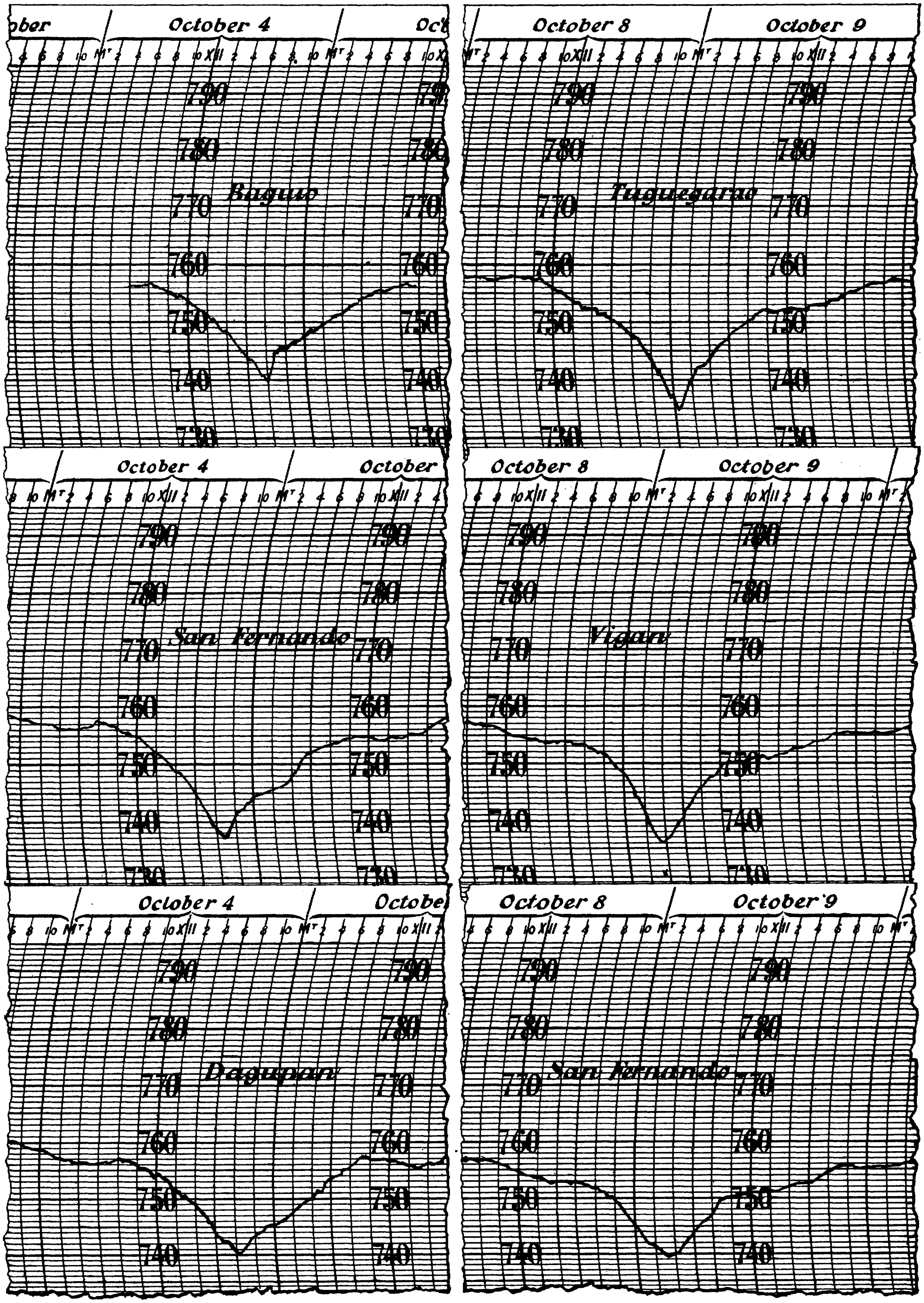
To prove that the center crossed the Island of Luzon very rapidly, as the Observatory stated in the note mentioned above, we will take two points on the track corresponding to 4 p. m. and 8 p. m. of the 4th. The distance between these two points is about 67 nautical miles; and, as the vortex took four hours in moving this distance, we have as a result a mean velocity of 16.8 miles per hour. Nevertheless, by a comparison of the observations of Dagupan, San Fernando, and Bolinao, it can be shown as quite probable that from 9 to 11 p. m. this rate of progress had decreased considerably even to a mean value of 11 miles per hour approximately. This is, apparently, the only way to explain the fact that the barometric minima of Dagupan and San Fernando were observed at 8.20 p. m. and 9 p. m. respectively, while that of Bolinao was not registered until 11 p. m.

We wish to add here that the position of the typhoon at 4 p. m. of the 4th, although not altogether certain, is sufficiently probable. According to the barographic curve of Baler the center should have passed nearest to that place at 5.20 p. m. If this were the case, the velocity of this typhoon would have been much greater. We suspected that the clock of the barograph in Baler had been running too fast, and in order to find out whether this was true and, if so, to apply the proper correction, we examined carefully the observations of Virac (Catanduanes), Atimonan, and Echague, noting chiefly the time of the barometric minimum in each station and the hour when the winds veered from N to E in Echague, and backed from NW to W and SW in Virac and Atimonan.

We had to use this indirect means, since it was impossible to obtain any information from Baler, as our observer at that station lost his life, a victim of a shipwreck near Casiguran during the typhoon of the 8th. As a result of our investigation, we decided it was very probable that the barographic curve of Baler, at least that part corresponding to the passage of the storm on the 4th, ought to be moved back about one hour in order to agree with the observations and reports of the

BAROGRAPHIC RECORDS

Plate XXI.



stations mentioned above. The main reason we have for this correction is the fact that in Echague the lowest barometric readings were observed at 4 and 5 p. m., whereas the barometer rose more than 2 millimeters from 5 to 6 p. m. This would have no satisfactory explanation, if the vortex did not pass over Baler until 5.20 p. m., as is supposed by the barographic curve of that station. In Plate XX we reproduce the curve of Baler as it originally appeared; but for the purpose of tracing the track and the distribution of the isobars in Plate XIX we have applied the correction just indicated.

The typhoon in the China Sea and Hainan.—At 10 a. m. on the 5th the Observatory sent the following warning to Tokio, Zikawei, Taihoku, Hongkong, and Phulien:

Typhoon W of Luzon, more than 100 miles distant, moving WNW.

Owing to the kindness of the captains of the steamers *Rubi* and *Yuensang*, we are able to publish the valuable and interesting observations made aboard these vessels on the 5th, while they were coming from Hongkong to Manila. The typhoon passed by the south of both vessels between 8 and 10 a. m. The center seems to have been at noon to the W of the *Rubi* and SW of the *Yuensang* near 116½° long. E and 17¾° lat. N. In Plate XXII may be seen the position of the two vessels at noon of the 5th.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "RUBI," OCTOBER 4 TO 6, 1908.

(Captain, Mr. R. Almond.)

Date and hour.	Position.		Pressure.	Wind.		Remarks.
	Latitude N.	Longitude E.		Direction.	Force.	
October 4:	° ′	° ′	*mm.*		*0-12.*	
Noon	19 41	116 00				
4 p. m			756.29	NE	6	Ship running SE.
10 p. m			53.75	NNE	7	Do.
Midnight			51.21	NNE	9	Do.
October 5:						
1 a. m			50.45	NNE	10	Ship running SSW.
2 a. m			49.68	NNE	10	Do.
3 a. m			47.91	NNE	11	Do.
4 a. m			45.37	NNE	12	Do.
5 a. m			45.37	NE	12	Ship hove-to.
6 a. m			45.37	NE	12	Heading ENE.
7 a. m			42.06	NE	12	Do.
8 a. m			39.02	ENE	12	Blowing a hurricane with terrific squalls of wind and heavy rain and tremendous sea; running ship and heading between ENE and NE.
8.30 a. m			38.25	SE	12	
9 a. m			39.52	SE	12	
10 a. m			42.06	SE	12	
11 a. m			43.59	SE	12	
Noon	[a]17 42	[a]117 45	43.84	SE	12	Winds and squalls decreasing, sun visible at times.
2 p. m			46.64	SE	11	
4 p. m			49.18	SE	11	
6 p. m			50.95	SE	11	
7 p. m			53.49	SE	11	
8 p. m			54.26	SSE	10	Heavy sea still running, but decreasing rapidly.
9 p. m			55.02	SSE	9	Kept ship back on course SE; beautiful clear weather.
10 p. m			55.53	SSE	8	
11 p. m			56.03	SSE	7	
Midnight			56.54	SSE	6	
October 6:						
10 a. m			60.10	SSE	4	
Noon	[b]17 02	[b]119 07				

[a] By dead reckoning. [b] By observation.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "YUENSANG," OCTOBER 4 TO 6, 1908.

[Captain, Mr. P. H. Rolfe.]

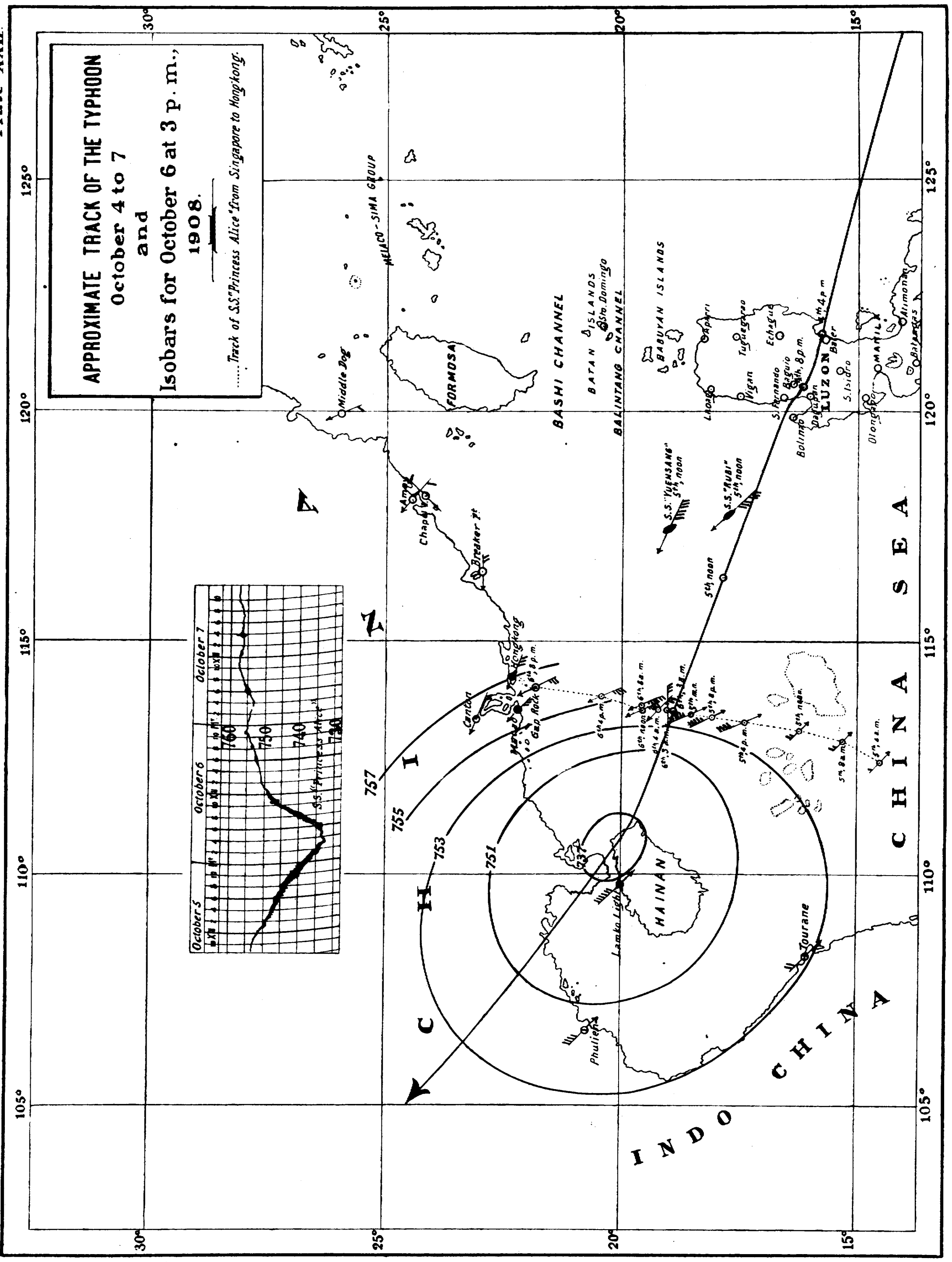
Date and hour.	Position.				Pressure.	Wind.		Remarks.
	Latitude N.		Longitude E.			Direction.	Force.	
October 4:	°	′	°	′	mm.		0-12.	
Noon	19	49	115	53	759	SE	------	Fresh wind from SE, slight Ely. swell with occasional rain squalls. During the afternoon the glass began to fall slightly, and the wind to haul to the eastward. The glass continued to fall during the night, and the wind to haul from the east toward north until 0.30 a. m. of the 5th.
October 5:								
0.30 a. m					53	N by E	4	The engines were slowed and the vessel "hove-to," head to the NE.
2 a. m					51.75	N by E	4	
5 a. m					49.50	NNE	6	
7 a. m					49	NE	9	
8 a. m					47.50	NE	10	
10 a. m					46.50	E	10	
11 a. m					45.75	E by S	11	
Noon	19	00	117	25	45.80	ESE	12	The engines were put to full speed and the vessel headed to the SE.
1 p. m					44	SE	12	Very violent rain squalls.
2 p. m					45.50	SE	11	Do.
3 p. m					45.75	SE by S	10	Do.
4 p. m					48.50	SE by S	10	Do.
5 p. m					50	SE by S	9	Do.
6 p. m					51.50	SE by S	9	Do.
7 p. m					53.50	SE	9	Squalls decreasing in violence.
8 p. m					54.50	SE	7	Do.
9 p. m					56	SE	6	Do.
10 p. m					56.50	SE	6	The barometer rose, the wind decreased. Throughout the storm, with the exception of in the squalls, there was a little or no rain, the sun showing frequently through the clouds. The sea during the storm was high, but regular, following closely each shift of wind.
October 6:								
Noon	17	38	119	11	------	------	------	

From "Annalen der Hydrographie und Maritimen Meteorologie, März, 1909," we have taken the observations made aboard the steamer *Prinzess Alice* during the 5th and 6th of October, while on a voyage from Singapore to Hongkong. This ship found herself in the proximity of the center in the early morning hours of the 6th and noted about three hours of relative calm. This fact and that the barometer remained at its minimum for the same space of time (as may be seen in the barographic curve reproduced in Plate XXII) show the extraordinary extension that the vortical area must have had and also that the form of the typhoon was very different from what it had been when it penetrated Luzon near Baler in the afternoon of the 4th.

We say "when it penetrated Luzon," because the barographic curves from San Fernando, Bolinao, and Dagupan seem to prove quite clearly that the shape of the typhoon, at the time it entered the China Sea on the night of the 4th, had undergone very important variations.

The barographic curve of the *Prinzess Alice,* as well as the route followed by this vessel we have taken from the German magazine mentioned above.

Plate XXII.



N.B.-The barometric readings have been reduced to standard gravity.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "PRINZESS ALICE," OCTOBER 5 AND 6, 1908.

[Captain, Mr. G. Roth.]

Date and hour.	Position.				Pressure.	Wind.		Weather.	Sea.	Remarks.
	Latitude N.		Longitude E.			Direction.	Force.			
October 5:	°	′	°	′	mm.		0-12.			
4 a. m	14	25	112	23	755.3	NW	1	c	NW 1	At times slightly overcast.
8 a. m	15	16	112	49	56.3	NW	3	o	NW 2	
Noon	16	13	113	4	54.7	NW	3	q, o	NW 3	Extraordinarily heavy clouds. (Threatening weather.)
4 p. m	17	20	113	15	48.2	NNW	4-8	orq	NW 6	Loud and continual roaring of the sea.
5 p. m					48.2					
6 p. m					47.6					
7 p. m					46.4					
8 p. m	18	3	113	21	45.3	NNW	9	oq	NNW 8	Heavy sea; cloud bank to the NE.
9 p. m					42.8					
10 p. m					41.8					
11 p. m					39.7					
Midnight	18	29	113	24	36.8	NNW	11-10	oqr	NNW 9	Very heavy sea, with typhoon gale.
October 6:										
1 a. m					35.1					
2 a. m					33.6	N	7			
3 a. m					33.1	E	6		ENE 5	
4 a. m	19	13	113	30	34.1	SE	5	oqr	N 7	Squalls at intervals. Heavy sea.
5 a. m					35.1					
6 a. m					35.5					
7 a. m					38.8					
8 a. m	19	33	113	37	42	SSE	8-11	orq	SSE 9	Continuous rain with hurricane winds.
9 a. m					45.7					
10 a. m					51.4					
Noon	19	31	113	32	53.7	SSE	10-9	oq	SSE 9	
2 p. m					55.6					
4 p. m	20	24	113	51	57.1	SSE	8-7	o	SSE 7	Sea and clouds decreasing.
8 p. m	Gap Rock.				59.3	SSE	6-5	o	SSE 5	Clearing up at intervals.

From a letter of Rev. Joseph Dahlmann, S. J., a passenger on board the *Prinzess Alice,* we take the following graphic description of the storm:

* * * In the afternoon of October 2 the sea began to go higher and higher. The movement of the ship became stronger and more disquieting. It was becoming already uncomfortable for many of the passengers, for obvious reasons. We were already in the path of a typhoon, without suspecting it; i. e., we ordinary mortals were to know nothing about it. As early as noon the order has gone to the engines to hold everybody and everything in readiness for a battle with the elements. As the captain told me afterwards, it would not have been difficult to avoid the typhoon by going back to Singapore. But a mail steamer must move onward, and such a colossal monster as ours does not flee before a gale. It can resist the storm well enough. In the evening it looked very alarming and cheerless all around. From certain preparations we could see that worse was feared for the night. Father Rockliff and I were well and soon sought out our cabin. Here we found it fearfully hot, for by this time all the portholes were closed on account of the high sea, which was still rising. At 3.30 I arose and went out on the deck. It was comparatively quiet, though the waves were still high and the wind blowing hard. That was bearable enough. So I settled myself in a quiet little corner, but, for precaution's sake, kept tight hold of the iron handle of an air-shaft. Suddenly the wind set in with fearful violence; the first wave swept over the high deck and the ship began to roll in a threatening manner. There was no remaining outside for me. I retired to the saloon. It was high time; for even indoors it was impossible to keep one's feet, and it required all skill to retreat in safety to an upholstered corner. This must have been about 4.30. Now followed an hour which is indescribable. Such whistling and howling and groaning and thundering, and then the movement of the ship! It cracked and quaked in every corner. The worst time was between 5 and 6 o'clock. The ship keeled over so far that it seemed about to capsize. Still we could always hear the engines throbbing and the propellers rumbling. We had now reached the very center of the typhoon. Suddenly the engines stopped. The monster was simply allowed to drift with the wind. For it would have been useless to struggle on against the fury of the billows. Meanwhile a little scene had taken place which caused some fright in the dining hall, where Father Rockliff was. A mighty mass of water dashed all at once through the open doors. It looked as though the element had already gained possession of the deck. Now

is was not exactly as bad as that. It was only a mighty wave that had dashed over the deck and was seeking an outlet. The iron doors were quickly closed and all further danger was over. But in the cabins the heavy trunks danced from one corner to another. Lighter articles floated on the water, which had forced its way even into the staterooms. But in spite of all this, it appeared worse than it really was. With a wonderful strength our steamer defied the onslaught of the storm. It might be thrown hither and thither, but the steamer was on its feet again the next moment. Nothing could throw it out of balance for any length of time. One felt that the splendid structure was equal to the storm. I sat three hours in the saloon and allowed the storm to rage, and felt no anxiety or disquiet. So the time passed until 8.30. We now noticed that the terrible violence of the storm had somewhat abated and we had passed the vortex of the typhoon. But in spite of this, the billows rose high enough and we did not know whether we would not be driven into the vortex a second time. About 10 o'clock, one could venture on deck. The storm had left its traces. The shrouds were whipped to shreds; the deck railing on one side was completely bent over; the yards partly broken; the heavy head piece of an air shaft torn out; and one of the lifeboats swept overboard. Things looked worst in the first class. A splendid piano had been torn apart and the pieces scattered into every corner. Though not great, the damages were estimated at $5,000. Still the storm continued. But in spite of the wind and the waves, it was a relief, when at 11.30 the engines began to work and the screws bored away again. The rumbling of the ship's propellers told us that the worst was over.

The observations of the meteorological station of Lamko light, in the northwestern part of Hainan Island, give us another point in the track of this typhoon. According to them, we located the vortex at 6 p. m. of the 6th in the vicinity of 110° long. E and 20° 35′ lat. N.

METEOROLOGICAL OBSERVATIONS MADE AT LAMKO LIGHT STATION, OCTOBER 6 AND 7, 1908.

Date and hour.	Pressure.	Wind.		Clouds.			Rainfall.	Weather.	Sea.	Remarks.
		Direction.	Force.	Amount.	Form.	Direction.				
October 6:	*mm.*		*0-12.*	*0-10.*			*mm.*			
3 a. m	754.08	WSW	3					o, v.		At 5 a. m. passing showers of drizzling rain set in to 7.20 a. m.
6 a. m	52.56	N	5	10	Cu.-N.	NE		o, v.	R.	
9 a. m	52.05	WNW	6	10	S.-Cu.	NNE	1	o, g, m.	R.	At 10 a. m. blowing a moderate WNW gale and at 11 a. m. wind increased to a fresh and strong gale: mist and rain from NW.
Noon	46.09	NW	8-9	10	N.	NW		o, g, m, r.	H.	At 1.30 p. m. blowing a whole gale from NW and at 2.40 p. m. blowing a storm; thick mist and rain.
3 p. m	39.05	NW	11	10	N.	NW		o, g, m, r.	L.	
6 p. m	37.52	W	11	10	N.	W		o, g, m, r.	L.	At 6.30 p. m. very heavy rain squalls from W and SW.
9 p. m	46.72	SW	11-12					o,g,m,q,r.		
Midnight	52.84	SSW	9					o, g, m, r.		Wind decreased from SSW.
October 7:										
3 a. m	53.35	SSE	6					o, g, m, r.		From 3 to 6 a. m. strong, fresh and moderate SSE and SE breeze.
6 a. m	55.64	SE	4	10	N.	SE		o, g, m, r.	B.	At 7 a. m. drizzling rain set in to 9 a. m.
9 a. m	57.82	SE	3	10	N.	SE	163.1	o, m, w.	B.	
Noon	57.95	SE	3	10	A.-S.	SE		o, m.	M.	

If we carefully examine these observations, our attention will be called to the fact that the barometer did not fall more than 1.5 millimeters from 3 to 6 p. m. although the wind at 6 p. m. still came from the W, and hence the center up to that hour had not crossed by the north. This seems to indicate that the direction of the track had suffered some change on arriving at Hainan Island, since, if the typhoon had continued moving so inclined to the W, as it had been in the China Sea, it would be very difficult to explain why the barometer did not fall lower in Lamko, as the center continued to approach the meridian of that place.

This supposition seems to be confirmed by the observations of the winds in Lamko from 9 p. m. to 12 midnight of the same day—the 6th. If the typhoon had moved WNW, the backing of the winds to the SSW, S, and SSE would have taken place more rapidly than it really did on this occasion: for the winds still came from the SSW at 12 midnight and only at 3 a. m. on the following day we find for the first time mention of winds from the SSE. For these reasons, we suppose in Plate XXII that the typhoon passed by the north of Hainan moving to NW by W.

To find out the velocity of translation of this typhoon, while it was crossing the China Sea, it will be sufficient for us tc compare the three points of the track corresponding to 8 p. m. of the 4th, 3 a. m. and 3 p. m. of the 6th. The distance between the first two points is 435 miles: and as the typhoon spent thirty-one hours in moving this distance, we have a mean velocity of 14 miles per hour. The distance between the second and third points is 184 miles, and since twelve hours were taken in passing over this space, we get a resultant velocity of 15.3 miles per hour. Taking, now, the whole expanse of the China Sea from Luzon to the north of Hainan, we can say that the typhoon moved with a mean velocity of 14.4 miles per hour.

THE TYPHOON OF ISABELA DE LUZON, OCTOBER 8 AND 9, 1908.

Origin of this typhoon.—From the 5th of the month the Manila Observatory had noticed signs of a new typhoon to the north of the Western Carolines. However, as the direction could not be ascertained, and in order not to alarm people with such frequent warnings of storms, it was thought better not to give out information on this subject until the typhoon would commence to influence the barometers of the Philippines and give considerable probability that, like the former one, it threatened to cross our Archipelago.

In order to locate the point of origin of this typhoon, see the following observations of Guam and Yap for the periods 3d to 5th and 4th to 8th, respectively.

METEOROLOGICAL OBSERVATIONS MADE AT SUMAY, GUAM, LADRONES ISLANDS, OCTOBER 3 TO 5, 1908.

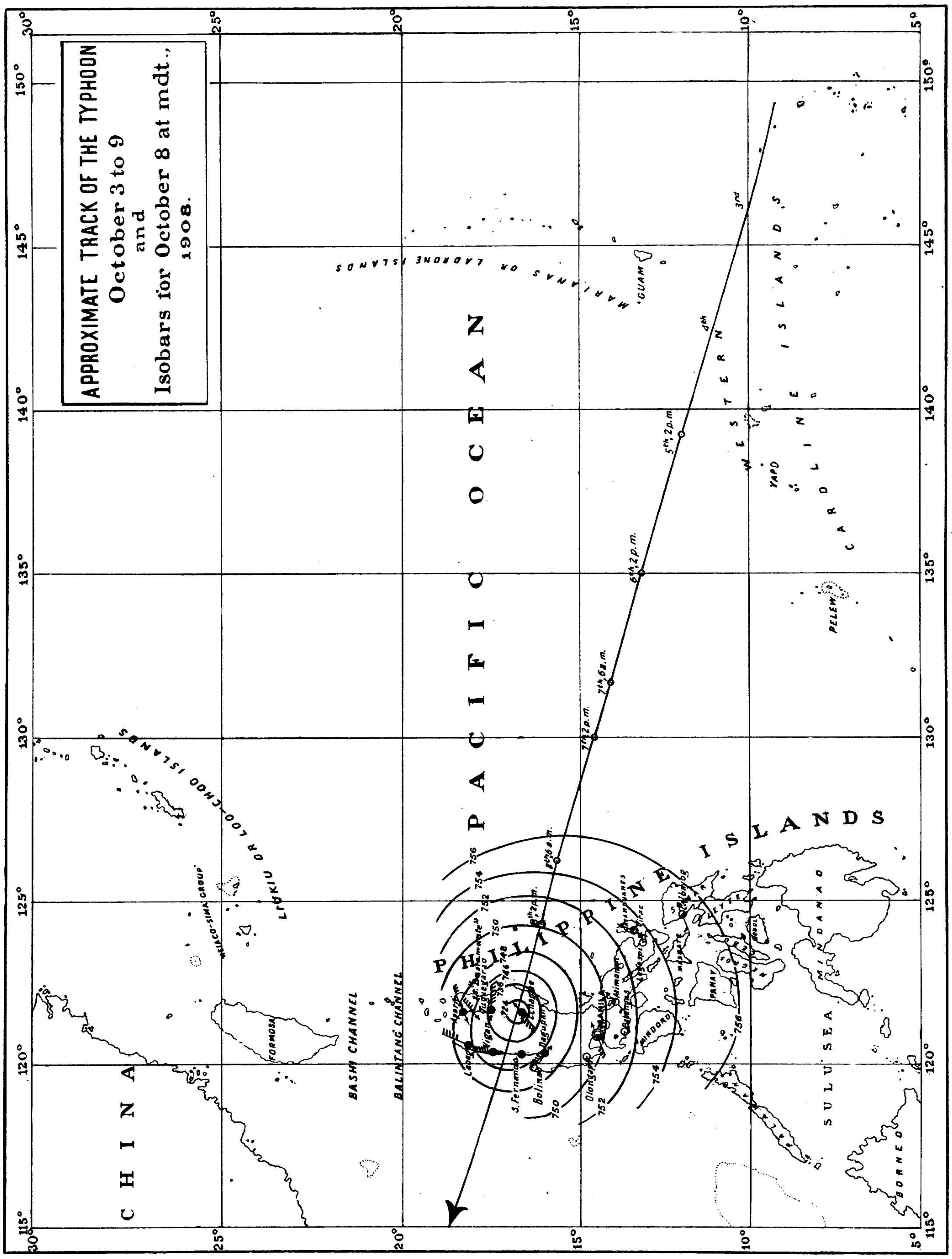
Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.	Rainfall (daily total).	Remarks.
			Direction.	Force.			
October 3:	*mm.*	*mm.*		*0-12.*		*mm.*	
6 a. m	759.91	+0.60	NE	1	b	--------	
2 p. m	58.51	— .28	E	1	c	--------	
6 p. m	58.94	— .75	NE	1	c	12.4	Squally all day with light showers.
October 4:							
6 a. m	57.32	—2.59	E	3	o	--------	Heavy squalls all night with light rain.
2 p. m	56.33	—2.18	SE	6	o	--------	Heavy squalls all morning with light
6 p. m	57.21	—1.73	SSE	3	o	12.4	rain; wind at noon, force 8.
October 5:							
6 a. m	58.33	+1.01	SE	1	o	--------	
2 p. m	57.59	+1.26	SE	3	c	--------	
6 p. m	57.71	+ .50	S	0	b	--------	In the evening lightning to E.

METEOROLOGICAL OBSERVATIONS MADE AT YAP (WESTERN CAROLINES), OCTOBER 4 TO 8, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.	Rainfall (daily total).
			Direction.	Force.		
October 4:	*mm.*	*mm.*		*0-12.*		*mm.*
6 a. m	759	—0.07	NE	1	b	--------
2 p. m	56.61	—1.88	N	3	c	3
October 5:						
6 a. m	57.84	—1.16	S	3	b	--------
2 p. m	55.49	—1.12	W	4	c	1
October 6:						
6 a. m	56.76	—1.08	SW	2	c	--------
2 p. m	55.65	+ .16	SW	4	c	5.1
October 7:						
6 a. m	57.67	+ .91	SW	2	b	--------
2 p. m	56.95	+1.30	SW	5	b	4.8
October 8:						
6 a. m	58.59	+ .92	SW	4	c	--------

According to these data, the typhoon was probably formed on the 3d to the south of the Ladrones Islands, in the vicinity of parallel 10° latitude N. At 2 p. m. of the 4th the center was apparently to the SW of Guam and the ENE of Yap; and in the evening of the 5th, it was passing by the north of the latter station moving WNW.

Plate XXIII.



N.B.–The barometric readings have been reduced to standard gravity.

The typhoon in the Philippines.—Forewarned as the Observatory was with the observations of Guam and Yap, we were able on the morning of the 7th not only to announce the existence of a typhoon in the Pacific to the east of the Philippines, but even to give its direction. The typhoon warning given out at 10.30 a. m. of that day reads as follows:

A new typhoon crossed north of the Western Carolines last Monday [October 5]. It appears this early morning east of the Philippines at a probable distance of less than 400 miles, and seems to be moving at present WNW or W by N. The cyclonic center may reach the Philippines to-morrow night or day after to-morrow.

The following telegram was sent to Tokio, Zikawei, Taihoku, Hongkong, and Phulien:

October 7, noon: Typhoon over the Pacific Ocean, about halfway between the Carolines and the Philippines, moving WNW.

How accurate these warnings were, may be seen by any one who will examine carefully the first part of the track of this typhoon which is shown in Plate XXIII. At 6 a. m. of the 7th the cyclonic center was less than 400 miles distant from the nearest point of our Archipelago—the eastern coast of Samar. Before reaching Luzon and even while crossing this island, the typhoon moved WNW. Finally, the vortex penetrated the Archipelago at about 10 p. m. of the 8th: for Echague, a town which is 40 miles from the eastern coast, and was very close to the cyclonic center, registered its barometric minimum at about midnight, and the typhoon was then moving 21 miles per hour as we will see further on.

At about noon of the 8th, the Observatory sent the following warning to the foreign meteorological centers of the Far East and to all the stations of the Philippines.

Typhoon E of Luzon, less than 300 miles distant, moving WNW.

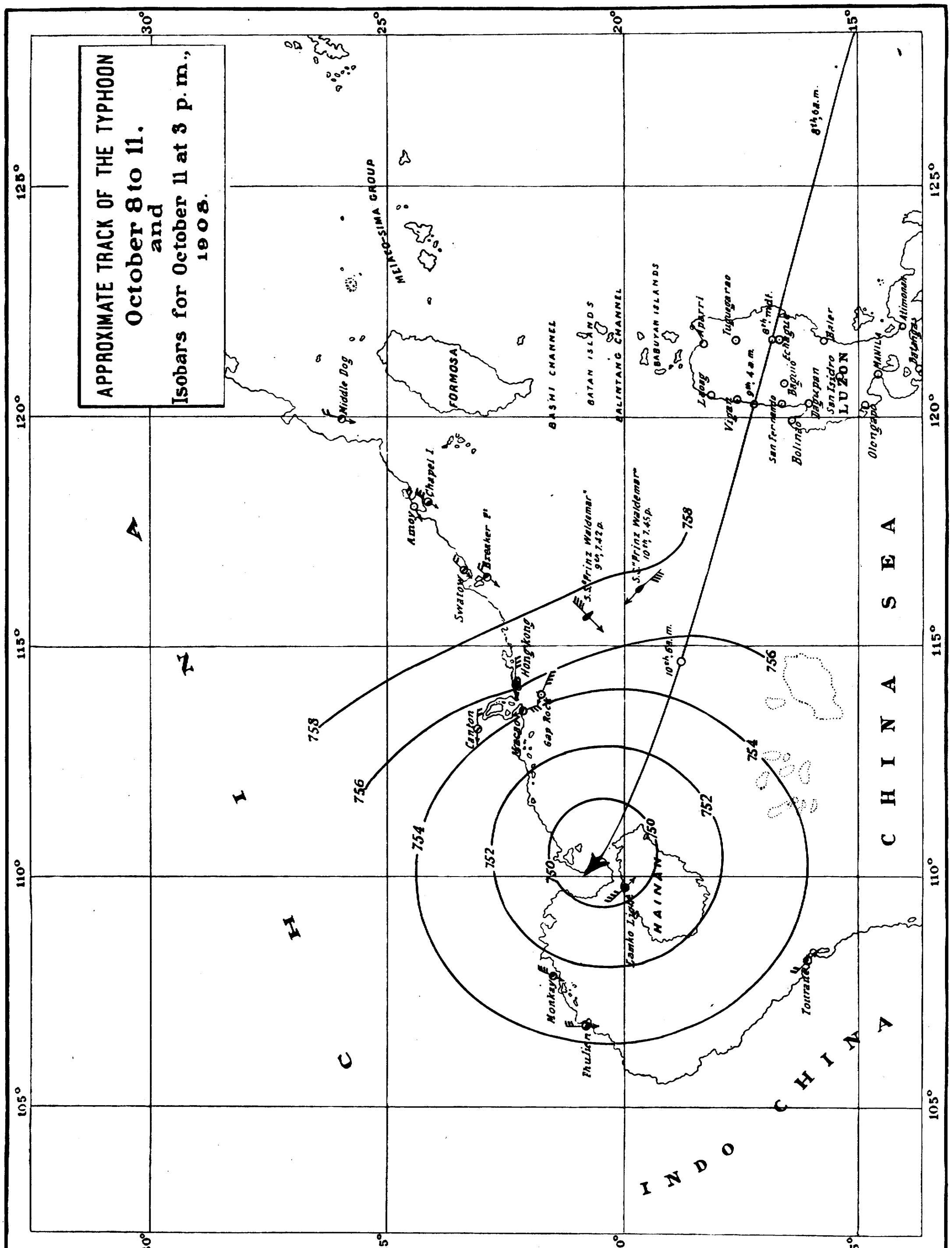
In Plate XXIII we give the distribution of the isobars and the position of the cyclonic center at midnight of the 8th, when it was passing at its nearest point to Echague, Isabela de Luzón, causing a barometric minimum in that place of 722.86 mm.

We give in a table below some of the observations taken in that station, during the afternoon of the 8th and the morning of the 9th. By examining these observations, it will be seen that, in spite of the remarkable barometric minimum, which we have just indicated, still no vortical calm was observed. The backing of the winds clearly indicates that the vortex passed by the north.

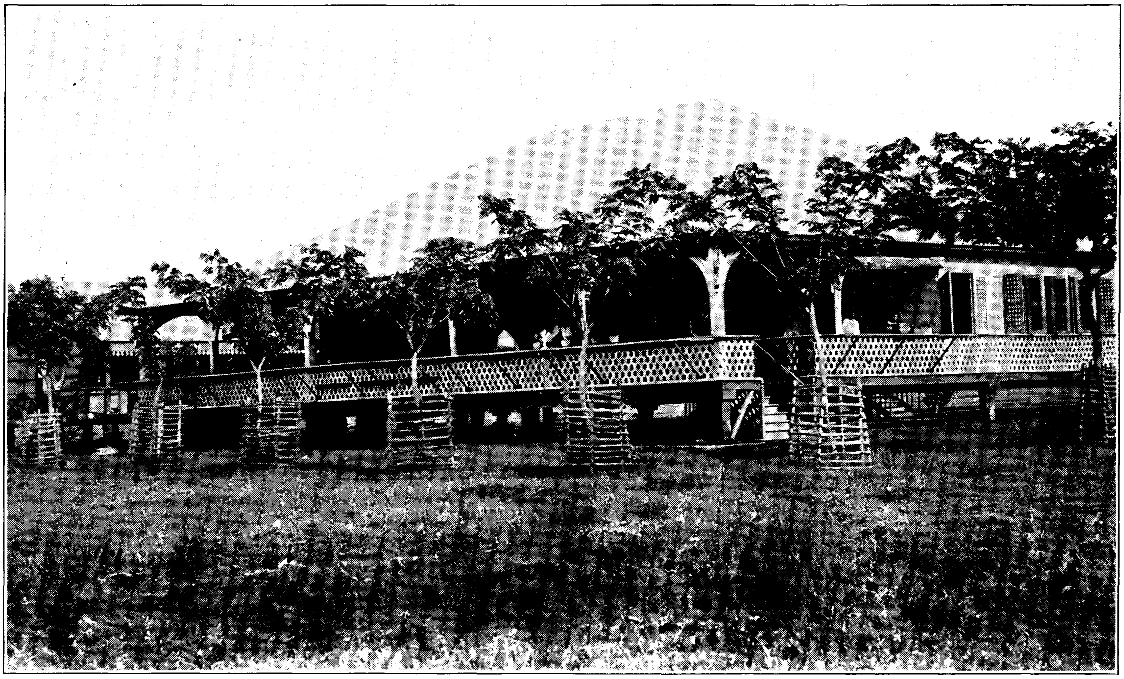
METEOROLOGICAL OBSERVATIONS MADE AT ECHAGUE, ISABELA DE LUZON, OCTOBER 8 TO 9, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Rainfall.	Weather.	Remarks.
			Direction.	Force.			
October 8:	*mm.*	*mm.*		*0–12.*	*mm.*		
2 p. m	751.69	— 5.74	WNW	3	--------	o, t	Thunderstorms toward E quadrants, drizzle at times.
4 p. m	50.30	— 6.52	NW	5	0.3?	q, t	Thunderstorm toward the NW quadrants with passing showers.
5 p. m	49.23	— 8.19	NW	5	.8	u	Passing showers and thunderstorm.
6 p. m	48.20	— 9.42	NW	6	.3	u	Do.
7 p. m	46.71	—11.51	NW	7	.5	q	Squally.
8 p. m	45.04	—13.68	WNW	8	.8	q	The barometer began to fall rapidly with whole gale and rain: force of the wind 8 to 12.
9 p. m	41.38	—17.44	WNW	8	3	q	
10 p. m	33.73	—24.84	WNW	8	5.8	q	
11 p. m	26.65	—31.67	WSW	9	8.9	q	Hurricane winds.
Midnight	22.86	—35.36	SW by W	9	10.2	q	At about midnight barometer began to rise with same rapidity as in the falling.
October 9:							
1 a. m	27.94	—29.28	SW	9	.8	q	Whole gale at intervals.
2 a. m	34.83	—22.09	SW	7	2	q	Do.
3 a. m	38.84	—18.03	SSW	6	1.3	q	Passing showers.
4 a. m	41.72	—15.20	S by W	4	.5	q	Do.

Plate XXV.



N. B.—The barometric readings have been reduced to standard gravity.



HOUSE OF THE SUPERINTENDENT OF THE "HACIENDA DE SAN LUIS", ISABELA DE LUZON, BEFORE THE TYPHOON OF OCTOBER 8.

HOUSE OF THE SUPERINTENDENT OF THE "HACIENDA DE SAN LUIS", ISABELA DE LUZON, AFTER THE TYPHOON OF OCTOBER 8.

The observations taken along the western coast of Luzon will help us to determine another point in the track, and also to calculate the velocity of translation of this typhoon across the said island. A little before 4 a. m. of the 9th the vortex passed south of Vigan and north of San Fernando, somewhat closer to the former than to the latter. See the barographic curves of these two stations and of Tuguegarao in Plate XXI.

If we now take the two points of the track, corresponding to midnight of the 8th and 4 a. m. of the 9th, we find that the distance of 85 miles was covered in four hours, which supposes a very extraordinary hourly velocity of 21.2 miles.

The Manila Observatory gave out the following information about this typhoon in the ordinary weather note of the 9th:

> The typhoon approached Luzon since yesterday afternoon with much greater velocity than the preceding days. It is estimated that it traversed the said Island at the extraordinary speed of at least 16 miles per hour. The cyclonic center passed north of Manila after midnight and north of Dagupan at about 4 a. m. * * *

As shown in Plate XXV, the vortex of this typhoon passed nearer to Vigan than Tuguegarao, and yet, according the barographic curves of those stations (see Plate XXI), the falling of the barometer was not so pronounced in the former as in the latter. This tends to prove that in this case, like that of the preceding typhoon, the shape of the storm underwent great variations while traversing Luzon Island.

The typhoon in the China Sea.—We have no observations for the China Sea, other than those which the captain of the steamer *Prinz Waldemar* sent us, which we publish below in a table. The position of that ship at noon, Greenwich time, on the 9th and 10th, is indicated in Plate XXV, in which we give the second part of the track of this typhoon.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "PRINZ WALDEMAR," OCTOBER 9 TO 11, 1908.

[Captain, Mr. W. v. Senden.]

Date and hour.	Position.		Pressure.	Wind.		Cloud.		Weather.	Remarks.
	Latitude N.	Longitude E.		Direction.	Force.	Form.	Direction.		
	° ′	° ′	*mm.*		*0–12.*				
October 9: 7.42 p. m.	20 48	115 38	753.86	NE	7	N.	NE	o	Left Hongkong at 6 a. m. First SE and E wind, force 3–5; at 2 p. m. wind changed to NE, force 6, increasing at 8 p. m. to 8–9, and at 10 p. m., to force 9–10. Very high sea and NE swell, lightning in SE; 1st cloudy, later overcast and rainy.
October 10: 7.45 p. m.	19 41	116 12	54.37	SE	7	--------	--------	o	At 1 a. m. wind changed to E, force 10; at 5 a. m. lowest barometer 749.54 mm., at noon SE wind, force 9. Later wind decreasing to 7–5. High south swell and sea, overcast partly, heavy rain squalls.
October 11: 7.52 p. m.	16 49	118 07	58.43	Calm	--------	Cu.-N.	NE	c	Forenoon wind steadily from SE-SSE, force 3–2. Later wind changed over south to SW, force 1–2. Smooth sea and high SW swell. Cloudy sky.

The Manila Observatory on the 9th sent the following two typhoon warnings to Tokio, Zikawei, Taihoku, Hongkong, and Phulien:

> October 9, 9 a. m.: Typhoon W of Luzon, less than 100 miles distant, moving WNW.
> October 9, 3.30 p. m.: Typhoon W of northern Luzon, more than 100 miles distant, moving WNW.

We received the following telegrams from Hongkong Observatory on the 10th and 11th:

> October 10, 11 a. m.: Typhoon SSE of Hongkong, moving WNW.
> October 11, noon: Typhoon near Hainan Straits, moving WNW.

The observations of the station Lamko light (Hainan Island), which we give below, have been very valuable to us in order to locate the typhoon on the afternoon of the 11th, that is in the last part of the track. According to these observations, the vortex was situated at 3 p. m. of the

11th to the ENE of Lamko, close to the eastern part of Lei-chau Peninsula. The fact that the winds blew constantly from the W, from 6 p. m. of the 11th until 3 a. m. of the 12th, although the barometer had risen at the latter hour to 756.27 mm., gives a great degree of probability to the opinion offered by the Director of Hongkong Observatory in the ordinary weather note of the 12th that the typhoon had filled up probably north of Hainan in the vicinity of Lei-chau Peninsula.

METEOROLOGICAL OBSERVATIONS MADE AT LAMKO LIGHT STATION, OCTOBER 11 AND 12, 1908.

Date and hour.	Pressure.	Wind.		Clouds.			Rain-fall.	Weather.	Sea.	Remarks.
		Direction.	Force.	Amount.	Form.	Direction.				
October 11:	*mm.*		*0–12.*	*0–10.*			*mm.*			
3 a. m	752.81	NW	5					o, m, p, r		At 1.40 a. m. thick mist and passing showers of rain set in to 8.50 a. m.
6 a. m	52.21	NW	5	10	N.	NW		o, m, p, r	R	
9 a. m	52.71	NW	6–7	10	N.	NW	6.6	o, m, w	R	At 9.15 a. m. blowing a fresh gale with thick mist and rainy weather from NW.
Noon	51.52	NW	7	10	N.	NW		o, m, r	H	
3 p. m	50.84	NW	8	10	N.	NW		o, m, r	H	
6 p. m	51.85	W	8	10	N.	WNW		o, g, m, r	H	
9 p. m	53.93	W	7					o, g, m, r		
Midnight	55.20	W	7					o, g, m, r		
October 12:										
3 a. m	56.27	W	5					o, g, m, r		Wind moderated.
6 a. m	57.79	WSW	3	10	N.	W		o, g, m, r	R	At 6.30 a. m. rain ceased.
9 a. m	59.37	WSW	2	10	S.	W	105.2	o, m, w	M	

It is indeed very remarkable how much the rate of progress of this typhoon decreased in the China Sea. We have stated above that the storm crossed Luzon Island with an unusual velocity of 21.2 miles per hour. Now, if we consider the portion of the track comprehended between the western coast of Luzon and the position of the cyclonic center corresponding to 3 p. m. of the 11th, when it was near the eastern coast of the Lei-chau Peninsula, we have a distance of 591.5 miles traversed by the typhoon in 59 hours. Hence we get as an average an hourly velocity of 10 miles. In all probability this decreasing in the rate of progress of this typhoon was rather gradual. Thus, if we take separately the distances between 4 a. m. of the 9th and 6 a. m. of the 10th, and between 6 a. m. of the 10th and 3 p. m. of the 11th, we have a mean velocity of 12.9 and 7.8 miles per hour, respectively.

THE TYPHOON OF CAGAYAN DE LUZON, OCTOBER 13, 1908.

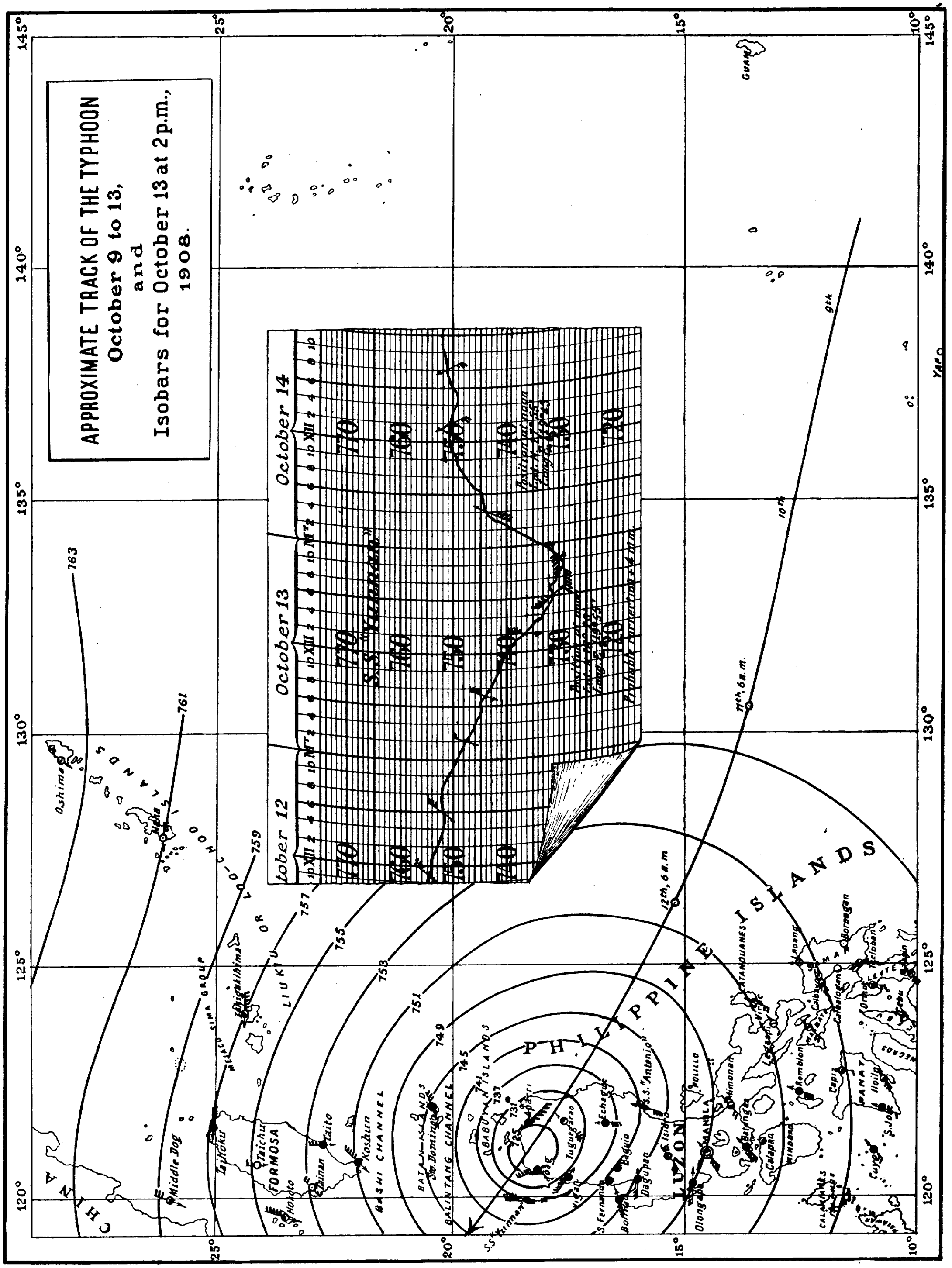
Origin of the typhoon.—The observations taken in Yap on the 9th and 10th (see the following table) seem to give sufficient foundation for the supposition that, even on the 9th, this typhoon had made its appearance to the NE or NNE of that station:

METEOROLOGICAL OBSERVATIONS MADE AT YAP (WESTERN CAROLINES), OCTOBER 8 TO 11, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.	Rainfall (daily total).
			Direction.	Force.		
October 8:	*mm.*	*mm.*		*0–12.*		*mm.*
2 p. m.	757.17	+0.22	W	4	c	
October 9:						
6 a. m	58.96	+ .37	WSW	4	c	
2 p. m	56.37	— .80	WSW	6	c	38.1
October 10:						
6 a. m	57.73	—1.23	SW	5	o	
2 p. m	56.68	+ .31	W	5	o	88.9
October 11:						
6 a. m	58.48	+ .75	SW	2	o	
2 p. m	57.23	+ .55	SW	4	o	33

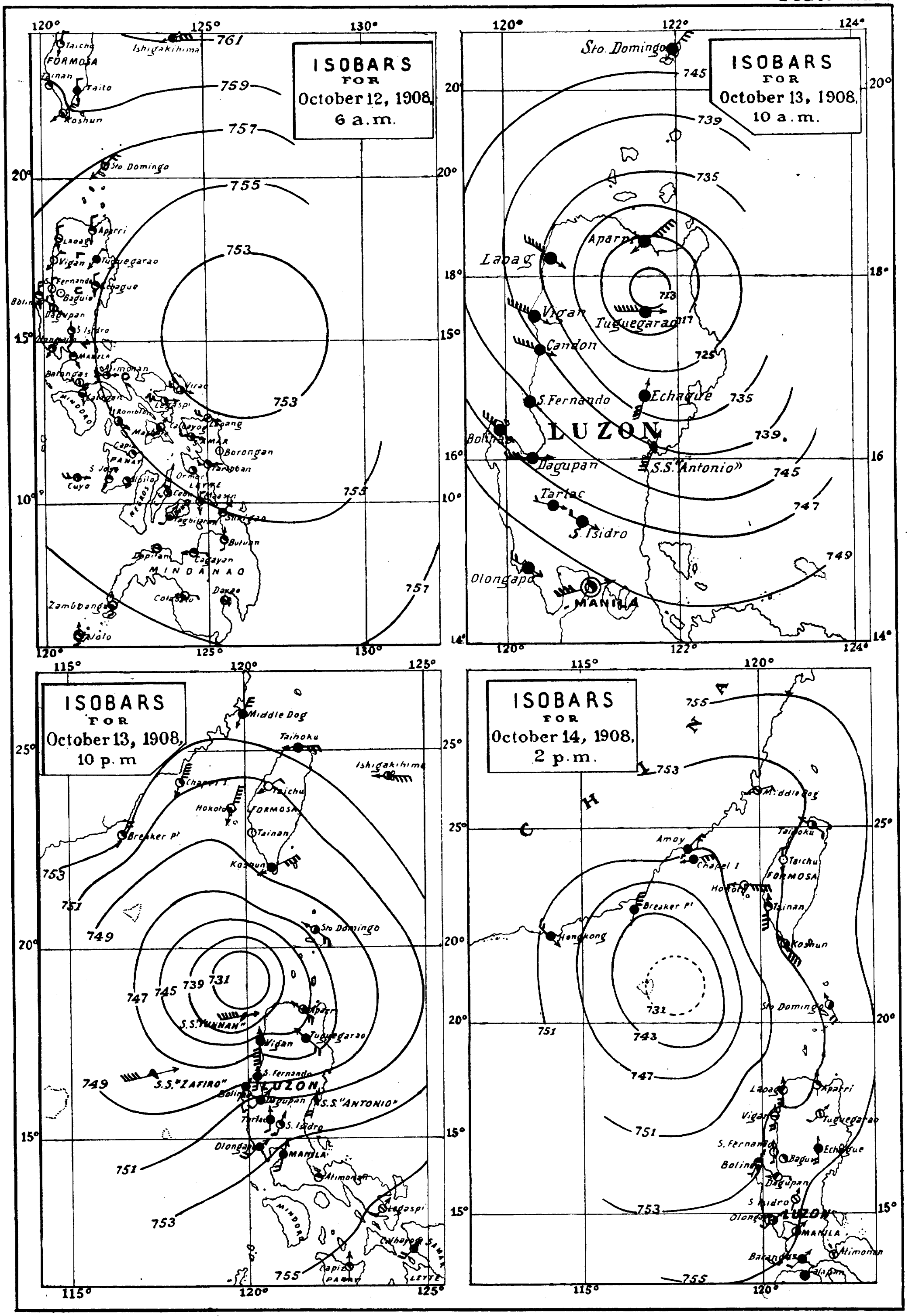
In the meteorological reports that we received from Guam, we find quoted light winds from the SE at 2 p. m. of the 8th, although for the most part the winds observed there on the 8th and

Plate XXVI.



N. B.—The barometric readings have been reduced to standard gravity.

Plate XXVII.



N. B.—The barometric readings have been reduced to standard gravity.

9th were from the S, force 1 of the Beaufort scale. By a comparison of these data from Guam with the fact that in Yap the winds from the WSW and SW had acquired considerable force during the 9th and 10th, it seems probable that the typhoon was being formed on the 9th between Guam and Yap, considerably nearer to the second station, as may be seen in the track of this typhoon given in Plate XXVI.

The typhoon in Luzon.—Manila Observatory on the 11th, 12th, and 13th sent the following warnings to the observatories of Tokio, Zikawei, Taihoku, Hongkong, and Phulien.

11th, noon: Typhoon E of southern Luzon, direction unknown.
12th, 9 a. m.: Typhoon E of southern Luzon, moving W or WNW.
12th, 3.30 p. m.: Typhoon E of Luzon, less than 300 miles distant, moving WNW.
13th, 7 a. m.: Typhoon NE of Manila, moving W or WNW.
13th, noon: Typhoon crossing northern Luzon, moving WNW.
13th, 3.30 p. m.: Typhoon crossing northern Luzon, moving NW.

In the first two small maps of Plate XXVII we publish the distribution of isobars and the position of the cyclonic center at 6 a. m. of the 12th and 10 a. m. of the 13th.

At 6 a. m. of the 12th the vortex was located to the E of the central part of Luzon at a distance of almost 300 miles; and at 10 a. m. of the 13th it was crossing the Province of Cagayan de Luzon between Tuguegarao and Aparri, raging with such extraordinary violence and causing such terrible inundations that no one remembered ever to have seen a typhoon similar to this one, as is said in the reports which we copy later.

In a table below will be found a résumé of the state of the atmosphere in the Philippines and Formosa on the 12th and 13th. Likewise we publish in two other tables the observations taken during the passing of the typhoon at the stations of Aparri and Tuguegarao, as we consider them of especial interest to our readers.

METEOROLOGICAL OBSERVATIONS FOR FORMOSA AND THE PHILIPPINES, OCTOBER 12 AND 13, 1908.

OCTOBER 12, 1908.

Station.	5 or 6 a. m.[a]					1 or 2 p. m.[a]					9 or 10 p. m.[a]				
	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.
	mm.			*0–12.*		*mm.*			*0–12.*		*mm.*			*0–12.*	
Taihoku	762.50	+2.60	E	2	r	763.20	+3.40	E	8	o					
Pescadores	60.20	+ .70	NNE	7	o	59.80	— .90	NNE	10	o	759.20	—2.10	NNE	8	b
Koshun	60.20	+ .60	NE	4	c	59.20	+ .20	NE	8	o	58.70	—2.30	NE	8	b
Santo Domingo	58.39	— .33	NE	3	b	56.13	—2.71	NE	4	o					
Aparri	58.31	—1.02	N	1	o	55.36	—3.18	NNW	2	o	52.42	—7.17	N	5	u, d
Laoag	57.89	— .62	N	1	c	54.80	—2.76	N	3	c					
Tuguegarao	57.40	—1.61	NE	1	o, d	54.24	—3.43	NW	3	o, r	50.94	—8.13	NW	8	q
Vigan	57.85	—1.05	NE	1	b	54.73	—3.61	N	5	c	53.72	—5.81	N	7	u, d
Echagüe	56.60	—1.58	N	1	o	52.79	—4.28	NW	5	q					
Dagupan	57.23	—1.53	NW	2	c	54.91	—2.67	NW	3	o	53.44	—5.79	NW	4	o, u
Manila	57.51	—1.44	NNW	1	o	54.61	—2.91	WSW	1	o	53.45	—5.80	WNW	4	u
Legaspi	55.92	—2.32	W	1	o	53.30	—3.37	W	2	o	53.06	—4.59	W	2	o
Calbayog	56.61	—1.99	W	1	o	54.72	—2.34	W	3	o	55.19	—2.87	WSW	3	o
Iloilo	57.48	—1.36	Calm		o	55.64	—1.70	WSW	2	o, d	56.17	—2.65	WSW	3	o

OCTOBER 13, 1908.

Station.	5 or 6 a. m.[a] Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.	1 or 2 p. m.[a] Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.	9 or 10 p. m.[a] Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.
Taihoku	761.10	— 1.40	E	3	o	758.20	— 5.00	E	8	r					
Pescadores	56.30	— 3.90	NNE	9	o	55	— 4.80	NNE	10	o	751.30	—7.90	NNE	10	o
Koshun	56.10	— 4.10	ESE	6	o	52.40	— 6.80	NE	10	r	51.20	—7.50	ENE	8	r
Santo Domingo	49.13	— 9.26	NE	6	q	46.05	—10.08	NE by E	6	q					
Aparri	35.21	—23.10	N	10	q	27.35	—28.01	SE	6	q	46.32	—6.10	SE	4	o
Laoag	44.45	—13.44	NNW	12	q	25.25	—29.55	NNW	12	q					
Tuguegarao	33.21	—24.19	NW	12	q	29.20	—25.04	SW	12	o	47.60	—3.34	SE	8	o
Vigan	46.03	—11.82	N	12	q	33.01	—21.72	WNW	12	q	47.87	—5.85	S	10	q
Echagüe	38.51	—18.09	SW	5	q	36.02	—16.77	S	7	q					
Dagupan	49.19	— 8.04	NW	8	q	46.85	— 8.06	W	8	q	53.10	— .34	SW	1	o, d
Manila	50.59	— 6.92	W by N	4	o	50.83	— 3.78	WSW	7	o	54.90	+1.45	SSW	3	
Legaspi	52.16	— 3.76	SW	1	o	52.90	— .40	WSW	2	c	56.89	+3.83	SW	1	c
Calbayog	54.60	— 2.01	SW	3	o	54.82	+ .10	SW	3	o	57.65	+2.46	SW	3	o, l
Iloilo	55.33	— 2.15	WSW	3	o	55.42	— .22	SW	5	o	57.52	+1.35	SW	3	o

[a] The observations for Formosa were made at 5 a. m., 1 and 9 p m., those for the Philippines, at 6 a. m., 2 and 10 p. m.

METEOROLOGICAL OBSERVATIONS MADE AT TUGUEGARAO, CAGAYAN DE LUZON, OCTOBER 12 TO 14, 1908.

Date and hour.	Pressure.	Wind.		Weather.	Remarks.
		Direction.	Force.		
October 12:	*mm.*		*0-12.*		
6 a. m	757.40	NE	1	o, d	
10 a. m	57.42	N	2	o	
Noon	55.86	NW	2	o	
2 p. m	54.24	NW	3	o, r	Rain at times.
5 p. m	53.35	NW	5	o	Wind increasing in force.
6 p. m	52.46	NW	5	o, r	Yellowish and greenish coloration of clouds.
9 p. m	51.65	NW	6	o	The storm is approaching the locality.
10 p. m	50.94	NW	8	q	Do.
11 p. m	49.82	NW	12	----------	Do.
Midnight	48.37	NW-N	12	----------	Do.
October 13:					
1 a. m	46.39	N	12	----------	Do.
2 a. m	43.55	NW	12	q	Do.
3 a. m	41.57	NW	12	----------	Do.
4 a. m	39.29	NW	12	----------	Do.
5 a. m	35.34	NW	12	----------	Heavy storm.
6 a. m	33.21	NW	12	q	Storm extremely severe. Anemometer destroyed; thermometer's shelter damaged.
7 a. m	28.27	NW	12	o	Part of the weather bureau office unroofed.
8 a. m	21.38	NW	12	o	Partitions in the house thrown down.
10 a. m	15.50	W	12	q	The lowest barometer reading was 711 mm. at about 9 a. m. and at 9.46 a. m.; wind begins to back with terrific violence; 10 a. m. wind continues backing.
11 a. m	18.10	W	12	o	Terirfic typhoon gale.
Noon	22.10	WSW	12	o	Do.
1 p. m	26	SW	12	o	Do.
2 p. m	29.20	SW	12	o	Storm continues; rain ceases.
3 p. m	31.40	SE	12	o	Storm continues; no rain.
4 p. m	34.30	SE	12	o	Drizzling.
5 p. m	37	SE	12	c	Clearing up toward the SE and SW quadrants.
6 p. m	39.30	SE	10	o	Whole gale.
7 p. m	41.20	SE	10	o	Do.
8 p. m	44.10	SE	9	c	Storm abating.
9 p. m	46.10	SE	8	c	Storm abating; stars appear.
11 p. m	49.40	SE	8	o	
Midnight	50	SE	6	c	Cloudy with strong wind.
October 14:					
2 a. m	50.60	SE	3	c	The storm is partially over; the moon appears; some stars can be seen.
6 a. m	53	SE	1	o	
10 a. m	55.51	SE	1	o	

METEOROLOGICAL OBSERVATIONS MADE AT APARRI, CAGAYAN DE LUZON, OCTOBER 12 TO 14, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Date and hour.	Pressure.	Difference in 24 hours.	Wind.	
			Direction.	Velocity.				Direction.	Velocity.				Direction.	Velocity.
October 12:	*mm.*	*mm.*		*Km.p.h.*	October 13:	*mm.*	*mm.*		*Km.p.h.*	October 13:	*mm.*	*mm.*		*Km.p.h.*
9 a. m	758.31	--------	N	14.7	1 a. m	747.32	--------	N	61.2	1 p. m	725.00	—30.84	ESE	(a)
10 a. m	58.16	—2.14	N by W	15.5	2 a. m	45.40	—13.04	NNE	67.6	2 p. m	27.35	—28.01	SE	(a)
11 a. m	57.90	--------	NNW	19	3 a. m	43.03	--------	NNE	72.4	3 p. m	29.98	—24.83	SE	(a)
Noon	56.74	--------	NNW	18.8	4 a. m	40.64	--------	NNW	83.7	6 p. m	35.32	—18.47	SE	(a)
1 p. m	55.84	--------	N	21.2	5 a. m	38.35	--------	N	91.2	7 p. m	39.07	—14.46	SE	(a)
2 p. m	55.36	—3.18	NNW	25.7	6 a. m	35.21	—23.10	N	88.5	8 p. m	42.45	—10.92	SE	(a)
3 p. m	54.81	--------	NNW	25.5	7 a. m	30.05	--------	N	95.5	9 p. m	44.23	— 8.74	SE	(a)
4 p. m	54.29	--------	NNW	24.9	8 a. m	26.56	--------	NNE	(a)	10 p. m	46.32	— 6.10	SE	(a)
5 p. m	54.04	--------	NNW	27.4	9 a. m	24.32	—33.99	NNW	(a)	11 p. m	47.68	— 2.87	SE	(a)
6 p. m	53.79	—4.94	N	28.5	9.45 a. m	20.42	--------	NE	--------	October 14:				
7 p. m	53.53	--------	NNW	35.1	10 a. m	18.19	—39.97	NE	(a)	2 a. m	49.53	+ 4.13	SSE	(a)
8 p. m	53.37	--------	N	39.1	10.30 a. m	16.34	--------	ENE	--------	6 a. m	53.14	+17.93	SSE	(a)
9 p. m	52.97	--------	NNW	36.8	10.45 a. m	16.29	--------	ENE	--------	10 a. m	55.87	+37.68	SSE	(a)
10 p. m	52.42	—7.17	N	40.8	11 a. m	17.04	—40.86	ENE	(a)	2 p. m	54.69	+27.34	S	(a)
11 p. m	50.55	--------	N	44.5	11.15 a. m	18.39	--------	E	--------	6 p. m	55.61	+20.29	S	(a)
Midnight	49.35	--------	N	49.9	Noon	22.32	—34.42	E	(a)	10 p. m	57.61	+11.29	S	(a)

[a] Unfortunately the anemograph was out of order since 7 or 8 a. m. of the 13th.

In regard to the observations of Aparri and Tuguegarao we have to note the following: (1) Since the pluviometers in both stations were wrenched from their positions either by the force of the water or by the violence of the winds, we find ourselves deprived of pluviometric data, noted during the passing of the typhoon. (2) In the meteorological table of Aparri we have been forced to omit the velocity of the wind after 7 a. m. of the 13th, because the anemograph of that station got out of order, as it is explicitly stated by the observer, D. Manuel Delgado, in his report on this typhoon. According to this report, the winds from the SE which blew after the passing of the vortex were at least as violent as those from the N in the front semicircle of the typhoon. (3) The anemometer of Tuguegarao fell to the ground during the first hurricane gusts in the morning of the 13th, and as the observer had no means of determining the exact direction of the wind, it is not surprising, for example, that at 11 a. m. he gives the direction of the wind as W, when it was possibly WSW, since the vortex had already passed the meridian of that station.

The barometric curves obtained in these two stations may be seen in Plate XXVIII. The minimum of Tuguegarao was 711 mm. in spite of the fact that this station was about 15 miles from the vortex.

It is to be regretted that we have not received any observation from places that were situated in the vortical region.

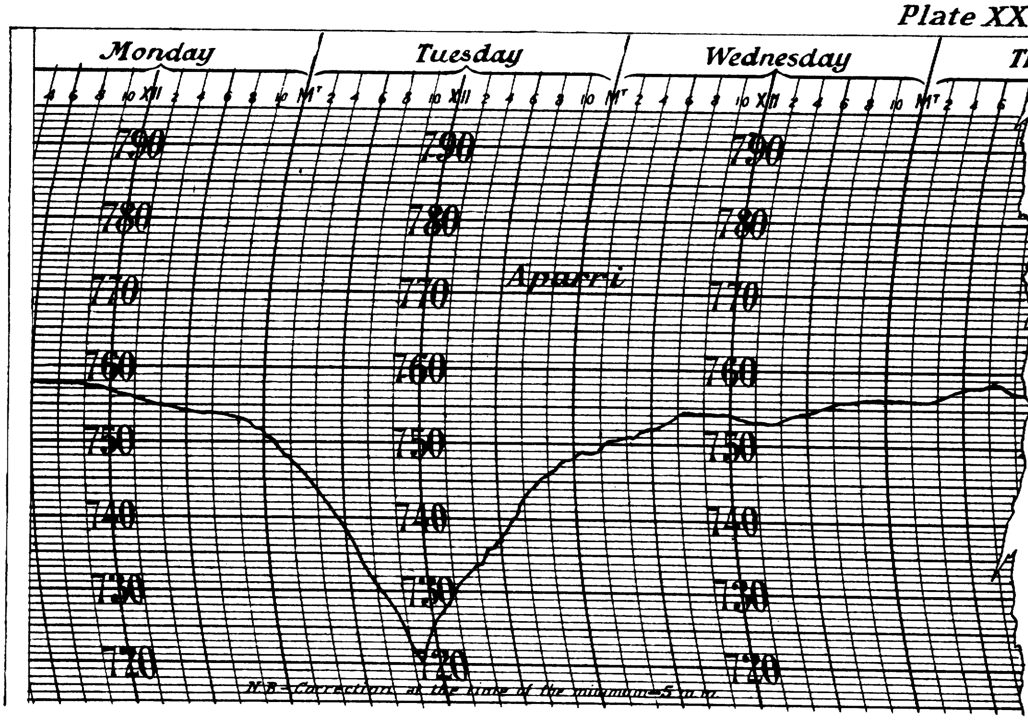
During the 12th and the morning of the 13th the United States battle-ship fleet, which, en route from Manila to Yokohama, was at this time to the east of the Balintang and Bashi Channels, experienced the violence of this typhoon, as our readers may see by examining the table of the excellent observations made aboard the battle ship *New Jersey,* which we owe to the kindness of the navigating officer Lieut. Commander Matt. H. Signor:

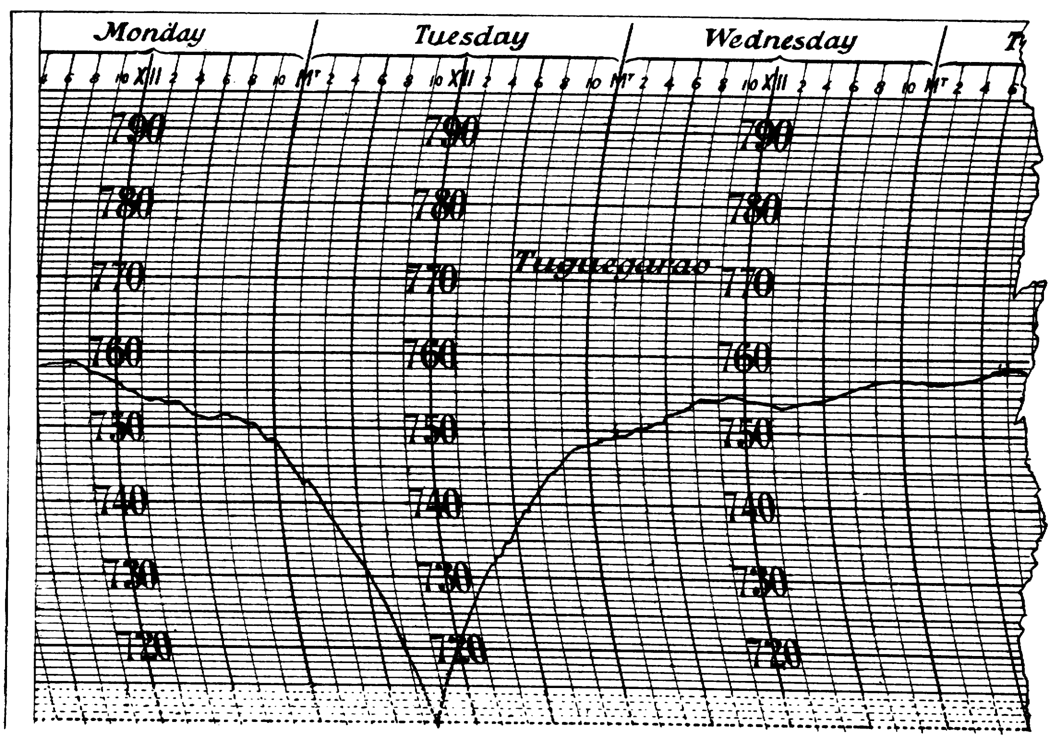
METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE AMERICAN MAN-OF-WAR "NEW JERSEY, OCTOBER 11 TO 14, 1908.

Date and hour.	Position.				Pressure.	Wind.		Lower clouds.		Weather.	State of the sea.	Remarks.
	Latitude N.		Longitude E.			Direction.	Force.	Form.	Direction.			
October 11:	°	'	°	'	*mm.*		*0-12.*					
8 p. m	18	50	122	17	758.43	NE	4	Cu.-N.	ENE	c, p, q, l	S	Barometer almost normal, lightning and rain squalls from eastward.
Midnight	19	19	122	43	58.68	NE	4	Cu.-N.	----------	c, p, q	S	
October 12:												
4 a. m	19	47	123	09	56.65	NE by N	5	Cu.-N.	----------	o, p	M	
8 a. m	20	21	123	52	50.40	NE by N	8	Cu.-N.	----------	o	R	
Noon	20	46	123	56	54.87	NNE	9	Fr.-N., Cu. Cu.-N.	NE	o, p, q	R	About 9 a. m. earliest indications of storm.
4 p. m	21	00	124	09	52.59	NNE	9	Cu., Cu.-N.	----------	o, p, q	R	
8 p. m	21	14	124	15	52.59	NNE	9	Fr.-N., N.	NE	o, p, q	H	Barometer rose 0.76 mm. from 8 to 10 p. m., then fell 1.27 mm. from 10 p. m. to 1 a. m.
Midnight	21	27	124	23	52.59	NE	9	Cu., Cu.-N.	----------	o, p, q	H	
October 13:												
4 a. m	21	43	124	30	52.33	NE	9	Cu.-N.	----------	o, p, q	H	Lowest barometer at 1 a. m. 752.08 mm.
8 a. m	21	58	124	38	53.86	E	9	Fr.-N., N.	E by S	o, p, q	H	From 4 to 8 a. m., heavy wind and rain squalls in gusts; clouds scudding rapidly and heaviest seas experienced.
Noon	22	12	124	42	54.62	E	8	N.	E by S	o, q	H	From 8 a. m. to noon, very little rain, wind not so squally.
4 p. m	22	29	125	10	55.13	E	6	Fr.-N. Cu.-N.	E by S	o, q	H	
8 p. m	22	51	125	37	57.16	E	6	Fr.-Cu. Cu.-N.	E	c, q	H	From noon to 8 p. m. Wind trifle squally.
Midnight	23	18	126	09	57.92	SSE	6	----------	----------	c	R	Clearing weather, and wind moderating.
October 14:												
4 a. m	23	35	126	37	58.43	SE by E	5	Cu.	----------	c	R	Do.
8 a. m	24	01	127	05	59.95	SE by E	4	----------	----------	c	M	Do.
Noon	24	26	127	31	59.95	SE by E	4	Cu.	----------	c	M	
4 p. m	24	53	128	08	59.45	ESE	4	Cu.-N.	----------	c, p	M	Remainder of day cloudy and cool, a little squally toward evening, and passing showers.
8 p. m	25	25	128	36	60.21	ESE	4	Cu.-N.	ESE	c	M	
Midnight	25	50	129	09	60.72	SE by E	5	Cu.-N.	----------	c	M	

BAROGRAPHIC RECORDS, OCTOBER 12 TO 15, 1908.

Plate XXVIII.





The above-mentioned observations of Aparri together with those of Laoag and Vigan given in the following table serve to determine the course of this typhoon across the northern part of Luzon until it entered the China Sea near the extreme northwestern coast of this island.

METEOROLOGICAL OBSERVATIONS MADE AT VIGAN AND LAOAG, OCTOBER 12 TO 14, 1908.

Date and hour.	Vigan.						Laoag.					
	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.	Rainfall (daily total).	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.	Rainfall (daily total).
October 12:	*mm.*	*mm.*		*0–12.*		*mm.*	*mm.*	*mm.*		*0–12.*		*mm.*
6 a. m	757.85	− 1.05	NE	1	b		757.89	− 0.62	N	1	c	
10 a. m	57.52	− 2.61	N by E	2	b							
2 p. m	54.73	− 3.61	N	5	c		54.80	− 2.76	N	3	c	
4 p. m	54.24		N	5	o		54.39		N	3	o	
5 p. m	54.01		NNE	6	b							
8 p. m	54.32		N	4	b							
10 p. m	53.72	− 5.81	N	7	o, d							3
Midnight	52.64		N	11	q	0.3						
October 13:												
2 a. m	51.42	− 6.44	N	12	q		50.06		N	12	q	
3 a. m	49.42		N	12	q							
4 a. m	48.22		NNW	12	q		47.51		N	12	q	
5 a. m	47.03		NNW	12	q							
6 a. m	46.03	−11.82	N	12	q		44.45	−13.44	NNW	12	q	
7 a. m	45.01		NNW	12	q							
8 a. m	43.16		NW	12	q		42.08		N	12	q	
8.45 a. m	41.87		NW	12	q							
9 a. m	40.97		NW	12	q		38.30		NW	12	q	
10 a. m	39.40	−18.12	NW	12	q		36.30		NW	12	q	
10.30 a. m	39		NW	12	q							
10.45 a. m	37.99		NW	12	q							
11 a. m	37.59		NW	12	q		32.67		NNW	12	q	
11.45 a. m	35.78		NW	12	q							
Noon	35.45		NW	12	q		30		NW	12	q	
1 p. m	34		WNW	12	q		26.72		NW	12	q	
2 p. m	33.01	−21.72	WNW	12	q		25.25	−29.55	NNW	12	q	
2.15 p. m	32.99		NW by W	12	q							
2.45 p. m	32.75		W	11	q							
3 p. m	32.85	−21.40	W	10	q		24.34		NNW?	12	q	
3.30 p.	32.94		WSW	9	q							
4 p. m m	32.92	−21.32	WSW	8	q		24.29	−30.10	NW?	10	q	
4.15 p. m	33.08		SW by W	7	q				(a)			
4.45 p. m	33.87		SSW	9	q							
5 p. m	34.57	−19.44	SW	12	q							
10 p. m	47.87	− 5.85	S	10	q	139.2						168.4
October 14:												
2 a. m	51.18	− 24	S	6	o, d							
6 a. m	53.59	+ 7.56	S	7	o, d		52.23	+ 7.78	S	2	r	
10 a. m	56.48	+17.08	S	3	o							
2 p. m	55.28	+22.27	S	4	c		54.50	+29.25	S	6	o	
6 p. m	56.06	+19.52	S	2	b							
10 p. m	57.82	+ 9.95	SE	1	b							21.1

[a] It is to be regretted that the observer at Laoag did not take any more observations on the 13th after the time of the barometric minimum. He was satisfied with the statement made in his report that the winds backed from NW to S. (See this report later.)

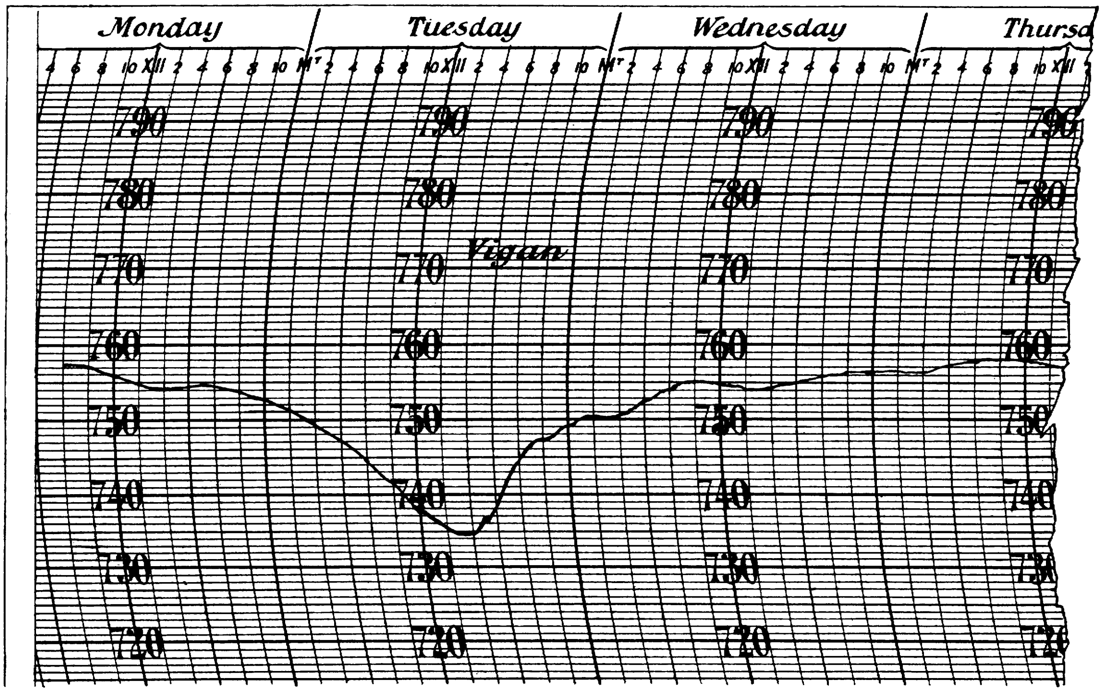
The vortex passed nearest to Laoag at 4 p. m. of the 13th. The typhoon had crossed the Province of Cagayan in a NW by W direction approximately.

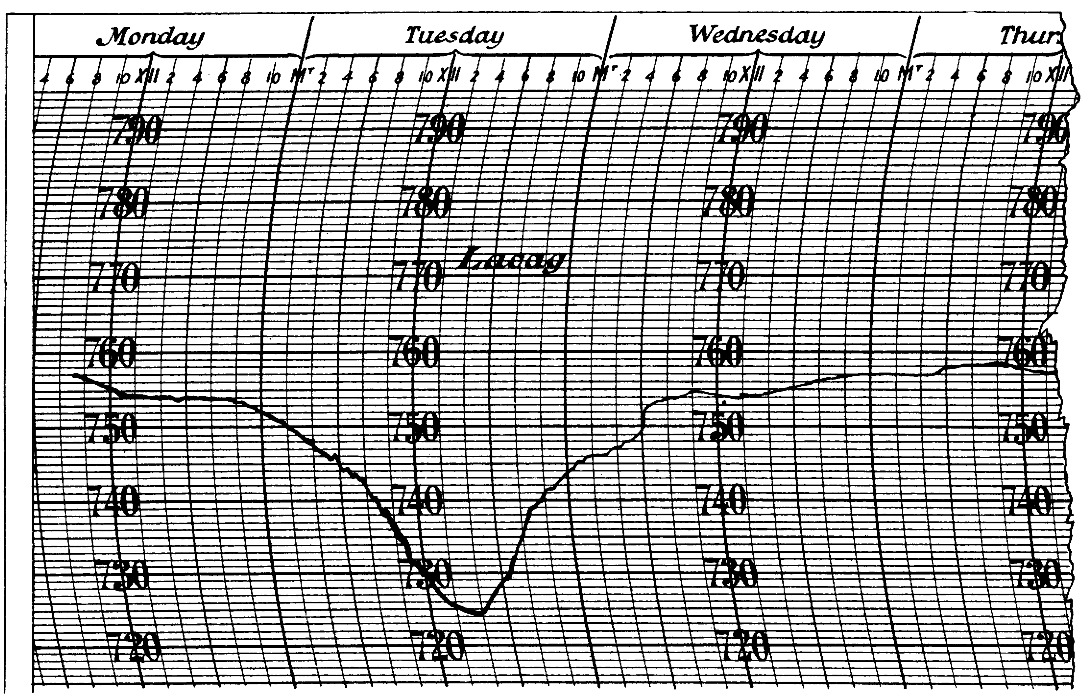
Here we wish to add that the part of the track which Zikawei Observatory published in the weather map of October 14 is remarkably exact, considering the few observations which could be obtained at the time, since all communication with Northern Luzon was then interrupted.

The typhoon in the China Sea.—The observations made aboard the steamers *Yunnan, Zafiro,* and *Germania* have assisted us considerably in tracing that part of the track of this typhoon comprehended between the afternoon of the 13th and the night of the 14th. We give below in two tables the observations of the steamers *Zafiro* and *Germania;* the first we owe to the captain, Mr. R. Rodger, and the second set were sent to us by Rev. Father Eusebius Lehmann, observer of Yap, Western Carolines, who showed his interest in the service of the Philippine Weather Bureau by asking and obtaining from the captain of said ship a faithful copy of the observations. We are indebted to the captain of the French steamer *Yunnan* for the barographic curve which we give in Plate XXVI.

BAROGRAPHIC RECORDS, OCTOBER 12 TO 15, 1908.

Plate XXIX.





METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "ZAFIRO" OCTOBER 12 TO 14, 1908.

[Captain, Mr. R. Rodger.]

Date and hour.	Pressure.	Difference in 24 hours.	Weather.	Remarks.
October 12:	*mm.*	*mm.*		
8 a. m	756.91			Strong gale from E by N; high confused sea.
Noon	55.64		q	Ship's position, 21° 33′ lat. N, 114° 49′ long. E; strong gale from ENE and squally, high NE sea.
4 p. m	56.91		q	Moderate gale from ENE with light rain squalls. At 6 p. m. heavy rain squalls, wind shifted to NE.
8 p. m	57.92		o, r	Strong breeze from NE, heavy occasional rain squalls, dull and overcast, heavy N and easterly swell.
Midnight	57.41		o, p	Strong NE breeze, dull and overcast, passing showers, heavy NE swell.
October 13:				
2 a. m	55.64			Barometer falling steadily; wind backing to NNE.
4 a. m	54.87		o	Fresh NNE breeze, cloudy and overcast, moderate NE swell.
8 a. m	54.11	— 2.80	c	NNE wind; cloudy and doubtful weather, confused sea, observed swell coming from E to ESE.
Noon	52.33	— 3.31		Ship's position, 18° 23′ lat. N, 117° 19′ long. E; strong increasing NNE breeze, with increasing and confused sea; swell from ESE very pronounced. Dense cloud banks to the SE and Eastward.
1.20 p. m.	50.81			Wind shifted to north.
3 p. m	50.56			Wind backed to NNW.
4 p. m	49.54	— 7.37	q	Strong NW by W gale, high confused sea, heavy squalls.
6 p. m	48.27			W by N wind.
7 p. m	47.76			W by N wind, altered course S by W.
8 p. m	47.51	— 10.41	q	Fierce W gale, tremendous cross sea, terrific frequent rain squalls.
9 p. m	47.51		q	Wind from W by S; barometer steadying, terrific squalls.
10 p. m	48.78		q	Squalls less frequent; altered course to SSE; W by S wind.
11 p. m	50.05			Wind from WSW; altered course to SE.
Midnight	50.56	— 6.85		Weather improving fast, squalls less severe, high confused sea wind from WSW.
October 14:				
4 a. m	51.06	— 3.81		Strong SW by W gale; high N swell, confused sea.
8 a. m	54.37	+ .26	c	SW wind; fresh breeze, sky clearing; heavy NNW swell.
Noon	56.14	+ 3.81	b	Ship's position, 15° 20′ lat. N, 119° 00′ long. E. Moderate S breeze; fine clear weather. Heavy NW swell.
4 p. m	55.89	+ 6.35	b	Moderate S breeze, fine clear weather; considerable NW swell.

N. B.—These barometric readings seem to be 0.8 mm. too low.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "GERMANIA," OCTOBER 12 TO 15, 1908.

[Captain, Mr. Flügel.]

Date and hour.	Pressure.	Difference in 24 hours.	Weather.	Remarks.
October 12:	*mm.*	*mm.*		
8 a. m	759			Strong and continuous rocking; at 7 a. m. strong E wind and overcast.
Noon	59.3			Strong and continuous rocking. At 9 a. m. and 1 p. m. cloudy and strong ENE wind.
4 p. m	58		q	Strong and continuous rocking; from 4 p. m. to midnight, stormy weather.
8 p. m	58.5		q	Strong and continuous rocking.
Midnight	58		q	Ground swell.
October 13:				
3 a. m	54			At 1, 2 and 5 a. m. strong NNE wind, overcast and stormy.
8 a. m	55.3	—3.7		Toward 10 a. m. the waves broke in the door of the saloon.
Noon	53.3	—6		Ship's position, 21° 31′ lat. N, 117° 03′ long. E, the waves wash over the ship in all parts.
6 p. m	50		q	Hurricane winds: at 1 p. m. strong N wind and stormy; from 5 p. m. to midnight strong NNE wind and stormy.
October 13:	*mm.*	*mm.*		
8 p. m	48.5	—10	q	The storm is raging.
Midnight	45	—13	q	
October 14:				
2 a. m	744		o, r	The wind comes from NE.
6 a. m	39			At 3 a. m. wind from NE by E, at 5 a. m. from NNE.
7 a. m	36.2		o, r	NE wind.
8 a. m	37.6	—17.7	o, r	E wind; the strongest force of the typhoon.
9 a. m	37.6		o, r	ESE wind.
10 a. m	36.5		o, r	SE by E wind.
11 a. m	36.5			
Noon	37.6	—15.7	o, r	Wind from SE.
4 p. m	38.5	—13		
5 p. m	40	—10.2	o, r	S wind.
7 p. m	44.5	— 4.5	o, r	Do.
8 p. m	46	— 2.5	o, r	Do.
9 p. m	48	— .1	o, r	Do.
Midnight	51	+ 6	o, r	Do.
October 15:				
8 a. m	55.9	+18.3		At 1 a. m. regular and fresh SSE wind, overcast and rainy.
Noon	57	+19.4		Ship's position 20° 54′ lat. N, 119° 56′ long. E.
4 p. m	56.6	+18.1		At 1 p. m. moderate SSE wind.
Midnight	58.5	+ 7.5		Slight SE wind at 5 p. m.

The following is the last warning sent out by Manila Observatory to the observatories of Tokio, Zikawei, Taihoku, Hongkong, and Phulien:

October 14, 11.30 a. m.: Typhoon west of Balintang Channel, moving WNW.

However, in the light of data that have since reached us, we see that instead of inclining more to the west, as this warning of Manila Observatory supposes, the typhoon made a greater inclination to the north, so that as a result it moved approximately to NW by N during the afternoon and night of the 14th. The barometric readings of Formosa for the morning of the 14th show a relatively insignificant descent of atmospheric pressure, when compared with those of the afternoon of the 13th, and it was this that caused the Observatory to believe that the typhoon had made an inclination to the W. Probably, the change which the form and extension of the whole body of the storm underwent, was the cause of what occurred in Formosa. But we will speak of this further on.

The typhoon on the Continent.—With the observations we have obtained from Amoy and Swatow, Breaker Point, and Chapel Island, we have been able to locate with sufficient approximation the point where the vortex entered the Continent in the early hours of the 15th.

One of the officers of the German cruiser S. M. S. *Niobe,* Fhr. v. Dalwigk, sent us from Tsingtau some excellent observations made aboard that vessel, which was anchored in Swatow during the storm. The same officer sent us photographs of the barographic curves of Swatow and Amoy from the 12th to the 18th. With great pleasure we publish in the following table some of the said observations corresponding to the 14th and 15th. The barographic curve of Swatow may be found in Plate XXX in which we give the second part of the track of this typhoon and the distribution of isobars at 6 a. m. of the 15th, when the vortex was already on the Continent about 50 miles west of Swatow.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE S. M. S. "NIOBE" AT SWATOW HARBOR.

[Report of Fhr. v. Dalwigk, captain and commander.]

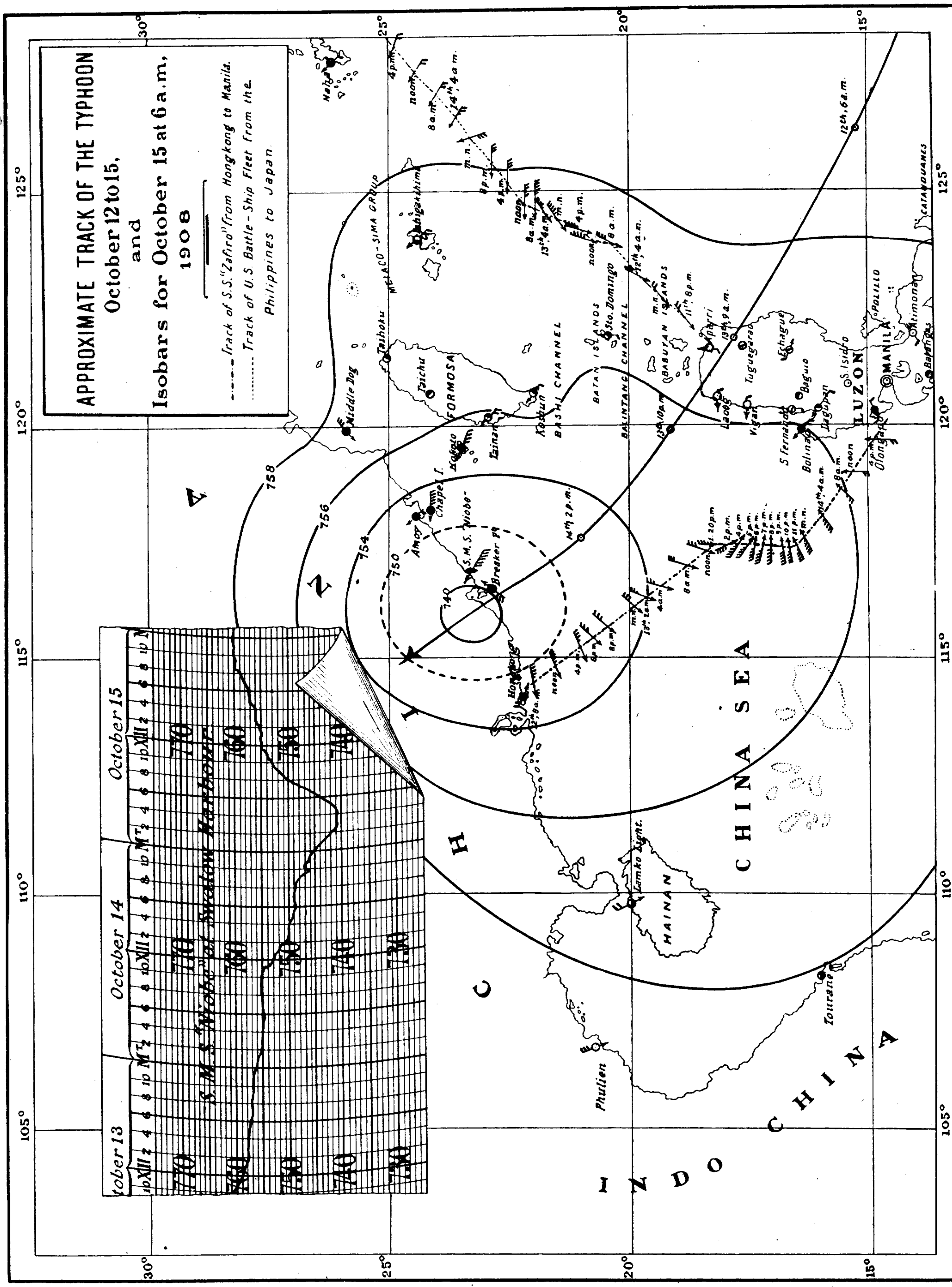
Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.	Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.
			Direction.	Force.					Direction.	Force.	
October 14:	*mm.*	*mm.*		*0-12.*		October 15:	*mm.*	*mm.*		*0-12.*	
1 a. m.			N by W	2		3 a. m.	742		E	12	
8 a. m.	755.8	− 6.2	N	1	o, m, r	4 a. m.	41.2	− 14.2	E by S	12	o, m, q, r
10 a. m.	56		N	2		5 a. m.	41.8		ESE	12	
Noon	54.9	− 6	N	3	o, m, r	6 a. m.	42.8		SE by E	12	
1 p. m.	53.4		NE	4		7 a. m.	45.4		S by E	10	
2 p. m.	52		NE by N	7		8 a. m.	49.2	− 6.6	S	9	o, m, q, r
4 p. m.	51.3	− 8	NNE	7	o, m, q, r	9 a. m.	51.8	− 4.2	S	7	
6 p. m.	49.7		NE by N	7		10 a. m.	53.9	− 2.1	S	7	
8 p. m.	49.6	− 8.8	NE	9	o, m, q, r	11 a. m.	55.1	− .1	S by W	6	
10 p. m.	47.7		ENE	10		Noon	55.6	+ .7	S by W	3	o, r
Midnight	46.3	−11.5	ENE	10	o, m, q, r	1 p. m.			S by E	3	
October 15:						4 p. m.	56.8	+ 5.5	S by W	2	o, r
1 a. m.	45.3		ENE	10		8 p. m.	59.8	+10.2	S	2	o
2 a. m.	43.1		E by N	11							

N. B.—There are some differences between the barometric readings taken from the barometer and those registered by the barograph. Owing to the shaking of the barometer, the latter seem to be more reliable.

Variations of the extension and shape of the typhoon.—One thing which most strikingly calls our attention in this storm is the fact that the typhoon had a very different shape and extension, when it penetrated the Continent, from what it had before reaching Luzon and while crossing this island.

This may be seen by comparing in Plates XXVI, XXVII, and XXX, the distribution of the isobars at 6 a. m. of the 12th, 2 p. m. of the 13th and 6 a. m. of the 15th. Taking this into account, it may perhaps be easy to explain the phenomenon that was the cause of the very reasonable surprise of the officer of the cruiser *Niobe,* who had the kindness to send us the copy of the barographic curves of Amoy and Swatow. This officer desired to know how it could happen that the fall in the barometer in Swatow was so pronounced in the afternoon of the 14th and during the night

Plate XXX.



N.B.—The barometric readings have been reduced to standard gravity.

of the same day, while in Amoy the atmospheric pressure ceased its downward movement early in the morning of the 14th, though the barometric descent had been quite marked during the day and night of the 13th? We believe that there is no other satisfactory explanation of these facts, that the relatively small extension this typhoon had on the 14th and 15th, if compared with that of the 13th. A slight glance at Plates XXVI and XXX will show us that the isobar 751, which was 250 miles north of the vortex on the 13th, was no more than 100 miles away at 6 a. m. of the 15th.

Though we would desire very much to explain in like manner other facts that attract the attention of many, who might believe that the typhoon kept approximately the same form and extension throughout its whole track, still the fear of extending this discussion to unusual length requires to forego our pleasure in this regard.

Yet, we wish to state that, even while crossing Luzon Island, the typhoon was considerably modified, at least in the vortex and in the isobars nearest to it. To realize what we are saying it will suffice to compare the distribution of isobars around the cyclonic center at 10 a. m. of the 13th, as shown in Plate XXVII, with that of 2 p. m. of the same day in Plate XXVI. The isobar 725 at 2 p. m. is as far from the center as the isobar 717 at 10 a. m. This change in the shape of the typhoon is confirmed by the fact that, whilst no calm whatever had been noticed at Tuguegarao, nevertheless a period of relative calm was reported by the observers of Aparri, Vigan, and Laoag, it being observed from 12 to 2 p. m. in Aparri, from 2.45 to 4.45 p. m. in Vigan, and from 4 to 6 p. m. in Laoag.

Rate of progress.—To calculate the distances traversed by this typhoon and hence its rate of progress, we have made use of the formula mentioned in our discussion of the typhoon of September 23, 1908: $\cos d = \sin \phi \sin \phi' + \cos \phi \cos \phi' \cos (\lambda - \lambda')$. Taking, therefore, the position of the vortex at 6 a. m. of the 12th, 9 a. m. and 10 p. m. of the 13th and 6 a. m. of the 15th, we find the respective distances of 300, 138, and 332 miles. Now we know that these distances were covered by the vortex in twenty-seven, thirteen, and thirty-two hours, respectively. From this we get the resultant mean velocities of 11.1, 10.6, and 10.4 miles per hour. If we take into consideration the whole length of the track between 6 a. m. of the 12th and 6 a. m. of the 15th, we have a distance of 770 miles traversed in seventy-two hours, which gives us an average velocity of 10.7 miles per hour.

Interesting reports on the storm and accompanying floods.—We will begin with the report of the observer of Tuguegarao, since this station was nearer than any other to the cyclonic center.

WEATHER BUREAU, *Tuguegarao, October, 1908.*

The town of Tuguegarao to-day presents a truly sad picture, as the typhoon of the 8th of this month has destroyed 60 houses of light materials and left others in a bad condition, while that of the 12th and 13th, which vented itself with terrible fury, has completely ruined the town and according to reports the surrounding towns encountered the same ill fortune; on all sides can be seen houses some thrown down, others unroofed and badly inclined, in fact there is no house that did not suffer some damage; moreover as effects of this storm we have to lament losses of life. I will postpone a description of other details in order to refer to circumstances which accompanied the typhoon.

It was 12.30 a. m. of the 13th when the wind began to blow with force 12 of the Beaufort scale and so it continued until 5 a. m., when the storm was at its worst. The flying sheets of zinc roofing and the crashing of falling houses could be heard, etc. It was about 5.40 a. m. when some of the partitions of the meteorological station fell and immediately afterwards, the anemometer was thrown to the ground. At 6 a. m., on opening the window a little to see if I could go out to measure the water in the pluviometer, I saw that the thermometer shelter was inclined very badly and that it had been unroofed; the pluviometer was carried away to a distance of 12 meters from the place where it had been set up. At 8 a. m. after taking an observation of the barometer, the partition-wall that protected the instruments inside the hall was carried away, then the roof began to leak as the cogon covering had been swept off and for this reason I had to dismount the mercurial barometer and put it away in its case. The house swayed back and forth as if on rockers. From that time I was obliged to make observations by means of the barograph, the pen of which went so low that it almost touched the bottom of the box which incloses the cylinder. According to Sr. D. Salvador Torra, his aneroid which has been compared with my barometer went as low as 711 mm. At 9.46 a. m. the wind began to change its direction with terrific fury, but there was no vortical calm whatever. The change in direction of the winds was from N to S through the W; the force of this meteor must have been more than 100 miles per hour. The wind remained westerly for a space of two hours and then inclined to the SW with the same force and velocity. At 3 p. m. it suddenly backed to the SE and remained there until 12.35 a. m. of the 14th, when it began to lose its force.

Among the buildings destroyed may be mentioned the barracks of the Constabulary, and a building belonging to the provincial government, which was unroofed; the balcony of the College of the Sisters of St. Paul de Chartres, one of the partition walls of the Colegio de San Jacinto of the Dominican Fathers and a great number of dwellings. The streets are obstructed by the fallen trees some of which were of great size.

The barrios of Macusi, Dadan, Parabba, Canlau, Litto, Lagun, Quibal and others of which I can not recall the names—all belonging to the town of Peñablanca—have been swept away by the flood. A survivor of the last-named barrio said in a conversation with the writer that they were carried by the water to the barrio of Caggay, that between 9 and 10 a. m. of the 13th he heard a strange and at the same time very loud noise, which was not that of thunder, and approached the place where he was with extreme rapidity When it was at its height he saw about a mile away a gigantic white mountain coming from the east, which was higher than the houses and in twenty or twenty-five minutes without time to take any precaution the barrio of Quibal was flooded by the water and the inhabitants only had a chance to save themselves by climbing on the roofs of their houses for the mountain was one of water, which with fearful rapidity overwhelmed the above-mentioned barrios. Sr. Perez, a former vice-mayor of the town of Peñablanca, tells that as he was in the highest part of the town he saw the water coming from the mountain of Lagun or Canlau. I suppose that this was the mountain of water seen by the survivor of Quibal.

(Signed) JOSÉ C. DE LEÓN, *Observer.*

Mr. A. Estival, the captain of the steamer *Bustamante,* who had anchored at Lalloc in the Cagayan River, about 10 miles south of Aparri, and took readings of his barometer every fifteen minutes until 10.30 when 709 mm. was registered, wrote the following remark:

The storm is so violent that I can not describe the fury of the winds and the squalls. At 10.30 a. m. we stopped observing the barometer as we were too occupied with the ship, for all our cables are gone.

The observer of Aparri describes the storm in the following terms:

WEATHER BUREAU, APARRI, *October 16, 1908.*

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From 4 a. m. of the 13th the gusts from NNW had a velocity of more than 50 miles per hour and the barometric fall was extremely alarming; from 6 a. m. the barometer fell 5 to 6 mm. each hour. As I awaited the vortex, I made observations every fifteen minutes. At 10.45 a. m. the barometer read 716.29 mm.—the minimum—and then began to rise rapidly with winds from the ENE to E and the sky overcast; the nimbus almost touching the roofs of the houses, ran swiftly westward; the rain, which was saline, limited the horizon extraordinarily. From 12 to 2 p. m. there was a kind of relative calm alternating with gusts from the E and SE during which the rain slackened. A little after 2 p. m. the winds freshened again from the SE with clear sky in the southeastern and southwestern quadrants; the rain ceased and the wind was hot and dry; I could not observe the temperature as the thermometers were destroyed. The thermometer attached to the barometer rose from 25° to 27° although it was not exposed to the air. There were severe gusts from the SE which were as strong or stronger than those from the N, but as the anemometer was out of order and did not mark the true force of the wind, I would estimate it at 60 miles an hour or more. The mast on which we hoist the storm signals fell at midnight. All the houses constructed of nipa suffered more or less damage while many have been completely destroyed; likewise the trees everywhere have suffered the same fate as the houses. Of the houses constructed of strong materials the office of the Captain of the port suffered considerably and some zinc sheets were pulled off the roof of the church.

(Signed) MANUEL DELGADO, *Observer.*

The stations on the western coast of Luzon that naturally felt more severely the effects of this typhoon were those of Laoag and Vigan. We give here part of the reports of the respective observers.

WEATHER BUREAU, LAOAG, *October 19, 1908.*

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The barometer continued falling until 4 p. m. of the 13th, when the minimum was registered. Shortly afterwards the sky cleared up and we had about two hours of relative calm. The hurricane winds began to blow from the south quadrants, they having backed from NW.

The typhoon has caused great destruction in this town; and no house has completely escaped. According to data furnished me by the governor, 2,498 houses, innumerable granaries, great numbers of fruit trees and food plants have been destroyed together with the loss of life of one person. The buildings of stronger materials have suffered considerable damage, some losing part of their roofing, while others were completely unroofed.

Many schools have been destroyed. Likewise some bridges and provincial roads have suffered considerably. The losses caused by the storm are calculated to have been ₱267,270, but my own opinion is that the loss is about ₱150,000.

(Signed) JOSÉ SAEZ, *Observer.*

WEATHER BUREAU, VIGAN, *October 17, 1908.*

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Toward noon of the 13th the wind blew from the NW quadrant with terrific force for it uprooted very large trees and lifted the roof of part of the government building. The walls on the southern side of the balcony of the same building were also destroyed and many houses of lighter materials were either thrown down or badly inclined. At 2.42 p. m. the wind backed to the SW quadrant and at 2.45 the minimum reading—732.75 mm.—was registered. After this the force of the wind diminished to force 7 of the Beaufort scale, but gradually it increased again after 4.15, and at 5 p. m. it was blowing the same destructive gale as in the earlier part of the storm. Even after 6 p. m. the storm raged with such fury from the SW quadrant that it wrenched off completely the sheet-iron roofing of part of the provincial building in spite of the heavy cables which bound it to the building. The very walls of the edifice were thrown down by the force of the winds. The small tower of this office, although it was very strong and heavy, was carried away to a distance of about 15 meters to the north. All these events tend to prove that the winds were more violent in the rear semicircle of the storm than in the front semicircle.

It is noteworthy that though there were no extremely heavy rains here in Vigan during this typhoon, yet the rivers overflowed their banks during the night of the 13th, causing great floods in the surrounding districts. In the barrio of San Vicente, northwest of this city, the water was 3 feet deep even on the highest point of land in the place. The same happened in the other barrios. In San Vicente the water flooded the church floor. In Vigan and the surrounding country many houses of light materials were destroyed, while more strongly built houses were badly damaged. The provincial building suffered to the extent of ₱1,000.

(Signed) PASTOR DAROY, *Observer.*

The following is a part of a letter written by Major C. C. Nathorst, P. C., to the honorable Secretary of the Interior.

VIGAN, ILOCOS SUR, *October 26, 1908.*

No doubt you have heard of "our" great baguio that struck Vigan and the adjacent country on October 12, lasting until midnight, October 13. We had had ample warning from the observatory in Manila, but were not exactly prepared for what we got.

About 8 p. m., October 12, a heavy gale blew from the north, gradually shifting to the northwest, a blinding rain accompanying same. The morning of the 13th saw the town enveloped in a sheet of water driven by a wind traveling no less than 90 miles per hour. It increased toward noon and about midday had become a howling hurricane with rain coming down in torrents. Light-material houses went down, trees were broken off or, if left standing, were stripped to the trunk, sheet iron was ripped off the roofs, and the town had the appearance of being doomed. However, at about 2.30 it calmed down some and it was hoped that the storm had spent itself. No such luck; for at 5 p. m., the wind which had gradually shifted more and more toward the west, increased in fury and at 7 p. m. it is believed had reached a velocity of over 100 miles per hour, blowing from the southwest. The barometer stood at "baguio destructor." This is really the wind that did the damage in the interior of Abra. The wind, as I said before, changed to a southwester which drove the sea in this side of Pandan and did not leave an outlet to the water of the Abra, backing it up as it were, the river rising higher and higher in the interior until the barrios Nagtalabungan and Santa Rosa, of Bangued, were submerged 12 to 15 feet. Those are the barrios at the balsa landing at Bangued and as you remember they stand upon a bank some 12 feet above the river. Forty-four people were drowned here, but Bucay suffered more than any, and up to date 157 deaths are reported and mostly all animals excepting carabao lost; however, even some of the latter were caught and drowned. So far reports from Abra show 269 missing. At Villaviciosa a house with seven persons in it was buried by a big slide from the mountain and all persons killed. Reports as yet are scant and not at all satisfactory. I believe the death roll will reach over 300. The road from here to Bangued is of course impassable.

I went up there on a balsa October 19, as I could not get balseros to go before, and even then we were ten hours going up although I had an extra man. The banks of the river plainly showed the height of the water during the storm and it easily reached 25 feet above the water level of that day, which in itself was unusually high. Had I not seen this myself, I would have doubted it. The land between San Jose and Dolores, Abra, which was planted in rice was all swept away and in its place the river deposited sand and rocks. This of course works a hardship on the people as they can not even replant it in corn. A famine to a certain extent exists to day, however the early rice is being harvested every day and the Insular Government as well as the provincial have both donated toward the relief of the sufferers. I am a believer in helping the needy, but in this country as a rule it is more or less abused and many who do not deserve anything benefit by it. The difference between the Ilocano and the Tinguayane is certainly marked in a calamity of this kind. The Ilocano, who does not look out for to-morrow, has nothing, whereas his brother in the hills has plenty of rice and many an Ilocano is being helped by him to-day.

The old people here claim that this is the worst baguio they have had since 1867, but then the last one is always the worst. More or less lawlessness naturally takes place during a time like this and in Abra I have a whole company of Constabulary distributed in the different towns at the request of the presidentes and

Plate XXXI.

EFFECTS OF THE TYPHOON OF OCTOBER 13, IN IGUIG (N OF TUGUEGARAO, CAGAYAN DE LUZON).

EFFECTS OF THE TYPHOON OF OCTOBER 13, IN CALLAO, PEÑABLANCA (ENE OF TUGUEGARAO CAGAYAN DE LUZON).

Plate XXXII.

EFFECTS OF THE TYPHOON OF OCTOBER 13 IN APARRI, CAGAYAN DE LUZON.

Sr. Ortega. Nightly patrols are made by another company and so far no disturbance of any kind has occurred.

Many miraculous escapes from drowning occurred. A woman during the night of the 13th was swept into the Abra up at Bangued and caught unto a tree that was floating by and came all the way to Vigan on it, although I guess it did not take very long in such a current.

A graphic account of the same typhoon is given in the following letter from Rt. Rev. Bishop D. J. Dougherty, D. D., which we copy from "The Messenger," New York:

Lately we have had three baguios (storms) in close succession, the last being the most violent ever known in the islands. During twenty-four hours the hurricane attained a velocity of over 100 miles an hour and was accompanied by a cloudburst that caused an inundation.

Vicar-General Carroll and I were in Bangued during the storm and were glad to escape with our lives. We spent a part of the day and night on the ground floor of the mission house, but had to take refuge, finally, in the sacristy of the church, because, the roof of the house was carried away, the fragments being scattered in every direction.

The town and outlying districts were converted into a mass of ruins. Many lives were lost in the innundation. The valley of the Abra River was covered with a raging torrent of water that left destruction in its wake. The bodies of human beings, horses, cows, and sheep marked the path of the flood. Some were carried down as far as Ilocos Sur.

After a few days, when the waters subsided, a horrible stench from the putrefying bodies of men, women, and children and the carcasses of animals filled the air. Little is left of our church property of Abra.

In Bucay the list of people drowned numbers 130. I have received heartrending accounts of the destruction at Union, Ilocos Sur, and Ilocos Norte, where nearly all the church property has been either completely or partially destroyed. We have yet to hear from the other provinces.

Thousands of people are homeless and starving. In Vigan throngs are going around the streets begging for food. Morning and evening our house is thronged with women and children asking for alms. The church and mission house of Batac, Ilocos Norte (Aglipay's town), are destroyed and the priest is homeless.

Few church properties of this diocese have escaped the havoc of the storm. The outlook is indeed gloomy. Thank God, little damage was done to our Vigan Church. The "Colegio de Niñas," or girls' school, alone suffered.

Since writing the foregoing, I have received a telegram from Alcala, Cagayan, saying that the convent roof and part of the church roof were destroyed by the baguio. I fear that I shall receive similar notice from other towns of that valley.

Before proceeding further, we wish to say a few words on the floods, which are mentioned in the foregoing reports. These floods were general in all the rivers of central and northern Luzon, and so extraordinary that a similar flood is almost unknown in the Philippines. To the data given above by eyewitnesses we have to add that the flood of the Agno River destroyed several kilometers of railroad track of the Dagupan Railroad, and that the Bued River cut away a considerable part of the plateau of Pozorrubio and caused great damage to the Benguet Road.

Hurricane wave and swell.—Our readers must have wondered at the extraordinary phenomenon observed in Peñablanca, when the terrible flood took place, about which the observer of Tuguegarao speaks in his report—the mountain of water coming down in cataracts from the heights of Canlau Mountain, flooding the barrios of Peñablanca and causing the death of many persons. Some one at the sight of such a singular phenomenon has asked if this was the hurricane wave from the Pacific. Such a supposition is absurd indeed, when we recall to mind that the town of Peñablanca is about 15 miles from the coast while the eastern chain of the Sierra Madre Mountains intervenes between the town and the Pacific. Nothing less than a cataclysm could make it possible that such heights as those of the Sierra Madre would be crossed by a hurricane wave, no matter how extraordinary this might be. On this subject interesting reading may be had in P. Viñes "Apuntes relativos á los huracanes de las Antillas en Septiembre y Octubre de 1875 y 1876," pages 214 and 215, and likewise in Father Algue's "El baguio de Samar y Leyte, 12–13 de Octubre, 1897," page 11. From what these authors say one may easily calculate the greatest height to which a hurricane wave may reach even in the most extraordinary cases.

That which happened in Peñablanca in our opinion can not be other than enormous and torrential rains which on account of the abundance of the water seemed to be a wave or gigantic mountain that precipitated itself down the western slope of the Sierra Madre Mountains, flooding the lowlands, filling creeks and fissures, and sweeping away everything it encountered in the valleys of the barrios of Peñablanca.

Nevertheless we must confess that the hurricane wave that accompanied this typhoon, at least when the vortex was near the eastern coast of Luzon, was really very extraordinary and exceptional, as we shall see in the following interesting report of the observer at Aparri.

WEATHER BUREAU, APARRI, *October 16, 1908.*

It was about 4 a. m. of the 13th, when we observed that the water was rising and was beginning to flood the lowland of the town, but no one gave this fact any importance as it is usual, when a typhoon passes, that the water of the river rises about a meter. But at about 6 a. m. almost suddenly the waves of the sea like mountains of water precipitated themselves on the barrio of Tarol destroying houses and whatever they met in their way. The level of the sea rose so rapidly that only some of the inhabitants had time to escape and save their lives. The whole district of nipa houses from the banks of the river to the barrio of Minanga where I live—a distance of a kilometer from the sea—was almost wiped out by the hurricane wave. When I observed the rapid rise of the water and the wave that overwhelmed the shelter of the thermometers, which were in the yard, I made an effort to save the instruments, but it was impossible to reach them as the shelter was about 2 meters under the water.

The swell, the current, planks, pieces of wood, bamboo poles, and many other objects which were floating about, knocking against each other, obliged me to retrace my steps. The shelter disappeared a few minutes afterwards. At 7 a. m. when I went to the window I thought I was aboard a ship in the middle of the sea; nearly all the houses in the neighborhood had disappeared; nothing could be seen but water; and the waves beating against the walls caused the house to shake considerably. The damage caused by the sea wave comprises: the complete destruction of the nipa district of Tarol, a barrio on the coast; more than half of the houses on the banks of the river; also the barrio of Minanga was almost wiped out.

Up to the present time 22 corpses of men, women, and children have been found and about 100 persons are missing from the barrio of Tarol alone. The mercantile losses here are estimated at about 500,000 pesos, without counting houses, money, and other destructive effects of the barrios destroyed by the storm. Many families are homeless and in great misery. As yet there is no definite information on the death and destruction in the immediate barrios, but rumors tell of many casualties. The old people in the town say they have passed through more severe typhoons but they had never seen any hurricane wave at all.

(Signed) MANUEL DELGADO, *Observer.*

It is beyond doubt that there is question here of the hurricane wave. The water from the sea hurled itself into the mouth of the Cagayan River at about 6 a. m. of the 13th, two hours before the cyclonic center reached the eastern coast of Luzon; in other words, when the vortex was SE of Aparri and consequently the suction of the vortex with respect to that station or to the mouth of the river ought to have been from the NW.

The final remark of the report of the observer at Aparri is noteworthy: "The old people in the town say that they have passed through more severe typhoons but they had never seen any hurricane wave at all." This is an evident proof that the wave in this typhoon was very exceptional, as we said before.

The observer at Santo Domingo, in describing the storm in the Batanes Islands, agrees entirely with the report from Aparri: "The surf, especially in Saptang Island, reached higher places than people under 40 years of age had ever seen." This surf was no other than the hurricane swell, which, as is well known, extends over enormous distances and in all directions from the cyclonic center.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Como se ve en la tabla que acompaña el texto inglés, las medias mensuales de la presión atmosférica han sido en todo el Archipiélago más bajas que las de Octubre, 1907, habiendo sido más notables las diferencias en el centro y norte de Luzón. La media de Manila difiere de la normal de este mes en—0.89 milímetros y de la media mensual del año pasado en—1.44 milímetros. Los promedios máximos se observaron el día 6 en la parte septentrional de Filipinas y el 20 ó 21 en la meridional. Los promedios mínimos tuvieron lugar generalmente el 12 ó el 13.

Las medias mensuales de la temperatura han sido algo más bajas que las de Octubre del año pasado en las estaciones de Luzón, y algo más altas en las Islas Visayas. La máxima absoluta de Manila ha sido 33.2° C., y la mínima absoluta, 20.2° C.: tuvieron lugar los días 19 y 30 respectivamente.

Precipitación acuosa.—Debido á los tres tifones que cruzaron la Isla de Luzón durante la primera quincena de este mes, la cantidad total de lluvia caida en todas las estaciones situadas en el centro y norte de dicha Isla ha sido mucho mayor que la de Octubre, 1907. En el S de Luzón, aunque las diferencias son generalmente positivas, no son sin embargo muy notables. En Visayas y Mindanao hallamos que las diferencias son negativas en todas las estaciones, exceptuando sólo Palanoc, Cebú y Tagbilaran.

La cantidad total de lluvia recogida en el Observatorio ha excedido á la normal de Octubre en 46.3 milímetros.

TRES BAGUIOS EN LUZÓN, OCTUBRE 4 Á 13, 1908.[1]

Pocas veces habrá sucedido que, en el corto intervalo de diez días, tres tifones bien desarrollados hayan atravesado nuestro Archipiélago afectando casi la misma región del mismo. Por este motivo, discutiremos aquí bajo un mismo título los tres tifones que durante la primera quincena de Octubre próximo pasado cruzaron el centro y norte de la Isla de Luzón, dejando en todas partes tristes huellas de su paso. Los llamaremos respectivamente baguios de Baler, de Isabela de Luzón y de Cagayán de Luzón por ser la región cerca del pueblo de Baler y las Provincias de Isabela y Cagayán de Luzón las que más sufrieron los efectos destructores de estos meteoros.

EL BAGUIO DE BALER, 4 DE OCTUBRE, 1908.

Origen de este baguio.—En el texto inglés incluímos en dos tablas las observaciones hechas en Guam del 30 de Septiembre al 2 de Octubre y las de Yap de 1 al 3 de Octubre. Examinando con cuidado los movimientos del barómetro y sobre todo la dirección de los vientos observados en Guam, parece poder deducirse con bastante probabilidad que el centro ciclónico de este tifón se hallaba ya formado el 30 de Septiembre y demoraba al S de las Marianas, moviéndose al W. Los vientos de Yap, por otra parte, indican el paso de una depresión ó tifón por el norte de aquella estación durante la noche del 1 al 2 de Octubre. Estas razones creemos que son bastante fundadas para señalar como punto de origen de este tifón la región del Pacífico situada al norte de las Carolinas hacia el ESE de Guam. En la lámina XIX damos la primera parte de la trayectoria de este baguio comenzándola desde el día 30 de Septiembre, á pesar de que á principios de Noviembre la publicamos como empezando el 3 de Octubre por no poseer entonces las observaciones de Carolinas y Marianas.

[1] Estos tres tifones puede decirse que fueron los únicos que durante este mes influyeron en Filipinas. El Observatorio de Manila, sin embargo, anunció otros dos en el Pacífico muy lejos del Archipiélago: uno el 18 y 19; y otro el 29 y 30. Acerca del primero se decía en la nota ordinaria del tiempo del día 18: "Hay indicios de una depresión que se mueve hacia el nordeste entre las Islas Liukiu y Bonín." Así era en realidad, como puede verse en la trayectoria publicada en el "Journal of the Meteorological Society of Japan" del mes de Noviembre, 1908. Probablemente se formó este tifón el día 15 ó 16 entre las Marianas y Filipinas; movióse primero al NW y recurvó al NE el 17 cuando se hallaba en los alrededores de 21° lat. N y entre 132° y 133° long. E. La otra depresión no nos consta llegase á adquirir el desarrollo de verdadero tifón. Apareció la mañana del 29 al E de Guam; movióse aparentemente al NNW, deshaciéndose, con toda probabilidad, en los alrededores del norte de las Marianas el día 31.

El baguio en Filipinas.—Los días 3 y 4 de Octubre el Observatorio de Manila envió á Japón, Formosa, costas de China é Indochina los siguientes anuncios referentes á este tifón:

Octubre 3, 7.07 p. m.: Depresión al E de las Visayas septentrionales ó de la parte sudeste de Luzón; dirección desconocida.

Octubre 4, 10 a. m.: Tifón al E de Luzón, distancia menor de 300 millas, moviéndose al W ó WNW.

Octubre 4, 5 p. m.: Tifón al N de Manila, moviéndose al WNW.

En la nota ordinaria del tiempo del día 4 decía el Observatorio:

Octubre 4, 12.30 p. m.: La depresión situada ayer tarde al E del sur de Luzón es un ciclón bien desarrollado que amenaza las provincias de Luzón entre 14° y 17° lat. N. Parece moverse rápidamente y es de creer que pasará por el norte y cerca de Manila esta tarde ó al anochecer.

Á las 5 p. m. del mismo día se decía lo siguiente al público de la capital:

El tifón está pasando ya por el N de Manila, moviéndose al WNW.

Que al menos cuando el tifón llegó al Archipiélago estaba bien desarrollado y era de extraordinaria intensidad lo dice claramente la curva barográfica de Baler que puede verse en la lámina XX. Además, en la lámina XIX damos, juntamente con la primera parte de la trayectoria de este baguio, la distribución de isobaras y posición del centro ciclónico á 2 p. m. del 4, ó sea, unas dos horas antes de que pasase á la menor distancia de Baler.

El vórtice pasó por el sur de Baguio y San Fernando y por el norte de Dagupan y Bolinao, habiéndose registrado las mínimas barométricas de estas cuatro estaciones á 8 p. m., 9 p. m., 8.20 p. m. y 11 p. m. respectivamente. Los vientos rolaron del N al S por el E en las dos primeras, y del NW al S y SE por el W en las otras dos. Véanse en la lámina XXI las curvas barográficas de Baguio, San Fernando y Dagupan. En el texto inglés reunimos en una tabla algunas de las observaciones hechas en Dagupan y Manila durante el día 4.

Para probar que el vórtice atravesó la Isla de Luzón con rapidez, según dijo el Observatorio en la nota antes citada, tomemos los puntos de la trayectoria correspondientes á 4 p. m. y 8 p. m. del día 4. La distancia que separa estos dos puntos, es de unas 67 millas náuticas; y como el vórtice empleó en recorrer esta distancia unas 4 horas, tenemos una velocidad media de 16.8 millas por hora. Sin embargo, comparando entre sí las observaciones de Dagupan, San Fernando y Bolinao, parece poder deducirse con bastante probabilidad que de 9 á 11 p. m. esta velocidad de traslación había disminuído bastante, resultando para estas dos horas un valor medio de 11 millas por hora próximamente. Solo así puede explicarse cómo, habiéndose observado la mínima barométrica de Dagupan y San Fernando á 8.20 y 9 p. m. respectivamente, la de Bolinao no fué registrada hasta 11 p. m.

Hemos de hacer constar aquí que la posición del baguio á 4 p. m. del día 4, aunque no del todo cierta, es bastante probable. Según la curva barográfica de Baler, el vórtice debió de pasar á la menor distancia de dicha estación á 5.20 p. m. Si esto fuese así, la velocidad de este tifón hubiera sido todavía mucho mayor. Sospechamos que el aparato de relojería del barógrafo de Baler iría adelantado; y á fin de averiguar si era así en realidad, y, caso que lo fuere, que corrección debía aplicarse á la curva, examinamos con todo cuidado los registros de Virac (Catanduanes), Atimonan y Echagüe, fijándonos principalmente en la hora de la mínima barométrica de cada estación y hora en que rolaron los vientos del N al E en Echagüe y del NW al W y SW en Virac y Atimonan. Tuvimos que acudir á estos medios indirectos por sernos absolutamente imposible obtener ninguna información de Baler, toda vez que el Observador de aquella estación había muerto víctima de un naufragio en Casiguran, durante el baguio del día 8. Ahora bien, de dicho examen dedujimos como muy probable que á la curva barográfica de Baler, al menos durante el paso del baguio del día 4, debía restársele una hora aproximadamente para que concordara con los registros y reports de las estaciones que acabamos de mencionar. El argumento más fuerte para suponer estas correciones es el haberse observado en Echagüe las mínimas lecturas barométricas á 4 y 5 p. m., siendo ambas casi idénticas, y haber subido el barómetro más de dos milímetros á 6 p. m.: todo lo cual creemos imposible explicar, si se supone que el vórtice no pasó á la menor distancia de Baler hasta 5.20 p. m. como supone la curva barográfica de aquella estación. En la lámina XX reproducimos dicha curva de Baler como aparece en su original; pero para los efectos de trazar la trayectoria y la posición de isobaras tal como aparecen en la lámina XIX hemos aplicado la corrección indicada.

El baguio en el Mar de China y en Hainán.—Á 10 a. m. del día 5 envió el Observatorio este anuncio de tifón á Tokio, Zikawei, Taihoku, Hongkong y Phulien:

Tifón al W de Luzón, distancia mayor de 100 millas, moviéndose al WNW.

Gracias á la amabilidad de los capitanes de los vapores *Rubí* y *Yuensang* podemos publicar en el texto inglés las preciosas é interesantes observaciones hechas el día 5 á bordo de estos barcos en viaje de Hongkong á Manila. Á ambos les pasó el baguio por el S entre 8 y 10 a. m. El vórtice puede situarse á mediodía al W del *Rubí* y SW del *Yuensang*, en los arlededores de 116½° long. E y 17¾° lat. N. En la lámina XXII puede verse la posición de los dos vapores que acabamos de mencionar, á mediodía del 5.

Del "Annalen der Hydrographie und Maritimen Meteorologie, März 1909" tomamos las observaciones hechas á bordo del vapor *Prinzess Alice* en viaje de Singapore á Hongkong, durante los días 5 y 6 de Octubre. Este vapor se encontró en las cercanías del vórtice en las primeras horas de la mañana del día 6, observándose unas tres horas ó más de calma relativa. Este hecho y el haberse mantenido el barómetro casi en su mínima por espacio también de tres horas, según puede verse en la curva barográfica que reproducimos en la lámina XXII, prueban la extensión extraordinaria que debía tener el área vortical y que la forma del baguio era muy diferente entonces de la que tenía cuando penetró en nuestro Archipiélago por cerca de Baler la tarde del día 4.

Decimos "cuando penetró en nuestro Archipiélago," pues las curvas barográficas de las estaciones de San Fernando, Bolinao y Dagupan indican con bastante claridad que, cuando el baguio abandonó la Isla de Luzón para internarse en el Mar de China la noche del 4, había sufrido transformaciones muy notables y disminuído considerablemente en intensidad.

Tanto la curva barográfica del *Prinzess Alice* como la ruta seguida por este barco desde Singapore á Hongkong las hemos tomado de la revista alemana arriba mencionada.

Las observaciones hechas en la estación meteorológica del Faro Lamko, en el NW de la Isla de Hainán, nos ofrecen otro punto de la trayectoria de este tifón. Según ellas, situamos el vórtice á 6 p. m. del día 6 en los alrededores de 110° 00′ long. E y 20° 35′ lat. N.

Si examinamos con cuidado estas observaciones, nos llamará la atención que el barómetro no bajase más que 1.5 mm. desde 3 á 6 p. m. siendo así que el viento á 6 p. m. era todavía del W y, por lo tanto, el vórtice no había aún cruzado por el norte. Esto parece indicar que la dirección de la trayectoria había sufrido algún cambio al llegar, ó poco antes de llegar, á la Isla de Hainán; pues, si hubiese continuado moviéndose tan inclinado al W como en el Mar de China, difícilmente se explicaría que no bajase más el barómetro en Lamko á medida que el vórtice se iba acercando á su meridiano. Parecen confirmar también esta suposición los vientos observados allí á 9 p. m. y 12 media noche del mismo día 6. Si el baguio se hubiese movido al WNW, el role de vientos al SSW, S y SSE hubiera sido más rápido de lo que fué en esta ocasión, en que soplaban aún del SSW á 12 media noche, y sólo á 3 a. m. del día siguiente hallamos anotados por vez primera vientos del SSE. Por estas razones, suponemos en la lámina XXII que el baguio pasó por el norte de Hainán moviéndose al NW¼W.

Para conocer ahora la velocidad de traslación de este baguio á través del Mar de China, bastará que tomemos los tres puntos de la trayectoria correspondientes á 8 p. m. del día 4, 3 a. m. y 3 p. m. del 6. La distancia que separa los dos primeros puntos es de 435 millas; y como el baguio la recorrió en 31 horas, tenemos una velocidad media de 14 millas por hora. La distancia entre los otros dos puntos es de 184 millas, y el baguio empleó en recorrerla 12 horas, lo cual nos da una velocidad de 15.3 millas por hora. Tomando, pues, toda la extensión del Mar de China desde Luzón hasta el norte de Hainán, podemos decir que fué atravesada por este baguio con una velocidad media de 14.4 millas por hora.

EL BAGUIO DE LA ISABELA DE LUZÓN, 8 y 9 DE OCTUBRE, 1908.

Origen de este baguio.—Desde el día 5 tenía el Observatorio de Manila indicios de un nuevo tifón situado al norte de las Carolinas Occidentales. Pero como no se sabía aún su dirección, y á fin de no alarmar demasiado con avisos de tifones tan frecuentes, se tuvo por mejor no anunciarlo todavía hasta que empezase á influir en los barómetros de Filipinas y se tuviese con esto bastante probabilidad de que, como el anterior, amenazaba atravesar nuestro Archipiélago.

Para que se vea ahora el punto de origen de este baguio, pueden verse en el texto inglés las observaciones hechas en Guam y Yap durante los días 3 á 5 y 4 á 8 respectivamente. Según estos datos, el tifón venía ya formado desde las Carolinas Occidentales, y probablemente se estaba formando el día 3 hacia el sur de las islas Marianas en los alrededores del paralelo 10° lat. N. Á 2 p. m. del día 4 se puede situar el vórtice con bastante probabilidad hacia el SW de Guam y ENE de Yap; y la noche del día 5 pasaba ya por el norte de esta última estación moviéndose al WNW.

El baguio en Filipinas.—Prevenido como estaba el Observatorio con las observaciones de Guam y Yap de los días 4 y 5, pudo la mañana del día 7 no sólo anunciar su existencia en el Pacífico al este de Filipinas, sino aun precisar su dirección. He ahí el aviso de tifón dado á 10.30 a. m. de dicho día 7:

Un nuevo tifón cruzó el Lunes próximo pasado por el Norte de las Carolinas Occidentales. El centro ciclónico aparecía esta madrugada al este de Filipinas á una distancia probable de menos de 400 millas y parece moverse al WNW ó W¼NW. Es probable penetre en Filipinas mañana por la noche ó pasado mañana.

Y á Tokio, Zikawei, Taihoku, Hongkong y Phulien se envió poco después este telegrama:

Octubre 7, mediodía: Tifón en el Océano Pacífico, á la mitad de camino entre las Carolinas y Filipinas, moviéndose al WNW.

Cuán acertados fueron estos anuncios lo echará de ver quien quiera que examine detenidamente la primera parte de la trayectoria de este tifón que puede verse en la lámina XXIII. Á 6 a. m. del día 7 distaba el centro ciclónico de la porción de nuestro Archipiélago más próxima al mismo, ó sea, de la costa oriental de Sámar, algo menos de 400 millas. Antes de llegar á Luzón, y aun mientras atravesaba esta isla, se movía el baguio al WNW. Por último, penetró el vórtice en el Archipiélago á eso de 10 p. m. del día 8; pues, Echagüe, estación que se halló muy cerca de él y dista de la costa oriental unas 40 millas, registró la mínima barométrica á media noche, y el baguio se movía entonces, según veremos luego, á razón de 21 millas por hora.

Á eso de mediodía del 8 enviaba el Observatorio este aviso de tifón á los Centros Meteorológicos Extranjeros del Extremo Oriente y á todas las estaciones de Filipinas:

Tifón al E de Luzón, distancia menor de 300 millas, moviéndose al WNW.

En la lámina XXIII damos la distribución de isobaras y posición del centro ciclónico á 12 media noche del día 8, cuando pasaba á la menor distancia de Echagüe causando una mínima barométrica de 722.86 mm.

En una tabla que acompaña el texto inglés damos algunas de las observaciones hechas en dicha estación durante el día 8 y mañana del 9. Por ellas se ve que, á pesar de haberse registrado una mínima barométrica tan pronunciada como la que acabamos de indicar, sin embargo, no se observó calma vortical. El role de los vientos indica bien claramente que el vórtice pasó por el norte.

Las observaciones hechas á lo largo de la costa occidental de Luzón sirven perfectamente para situar otro punto de la trayectoria y precisar la velocidad de traslación de este baguio á través de aquella isla. Poco antes de 4 a. m. del 9 pasaba el vórtice por el sur de Vigan y norte de San Fernando algo más cerca de la primera que de la segunda. Véanse las curvas barográficas de ambas estaciones juntamente con la de Tuguegarao en la lámina XXI.

Tomando ahora estos dos puntos de la trayectoria, correspondientes á 12 media noche del 8 y 4 a. m. del 9, tenemos una distancia aproximada de 85 millas recorrida en cuatro horas, lo cual supone una muy extraordinaria velocidad horaria de 21.2 millas.

El Observatorio de Manila decía sobre este baguio en la nota ordinaria del tiempo del día 9:

Día 9, 12.10 p. m.: El tifón se fué acercando á Luzón ayer tarde con mucha mayor velocidad que los días anteriores. Parece que atravesó dicha isla con una extraordinaria velocidad de 16 ó más millas por hora. El centro ciclónico pasó por el N de Manila después de media noche y por el norte de Dagupan á eso de 4 a. m. * * *

Según se ve en la lámina XXV, el vórtice pasó más cerca de Vigan que de Tuguegarao; y sin embargo, las curvas barográficas de ambas estaciones (lámina XXI) nos dicen que la bajada del barómetro fué más pronunciada en la segunda que en la primera. Esto prueba que en este caso, lo mismo que en el anterior del baguio del 4, la forma de todo el cuerpo del temporal cambió notablemente mientras atravesaba la isla de Luzón.

El baguio en el Mar de China.—No tenemos más observaciones hechas en el Mar de China que las que nos proporcionó el Capitán del vapor *Prinz Waldemar,* las cuales publicamos en el texto inglés. La posición de dicho barco á mediodía de Greenwich de los días 9 y 10 va indicada en la lámina XXV, en la que damos la segunda parte de la trayectoria de este baguio.

El Observatorio de Manila envió el día 9 estos dos avisos de tifón á Tokio, Zikawei, Taihoku, Hongkong y Phulien:

Día 9, 9 a. m.: Tifón al W de Luzón, distancia menor de 100 millas, moviéndose al WNW.

Día 9, 3.30 p. m.: Tifón al W de la parte norte de Luzón, distancia mayor de 100 millas, moviéndose al WNW.

Del Observatorio de Hongkong se recibieron los siguientes telegramas los días 10 y 11:

Día 10, 11 a. m.: Tifón al SSE de Hongkong, moviéndose al WNW.

Día 11, mediodía: Tifón cerca del estrecho de Hainán, moviéndose al WNW.

Para situar el tifón la tarde del 11 en la última parte de su trayectoria nos han servido las observaciones hechas en la estación de Faro Lamko (isla de Hainán), las cuales incluímos en una tabla en el texto inglés. Según estas observaciones, el vórtice se hallaba á 3 p. m. del 11 hacia el ENE de Lamko, cerca de la región oriental de la península Lei-chau. El hecho de que los vientos soplaron constantemente del W desde 6 p. m. del 11 hasta 3 a. m. del 12, á pesar de que el barómetro había ido subiendo hasta 756.27 mm. hace muy probable la opinión emitida por el Director del Observatorio de Hongkong en la nota ordinaria del tiempo del día 12, de que el tifón se deshizo probablemente al norte de Hainán en los alrededores de la citada península de Lei-chau.

Es verdaderamente notable lo mucho que disminuyó la velocidad de traslación de este baguio en el Mar de China. Hemos dicho arriba que atravesó la Isla de Luzón con una velocidad, en gran manera extraordinaria para nuestras latitudes, de 21.2 millas por hora. Pues bien, tomando toda la extensión del Mar de China comprendida entre la costa occidental de Luzón y la posición del centro ciclónico á 3 p. m. del 11, cerca de la costa oriental de la península Lei-chau, tenemos una distancia de 591.5 millas recorrida en 59 horas. De donde el baguio cruzó el Mar de China con una velocidad media de 10 millas por hora.

Este decrecimiento en velocidad es probable que fuese gradual. Así, considerando separadamente lo que anduvo el tifón entre 4 a. m. del 9 y 6 a. m. del 10, y entre 6 a. m. del 10 y 3 p. m. del 11, hallamos una velocidad de 12.9 y 7.8 millas por hora respectivamente.

EL BAGUIO DE CAGAYÁN DE LUZÓN, 13 DE OCTUBRE, 1908.

Origen.—Las observaciones hechas en Yap los días 9 y 10 (véase el texto inglés) parecen dar bastante fundamento para suponer que este baguio se hallaba ya el día 9 hacia el NE ó NNE de aquella estación.

En los reports meteorológicos que hemos recibido de Guam hallamos anotados vientos flojos del SE á 2 p. m. del 8, aunque en general los vientos observados allí los días 8 y 9 fueron del S, fuerza 1 de la escala Beaufort. Comparando estos datos de Guam con la fuerza bastante notable que durante el 9 y 10 adquirieron en Yap los vientos del WSW y SW, deducimos que el tifón se formó probablemente el 9 entre ambas estaciones, pero bastante más cerca de la segunda que de la primera, como puede verse en la parte de la trayectoria de este baguio que damos en la lámina XXVI.

El baguio en Luzón.—El Observatorio de Manila envió los días 11, 12 y 13 los siguientes anuncios de tifón á los Observatorios de Tokio, Zikawei, Taihoku, Hongkong y Phulien:

Día 11, mediodía: Tifón al E de la parte sur de Luzón; dirección desconocida.
Día 12, 9 a. m.: Tifón al E de la parte sur de Luzón, moviéndose al W ó WNW.
Día 12, 3.30 p. m.: Tifón al E de Luzón, distancia menor de 300 millas, moviéndose al WNW.
Día 13, 7 a. m.: Tifón al NE de Manila, moviéndose al W ó WNW.
Día 13, mediodía: Tifón cruzando la parte norte de Luzón, moviéndose al WNW.
Día 13, 3.30 p. m.: Tifón cruzando la parte norte de Luzón, moviéndose al NW.

En los dos primeros mapitas de la lámina XXVII publicamos la distribución de las isobaras y posición del centro ciclónico á 6 a. m. del 12, y 10 a. m. del 13.

Á 6 a. m. del 12 se hallaba el vórtice al E del centro de Luzón y á la distancia de cerca de 300 millas; y á 10 a. m. del 13 atravesaba la provincia de Cagayán de Luzón por entre Tuguegarao y Aparri, desfogando con una violencia tan extraordinaria y causando tan terribles inundaciones, que no se tiene memoria en aquella provincia de otro baguio semejante, según se dice en los reports que aduciremos luego.

En el texto inglés damos en una tabla un resumen del estado de la atmósfera en Filipinas y en Formosa los días 12 y 13. Además, por creerlas de especial interés, publicamos aparte en dos tablas las observaciones hechas durante el paso del baguio en las estaciones de Aparri y Tuguegarao.

Sobre estas observaciones hechas en Aparri y Tuguegarao hemos de advertir lo siguiente: 1) por haber sido arrancado de su lugar el pluviómetro de ambas estaciones ó por la fuerza de las aguas ó por la violencia de los vientos, nos vemos privados de observaciones pluviométricas hechas durante el paso del baguio. 2) En la tabla meteorológica correspondiente á Aparri nos hemos visto forzados á omitir la velocidad del viento desde 7 a. m. del 13 por haberse estropeado el contador del anemógrafo, según hace constar en su report el observador D. Manuel Delgado. Según este report, los vientos del SE de la parte posterior del tifón fueron tanto ó más violentos que los de la parte anterior. 3) El anemómetro de Tuguegarao se vino al suelo en las primeras rachas huracanadas de la mañana del 13: de ahí que, no teniendo el observador medios para precisar bien la dirección del viento, no sería de extrañar que á 11 a. m. por ejemplo diese viento W cuando debía de ser WSW por lo menos, puesto que el vórtice había rebasado ya el meridiano de aquella estación.

Las curvas brográficas obtenidas en estas dos estaciones pueden verse en la lámina XXVIII. La mínima de Tuguegarao fué 711 mm., á pesar de haberse hallado esta estación á la distancia del vórtice de unas 15 millas.

Por desgracia no hemos recibido observación ninguna de puntos situados en la región vortical.

Durante el día 12 y mañana del 13 la escuadra de los EE. UU., que procedente de Manila se dirigía hacia Yokohama y demoraba á la sazón al Este de los canales Balintang y Bashi, sintió notablemente la violencia de este tifón, según podrán ver nuestros lectores examinando en el texto inglés las preciosas observaciones hechas á bordo del acorazado *New Jersey* las cuales agradecemos á la amabilidad del Comandante Mr. Matt. H. Signor.

Las observaciones ya mencionadas de Aparri y Tuguegarao juntamente con las de Laoag y Vigan, que incluímos en una tabla en el texto inglés, sirven para seguir la marcha de este tifón á través de la región septentrional de Luzón hasta que salió al Mar de China por los alrededores de la costa noroeste de dicha isla. El vórtice pasó á la menor distancia de Laoag á 4 p. m. del 13. La dirección con que cruzó el baguio la Provincia de Cagayán fué NW $\frac{1}{4}$ W próximamente.

No queremos pasar aquí en silencio que la parte de trayectoria que publicó el Observatorio de Zikawei en el mapa del tiempo del 14 de Octubre es notablemente exacta si se atiende á las pocas observaciones con que se podía contar entonces, hallándose como se hallaba interrumpida aquellos días toda comunicación con el norte de la Isla de Luzón.

El baguio en el Mar de China.—Las observaciones hechas á bordo de los vapores *Yunnan, Zafiro* y *Germania* nos han ayudado bastante para trazar la parte de trayectoria de este baguio comprendida entre la tarde del día 13 y la noche del día 14. En el texto inglés publicamos en dos tablas las observaciones del *Zafiro* y del *Germania:* las primeras las debemos al inteligente Capitán R. Rodger, y las segundas nos fueron remitidas por el R. P. Eusebius Lehmann, Observador de Yap, Carolinas Occidentales, quien llevado de su interés por los trabajos del Weather Bureau de Filipinas pidió y obtuvo del Capitán de dicho vapor una copia fiel de las mismas. Al Capitán del vapor francés *Yunnan* agradecemos la curva barográfica que reproducimos en la lámina XXVI.

El último anuncio que sobre este tifón envió el Observatorio de Manila á los Observatorios de Tokio, Zikawei, Taihoku, Hongkong y Phulien fué el siguiente:

Día 14, 11.30 a. m.: Tifón al W del canal de Balintang, moviéndose al WNW.

Sin embargo, á la luz de datos posteriores se ve que el tifón en vez de inclinarse más al W, como suponía este aviso del Observatorio de Manila, se inclinaba más al norte, de suerte que durante la tarde y noche del 14 se dirigió próximamente al NW $\frac{1}{4}$ N. Las lecturas barométricas de Formosa de la mañana del día 14 comparadas con las de la tarde del 13 indicaban un descenso de la presión atmosférica relativamente insignificante, y de ahí que creyese el Observatorio ser esto indicio de que el baguio se había inclinado al W. Probablemente la causa de lo observado en Formosa era el cambio que sufría la forma y extensión de todo el cuerpo del baguio, según se indicará más abajo.

El tifón en el Continente.—Las observaciones que hemos conseguido de Amoy y Swatow, de Punta Breaker é Isla de Chapel nos han servido para situar con bastante aproximación el punto por donde penetró el vórtice en el Continente en las primeras horas del día 15.

Á bordo del crucero alemán *S. M. S. Niobe* fondeado á la sazón en Swatow se hicieron preciosas observaciones que nos fueron remitidas desde Tsingtau por uno de los oficiales de dicho crucero, Fhr. v. Dalwigh, juntamente con una fotografía de las curvas barográficas obtenidas del 12 al 18 de Octubre en Swatow y en Amoy. Con sumo gusto publicamos en el texto inglés algunas de las observaciones correspondientes á los días 14 y 15. La curva barográfica de Swatow va incluída en la lámina XXX en la que damos la segunda parte de la trayectoria de este baguio y la distribución de isobaras á 6 a. m. del 15 cuando el vórtice se hallaba ya en el Continente al W de Swatow y á unas 50 millas de distancia.

Variaciones en la forma y extensión de este tifón.—Una de las cosas que tal vez más llaman la atención en este baguio es la diferente forma y extensión que tenía este baguio un día antes de llegar á Luzón, mientras cruzaba la parte norte de dicha isla, y al penetrar en el Continente. Compárense á este fin en las láminas XXVI, XXVII y XXX la distribución de isobaras á 6 a. m. del 12, 2 p. m. del 13 y 6 a. m. del 15. Teniendo esto en cuenta, podrá tal vez explicarse fácilmente el fenómeno que con razón sorprendió al Oficial del crucero *Niobe* que tuvo la amabilidad de remitirnos la copia de las curvas barográficas de Amoy y Swatow. Cómo pudo ser, nos escribía dicho Oficial, que siendo tan pronunciada en Swatow la bajada del barómetro la tarde del 14 y noche del 14 al 15, en Amoy cesó de bajar la presión atmosférica desde la madrugada del 14, siendo así que el descenso había sido bastante marcado durante todo el día y noche del día 13? Creemos no tener esto otra explicación que la poca extensión que tenía el cuerpo del baguio los días 14 y 15 comparada con la del día 13. Una simple ojeada á las láminas XXVI y XXX nos dirá que la isobara 751 que se hallaba el 13 á unas 250 millas al norte del vórtice, á 6 a. m. del 15 no distaba del mismo vórtice más que unas 100 millas.

El deseo que tenemos de ser breves en esta discusión nos impide extendernos, como podríamos, en explicar de idéntica manera otros hechos que naturalmente llamarían la atención á cuantos creyeran que el baguio conservó próximamente la misma forma y extensión á lo largo de toda su trayectoria.

Sin embargo, queremos hacer constar que aun dentro de la Isla de Luzón hubo de modificarse notablemente la forma de este baguio, á lo menos en el vórtice é isobaras más próximas al mismo. Á este efecto bastará comparar entre sí la distribución de isobaras á 10 a. m. y 2 p. m. del 13 en las láminas XXVI y XXVII. La isobara 725 á 2 p. m. dista del centro próximamente lo mismo que la isobara 717 á 10 a. m. Confirma esto mismo el hecho de que, no habiéndose observado en Tuguegarao indicio alguno de calma, sin embargo tanto en Aparri como en Laoag y Vigan se observó algo así como calma relativa: entre 12 y 2 p. m. en Aparri, entre 2.45 y 4.45 p. m. en Vigan, y entre 4 y 6 p. m. en Laoag.

Velocidad de traslación.—Para calcular las distancias recorridas por este baguio y poder deducir de ahí su velocidad de traslación, nos hemos servido de la fórmula mencionada en nuestra discusión del baguio de 23 de Septiembre último: $\cos d = \operatorname{sen} \phi \operatorname{sen} \phi' + \cos \phi \cos \phi' \cos (\lambda - \lambda')$. Tomando, pues, las posiciones del vórtice á 6 a. m. del 12, 9 a. m. y 10 p. m. del 13 y 6 a. m. del 15, hallamos las respectivas distancias de 300, 138 y 332 millas. Ahora bien, el vórtice salvó estas distancias en 27, 13 y 32 horas respectivamente. Luego las recorrió con una velocidad media de 11.1, 10.6 y 10.4 millas por hora.

Si consideramos toda la porción de la trayectoria comprendida entre 6 a. m. del 12 y 6 a. m. del 15, tendremos una distancia de 770 millas recorrida en 72 horas, lo cual nos da una velocidad media de 10.7 millas por hora.

Reports interesantes sobre la intensidad del temporal é inundaciones causadas por el mismo.—Empezaremos por el report del Observador de Tuguegarao, estación que se halló más cerca que ninguna otra del vórtice ciclónico.

WEATHER BUREAU, TUGUEGARAO, *Octubre, 1908.*

Triste y desconsolador es el cuadro que hoy presenta el pueblo de Tuguegarao; pues el baguio del día 8 del actual ha destruido unas 60 casas de materiales ligeros, dejando mal paradas otras; el del 12 y 13 que ha desfogado con horrible furia ha arruinado completamente el pueblo y, según noticias, también han corrido la misma suerte los pueblos circunvecinos: por todas partes no se ven más que casas aplastadas unas, inclinadas y destechadas otras, es decir, no hay ninguna casa ó edificio que no haya sufrido desperfecto; por este tifón se han tenido que lamentar no solo pérdidas personales sino también de animales; dejaré por ahora este detalle, para referir las circunstancias que acompañaron al baguio.

Eran las 12.30 a. m. del 13 cuando el viento soplaba con fuerza 12 de la escala Beaufort y así continuó hasta las 5 a. m. en que el temporal entró en su período álgido. Óyense volar planchas de zinc, derrúmbanse las casas, etc. etc.; serían las 5.40 a. m. cuando volaron los tabiques de la estación meteorológica y enseguida se oyó caer el anemómetro. Á las 6 a. m., al abrir un poco la ventana para ver si podía salir para medir el agua del pluviómetro, vi que la caseta estaba inclinada y sin techo; el pluviómetro también voló viniendo á parar en un sitio distante unos 10 ó 12 metros del en que estaba clavado; á las 8 a. m., después de tomar la observación, el tabique que defendía el instrumento voló también y el techo de la sala empezó á manar agua por haber volado el cogon, razón por la cual tuve que desmontar el barómetro y meterlo dentro de su estuche; la casa se balanceaba como una mecedora. Desde entonces tuve que tomar la observación por medio del barógrafo cuya pluma bajó tanto que llegó á tocar el zócalo de madera. Según el Sr. D. Salvador Torra, su aneroide que está comparado con mi barómetro bajó hasta 711 mm. Eran las 9.46 a. m. cuando empezó á rolar el viento con horrible furia sin haberse observado ninguna calma; el role fué de N á S por el W; la fuerza de este meteoro puede decirse con certeza que era de más de cien millas por hora; estacionóse al W por espacio de dos horas y luego se inclinó al SW con la misma velocidad y fuerza; á las 3 p. m. se inclinó repentinamente hacia el SE donde permaneció hasta 12.35 de la madrugada del 14 en que fué calmándose.

Entre los edificios destruídos en todo ó en parte deben mencionarse el Cuartel de Constabularios, el almacén del gobierno provincial, el balconaje del Colegio de niñas regentado por las Hermanas de St. Paul de Chartres, así como un tabique del Colegio de San Jacinto de los PP. Dominicos y una infinidad de casas. Troncos grandes de árboles obstruyen hoy el paso por las calles. Han desaparecido del mapa los barrios de Macusí, Dadan, Parabba, Canlau, Litto, Lagun, Quibal y otros que no recuerdo, todos de la comprehensión del pueblo de Peñablanca, los cuales yacen debajo de las aguas, habiéndose salvado sólo contadas personas. Refiere un superviviente del último barrio mencionado, con quien he estado hablando, que él vino á parar en el barrio de Cagay de este pueblo, encaramado sobre su misma casa con dos nietos suyos; que entre 9 y 10 a. m. del 13 se oyó un ruido extraño y muy fuerte que no era trueno, ruido que fué acercándose con vertiginosa rapidez y cuando era más pronunciado, vió desde una distancia de una milla, una montaña gigantesca y blanca que venía del Este, montaña que superaba á la altura de sus viviendas y á los 20 ó 25 minutos, sin que pudieran prevenirse, el barrio de Quibal quedó inundado en agua y sus habitantes sólo tuvieron tiempo para encaramarse en los techos de sus casas, pues aquella montaña era de agua que con espantosa rapidez inundó los barrios arriba mencionados. Cuenta el ex-vice-Presidente municipal Sr. Severino Maguigad que según el Sr. Perez, ex-Presidente municipal de Peñablanca, estando él en el sitio más alto del pueblo (Peñablanca) vió que las aguas venían del monte de Lagun ó Canlau á sus espaldas y que caían con ruído como si fueran unas cataratas formando grandes espumas. Supongo que esta es la montaña gigantesca que vió el superviviente de Quibal.

(Firmado) JOSÉ C. DE LEÓN, *Observador.*

El capitán del vapor *Bustamante*, Sr. D. A. Estival que se hallaba fondeado en Lal-loc, río de Cagayán, á unas 10 millas al sur de Aparri, después de haber observado su barómetro de 15 en 15 minutos hasta las 10.30 a. m. cuando le había bajado ya á 709 mm., escribe las siguientes líneas:

Es tan fuerte el temporal que no sé cómo describir la fuerza del viento y de los chubascos. Á 10.30 a. m. dejamos de mirar los barómetros por tenernos que ocupar del barco, pues nos faltaron todas las amarras.

El Observador de Aparri describe el temporal en los siguientes términos:

WEATHER BUREAU, APARRI, *Octubre 16, 1908*.

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Desde las 4 a. m. del 13 las rachas del NNW eran de más de 50 millas por hora, el descenso barométrico alarmante; desde las 6 a. m. bajaba de 5 á 6 mm. por hora; esperando el vórtice por momentos, observé cada 15 minutos; á las 9.45 a. m. el viento roló del NNW al NE; á las 10.45 a. m. el barómetro estaba á 716.29 mm. que fué la mínima barométrica observada, empezando desde entonces el ascenso rápido, vientos del ENE al E, con cerrazón; los nimbus rozando casi con los techos corrían con ímpetu del E, la lluvia que era salada limitaba los horizontes extraordinariamente; de 12 á 2 p. m. observé calma relativa alternada con rachas del E al SE disminuyendo la lluvia notablemente; poco después de las 2 p. m. volvió á refrescar el SE con horizontes claros al segundo y tercer cuadrante; cesó la lluvia y el viento era muy cálido y seco; no pude observar la temperatura porque se me inutilizaron los termómetros; el unido al barómetro á pesar de no estar expuesto al aire, subió de 25° á 27°. Hubo rachas muy duras del SE y refrescó tanto ó más que el N; pero también el contador se me estropeó y no marcaba la verdadera fuerza del viento que supongo fué de 60 millas ó más por hora hasta las 10 p. m. en que se normalizó. El mastelero donde se izaban las señales se cayó á la media noche. Todas las casas de nipa han sufrido desperfectos de mayor ó menor importancia y muchísimas han sido destrazadas completamente lo mismo que el arbolado; de las casas de materiales fuertes la Capitanía del Puerto es la que ha sufrido averías; á la Iglesia también se le levantaron algunas planchas del techo.

(Firmado) MANUEL DELGADO, *Observador*.

Las estaciones de la costa occidental de Luzón que naturalmente sintieron con más violencia los efectos de este baguio fueron las de Laoag y Vigan. Damos á continuación parte de los reports de los respectivos observadores. En el texto inglés incluímos además parte de una carta de Mr. C. C. Nathorst al honorable Secretario del Interior, y de otra del Ilmo. Sr. D. J. Dougherty, Obispo de Nueva Segovia, la cual hemos tomado de la revista americana "The Messenger," New York.

WEATHER BUREAU, LAOAG, *Octubre 19, 1908*.

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El barómetro estuvo bajando hasta las 4 p. m. del 13, hora en que tuvo lugar la mínima barométrica. Poco después cuando subía ya el barómetro se aclaró el cielo y tuvimos unas dos horas de calma relativa, volviendo luego á soplar vientos huracanados del cuadrante del S. Los vientos rolaron del NW al S por el W.

Á eso de 3 p. m. unas planchas de hierro galvanizado que habían sido arrancadas de la Casa Presidencia Municipal vinieron á dar contra mi veleta partiéndola en dos partes.

El baguio ha causado en la población grandes destrozos, no ha quedado casa que no haya sufrido desperfectos. Según datos que me facilitó el Gobernador, han sido destruídas 2,498 casas, innumerables graneros, gran cantidad de árboles frutales y plantas alimenticias, y se lamentó una desgracia personal. Los edificios de materiales fuertes sufrieron también considerables desperfectos, volando piezas enteras de hierro galvanizado, y hasta hay edificios destechados completamente. Muchas escuelas han sido destrozadas. También algunos puentes y carreteras provinciales han sufrido bastante. Las pérdidas causadas por el temporal las calculan en la cantidad total de unos ₱267,270.00 que yo considero algo exagerada. Creo que ascienden á unos ₱150,000.00.

(Firmado) JOSÉ SÁEZ, *Observador*.

WEATHER BUREAU, VIGAN, *Octubre 17, 1908*.

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Hacia mediodía del 13 el viento soplaba del cuarto cuadrante con una fuerza terrible, pues arrancó de cuajo unos árboles gigantescos, alzó el techado del pasillo de la casa-gobierno, hizo caer las paredes del balcón del Gobierno que miran hacia el sur, destrozó varias casas de materiales ligeros é hizo inclinar las demás. Á las 2.42 p. m. el viento roló al tercer cuadrante y á 2.45 p. m. ocurrió la mínima barométrica 732.75 mm.; desde estos momentos disminuyó notablemente en intensidad la fuerza del viento y á las 4.15 p. m. descendió hasta la fuerza 7 de la escala Beaufort, pero gradualmente se fué aumentando más y más hasta las 5 p. m. en que volvía ya á soplar con la misma fuerza destructora. Aun después de 6 p. m. desfogaba el temporal con tal furia, del tercer cuadrante, que arrancó por completo el tejado de hierro galvanizado del pasillo de la casa-gobierno á pesar de que estaba asegurado con gruesos cables, pues hasta los mismos muros del edificio reventaron por la fuerza indescriptible de los vientos. La torreta de esta oficina, la cual ni cincuenta hombres podrían levantar y trasportar á otro punto, voló hasta los bajos de la azotea á la distancia de quince metros próximamente, hacia el norte. Todos estos hechos son prueba evidente de que los vientos de la parte posterior de este baguio han sido más violentos que los de la parte anterior. Es digno de llamar la atención que á pesar de no haber sido aquí en Vigan excesivamente abundantes las lluvias causadas por este baguio, sin embargo los ríos se desbordaron en la noche del 13 inundando casi por completo todos los arrabales. En el arrabal de San Vicente, hacia el NNW de esta ciudad, en su punto más alto llegó el agua hasta la cintura y casi lo mismo sucedió en los lugares alrededor de Vigan. En dicho arrabal de San Vicente llegó el agua á penetrar dentro de la Iglesia. En Vigan y arrabales son innumerables las casas de materiales ligeros destrozadas y arruinadas por completo y las de materiales fuertes han sufrido grandes desperfectos así como también la casa-gobierno que se calcula ha sufrido una pérdida de unos ₱1,000.

(Firmado) PASTOR DAROY, *Observador.*

Antes de pasar adelante diremos dos palabras sobre las inundaciones de que se hace mención en varios de los reports que acabamos de copiar ó mencionar. Estas inundaciones puede decirse que fueron generales en todos los ríos del centro y norte de Luzón, y tan extraordinarias como pocas veces ocurren en Filipinas. Á los datos referidos arriba por testigos presenciales hemos de añadir que la inundación en el Río Agno destrozó varios kilómetros de la línea férrea de Dagupan, y que en el Bued asoló parte del llano de Pozorrubio y causó gravísimos desperfectos en la carretera de Benguet.

Ola y oleaje del huracán.—Nuestros lectores se habrán admirado del fenómeno extraordinario observado en Peñablanca cuando la terrible inundación de que nos habla en su report el observador de Tuguegarao; de aquella montaña de agua que saltando á manera de cataratas desde las alturas del monte Canlau se precipitó sobre los barrios de dicho pueblo de Peñablanca inundándolos por completo y causando muchas víctimas. Pues bien, no ha faltado quien á la vista de un fenómeno tan singular nos escribiese preguntando si sería ello la ola del huracán procedente del Pacífico? Absurda nos parece semejante suposición teniendo en cuenta que el pueblo de Peñablanca se halla á unas 15 millas de la costa y que entre aquél y ésta media la famosa cordillera oriental llamada Sierra Madre. Á menos de un cataclismo, es de todo punto imposible que semejantes alturas como las de dicha Sierra lleguen á ser dominadas por la llamada ola del huracán por extraordinaria que ésta sea. Véase á este efecto lo que sobre esta materia han escrito el P. Viñes en sus "Apuntes relativos á los huracanes de las Antillas en Septiembre y Octubre de 1875 y 1876" págs. 214 y 215 y el P. Algué en "El Baguio de Sámar y Leyte, 12–13 de Octubre 1897" pág. 11 y siguientes. Por lo que dicen estos autores en los lugares citados se puede deducir la altura máxima á que podrá llegar la ola del huracán aun en los casos más excepcionales.

Lo sucedido en Peñablanca no pudo ser otra cosa, á nuestro juicio, que enormes y torrenciales chubascos que por la grande abundancia de agua pudieron aparecer como una ola ó montaña gigantesca que se precipitaba por la falda occidental de los montes que constituyen la Sierra Madre inundando las partes bajas, aumentando las avenidas de los ríos y barrancos y arrasando cuanto encontraban por los valles en los barrios de Peñablanca.

Sin embargo, hemos de confesar que la ola del huracán que acompañaba este baguio, al menos cuando se hallaba el vórtice cerca de la costa oriental de Luzón, era á la verdad bien extraordinaria y excepcional, según se deduce del siguiente interesante report del observador de Aparri.

WEATHER BUREAU, *Octubre 16, 1908.*

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Serían las 4 a. m. del día 13 cuando se notó que subía el agua y empezaba á inundar los terrenos más bajos de la población sin que nadie le diera importancia por estar acostumbrados á que siempre que pasa un baguio cerca, se eleva á un metro próximamente el agua del río. Pero hé aquí que á las 6 a. m. próximamente se precipitaron casi repentinamente sobre el barrio de Tarol las olas del mar que como montañas derribaban las casas y todo lo que encontraban á su paso; subió tan rápidamente el nivel del mar que no dió tiempo á los habitantes de aquel sitio más que para salvarse los que pudieron; todo el caserío de nipa á la orilla del río hasta el barrio de Minanga donde yo vivo, distante un kilómetro del mar, fué casi destruído por el oleaje. Cuando noté la rápida subida del agua y el oleaje que se precipitaba sobre la caseta de termómetros, traté de recoger éstos, pero no me fué posible llegar, pues había próximamente unos dos metros de agua. El oleaje, la corriente y los tablones, trozos de madera, cañas y una infinidad de objetos que flotaban y que estaban en continuo movimiento precipitándose unos contra otros me obligaron á retroceder. La caseta desapareció á los pocos momentos. Cuando á las 7 a. m. me asomé á la ventana, se me figuró estar en un buque en medio del mar; todo el caserío de los alrededores había casi desaparecido: no se veía más que agua y olas que rompían contra las paredes y el balcón, haciendo temblar la casa. Los estragos causados por el oleaje son: la destrucción completa del caserío de nipa de Tarol, barrio que está á la orilla del mar; la mayor parte de las casas de nipa y tabla á la orilla del río destruídas y casi destruído también el barrio de Minanga. Hasta hoy se han encontrado 22 cadáveres de hombres, mujeres y niños, y unas cien personas desaparecidas, solamente del barrio de Tarol. Las pérdidas mercantiles se estiman en unos 500,000 pesos sin contar con las casas, dinero y otros efectos de los barrios arruinados. Muchas familias han quedado sin albergue y en la miseria. Hasta la fecha no hay datos exactos de los destrozos y muertos de las barrios inmediatos; pero por noticias se sabe que han ocurrido muchas desgracias personales. Los más ancianos de este pueblo dicen que han sufrido baguios más fuertes que éste, pero no han visto ni hay precedentes de la ola del huracán.

(Firmado) MANUEL DELGADO, *Observador*.

Parece no cabe la menor duda que se trata aquí de la ola del huracán. Las aguas del mar se precipitaban rápidamente contra la bocana del Río Grande de Cagayán á eso de 6 a. m. del 13, ó sea unas dos horas antes de que el centro ciclónico llegase á la costa oriental de Luzón: en otras palabras, cuando el vórtice demoraba al SE de Aparri y por consiguiente la succión ó aspiración del mismo con respecto á dicha estación ó á la bocana del río debía hacerse del NW.

Son dignas de notarse las palabras con que termina su report el Observador de Aparri: "Los más ancianos de este pueblo dicen que han sufrido baguios más fuertes que éste; pero no han visto ni hay precedentes de la ola del huracán." Prueba evidente de lo excepcional que era esta ola en este baguio, según dijimos arriba.

Concuerda admirablemente con este report de Aparri lo observado en las Islas Batanes, según escribe el Observador de Santo Domingo: "La resaca, sobre todo en la Isla de Saptang, ha llegado hasta ciertos sitios donde nunca la han visto llegar los vecinos de este pueblo que no pasan de 40 años de edad." Esta resaca no era más que el oleaje del huracán, el cual como es sabido se extiende á enormes distancias y en todas direcciones desde el centro del ciclón.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, −1.72 mm.]

Date.	Pressure, mean.	Temperature. Open air.[2] Mean.	Maximum.	Minimum.	Underground. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity, mean.	Vapor pressure, mean.	Evaporation.[2] Free exposure, total.	Shelter total.
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	mm.	mm.
1	757.62	27.4	31.6	23.6	28.5	29.8	29	29.2	28.8	28.7	81	21.9	3.2	2.5
2	58.42	27.7	31.9	23.8	28.9	30	29.1	29.3	28.7	28.7	81.3	22.2	3	2.3
3	58.43	26.7	31.8	23.5	28.9	30.3	29.3	29.4	28.6	28.7	86.2	22.3	1.9	1.8
4	53.19	24.8	26.6	22.9	28.3	28.2	29	29	28.7	28.6	94	21.8	----	1.1
5	57.29	26.5	31.4	23.3	27	28.6	28.5	28.6	28.7	28.7	88	22.5	2.2	1.8
6	59.94	26.3	31.9	23.4	28	29	28.6	28.6	28.7	28.7	87.4	22.1	1.6	1.4
7	59.08	26.8	31.8	21.4	28	28.9	28.5	28.7	28.6	28.6	86	22.4	2	1.8
8	54.87	27.4	30.7	23	28.3	29.3	28.7	29.8	28.6	28.4	85.8	23.1	3.3	2.5
9	54.67	27.5	31.1	25.1	28.5	29.4	28.7	28.9	28.6	28.6	86	23.4	2.1	1.7
10	58.67	26.6	30.5	23.5	28.7	29	28.8	28.9	28.6	28.6	86.2	22.2	2	1.7
11	58.68	25.9	31.7	21.3	28	29.4	28.8	29.2	28.6	28.6	86.1	21.2	2.5	1.8
12	55.64	27.6	32.1	22.3	28.2	29.7	28.7	29.1	28.5	28.5	81.2	22.1	6.2	4.1
13	51.94	27.4	28.5	24.9	28.5	28.5	28.8	28.9	28.5	28.5	81	21.9	1.9	2.3
14	57.21	26.4	30.4	22.8	27.3	28.5	28.3	28.7	28.4	28.3	87.1	22	1.7	1.6
15	59.12	26.8	31.8	23.3	28	29	28.4	28.6	28.6	28.5	84.6	22	2.8	2.1
16	59.16	27	31.7	23	28.2	29.5	28.5	28.8	28.6	28.5	83.9	22	2.9	2.3
17	59.27	26	31.3	22.7	28.2	29.3	28.6	28.9	28.6	28.4	87.9	21.9	2	1.6
18	58.63	26.5	32.1	22.8	28.4	29.7	28.6	29.2	28.6	28.5	86	21.9	2.2	1.7
19	58.71	27	33.2	23.2	28.8	29.9	28.9	29.2	28.6	28.5	83.8	21.8	2.7	2
20	59.62	26.6	32.3	23.6	29	30	29	29.2	28.6	28.5	84.5	21.7	2.5	2
21	59.63	26.2	32	22.7	28.7	29.8	29	29.3	28.4	28.3	87.3	22	2.1	1.7
22	58.56	25.5	29.4	22.3	28.6	29	29	29	28.4	28.5	90.4	21.9	.7	.8
23	57.74	25.5	30.7	23.2	28	29	28.7	28.8	28.4	28.4	90.4	21.7	1.3	1.7
24	58.39	23.9	25.4	22.7	27.9	27.8	28.6	28.6	28.2	28.2	94.6	20.9	.1	.5
25	58.16	24.8	29.4	21.7	27	28	28.2	28.4	28.3	28.3	92.1	21.4	.6	1
26	57.51	24.6	28.4	22.6	27.3	27.9	28	28.1	28.4	28.4	92.1	21.1	.3	.4
27	57.91	25.9	31.8	22.5	27.2	28.5	28	28.2	28.4	28.3	86.6	21.3	2.4	2
28	58.32	25.6	31.2	21.5	27.4	28.7	28.1	28.3	28.3	28.4	83.7	20.3	2.3	2
29	58.09	25.7	31.8	21	27.5	28.9	28.2	28.5	28.4	28.4	80.7	19.6	3	2.3
30	57.50	24.8	31.2	20.2	27.5	28.8	28.1	28.4	28.3	28.3	85.3	19.7	1.7	1.6
31	58.26	25.7	31.3	20.7	27.4	28.6	28.2	28.4	28.4	28.4	79.4	18.8	3	2.9
Mean	757.75	26.2	30.9	22.7	28.1	29.1	28.6	28.8	28.5	28.5	86.1	21.6	2.2	1.8
Total	----	----	----	----	----	----	----	----	----	----	----	----	----	57
Departure from normal	−0.89	−0.6	−0.1	−0.4	----	----	----	----	----	----	+2.5	−0.2	----	----

Date.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount, mean.	Prevailing form and its direction. Upper.		Lower.		Sunshine.		Rainfall.	Miscellaneous.
		Km.	Km.		0–10.					h.	m.	mm.	
1	WSW	311.5	33	WSW	4.2	Ci.-S.	NE	Cu.	SW	9	05	1.3	≡° a. ● p. ⌒ a. p.
2	WSW	224	25	WSW	7.3	Ci.-S.	ENE	Cu.	SW	8	35	----	≡° ⌒ a. ○ ⊍° p.
3	WSW	217.5	19.5	W	7.9	Ci.-S.	ENE	Cu.	NW by W	6	45	2.5	○ a. ⌈K ● ↯ p.
4	NNW, WSW	879	77	WSW	9.6	Ci.-S.		Cu.-N.	NW	0	00	72	↙² p. ● a. p.
5	SE	273	18	SE	9.9	Ci.-S.		Cu.-N.	SSW	0	00	1	● a. ○² ⌈K p.
6	NE	124.5	15.5	NNE	7	Ci.-S.	E	Cu.-N.	ESE	3	45	----	Ω ≡° a. ⊤ ⌒ p.
7	ENE	173	16.5	W by N	3.7	A.-Cu.		Cu.	E	8	15	----	Ω² ≡ a. ⌒ ↯ p.
8	SW	317	45	SW by W	9.7	Ci.-S.	NE	Cu.	W	2	15	----	Ω a. ⊤ ↙² p. ○
9	S quad.	453.5	46	SW	9.8	Ci.-S.		Cu.-N.	SW by S	2	00	2.3	↙² ● d² a. ↯ p.
10	WSW	182	25.5	WSW	8	Ci.-S.	NE by N	Cu.	SE, SSW	3	30	.1	○ ⌈K a. d² ⊕ p.
11	WSW	200	20	WSW	5.6	Ci.	N	Cu.	NNW	7	25	24.7	Ω² ≡° a. ⌈K ● p.
12	WNW	279	43	WNW	8.5	Ci.-S.	E	Cu.	N by W	5	55	----	⊕ ≡ a.
13	SW quad.	1,001	56	WSW	10	Ci.-S.		Fr.-N.	W	0	00	13.9	● p. ↙ a. p.
14	SW	193	23.5	SW by W	9.4	Ci.-S.		Cu.-N.	SW	3	35	58.7	●² ⌒ a. ●° p.
15	WSW	218.5	30	SW by W	5	A.-Cu.	SW	Cu.	SW	6	35	----	Ω ≡ a. ↯ p.
16	WSW	222	21.5	WSW	4.7	Ci.-S.		Cu.	SE	8	30	13.8	Ω a. ⌈K² ● p.
17	NW	145	14.5	W	7	A.-Cu.	NE, W	Cu.-N.	E	6	30	8.3	≡ a. ⌈K p. ● a. p.
18	NE	91	14	NW	6.8	Ci.	SE	Cu.-N.	SE	8	00	----	⌈K p.
19	NE	109	12	WSW	6.5	Ci.-S.	E by N	Cu.-N.	ENE	7	30	2.6	≡ a. ● p. ⌈K a. p.
20	SE quad.	131.5	13.5	ESE	7.4	Ci.-S.		Cu.-N.	E, SE	6	00	----	≡° a. ⊤ d ↯ p.
21	ENE, ESE	134.5	17	NW	8.5	Ci.-S.	E	N.-cf.	E	4	45	----	Ω ≡ a. ○ d ⌈K p.
22	NE	75.5	6.5	NNE	9	Ci.-S.	ESE	Cu.	NE by E	1	25	1	Ω ○ a. d² ⌈K° p.
23	NW	112.5	18	NW	8.7	Ci.-S.	SW by S	Cu.	E by S	2	10	4.7	Ω ○ a. ⌈K ● p.
24	NW	83	15	NNE	10	----		N.	SSE	0	00	11.8	● a. d² p.
25	NNW, ESE	79.5	10	NNW	9.6	Ci.-S.		Cu.-N.	E by N	0	40	2.6	●° ≡° ○° a. ● p.
26	NNE	100	8.5	NNE	9.9	Ci.-S.		S.-Cu.	SE	0	00	.2	≡ ⌒ ●° a. d p.
27	NW	99	12.5	NW	8.9	Ci.-S.	NE by E	Cu.	SE by E	3	40	----	≡ ○ a. ↯ p.
28	E	78.5	10.5	W	4.8	Ci.-S.	SW	Cu.	E	7	30	.1	Ω² d² a.
29	Variable	119	15.5	W by N	4.8	Ci.-S.		Cu.	ENE	9	15	----	Ω ≡° a.
30	Variable	88.5	13.5	ENE	5.5	A.-Cu.		Cu.	E by N	8	00	17	Ω a. ● ⊤° ⌒ ⊕ p.
31	E quad.	134.5	14.5	WNW	5.7	Ci.-S.	W	Cu.	E	8	20	----	≡ a. ○ p.
Mean	----	221	22.9	----	7.5	----		----		4	50	----	
Total	----	----	----	----	----	----		----		149	55	238.6	
Departure from normal	----	+41.4	----	----	+0.9	----		----		−23	02	+46.3	

[1] All the mean values given in this table are deduced from hourly observations.
[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.05	28.1	32.9	25.6	76.2	NE, SE	1	3.5		Cu. SW, W	------	
2	58.26	27.7	31.4	23.5	79.8	NE	1.3	5.5	A.-S.	Cu., Cu.-N. W	------	
3	57.66	27.7	30.9	24.1	79.5	SE	1	7.8	Ci.-S. NE	Cu. NE, W	------	
4	57.31	27.8	30	25.9	77.1	SSW	3.2	10	Ci.-S.	Cu.-N. SW	.5	●° ◯ a.
5	58.19	28.3	30.5	25.5	77.7	SE	1.3	8	Variable	Cu. S, SW	------	◯° a. ⛈° p.
6	58.72	28.3	33.1	24.5	78.2	SE	1.3	5.2	------------	Cu. N, E	------	⛈ p.
7	57.68	27.9	34	24.5	78.4	NE, SE	1.3	5	Ci.-S., A.-S.	Cu.-N., Cu. NE, N	14.7	● ⛈ a. ⏝² p.
8	56.46	27.9	31.7	25	78.3	SW	2	7.8	Ci.-S. NE	Cu.-N. W	------	↙° ⏝ p.
9	57.56	28.3	31.4	26	74.6	SSW, SW	2.5	7	Ci.-S.	Cu. SW	------	⏝ ↙° a. ⊤ ⚡ p.
10	58.72	28.3	32	25.7	73.2	SE	1.8	6	Ci.-S. E	Cu.-N. W	------	◯
11	58.02	28.4	32.4	24.2	73	Variable	1.2	6.5	A.-S.	Cu. W	------	
12	56.62	28	31	25.2	74.5	SW	2.5	9.8	Ci.-S.	Cu.-N. W	------	◯ ↙° ⏝°
13	56.58	26.9	29.2	24	77.4	S, WSW	4.5	9.8	A.-S.	N. SW	.2	⛈° ●° ↙° a.
14	58.05	28	30.5	24.4	76	SE	1.2	7.2	Ci.-S. SE	S.-Cu., Cu. SW	------	
15	58.64	28	33.6	23.4	76.1	NW	1	7	Ci.-S. E	Cu. SW, W	------	
16	58.65	27.7	30.5	24.4	79.3	SW, SE	1.2	6.2	A.-S.	Cu.-N. E	1	⊤° ●° a. ⚡ p.
17	58.70	27.4	32.7	24.4	79.7	NNE, SE	1.3	7.8	A.-S.	Cu.-N. E	39.2	⊤ ●² p.
18	58.40	27.2	30.6	23.5	81.3	SE	1	8	A.-S.	Cu.-N. E, W	------	⊤ p.
19	58.52	26.8	32.2	23.3	82.6	Variable	1.2	10	A.-S.	Cu.-N. E	1.3	●° a.
20	59.18	27.2	32.3	23.3	80.2	Variable	.8	9.8	Ci.-S.	Cu.-N. E	.3	d ⚡ p.
21	59.06	26.3	31.8	23.1	78.7	N quad.	1.5	7.5	Ci.-S. SE	S.-Cu.	------	⛈ p.
22	57.62	25.7	30	23	85.3	NNE	1	5.8	------------	Cu.-N. E	18.5	●² a.
23	56.70	26	29.9	23.1	84.8	N quad.	1	9.5	Ci.-S.	N. E	5.3	● ⊤ ⌒ p.
24	56.90	26	30.5	22.9	84	N quad.	.5	8.2	Ci.-S.	S.-Cu. E	38.2	◯° ● ⊤ a. p.
25	56.96	26.3	31.3	22.5	84.5	NNE, SE	.8	7.5	A.-S., Ci.-S.	Cu., Cu.-N. E	------	
26	56.90	27.2	31	23.6	83.5	SE	1.2	3.8	A.-S.	Cu. E	------	
27	56.90	26.9	31	23.8	82.8	NNE	1.5	8	Ci.-S. E	Cu.-N. E	3	d a. ● p.
28	56.74	26.9	31.8	23.1	82	NNE	1.5	8.5	Ci.-S.	Cu.-N. E	4.1	⛈ ● ↙° p.
29	56.58	26.3	31.2	23.2	84.8	N, NW	1	7.2	Ci.-S.	N. NE	11.1	● a. p.
30	56.28	25.9	30.6	23.6	86.2	N, NNE	1	9	Ci.-S. WNW	N. NE	20.2	●² ⏝° p.
31	56.82	26.4	30.5	22.7	82.6	NNE	1	7.2	Ci.-S. NNW	Cu. E	.8	d p.
Mean	757.66	27.3	31.4	24	79.8	------------	1.4	7.4	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	158.4	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.28	27.4	31.9	22.9	82.2	W, WSW	0.3	2.5	Ci.	Cu. SW	------	Ω² ≡° a. ∞ p.
2	58.47	27.4	31.7	23.1	83.3	W	.3	4.8	Ci., Ci.-S. E	Cu.-N.	------	Ω² a. p. ≡° ∞
3	57.36	27.9	32.4	23.8	80.3	SW, WSW	.8	10	Ci.-S.	Fr.-N. W	------	Ω² ⏝ ◯ ∞
4	57.54	28.4	32.1	------	75.8	SW	.5	10	Ci.-S. NE	Cu. SW	------	⚡ Ω ◯ ⏝ ⚡
5	58.57	27.9	32.6	23.6	82.9	NE	.7	7	Ci.-S. NE	Cu.	------	⚡ Ω ≡ ◯ ∞
6	59.13	27	30	23.9	85.3	Variable	.5	4.2	Ci.-S.	Cu.	------	Ω² ⚡ a. p. ≡°
7	57.78	27.5	31.5	24.1	78.2	W quad.	.8	6.2	Ci.-S. E	Fr.-Cu. N	------	Ω² ≡° ⊤ ⚡ ∞ ⏝
8	56.54	28.6	32.2	------	75.8	SW	.5	9.8	Ci.-S. NNE	Cu.-N. W, SW	1.3	d ⊤ ◯ a. ⏝ ⚡ p.
9	57.90	27.6	32.9	24	77.2	Variable	.5	6.8	Ci.-S. NE	Fr.-Cu. SW	------	Ω ≡° a. ∞ ⚡ p.
10	58.72	28.2	32.5	24.3	80.7	SW, W	.5	5.2	Ci.-S.	Fr.-Cu. WSW	3.3	●° ≡° a. Ω p.
11	57.73	28.6	32.1	26.2	77.8	W by S	1.3	6.8	Ci., Ci.-S. E	Fr.-Cu. W	------	d° ↙° ⚡ ∞
12	56.29	28.6	31.3	------	74.8	SW	2	10	Ci.-S.	Fr.-Cu. WSW	------	⚡ a. ↙° a. p.
13	56.56	29	32.5	------	70.4	SW	1.3	8.2	Ci.-S. NE	Fr.-Cu. SW	13	⏝ ↙° ●
14	58.49	27	31	23.9	85	NE, W by N	.3	5.5	Ci.-S. NE	Cu.-N. SSW	1	⛈² ≡° a. ⚡ p.
15	59.08	26.8	30.6	23.6	85.8	NNW	.2	6	Ci. SE, E	Cu.-N., Cu.	------	⛈ Ω ≡° ∞
16	59.16	27.6	33.5	23.9	82.8	NbyE, EbyN	.5	5.8	Ci.-S.	Cu.-N. NE	------	Ω ⚡ ≡° ∞
17	58.98	27.1	31.5	22.7	83.2	NNW	.3	4.2	Ci. SE	Cu.-N.	------	Ω² ⚡ ≡° a. p. ∞
18	58.72	26.7	30.8	23.1	84.5	N by W	.2	8.8	Ci.-S. E, ESE	Cu.-N.	------	Ω² ≡° a.
19	58.69	26.6	30.8	23.5	86.2	N by W	.2	8	Ci.-S.	Cu.-N.	------	Ω ⚡ ≡° ⛈ d.
20	59.45	26.3	30.8	23.6	84.9	Variable	.5	7.5	Ci.-S. NE, SE	Cu.-N.	------	⊤ Ω ≡° ⚡
21	59.29	26.6	31.2	22.4	83.5	ENE	.7	6.5	Ci. NE	Cu.-N.	------	⚡² Ω ≡°
22	57.99	25.8	30.6	23.1	87.3	Variable	.8	6.2	Ci.-S.	Cu.-N. NE	19.3	● a. ⊤ ⚡ p.
23	57.09	25.6	28.7	22.2	88.3	Variable	.7	9.2	Ci.-S. ENE	Fr.-N. N, NE	13.2	⛈ ↙° ◯ p ⚡
24	57.25	26.1	29.3	23.1	88.2	N	.3	7.2	Ci.-S. NE	Cu.-N.	11.7	● a. ⚡ d p. ◯
25	57.19	26	29.4	23.5	88.7	N	.2	9	Ci.-S. NE	Cu.-N.	1	⚡ ≡° a. p.
26	57.32	27.1	31.6	23.5	83.8	ENE	.7	4	Ci. E	Cu.-N. ENE	------	Ω² ⚡ a. p. ≡°
27	57.43	25.4	29	23.8	91.6	E by N, ESE	.3	8.5	Ci.	N. ENE	39.1	● a. p. ⊤ ⚡
28	57.37	25.5	28.8	23.3	91.7	NNE, ENE	.5	10	Ci.-S.	Fr.-N. ENE	66.8	● a. p. ⛈
29	56.92	25.1	28.2	23.1	93.2	N by W, NE	.3	9.5	Ci. S	N. ENE	37.3	● a. p. ⛈
30	56.96	25.2	28.6	23	89.3	E by N	.7	8.5	Ci.-S., A.-Cu.	Fr.-N. ENE	54.6	● ⛈ a. Ω p.
31	57.33	25.7	30.8	22.3	88.5	Variable	.5	9	Ci. W	Fr.-N. ENE	24.9	● a. p. Ω ≡°
Mean	757.92	27	31	23.5	83.6	------------	.6	7.3	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	286.5	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	758.39	26.8	31.5	22.3	80.8	SSE, S	6.3	2.2	Ci.	Cu. SSW	------	Ω² ≡° a. ∞ p.
2	58.68	27.6	31.6	23.2	77.7	SSE, E	5.9	4.8	Ci. E	Cu. W	------	Ω ≡° ☈
3	57.84	27.2	31.7	23.5	81.7	S	7.1	7.2	Ci.-S. E	Cu. NW, NNW	------	Ω ≡° a. ☈ p.
4	57.34	27.7	30	25.5	77.3	SW	11	8.8	Ci.-S.	Cu. SW	------	Ω ≡° a.
5	58.64	27.5	31.9	23.3	81.1	S	5.1	6.2	Ci.-S.	Cu. SW, S	------	Ω ≡° a. ☈ p.
6	59.28	27.4	31.4	23.9	79	SE, NW	4.9	4.5	Ci.	Cu. NNE	------	☈ ≡° a. ∞ ϖ p.
7	58.01	27.7	32	23.3	77.8	Variable	5.7	3.5	Ci.	Cu. ENE, N	------	Ω ≡° a. ∪ ϟ p.
8	56.64	27.4	30.7	24	81	SSW	8.1	8.8	Ci.-S.	Variable	23.1	ϟ ≡° ○ ☈ ↙ ● ∪
9	57.79	27.1	30.5	24.3	83.2	SSW	9	5	Ci.-S.	Cu. SW	17.3	ϟ ≡° ↙ ● a. ☈
10	59.01	26.5	30.6	23.3	83.2	SSE, SW	6.3	6	Ci.-S., Ci.	Cu.-N. W	1.3	Ω ≡° p. ☈
11	58.21	26.7	31.3	22.8	84.3	SSW	7	4.5	Ci.	Cu. W, NNW	4.6	Ω ≡° a. ● ☈ ∪ p.
12	56.46	27.4	30.9	24.2	77.7	SW	10.1	8.2	Ci.-S. E	Cu. WSW	------	Ω ≡° ϖ a. ○
13	56.43	27.4	29.5	26.1	79.3	SSW	13.2	8.8	Ci.-S.	N.-cf. WSW	------	↙° a.
14	58.49	26.6	30.9	23.7	82.8	SW, SSW	6.5	5.5	Ci.-S.	Cu. SW	------	Ω² ≡° a. ☈ p.
15	59.09	27.3	32.5	23	79.8	SSE	5.2	4.8	Ci.	Cu. SW, S	1.3	●° ≡° a. Ω ☈ p.
16	59.22	27.1	31.2	23.2	80.3	E	5.3	4.5	Ci.	Cu. S, NNE	------	☈ ≡° ∞
17	59.24	27.4	32.5	24	82	E	5.2	5.8	Ci.	Cu. NE	------	Ω² ≡° ☈ p.
18	58.78	27.2	31.9	23.3	81.3	NE, E	4.6	6.8	Ci.-S.	Cu. ENE	------	Ω² ≡° ○ ☈
19	58.78	26	31.1	23.8	85.7	ENE	4.5	6	Ci.-S., Ci.	Cu. ENE	1.5	Ω ≡° p. ☈
20	59.65	26.1	30	23	84.5	E	5.6	7.8	Ci.-S.	Cu.-N. ENE	18.8	☈ a. p. ≡° ↙ ●
21	59.40	25.9	29.8	22.5	83.3	E	6.5	5	Ci.-S., Ci.	Cu. ENE	------	Ω ≡° ☈
22	57.95	26.5	30	23	81.8	ENE	6.8	4.2	Ci.	Cu.-N. ENE	8.6	Ω ≡° ● ☈
23	57.15	26	29.9	23.2	84.6	E, SE	5.7	7.2	Ci.-S. E	N.-cf. NE	9.9	Ω ≡° ☈
24	57.14	26.9	30.8	23.4	81	E	6.6	5.8	Ci.-S.	Cu. ENE	14	Ω ≡° ↙ ● ☈ p.
25	57.23	26.4	30.4	22.8	82.3	N, E	4.7	7	Ci.-S.	Cu. ENE	19.8	☈ ≡° a. ϟ p.
56	57.29	27.2	30.5	23.9	82.4	SE, E	6.1	4.5	Ci.	Cu. E	1	d Ω ≡° a. ϟ p.
27	57.44	27.6	30.5	24.5	79.4	N	8.3	5.5	Ci., Ci.-S.	Cu. E	------	Ω ≡° a. ☈ p.
28	57.29	27.4	30	24.7	81	E	10.2	4.8	Ci.	Cu. ENE	5.1	Ω ≡° a. ● ☈ p.
29	56.99	26.9	30.4	24	81.4	NE	8.4	5.2	Ci.	N.-cf. ENE	------	Ω ≡° a. ☈ p.
30	56.88	26.6	29.6	23.5	81.1	ENE	9.1?	5.2	Ci.-S.	Cu. ENE, NE	2.3	Ω ≡° a. ● p. ☈
31	57.23	27	31	23.4	79.3	E	--------	3.2	Ci.	Cu. NE, ENE	------	Ω ≡° a. ϟ p.
Mean	758	27	30.9	23.6	81.2	------------	7	5.7	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	128.6	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	758.58	27.5	30	24.5	79.2	SW	13.5	2	Ci.	Cu. SW	------	Ω d a.
2	58.80	26.6	30.5	23	82.7	SW	8.9	7.5	Ci.-S.	Cu.	------	Ω a.
3	58.24	26.5	30.8	24	85.4	SW	7.1	8.8	Ci.-S. NE	Cu.	.5	Ω a. ☈° ∪ ϖ p.
4	57.56	27	28.3	23.6	84.8	SW	18.5	10	A.-S.	N. SW	9.6	● a. p.
5	58.52	27.4	30.6	24.5	82	SW	9.1	8	Ci.-S. ESE	Cu.	1	●° a. ○ ⊕
6	59.51	27.8	32.7	24.1	82.2	NE	6.1	7.5	Ci.-S.	Cu.	------	ϟ a.
7	58.48	27.9	33.4	24	77.3	NE quad.	7.9	6.2	Ci.	Cu. N.	------	Ω a.
8	56.77	27.6	30.8	24.2	82	SW	14.8	9.8	Ci.-S.	Cu.	------	Ω ○ ⊕ d
9	57.62	26.3	30.4	22.7	85.2	SW	17.4	9.8	Ci.-S.	N. SW	11.9	● a. p.
10	59.24	26.9	30.2	24.1	86.3	SW	11.5	9.2	Ci.-S.	Fr.-N. SW	3.8	●° a. d ⊤ p.
11	58.54	26.9	30.5	22.6	86.5	W, SW	8	6.5	Ci.	Cu.	------	d Ω a. ϟ ∪ ϖ p.
12	56.66	27	30.6	23.1	82.2	WSW	16.8	10	Ci.-S., A.-S.	Cu.	------	∪ ϖ Ω² ○ ⊕ d
13	56.13	26.8	29.4	23.6	83.3	SW	27.3	9.8	A.-S. E by N	N. WSW, SW	9.9	●° a. p.
14	58.46	26.2	28.4	24	85.7	SW quad.	13	9.8	A.-S., Ci.-S.	N. SW	13.7	● a. ϖ p.
15	59.32	26.7	30	22.1	82.7	SW	7.4	7.2	Ci.-S.	Cu.	------	Ω² ≡° a. ⊤° ϟ p.
16	59.24	27.4	32.5	24.2	82.2	SW	6.6	6	Ci.-S.	Cu.	1	Ω a. ☈ ●° p.
17	59.34	26.5	30.5	24	84.5	SW, N	5.7	8.5	Ci.-S.	Cu.	------	Ω² a. ⊕ d ☈ p.
18	58.82	27	32	23.1	82.5	Variable	5.9	8.8	Ci.-S.	Cu.	------	∪ ϖ Ω ⊕ ⊤ ϟ
19	58.85	26.8	31.5	23.4	83.2	Variable	5.5	8	Ci.-S.	Cu.	2	●° a. ☈° p.
20	59.78	26.4	29.4	24.1	85.8	S, SW	7.1	10	A.-S.	N. E	4.3	● a. ϟ p. ○ ⊕²
21	59.48	26.6	32.1	23.4	80.2	Variable	6.1	8.8	Ci.-S.	N.	.5	Ω ○ a. ●° ϟ p.
22	58.10	26.5	30.6	23	83	NNE, N	5.3	7	Ci.-S.	N. NNE	11.2	● a.
23	57.38	26.3	32	23.3	83.8	N quad.	8	8.5	A.-S.	Cu., N.	7.1	ϟ Ω ○ ⊤ ●²
24	57.38	26.6	31.9	23.4	82.8	N	9.5	9.2	Ci.-S.	N.	2.5	d a. ⊤ ●² p. ⊕
25	57.38	26.5	31.1	23.7	84.5	N	9	9.2	A.-S.	N. NE, E	8.9	● a. p. ⊕ ϟ
26	57.31	26.8	31	23.1	81.3	SW	6.2	6.5	Ci.-S.	Cu.	------	Ω a. d ϟ p.
27	57.39	27.2	32	23.1	80.3	NE	8	8.5	Ci.-S.	Cu. NE	------	Ω ≡° a. ϟ p.
28	57.21	27.4	32	23.6	78.2	NE	12.6	6.5	Ci.-S.	Cu. NE	------	Ω d a. ☈ p.
29	57.08	27.5	32.2	24	76.2	NE	12.7	6.8	Ci.-S.	Cu. NE	------	Ω a.
30	56.66	27.3	32	23.4	79.3	N, NE	12.3	5.5	Ci.	Cu.	------	Ω ≡° a.
31	57.29	27.1	31.5	23.6	76.7	N, NE	13.7	4.2	Ci.-S., Ci.	Cu. NE	------	
Mean	758.10	26.9	31	23.6	82.3	------------	10.4	7.9	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	87.9	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	758.62	25.8	30.7	22.2	83.8	SSE	6	1.2	Ci.	Cu.	------	Ω a.
2	58.71	26.1	31	22.1	85	S, SSE	5.9	4.8	Ci. E	Cu. W	------	Ω a. T ϟ p.
3	57.85	26.3	30.7	22.4	86	Variable	4.4	9	Ci., Ci.-S.	Cu. WNW, NW	2.3	Ω ●° a. ϟ p.
4	57.47	27.8	29.8	25.2	80.5	S, SSE	17.2	10	Ci.-S.	Cu. SSW, SW	------	∪ p.
5	58.67	27.2	30.9	23.8	78	E	6.5	6.5	Ci.	Cu.	------	T ϟ p.
6	59.31	26.8	32.2	21.5	79.2	NNE	5.8	5	Ci. SE	Cu. N, NNE	------	ϟ Ω ⌒ d T
7	58.01	26.8	32.4	22.6	83	Variable	5.8	5.2	Ci.	Cu. WNE, NNW	2.8	● ☈ ∪ p.
8	56.52	26.4	30.1	23.3	86	SE, E	6.4	9.5	Ci.-S.	Cu. W	16.3	● a. ☈ p.
9	57.90	27.7	30	24	79.2	SSE	17.2	5	Ci.	Cu. SW, S	------	ϟ ∪ p.
10	58.95	26.5	30.1	23.2	85.2	SSE	5.6	5	Ci. E	Cu. SW	------	Ω d a. ϟ p.
11	58.21	26.4	31.9	22.8	82.4	S, WNW	5	4.8	Ci.	Cu. WNW	1.8	Ω a. ϟ ●° ∪ p.
12	56.22	27.9	30.3	24.4	81.2	SSW, S	16.6	9.8	Ci.-S.	Cu. W	.5	∪ ●° a. ○
13	56.46	28.1	29.4	26.5	75	S	31.3	9.2	A.-Cu. SSW	Cu. S	------	ϟ p.
14	58.60	27.2	30.5	24.8	77.9	SSE	10.1	6.5	A.-Cu. SSW	Cu. S	3.8	ϟ T ● p.
15	59.25	26	31	22.1	84.9	S	4.7	3.8	Ci.	Cu.	------	T ϟ p.
16	59.29	26.5	30.8	21.7	84	S	5.7	6.2	Ci. SE	Cu.	------	Ω a. ϟ p.
17	59.29	25.9	32.2	22.1	81.5	N	5.6	8	Variable	Cu.	19.3	ϟ a. ☈ p.
18	58.86	25.3	29.5	21.9	85.4	Variable	4	8.2	Ci.-S.	Cu.	------	☈ Ω d
19	58.92	25.3	30.8	21	84.7	N	5.2	7.2	Ci. ENE	Cu.	------	Ω T ϟ
20	59.79	25.4	30.4	21.7	85.7	Variable	5.4	8.2	Ci. SE	Cu.	6.9	Ω ☈ ⌒ ●
21	59.47	24.8	30.1	21.8	85.2	Variable	5	7	Ci.-S.	Cu.	------	T ϟ p.
22	58.11	24.4	30.5	20.3	88.5	Variable	4.8	4.2	Ci.	Cu. ENE	3.8	Ω ϟ ●° T
23	57.42	24.5	29.5	21	87	Variable	4.1	9	Ci.-S.	Cu. ENE	1	Ω ●° a.
24	57.44	25.2	30.4	21.7	88.3	NNW	4.4	8.5	Ci.-S.	Cu.-N. ENE	3.6	● ☈° p.
25	57.30	25.3	29.9	22.4	87.8	N	4.1	7.2	Ci.-S.	Cu.	------	Ω a. T d ϟ p.
26	57.46	25.6	31	21	86.5	N	5.4	3.8	Ci.	Cu.	------	ϟ Ω d T
27	57.60	25.5	31.4	21.3	85.5	Variable	5.2	6.2	Ci. ESE	Cu.	.5	Ω a. p T ϟ p.
28	57.55	26	31.8	21.8	82.8	Variable	6.2	6	Ci., Ci.-S.	Cu. ENE	.8	p° a. ● ☈° p.
29	57.14	25.3	31	20.8	82.8	Variable	6.4	5.5	Ci.	Cu. ENE, NE	.5	Ω d T ϟ
30	56.84	26.6	32.4	21.9	75.8	Variable	6.8	8.5	A.-Cu. E	Cu. ENE	------	ϟ p.
31	57.39	25.6	31.8	19.8	78.6	Variable	5.9	4.8	Ci.	Cu. ENE	------	Ω a.
Mean	758.08	26.1	30.8	22.4	83.1	------------	7.5	6.6	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	63.9	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 5.5 meters. gravity correction not applied, —1.82 mm.]

	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	758.28	27.8	33.2	23.7	79.4	WNW, SSW	0.5	2.5	------------	Cu. SW	------	Ω² a.
2	58.58	28.6	34.6	24.3	77	Variable	.5	7	Ci. E	Cu. NW	------	Ω a. ϟ p.
3	57.31	27.7	31.8	25.2	78.7	NW	1.5	8.5	Ci. E by S	Cu.-N. NW	------	○²
4	57.08	28.2	32.4	25.3	72	SSE	.7	9	Ci.	Fr.-N. SW	------	d° a. ∪° p.
5	58.76	27.8	32.4	24	78.7	SE	.7	6.2	Ci. NE	Cu.-N. S	------	○² ☈ p.
6	59.35	26.8	33	24	83.2	WNW	.5	4.5	Ci. ENE	Cu. NNE, N	29.2	↙ ● ϟ p.
7	57.90	27.1	33	24.6	80.4	NW	1.3	6.5	Ci. S	Variable	1.3	↙ ●° ☈ ∪ p.
8	56.04	28	33	25.3	78.2	W	1.5	7.2	Ci. E	Cu.-N. NW, W	------	∪ ϟ ○ a. p.
9	57.60	28.7	33.2	25	74	SSE, ESE	1	6.2	Ci. NE	Cu. SW	------	∪² a. ϖ p.
10	58.76	28.6	33.8	24	74.8	W, NW	1.2	5.5	Ci.-S. NE	Cu. WSW	------	∪ ϖ a. p.
11	57.73	28.4	33	25.2	73.2	WNW	2.2	5.2	Ci. E	Cu. NW	------	↙° ∪² ϖ² p.
12	55.59	29	33.2	26.2	69.8	WNW	1.5	8.2	Ci.	Cu.-N. NW	------	○² a. ∪² p.
13	55.97	28.6	33	25	66.8	SSE	1.8	7	Ci. ENE	Cu. SW	------	∪² ⌒ a.
14	58.47	28	32	24	75.6	SE	1	6	Ci.-S. E	Cu. SW, S	------	∪² Ω ○° a. ϟ p.
15	59.40	27.6	33.2	24	77.5	Variable	.7	5.2	Ci. E	S.-Cu.	------	○² ☈
16	59.33	27.5	33	24.4	81.3	W, SE	1	5.5	Ci.-S.	Cu.-N. N, NE	------	☈ p.
17	59.26	27.4	33	24.6	82	Variable	1.3	7.8	Ci. SE	Cu. SW, W	------	ϟ a. p. ☈ p.
18	58.90	27.6	32.5	24.1	80.2	SSE	1	6	Ci.-S. SW	Cu.-N. N	------	∪² a.
19	58.94	27.2	33	24	80.3	WNW, E	1	7	Ci.-S. SW	Cu.-N. NE	------	ϟ p.
20	59.79	27.1	32	23.8	80.9	ESE	.8	8.5	Ci.-S. NNE	Cu.-N. S	54.1	●² ○ ⊕ ☈ ● ↙
21	59.80	26.3	30.2	22.9	84.3	SSE	.5	6.5	Ci.-Cu. NNE	Cu.-N. SSE	------	
22	58.41	26.7	31.5	23	81.9	WNW, SE	.7	4.2	------------	Cu. SE	.5	●° p.
23	57.66	25.2	27	23.8	90.5	WNW	1	8.8	Ci.-S. NNW	Fr.-N. NNW	2.1	● a.
24	57.66	26.7	31.5	23.8	83.1	WNW, W	.8	8	Ci,-S. NNW	Cu.-N. E	8.1	● a. ● ☈° p.
25	57.69	25.6	29.6	24	90	WNW	.8	9.8	------------	N. NE	10.7	● a. ● ☈ p.
26	57.76	26.8	31.5	22.8	84	E	.8	6.2	Ci.-S. NW	Cu. SE	1.3	●° a. ϟ p.
27	57.92	27.3	32	24.2	79.8	E	1	6	Ci.-S. NNW	S.-Cu., Cu. SE	2.8	Ω ○ ● a. ϟ p.
28	57.84	27	32.5	23.9	81.4	WNW, E	.8	5.5	Ci.-S. W	S.-Cu. NE	.8	●° a. ϟ p.
29	57.58	26.4	31.2	24	83.7	WNW, NE	.7	6.2	Ci.-S. WSW	Cu. ENE	5.8	● a. ⌒ ϟ p.
30	57.25	26.9	31.2	24.2	80.2	SSE, E	.8	6	Ci.-Cu. WSW	S.-Cu. NE	.8	●° a.
31	57.80	26.9	33	23.2	79	WNW	.8	2	Ci.-S. W by N	Cu. NE	------	Ω² a.
Mean	758.08	27.4	32.2	24.2	79.4	------------	1	6.4	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	117.5	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.29	26.9	31.7	21.5	85.5	SSW, ENE	0.3	3.8	Ci.	Cu. SW	------	Ω° a.
2	58.85	27.3	31.1	21.3	86	Variable	.3	5.8	Ci., Ci.-S.	S.-Cu. SW	------	
3	58.27	27.1	31.2	21.9	88.7	Variable	.5	6.5	Ci.-S.	Cu. NW	------	∪° ⊕° p.
4	57.08	25.4	26.8	22.1	91	SSW, SW	0	10	Ci.-S.	N. SW	0.8	d ∪ ⊕
5	58.46	27.3	32.6	21.9	87	S	.5	5.8	Ci., Ci.-S.	Cu. S, NW	6.4	● ⛈° p.
6	59.72	27.6	30.4	22.1	85.7	NE	.7	5	Ci.	Cu. NE	4.8	● ⛈° a.
7	58.61	28.4	30.7	24.6	82.8	NE	1.2	4.8	Ci.	Cu.-N., Cu. NE	------	⚡ ∪ ⊕ p.
8	56.10	28	32.6	23.4	86.2	NW	.7	9	Ci.-S.	N. NW	10.9	d a. ● p.
9	57.10	26.9	31.4	22.2	87.3	SW	.5	8.8	Variable	N. SW	3.8	● T° ∪ p.
10	58.93	26.6	31.3	22.2	87.5	Variable	.5	6	Ci.-S.	S.-Cu. SW	------	T° p.
11	58.55	26.8	31.4	21	86.3	W, N	.7	3.2	Ci.	Cu.-N. NW	------	Ω a. ∪ ⊕ p.
12	56.16	26.4	30.7	21.2	88.3	W	.3	9.2	Ci.-S.	N. W	------	∪ ⊕ p.
13	55.36	27.2	32.2	21.9	85.2	S	.7	8.2	Ci.-S.	Cu.-N. SW	------	
14	58.10	26.6	31.2	22.2	90.2	S, SSE	.3	6.8	Ci., Ci.-S.	Cu.-N. SW	------	d° a. ⚡° p.
15	59.37	26.4	30.7	20.6	86.8	Variable	.5	3.2	Ci.	S.-Cu. SW	------	Ω a. ⛈° p.
16	59.27	26.9	30.7	20.5	87.4	NNE	.3	3	Ci.	S.	------	Ω a. ⚡° p.
17	59.35	26.8	30.3	22.1	88.5	N	.3	5.8	Ci.-S.	Cu.-N. NE, NW	------	⚡° p.
18	58.76	26.8	30.8	20.9	88	N, NE	.2	9	Ci.-S.	N.	------	⚡° p.
19	58.95	26.4	30.9	20.8	89.2	Variable	.2	6.8	Ci.	Cu.-N. NE	7.1	Ω a. ⚡ ● p.
20	59.83	25.6	28.9	21.1	92.1	SSE	.2	10	Ci.-S. SE	Cu.-N., N. SE	------	T° a. d° p.
21	59.69	26.7	30.1	21	87	NE	.5	6.8	Ci.-S., Ci.	Cu.-N. SE, NE	------	⚡ p.
22	58.20	26.6	30.7	20.6	88.5	NE, ENE	.3	4.5	Ci.-S., Ci.	Cu.-N. E	------	⚡° p.
23	57.70	26	29	21.2	87.3	N by W	.2	8.5	Ci.-S.	Cu.-N. NE, NW	7.3	● a. p. ⚡
24	57.82	26.7	29.9	21.1	87.2	NNE	.7	6	Ci.-S., Ci.	Cu. E, NE	------	Ω a. d° ⚡ p.
25	57.70	26.8	30.3	23	88.3	NW, NNE	.5	8.2	Ci.	Cu.-N. E	29.7	T ●² ↙°
26	57.38	26.1	30.2	21.8	92.7	NE	.2	9	Ci.-S.	Cu.-N. SW, SE	4.6	● ⛈ p.
27	57.66	26.4	30.4	20.5	88.8	ENE	.5	6.2	Ci.	Cu.-N. NW, E	15	● a. ⛈ p.
28	57.80	27.1	29.9	21.4	86.7	NE	1	7.5	Ci.	Cu.-N. NE	4.8	Ω a. ⚡ p.
29	57.59	27.8	30	23.5	83.8	NE	1	5	Ci.	Cu. E	------	d° p.
30	57.11	27.7	30.7	23.2	81.7	Variable	.8	5.2	Ci.	Cu. E	------	
31	57.81	27.1	30.2	22.6	85	NNE	.7	5.2	Ci.	Cu. E	------	
Mean	758.12	26.9	30.6	21.8	87.3	------------	.5	6.5	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	95.2	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.54	------	------	23.2	------	N, W	1	4	Ci.	S.-Cu. SW	------	⚡ p.
2	58.84	------	------	22	------	N, W	1	6.8	Ci.	S.-Cu. W	------	d ⛈ p.
3	75.56	------	------	23.5	------	N, W	1.2	7.8	Ci.-S.	S.-Cu. W, NW	19.3	● ↙° ⛈ p.
4	56.98	------	------	25	------	SW	2.7	9.2	Ci.-S.	Cu.-N. SW	4.8	●° ↙° ⚡ d.
5	58.97	------	------	22.7	------	N, W	1.3	6.2	Ci. NE	S.-Cu. SW	.5	p. a. ◯² ⚡ p.
6	59.67	------	------	22.6	------	N	1	6	Ci. NE	S.-Cu. NE	------	⚡ p.
7	58.20	------	------	22.4	------	N, NE	1	7.2	Ci. NE	S.-Cu. NE	3.6	●° a. p. ⛈ ∪²
8	55.89	------	------	24	------	W	1.7	8.5	Ci.-S.	Cu.-N. NW, W	8.4	● ↙° ◯² ⚡ ∪
9	57.65	------	------	26.8	------	WSW, SW	1.5	7.2	Ci. NW	S.-Cu. SW	------	⚡ p.
10	59.08	------	------	24	------	W	1	7.5	Ci.	S.-Cu. W	------	⚡ p.
11	58.07	------	------	24.4	------	N, W	1	7.8	Ci.-S. NE	S.-Cu. W	------	⛈ p.
12	55.69	------	------	26.5	------	W	2.3	8.5	Ci.-S.	Cu.-N. W, NW	2	↙° ● ⚡
13	55.51	------	------	27.6	------	SW	3	8	Ci.-S.	S.-Cu. SW	------	d ↙° ◯² ⚡
14	58.50	------	------	24.3	------	N	1	5.8	Ci.	S.-Cu. SW	7.6	↙ ● ⛈ p.
15	59.44	------	------	23.5	------	N, W	1	7.2	A.-Cu. N	S.-Cu. W	------	d ⛈ p.
16	59.44	------	------	22.7	------	N, W	1	7.2	Ci. E	S.-Cu. N	------	⛈° p.
17	59.36	------	------	23.5	------	N	1	7	Ci. E	S.-Cu. N	------	p ⛈° p.
18	59.10	------	------	22.7	------	N	1	7.2	Ci.-S. E	S.-Cu. N	------	◯ ⛈ p.
19	59.12	------	------	22.9	------	N	1	7.2	Ci.	S.-Cu. NE	------	d ⛈ p.
20	59.73	------	------	22.8	------	N, W	1	6.8	Ci. E	S.-Cu. N	------	d T ⚡ p.
21	59.80	------	------	22.2	------	N	1	7.5	Ci.-S.	S.-Cu. SE	1	●° ⛈° p.
22	58.49	------	------	21.4	------	N	1	6	A.-Cu. NE	S.-Cu., Cu.-N. E	7.6	● a. ⛈° ⌒ p.
23	57.82	------	------	22.1	------	N	1	7.8	Ci.-S.	Cu.-N. E	3.6	●° a. d ⚡ p.
24	58.07	------	------	22.4	------	N	1	7.8	Ci. E	Cu.-N. E	27.7	●° a. p. ⛈
25	57.78	------	------	22.4	------	N	1	8	A.-Cu. E	Cu.-N. E	13.7	p a. ● ⚡ p.
26	57.79	------	------	22.2	------	N	1	7	A.-Cu. W	Cu. SE	------	d ⛈° p.
27	57.90	------	------	22.4	------	N	1	7.2	Ci. NE	S.-Cu. SE	19.8	●² ⛈ p.
28	57.94	------	------	22.2	------	N, NE	1	6.8	Ci.	S.-Cu. E	10.4	● a. ⚡ p.
29	57.94	------	------	21.8	------	N	1	5.8	Ci.	S.-Cu. E	------	⚡ p.
30	57.37	------	------	21.7	------	N	1	6.2	A.-Cu. E	S.-Cu. E	9.7	p ⚡ p.
31	57.97	------	------	20.4	------	N, NE	1	5.2	Ci.	S.-Cu. E, NE	------	⚡ p.
Mean	758.20	------	------	23.2	------	------------	1.2	7	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	139.7	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 4.2 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	757.98	27.6	33.5	23.5	78.5	W	5.5	1.2	Ci.	Cu. WSW	------	≡° a.
2	58.43	28	34.9	23.1	77.8	WSW	3.4	3	Ci.	Cu. W, NW	1.5	p ⚡ p.
3	57.39	27.5	32.2	22.9	80.1	Variable	4.7	8.8	Ci.-S. E	Cu.-N. NNW	------	≡° a. p° ⊤ p.
4	54.72	24.8	26.1	23.5	91.7	W, SW	16.8	10	Ci.-S.	Fr.-N. SW	41.1	⚡ ● a. d p.
5	58.58	27.5	31	22.9	81	ESE	5.3	3	Ci. N, NNE	Cu. SSW	------	○²
6	59.65	27.8	32.1	23.2	80.2	NE	6.9	2.8	Ci. SE	Cu.	------	≡° a.
7	58.01	28.2	33.1	24.3	73.8	NE	9.8	2	A.-Cu. NNE	Cu. NNE	.5	≡° a. p° ⊤ ⚡ p.
8	54.72	27.2	29.7	24.4	79.8	W	10.3	10	Ci.-S.	Cu.-N. NW	.8	●° a. ∪ p.
9	56.83	28.2	33	25	79.3	SSW	7.3	4.5	Ci.	Cu. S	------	≡° a. p° p.
10	58.66	28	34.7	23.6	79.7	SW, W	4.9	2.5	Ci. NNE, NE	Cu. WSW	------	≡° a. ⚡° p.
11	57.81	27.6	33	23.6	80.3	W, WNW	3.4	5.5	Ci. E	Cu.-N. W, NW	4.3	≡° ● a. ⚡ ∪ p.
12	54.49	27.8	32	25	79.5	W	11.8	9.5	Ci.-S. NE	Cu.-N. NW, W	1.8	● ○ ⚡
13	53.85	27.9	32.1	25	78.7	SW quad.	14.1	7	Ci.-S., Ci.	Cu.-N. SW	8.1	● a. p. ⚡ p.
14	57.99	26.9	32	24	84.7	SSW	4.3	4.5	A.-Cu. SSW	Cu.-N. SSW	.8	●° ⊤° a. ⚡ p.
15	59.09	27.3	34.5	22.5	79.5	W, SW	3.7	2.5	Ci. E	Cu.-N. NW	------	Ω° ≡° d ⊤ ⚡
16	59.08	26.9	32	22.4	82.2	E	3.7	3	Ci. E	Cu.	------	⚡ ⊤
17	59.12	26.4	32.3	23	86.5	E	3.6	4.2	Ci. E, NE	Cu. S	30.7	≡° a. ⊤ ●² ⚡ p.
18	58.72	26.8	31.4	22.4	83.3	E	4.7	4.5	Ci. ENE	Cu.	------	⚡ p.
19	58.90	26.5	31.9	21.9	81.7	ESE, ENE	5.5	5	Ci. N	Cu.	------	≡° a. ⚡ p.
20	59.57	26.5	31.4	22.7	82.5	E	3.2	5	Ci. NNE	Cu.-N. W	10.6	●² ⛈ p.
21	59.66	26.6	30.9	22.5	82.5	E	4.1	5.8	Ci. NNE	Cu., Cu.-N.	.5	≡° a. ⚡ p.
22	58.40	27.2	31.1	23	80.2	NE, E	7.7	2.8	Ci.	Cu.-N. ENE	.8	●° a. ⚡ p.
23	57.91	25.4	26.9	22.8	88.5	E	7.3	10	Ci.-S.	Fr.-N. E	60.5	●² a.
24	57.90	27.2	31.5	23.1	81.8	E	8.8	7.2	Ci. N	N., Cu. E	4.8	●° a. p. ⚡
25	57.72	25.6	28.9	23.6	88.8	NE, E	9.9	9.2	------------	Cu.-N. ENE, E	13	● a. p.
26	57.84	26.4	31.9	23.5	85.3	E, NE	7.3	7.5	A.-Cu. S	Cu.	3.8	●° ⊤ ⚡ p.
27	58.10	27.8	30.7	24.3	80.5	NE	9.4	3.5	Ci. NNW	Cu.	1	⚡ p.
28	58.24	26.8	30.8	23.9	83	NE	10.2	4.5	Ci., A.-Cu.	Cu.-N. E, NE	10.9	● a. p. ⚡
29	57.90	27.2	30.5	22.2	78.6	NE quad.	10.1	1.8	Ci.	Cu. ENE, NE	6.9	● a.
30	57.49	26.8	30	24.4	79	NE	10.6	4.5	A.-Cu. E	Cu.	1.8	●° a.
31	58.05	26.4	31	23.1	82.2	NE	11.6	6.5	Ci. NNW	N.	34.5	d a. ● p.
Mean	757.83	27.1	31.5	23.4	81.7	------------	7.4	5.2	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	238.7	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 7.8 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temp. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind prevailing direction.	Force (mean).	Clouds amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	757.40	27.5	34.4	22.9	84.7	WSW	---------	3	Ci.	S.-Cu. SW	------	Ω a. ϖ p.
2	58.22	27.9	33.9	23.5	83.8	SW	---------	6.2	Ci. E, NE	Cu. S	1.5	Ω ○ a. d ⛈° p.
3	58.04	27.9	32.4	23.3	85.2	SW, NW	---------	8.8	Ci. NE, E	Cu.-N. E	2.3	Ω ≡° d ○ a. ⛈ p.
4	53.06	25.3	26.6	22.9	88.2	SW quad.	---------	10	Ci.-S.	N. W, SW	70.3	↙ ●² a. p.
5	57.37	28.2	32.5	22.9	81.7	S, SE	10.7	8.8	Ci.	S.-Cu. S	------	↙° ○ a. ⚡ ϖ p.
6	60.01	27.6	32	22.8	83.8	SW, NE	11.6	6.8	Ci. NE, E	Cu. E, NE	------	ϖ p.
7	58.94	28.5	32.3	26.6	82.3	N, NE	---------	7.5	Ci.	S.-Cu. NE, N	10.9	d a. ● ϖ p.
8	54.54	27.9	31.5	23.9	82.6	SW	---------	9.5	Ci.-S.	S.-Cu. N, WNW	------	○² a. ↙ p.
9	55.23	29	33.5	26.4	79.5	SW	8	8.2	Ci. N	S.-Cu. SW	------	↙° a.
10	58.33	27.7	33.9	24.4	86.7	SW, W	6.1	6.2	Ci. E	Cu. SW	15.5	ϖ Ω ↙ ● ⛈ ≡°
11	58.33	27.2	32.9	22.5	85.6	W	7.7?	2.2	Ci. S	Cu. NW	------	ϖ Ω ≡° a. ⚡ p.
12	54.82	28.2	33.5	23.7	80.3	W	10.8	9	Ci.-S.	S.-Cu. W	------	ϖ Ω ↙° p.
13	52.18	27.4	28.9	25	83.2	W, WSW	20.2	10	Ci.-S.	S.-Cu. W	3.3	∪ ϖ ↙² ●°
14	57.09	27.5	32.8	23.9	83.8	SW	3.8	9	Ci.-S.	S.-Cu. SW	------	⚡ p.
15	58.85	27.5	33.5	23.5	83.9	SW, WSW	3.8	5.5	Ci.	Cu. W	------	ϖ Ω ≡° a. ⌒ ⚡ p.
16	58.99	27.4	32.9	22.5	85.5	SW	4.7	4.5	Ci. E	Cu.	------	ϖ a. ⚡ p.
17	59.04	27.3	33.9	23.4	85.8	SW	4.3	5.8	Ci. ESE	Cu. S	------	⛈ Ω ⊕ d
18	58.53	26.8	32.7	23	86.4	SW	5.2	5.2	Ci. E	Cu. S	6.1	ϖ Ω a. ⛈ ● p.
19	58.76	25.9	31.5	23	90.5	NNW	---------	8.8	Ci.-S., Ci.	S.-Cu. NE	70.6	● ⛈ a. p. ⊕
20	59.66	25.5	28.9	22.6	93	SW	---------	9.2	Ci., Ci.-S.	S.-Cu. SE, SW	16.5	⚡ ≡° ⊕ ●
21	59.70	26.3	31.3	22.9	89.5	NNW	---------	9	Ci.-S.	S.-Cu. NE	3.8	Ω ≡° ○ ⛈° d
22	58.55	26.9	31	23.6	87.1	NE, W	---------	7.8	Ci., Ci.-S.	S.-Cu. NE	10.2	Ω ● ⚡
23	57.85	27.4	32.3	24.8	85 8	NE quad.	---------	9	Ci., Ci.-S. SE	S.-Cu. ENE	17.3	⚡ ● a. p.
24	58.48	25.9	26.6	24.6	90.3	NE	---------	10	Ci.-S.	S.-Cu. NE	22.4	● a. p. ⚡ p.
25	58.12	25.8	28.6	23.9	92	NE	---------	9.8	Ci.-S.	N. NE	25.1	↙² ● a. p ⚡ p.
26	57.57	25.1	28.8	23.4	92.2	W	2.6	10	Ci.-S.	S.-Cu. SE	26.4	● a. p. ⚡
27	58.22	25.9	31	22.6	91.3	Variable	---------	8.5	Ci. E by N	S.-Cu. NE	8.4	⚡ a. ⛈ ● p.
28	58.45	26.5	30.8	24.4	87.3	NE	---------	8.5	Ci.	S.-Cu. NE	4.3	d a. ↙ ●° ⚡ p.
29	58.25	26.8	31.8	24.2	85.7	NE	9.8	7.2	Ci.	S.-Cu. NE	12.2	● ⌒ a. d p.
30	57.70	26.7	33	24.5	85	NE	4.8	7	Ci.	Cu. NE	10.2	⊕ a. ● p.
31	58.60	26.5	29.5	24.1	82.3	NE	10.4	9	Ci.	S.-Cu. NE	------	≡° d ϖ
Mean	757.71	27	31.6	23.7	86	------------	---------	7.7	------------	------------	------	
Total	--------	------	------	------	------	------------	---------	--------	------------	------------	337.3	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[ϕ=14° 49′ N; λ=120° 16′ E; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	757.36	26.2	28.1	24.9	91	SW, S	0.7	9.5	Ci.-S.	Cu.-N. SW	7	● a. p. ↙°
2	58.20	26.6	28.6	24.8	87.7	Variable	1	8.5	Ci.-S.	Cu.-N. SSW	6.4	●° a. ○ d ϟ p.
3	58.44	26.4	29.1	24.3	88.7	Variable	1	8.2	Ci.-S. E, ENE	Cu.-N.	4	≡° d ⛈ ⌒ ∞
4	53.24	25.7	27.9	23.6	85.5	NW, SW	3.8	10	Ci.-S.	Cu.-N. NW	93.3	≡° d a. ↙ ● p.
5	56.60	25.6	28	22.2	88.5	Variable	2.2	10	Ci.-S.	Cu.-N. SSW	59	↙ ● ⛈² ⊍
6	59.77	26.7	33.3	23	82.8	ENE	.8	7.2	Ci.-S. NNW, E	Cu.	------	○° ⊖
7	59.13	26.5	31.6	22.3	83.2	Variable	.8	3.8	Ci.-S.	Cu.	------	≡° Ω d° ⛈ ⊍
8	55.17	27.2	31.9	23.6	82.1	NNE, NNW	1.4	9.5	Ci.-S. E	Cu.-N. NW	------	≡° ○ a. ⊤ ∞ p.
9	54.08	26.1	28.3	20.9	89.5	SW, S	2.2	10	Ci.-S.	N., Cu.-N. SW	31.3	↙ ● a. p. ⛈ a.
10	58.61	25.3	27	24.1	90.2	S	.7	10	Ci.-S.	Cu.-N. SSW	16.8	● a. ≡° p.
11	58.76	25.2	30.1	22.2	89.5	Variable	1.1	7.8	Ci.-S. N	Cu., Cu.-N.	------	≡ ⛈ p.
12	55.98	27.1	31.4	23.3	83	NW	1.5	8.2	Ci.-S. ESE, E	Cu.-N. NW	.1	○° ⊤ d p.
13	52.05	26.9	28.5	24.4	79.5	NW, W	3.3	10	Ci.-S.	N. NW, W	26.3	↙ ● a. p.
14	56.89	27	29	25.1	83.5	SW, S	1.5	9.2	Ci.-S.	Cu.-N. SW	3	d a. ● p.
15	59.02	26	28.3	24	87.1	Variable	1.2	9	Ci.-S.	Cu.-N. SSW	12.8	● a. p. ↙°
16	59.08	25.6	28	22.6	88.5	NNE, SSW	1.2	5.5	Ci.-S.	Cu.-N. WSW	------	≡° a. d ϟ p.
17	59.06	25.8	28.4	23.6	88.2	NNE	1	7.2	Ci.-S.	Cu.-N. WNW	.5	⊤ d ϟ ≡° p.
18	58.54	26.1	30.3	23.3	85.8	NNE	1.1	7.8	Ci.-S. E	Cu.-N. NE	------	≡° a. d ϟ p.
19	58.52	26.4	31.2	23.8	85.3	NNE	1	8	Ci.-S. ENE	Cu., Cu.-N.	------	≡° a. ∞ ⛈ p.
20	59.38	25.9	31.5	23.2	87.3	NE	.8	8	Ci.-S. ENE, E	Cu. E	5.6	≡° ● ○² ⛈ ∞
21	59.56	26	32	23.1	86.5	NNE, ENE	1.1	9	Ci.-S. NE	Cu.-N. SSE	------	≡° d ⛈
22	58.49	26.1	32.8	22.6	84.8	NNE	1	8	Ci.-S. NNE	Cu.-N. E	13.9	≡° a. ● ⛈ p.
23	57.58	26.4	30.9	23.3	86.2	NNE	.9	8	A.-Cu. NE	Cu. E	------	≡° a. ⛈ p.
24	58.19	24.4	26.4	22.5	90.8	NE	1.2	9	Ci.-S.	Cu. E	------	d a. p.
25	58.12	25.9	31.9	22.2	82.8	NE	1	8.8	A.-Cu.	Cu.	.3	d a. p.
26	57.34	24.8	28	22.5	87.3	N, E	.9	9.5	Ci.-S.	Cu.-N. E by N	.6	d a. p. ⌒ ϟ
27	57.65	26.2	31.2	23.7	81.5	E	1.2	9	A.-Cu. SW, S	Cu.-N. SE	------	≡° ϟ p.
28	57.96	26.7	32.1	22.5	77.8	NNE, ENE	1.2	5	Ci.-S. NNW	Cu. E	------	ϟ p.
29	57.94	26.6	32.4	21.6	76.6	NNE, ENE	1.3	4	Ci.-S.	Cu. E	------	d° ϟ p.
30	57.16	26	32.1	21.3	78	NNE, E	1.2	3.5	Ci.-S.	Cu. E	------	d ϟ p.
31	57.95	26.3	32	22.7	75.8	NNE	1	6	Ci.-S. NNW, N	Cu. E	------	○² ≡°
Mean	757.61	26.1	30.1	23.1	85	------	1.3	8	------	------	------	
Total	------	------	------	------	------	------			------	------	280.9	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	757.53	26.2	31.4	24.1	89.2	S, SSW	0.6	5.2	A.-Cu. NW	Cu.-N. S	6.4	Ω a. ● ⊤ p.
2	58.36	27.7	32.5	24	82.8	SSW, SSE	.5	7.5	Ci. NE, NW	Variable	------	Ω a. ○ ϟ p.
3	58.68?	26.6	32.9	24	86.1	Variable	.4	8	Ci.-S. NE	Cu. S, SW	3.6	Ω a. ⊤ ●° p.
4	51.75	24	25.5	23	94.5	WNW	4.8	10	A.-S.	N. NW, SW	203.2	d a. ↙ ●² p.
5	56.95	25.6	29	22.5	88.3	S	1.8	9.5	Ci.-S.	Cu.-N. S	2.3	↙ ● a. ○ ⛈ p.
6	60.08	26.4	31.8	23	89	Variable	.3	5.2	Ci. NE	Cu.-N. S	2.5	●° Ω a d p.
7	59.40	27.2	33	23.4	83.5	Variable	.6	5.2	A.-Cu. E	Cu. N, NE	1.8	Ω a. p p.
8	54.93	27.2	31.6	24.6	84.8	NNE, WSW	.8	9.2	Ci. SE	Cu. NE, N	------	Ω ≡ ○ a. ⊤ d p.
9	53.70	25.8	29.6	24	92.8	SSW	1.9	10	A.-S.	N. SSW, SW	31	↙° ●² a. d ⊤ ⊍ p.
10	58.63	26.4	30.5	23.4	87.8	SSW	.4	7	Ci., Ci.-S.	Cu. S	------	Ω ≡° ○ ϟ
11	58.70	27	32.8	22.9	81.7	NNE, NE	.8	6	Ci.	Cu.-N. N	------	Ω a. ⛈ p.
12	55.78	27.6	32.1	24.6	81.2	WNW	1.1	8.8	Ci. SE	N. NW, WNW	------	○ ⊤ ϟ p.
13	50.94	24.9	27	24	87.8	WSW, SSW	2.3	10	A.-S.	N. W, SW	8.9	d a. p. ↙°
14	57	25.6	30	22.8	91	S quad.	.8	8.5	Ci. NNW, NW	N. S	28.4	●² a.
15	59.21	26.8	31.9	23.5	84.5	SE, S	.5	5.5	A.-Cu. E	Cu. S, SSW	------	Ω a. ϟ p.
16	59.24	26.6	33.3	23.2	84.9	Variable	.4	5.8	Ci. E	Cu.-N. E	------	Ω a. ⛈ p.
17	59.28	26.6	32.8	23.5	85	Variable	.2	8.2	Ci.-S.	Cu. NW, WNW	------	Ω a. d ϟ p.
18	58.72	26.5	33.3	23.5	86.2	Variable	.4	7.5	Ci. SE, E	Cu. NE, E	33.8	Ω ≡ a. ●² ⛈ p.
19	58.82	26.4	33.2	23.5	85	Variable	.5	7.5	Ci., Ci.-S.	Variable	1.5	⊖ Ω a. d ⛈ p.
20	59.82	25.6	31.9	23.9	87.7	SE	.3	7.2	Ci.-S. E	Cu. ESE, SE	------	Ω ≡° a. ⛈ p.
21	59.77	26.3	33	22.8	84.8	NNE	.2	7	Ci. E	Cu.-N.	------	Ω ≡ ○ a. ⛈ p.
22	58.79	26.2	32.5	23	86.1	NE, ESE	.6	6.2	Variable	Variable	4.3	Ω ≡ ⊕ a. ● ⛈ p.
23	57.98	26.4	32	23.7	83.5	NW, NE	.3	7.8	A.-Cu. SSE, S	Cu. ENE, E	------	d° a.
24	58.76	25	28.7	22.5	87.9	NE	.5	7.8	Ci.-S. S	N. E	------	Ω a. ⊕ ϟ p.
25	58.50	25.7	31.7	22.5	82.5	NE quad.	.7	8	Ci. S	Cu.-N. E, NE	2.5	Ω² a. p p.
26	58.12	23.6	25.7	22.4	93.7	ENE	.8	10	Ci.-S., A.-S.	N. NE, E	16.3	Ω d a. ● p.
27	58.25	25.6	30.5	22.8	83.2	E	.8	8.2	A.-Cu. SW	Cu.-N. ESE	2.5	●° ⊕ a.
28	58.53	26	31.9	21.8	77.2	N, E	.8	5.5	Ci.	Cu. E	------	Ω² a.
29	58.42	25.6	31.2	21.8	79.8	Variable	.6	4.2	A.-Cu. NE	Cu. E	------	Ω ⊕ a. ϟ p.
30	57.64	25.5	31.4	21	78.8	Variable	1.1	6.2	A.-Cu. NE	Cu. E	------	Ω² a.
31	58.37	25.9	31.8	21	72.8	Variable	1	3.2	Ci. S, SE	S.-Cu., Cu.	------	Ω² a.
Mean	757.76	26.1	31.2	23.1	85.3	------	.9	7.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	349	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	757.06	25.7	30.4	24.1	94.2	SE	8.2	9.2	A.-Cu.	S.-Cu. SE	22.6	● a. ☈ p.
2	57.88	27.5	33.9	23.5	84.7	SE	9	8.8	Ci.-S.	S.-Cu. SE	3	p ☈° p.
3	58.42	27.5	34	24	84.8	NW	8.3	9	A.-Cu.	S.-Cu., Cu.	.8	d p.
4	50.96	------	28.1	------	------	NW	35.8	10	------	N. N, NW	151.4	d a. ɣ[2] ● p.
5	54.87	25.3	29.3	21.8	90.2	SE	29.2	10	A.-Cu.	N., S.-Cu. SE	180.6	ɣ ●[2] a. p < p.
6	59.64	28	34.3	23.5	82.2	S quad.	9.6	7.8	Ci.-S.	Cu.	------	⊤ ⌒ d ϖ p.
7	59.22	27.6	31.8	24	85.6	NW	9.6	4.8	------	S.-Cu., Cu.	------	< p.
8	54.74	27.9	32.1	24.8	85.7	NW	18.7	9	A.-Cu.	S.-Cu. W, NW	4.3	⌒ ɣ ●° p.
9	51.28	25.3	27.4	23.7	94	SE	26.6	10	------	N. SW	67.8	ɣ ● a. ⌣ ϖ p.
10	58.12	27	31.9	23.8	87	SE	9	9.5	A.-Cu., Ci.-S.	S.-Cu. S, SE	1	●° a. ⌣ p.
11	58.60	27.2	31.8	23.7	83.5	SE, NW	12.2	7	A.-Cu.	S.-Cu., Cu.	------	< p.
12	55.72	28.1	31.1	24.7	84.2	NW	25	8.5	Ci.	S.-Cu. NW	20.3	● ɣ ☈
13	49.66	24.4	27.4	22.8	91.8	NW, W	43.3	10	------	N. NW, W	80.8	ɣ ● a. p.
14	56.22	25.9	30.7	22.9	86.8	SE	13.3	9.2	Ci.-S.	S.-Cu. SW, SE	------	
15	58.59	26.8	33.3	24	85.9	E, SE	9.4	8.2	A.-Cu. S	S.-Cu.	5.6	☈ p.
16	58.90	27.1	32	23.4	83.4	Variable	9	7.8	Ci.-S.	S.-Cu.	------	ϖ ≡° a. ☈ p.
17	59.16	27	31.6	23.6	86.2	Variable	7.7	7.5	Variable	S.-Cu.	49.5	p ☈ p.
18	58.46	27.3	32.4	23.7	84.5	SE, NW	7.2	7	Ci.	S.-Cu.	1	d < p.
19	58.46	26.8	33.6	23.1	84.2	Variable	8.5	6.2	Ci.	S.-Cu.	4.1	p ☈ p.
20	59.49	26.3	33.7	22.9	86.2	SE	9.7	7.8	Ci.-S.	S.-Cu.	.8	☈ d p.
21	59.50	27.3	33	22.8	82.3	SE, N	7.1	7.5	Ci.	S.-Cu. SE	7.4	⌒ ☈ p.
22	58.62	26.8	32.4	23.1	84.7	Variable	6.9	5.5	Variable	Cu.	------	⊤ < ⌒
23	57.65	27.4	33.1	23.3	82.7	Variable	6.2	8	A.-Cu.	S.-Cu. E	------	< p.
24	58.09	27.5	33.4	23.3	78.8	SE, S	9.6	6.2	A.-Cu.	S.-Cu.	------	ɣ° p.
25	58.10	27	32.4	23	80.7	S, NW	5.2	7.2	Ci.-S.	S.-Cu., Cu.	------	d p.
26	57.43	25.8	32.6	22.6	85.3	SE	10.2	8.2	A.-Cu.	S.-Cu.	2.8	●° ⊤ < p.
27	57.60	26.5	31.6	23.2	81	SE, S	11.1	10	A.-Cu.	S.-Cu. S	------	< p.
28	57.98	27.8	34.7	22.3	74.2	SE	9.1	5.5	Ci.-S.	Cu.	------	☈° p.
29	58.03	27.8	34.3	22.5	72.2	SE	7.9	2.5	Ci.	Cu.	------	d ☈ p.
30	57.09	27.7	34.6	22.5	76.1	SE	7.8	3.2	Ci.	Cu.	------	< p.
31	58.04	27.3	34.8	22.2	72.3	SE	8.9	1.8	Ci.	Cu.	------	
Mean	757.21	26.9	32.2	23.3	83.8	------	12.9	7.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	603.8	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 8.5 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C	P. ct.		0-12.[1]	0-10.			mm.	
1	756.61	26.7	29	24.8	87.9	Variable	2.8	8.8	Ci.-S. NE by E	Cu. SE, SW	4.6	ɣ ● a. d < p.
2	57.66	27.2	30.6	24.5	86.2	Variable	1.2	9.5	A.-Cu., Ci.-S.	Cu. S	------	d < p.
3	58.25	27.2	30.5	24.9	86.7	SSE, WNW	1.2	9.8	Ci.-Cu. N	Cu. S	20.1	Ω a. ⊤ ⌒ ● p.
4	51.60	26.8	27.5	25.8	90.3	NW	[2]5.6	10	------	Cu.-N. N	143.2	d a. ɣ ●[2] p.
5	52.95	24.4	25.4	23.6	97.2	SE	[2]5.2	10	------	N.	70.3	ɣ ●[2] a. d p.
6	59.05	27	30.7	23.4	87	SE	1.2	6.5	Ci.-S.	Cu. S	------	
7	58.97	28.2	30.2	26.2	84.2	N quad.	2	5.5	Ci.-S.	Cu. N	------	
8	54.98	28.5	30.6	27	82.2	NNE, N	4.5	8.5	Ci.-S.	Cu.-N. NE	------	ɣ d p.
9	49.29	24.7	26	23.5	95.2	S	5.8	10	------	N.	48.8	ɣ ●[2] a. p. ⊤°
10	57.31	26.7	30	23.8	86.5	S quad.	2	10	Ci.-S.	Cu. S	4.1	●° ɣ° a.
11	58.51	27.4	30	24	85	NNW	1.2	5.8	Ci.-S., Ci.-Cu.	Cu. NW	1.8	Ω a. ☈° p.
12	56.02	28.2	30.4	26.3	83.7	N quad.	4	9.8	Ci.-S.	Cu. N	------	ɣ° p.
13	49.31	25.1	27.5	24.2	92.3	Variable	7.8	10	------	N.	56.9	ɣ ●[2] a. p.
14	55.06	26	29.4	24.1	88.7	S	3	9	Ci.-S.	Cu., Cu.-N. SW	8.1	● a.
15	57.91	26.8	31.8	24.1	84.5	SW	2.8	9.2	A.-Cu., Ci.-S.	Cu. SW	------	d a.
16	58.59	25.9	29.5	23.5	89.3	NW, WSW	.8	8	Ci.-S.	Cu. N	------	Ω d ⊤
17	58.87	26.3	30	23.4	88	NNE, NW	1	6.2	Ci.-S.	Cu.-N.	21.9	Ω ● ⊤
18	58.41	26.9	29.8	23.1	84	ENE, WNW	.8	6.2	Ci.-S.	Cu., Cu.-N.	------	Ω d a. < p.
19	58.21	27.4	31	23.5	84	SE	1.2	6.2	Ci.-S., Ci.	Cu. SE	1.5	●° p.
20	58.57	26.5	30.8	23.9	87	SSE	1	8	A.-Cu., Ci.-S.	Cu. S, SW	22.9	●[2] ⊤ < p.
21	58.76	27.1	31.2	23.5	84.7	ESE, N	1	7	Ci.-S.	Cu.-N.	------	Ω a. ⊤ < p.
22	57.89	27.3	31	23.4	82.8	N quad.	1.2	6.2	A.-Cu.	Cu. N	------	Ω a. d < p.
23	57.11	27.9	31.5	24.3	81	ESE	1.2	8	A.-Cu.	Cu. SSW	------	Ω a.
24	57.49	27.8	31.9	23.4	79.3	SE, ESE	1	5.5	Ci.-Cu., A.-Cu.	Cu. SE	------	Ω ≡° a.
25	57.78	27.3	30.8	23.2	81.7	Variable	1	6	Ci.-S.	Cu.	------	Ω ≡° a.
26	56.96	26.9	31	24.2	83	SSE	1.2	8.8	A.-Cu. E by S	Cu. SE	.5	Ω ≡° a. ☈° p.
27	57	26.6	29.9	24.5	81.1	SE	1.5	10	Ci.-S.	S.-Cu.	------	ɣ° d < p.
28	57.15	27.3	31.8	23.7	78.4	SSE	1.8	7.5	Ci.-S.	Variable	------	Ω a.
29	57.53	27	31	23	78.8	SE, NNE	1.8	3.2	Ci.-S.	Variable	------	Ω a. < p.
30	56.53	27.5	31.8	23.1	77.8	ESE	1.8	2.5	Ci.-S.,Ci.	Cu.	------	Ω
31	57.43	27	30.9	24.4	80.2	Variable	1.5	2.8	Ci.-S.	Cu.	------	Ω°
Mean	756.70	26.9	30.1	24.1	85.1	------	2.3	7.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	404.7	

(1) Mean deduced from four observations only.   (2) Mean deduced from five observations only.

METEOROLOGICAL DATA, ETC.—Continued.

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	757	27.1	31.2	23.8	85.2	S quad.	1.3	5.8	Ci.-S.	Cu. SSW	81	☈ ⇙ ●° p.
2	58.28	27.1	32.4	24.5	86.3	S quad.	1	10	Ci.-S.	S.-Cu.	6.6	● ☈ p.
3	58.73	27.1	31.4	25	86.2	Variable	1.2	3.8	A.-Cu.	Cu. WNW	4.6	≡° a. ● ☈ ◡ p.
4	52.40	26.4	28.5	24.8	82.8	Variable	3.8	8.2	Ci., Ci.-S.	S.-Cu.	6.4	≡° ● a. d ⇙ p.
5	53.96	27.9	32.1	24.8	73.9	Variable	1.7	9.5	Ci.-S.	S.-Cu. S	6.4	⇙ ●° ≡° a. ◡ p.
6	60.06	27.5	30.3	24.7	82.4	Variable	.8	2.2	Ci., Ci.-S.	Cu. N	------	☈ d° p.
7	59.38	27.4	31.7	23.8	83.3	NW	1	0	Ci.-S.	Cu.	------	Ω ◡
8	55.26	28.1	31	24.5	76.2	NNE	3	6.8	Ci.-S.	Cu.	------	Ω a. d° ⇙° p.
9	47.70	27	29.9	23	79.2	ESE, S	4.2	0	Ci.-S.	N. SE	46.7	⇙ ●² a. ϟ p.
10	57.87	27.3	32.5	24.4	81.8	SSW	.7	7.5	Ci.-S.	Cu.	------	≡° a. d ⊕ p.
11	58.89	26.9	30.2	24.1	82.5	S, N	1.2	3	A.-Cu.	Cu. NE	6.9	≡° a. ϟ ● p.
12	56.01	27	30.5	23.5	82.2	N	3.2	2.8	Ci.-S. SE	Cu. NNE	.3	≡° a. ⇙ d p.
13	42.38	24.6	27.5	23	96.3	Variable	11.7	10	------	N. NW	139.2	⇙ ●² a. p.
14	55.07	26.2	29.5	23.5	85	S	3.8	7.2	Ci.-S.	Cu. SSW	------	⇙ d a. p. ○ ≡°
15	58.90	26.5	30.9	23.8	84.2	SSE	1	3.2	Ci.-S., Ci.	Cu. SW	21.6	≡° a. ● p.
16	59.17	26.6	29.8	23.8	83	Variable	.8	1.8	Ci. E by N	Cu.	------	
17	59.33	26.6	31.6	24.1	85.2	E, SW	1	3.2	A.-Cu.	Cu. NW	------	Ω a. d ϟ° p.
18	58.59	26.8	30.7	24	82.1	SE, SW	1	3.2	Ci.	Cu.	------	≡° a. d ϟ° p.
19	58.56	26.8	30.8	24.5	80.2	Variable	1	3	Ci.	Cu.	------	≡° a. ϟ° p.
20	59.49	26.9	30.8	23.8	77.9	Variable	1.5	2.2	Ci.-S.	Cu. SW	.8	≡° a. ϟ ● p.
21	59.86	26.9	30.2	23.9	81.8	Variable	.8	2	Ci.	Cu. SSE	4.6	● a. ☈° p.
22	58.54	26.7	30.1	23.7	81.3	Variable	1	2.5	Ci.-S.	Cu. NW	3.6	≡° a. ⌒ ☈ p.
23	57.86	26.7	31.5	23.4	79	Variable	1	3	A.-Cu.	Cu. NNE, W	8.1	≡° a. ☈ p.
24	58.34	27.1	30.8	23	82.1	Variable	1.2	1	A.-Cu.	Cu. ENE	------	≡° a.
25	58.06	28.7	32	25.4	65	Variable	1.2	.8	Ci.-S.	Cu.	------	≡° a.
26	57.25	28	32.8	25	72.3	Variable	1	3.5	Ci., A.-Cu.	S.-Cu.	------	d° p.
27	57.80	27.6	32	24.7	81	Variable	.8	8.2	A.-Cu.	Cu. SW, WNW	.8	d ☈° p.
28	58.32	27.2	31.6	24.4	78	Variable	.8	3.8	Ci.-S.	S.-Cu., Cu.	------	⌒ a.
29	58.13	27	30.6	24	75.7	Variable	1.2	.2	Ci.-S.	Cu.	------	≡° a. ϟ° p.
30	57.33	26.9	31.5	23.5	78.2	Variable	.8	1.8	Ci.	Cu.	------	≡° a. ϟ° p.
31	58.08	27.3	30.9	24.5	79.2	Variable	.8	.5	Ci.	Cu.	------	Ω a.
Mean	756.99	27	30.9	24.1	81	------------	1.8	4.2	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	337.6	

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	756.89	26.3	32.7	22.7	85.7	Variable	0.5	7.8	Ci.	Cu. S	26.7	Ω a. ● ☈° p.
2	58.28	26	30.1	22.7	88.5	Variable	.5	9	Ci.-S.	N.-cf. SE	1.3	●° a. ○ ◡
3	58.45	27	32.4	23.7	85.5	Variable	.7	7.2	A.-Cu. SE	Cu. SW	------	Ω a. d ☈ ⊕ p.
4	54.05	25.2	26.8	23.6	90.8	NW	1.3	10	------------	Cu.-N. N, NW	31.3	●² a. p.
5	56.44	27.5	30.4	24.3	78.1	SE	1.2	9.2	Ci.-S.	Variable	------	Ω a. ⊕ p.
6	60.05	27	32.1	23	82.5	Variable	.7	1.2	------------	Cu.	------	Ω a.
7	59.79	26.6	31.6	22	85.4	NW	1	4	------------	Cu. NW	------	Ω a. ⇙° d p.
8	53.38	------	28.7	23.5	------	NW	4	9.5	Ci.-S.	Cu.-N. NW, N	100	Ω ○ a. ⇙ ●² p.
9	51.30	------	31.6	24	------	SE	1.5	8	Ci.-S.	N. SSW	23.9	⇙ ● a. ☈ ◡ p.
10	57.72	26.9	31.9	23.1	84.7	NW	.7	6.2	Ci.	S, Cu.-N.	------	d a. ϟ p.
11	58.68	26.9	31.5	23.2	86.8	NW	.5	7	A.-Cu.	Cu.-N. NE, NW	------	Ω a.
12	55.06	------	29.8	------	------	NW	3.2	10	------------	N. NE, NW	140.2	Ω d ⌒ a. ⇙ ● ⊤ p.
13	34.73	------	------	------	------	NW, SW	11	9.8	------------	N. NW, S	?	⇙ ●² a. p.
14	54.32	------	31.8	------	------	SE, SW	1.2	7.5	Ci.-S.	Cu.	------	
15	58.36	26.9	33.5	22.3	78.5	NW	.3	2.8	Ci.	Variable	------	⊤ d p.
16	59.08	27.2	33.9	23.8	78.2	N	.5	8.2	------------	Cu. S	------	d ☈ p.
17	59	27	32.2	23.4	83.2	S	.7	7	Ci.-Cu., Cu.	Cu.-N. S, NW	------	d a. ϟ p.
18	58.61	26.7	33	23.2	83.7	S	.8	7.5	Ci.	Cu. SE	4.1	Ω a. ☈ ● p.
19	58.74	26.2	32.8	23.4	88.5	N	.2	7.2	------------	Cu.-N. SE	------	d a. ϟ p.
20	59.33	27.3	34	23.8	81.5	NW, SE	.5	6.5	A.-Cu. ENE	Cu. S	8.9	Ω a. ● ☈ p.
21	59.64	26.6	33	22.7	83.5	SE	.5	6.2	Ci.-S.	Cu. SE	------	d° a.
22	59.03	27.3	32.9	23.1	81.5	N, SW	.3	7	------------	Cu.-N. NE	------	Ω a. d p.
23	58.57	26.7	31.7	23.3	83.3	Variable	.5	8	------------	Cu.-N. NE, N	------	d ϟ
24	59.42	26.8	31.9	23.1	83	S	.7	6.2	------------	Cu. SW	3.8	●° a. p.
25	59.68	26.1	30.7	23	89	NE, N	1	8.8	A.-Cu. NE	Cu.-N. NW, NE	8.1	● a. p. ⊤ a.
26	59.31	24.6	27.2	22.6	92.8	NW	.2	9.8	------------	Cu.-N. E	15.1	● a. p.
27	58.96	25.2	28.2	22.5	88.5	SE	.8	8.5	Ci.-S.	Cu.-N.	5.8	● a. ϟ p.
28	59.06	25.8	32	22.3	86	S, NNW	.3	5.2	Ci.-S. NW	Cu.-N. NE	4.3	Ω² ≡° ○ a. ● p.
29	58.57	26.3	31.8	20.9	77.9	SE	.7	1.8	------------	Variable	------	Ω² ≡° a.
30	57.84	26.4	31.8	22.3	77.7	S	.2	4.8	------------	Variable	------	Ω² a.
31	58.93	25.6	32	21.3	78.2	N	1	2.5	------------	Cu. S	------	Ω² a.
Mean	757.14	26.5	31.5	23	84	------------	1.2	6.9	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	373.5[1]	

[1] 30 days of observation: the amount of rainfall could not be measured on the 13th.

METEOROLOGICAL DATA, ETC.—Continued.

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.38	26.9	32.2	23.3	86.7	Variable	7.8?	7.8	Variable	Cu.-N. SW	18.5	◯ ⛈ p.
2	58.93	25.4	28	23	90.3	Variable	7.6	10	Ci.-S.	S.-Cu.	3	● a.
3	58.87	27.3	31.6	23.5	89.2	Variable	8.1	8	Ci. E	Cu.-N. E	------	ϟ a. p.
4	55.89	26.5	29.6	24	88.2	NE, ESE	23.4	9.8	Ci.-S. E	N. NE	27.7	↙ ● ⛈ a. p.
5	56.84	26.8	31.4	25	87.8	SE	13.5	9.2	Ci.-S.	S.-Cu. S	------	⛈ a.
6	60.54	27.3	31.9	23.1	85.3	Variable	10	0	------	------	------	Ω a.
7	60.54	26.4	31.1	23.3	90.3	Variable	6.3	2.2	Ci.-S. E	Cu.-N. NE	6.6	p ⛈ p.
8	55.72	26.8	29.8	22.9	88	NE	27.2	10	Ci. E	Cu.-N. NE	39.9	↙ ● ⛈
9	53.11	25.6	28.5	22.4	91	SE	30.2	10	Ci.-S.	.-Cu. S, SE	37.6	↙² ● ⛈
10	58.31	26.2	31	23.8	91.1	Variable	8.1	8.2	Ci. E	S.-Cu. S	------	⛈ ⌒ p.
11	59.25	26.1	29	22.5	91.8	NW	7	2	A.-Cu. NE, E	Cu.-N.	------	⛈ p.
12	56.08	26.6	29	24	86.8	N	23.1	8.8	Ci. E	Cu.-N. NE	10.9	↙² ●
13	34.63	------	------	------	------	SE	------	10	------	N. N, SE	?	↙² ● a. p.
14	54.41	------	------	------	------	SSE, S	------	10	A.-Cu. S	S.-Cu. S	------	≡°
15	59.01	------	------	------	------	S, NNE	------	2.8	Ci.-S.	S.-Cu.	------	⛈ p.
16	59.35	------	------	------	------	Variable	------	3.5	A.-Cu. W	S.-Cu. N	------	⛈ p.
17	59.53	------	------	------	------	S	6.8	3.5	Ci.-S.	Cu.-N. S	.8	⛈ d p.
18	59.09	------	------	------	------	SSW, NE	------	5.8	A.-Cu. SW	S.-Cu. S	1.5	● ⛈ p.
19	59.17	------	------	------	------	Variable	11.4	3	Ci.-S. W	S.-Cu.	1.3	d a. ϟ p.
20	59.70	------	------	------	------	Variable	12	3.8	A.-Cu. S	S.-Cu.	6.9	● ⛈ p.
21	60.01	------	------	------	------	SW, NE	9.5	.8	Ci.	Cu.-N.	------	ϟ p.
22	59.38	------	------	------	------	ENE	7.3	4	A.-Cu. SE	S.-Cu., Cu.-N	------	⛈ p.
23	58.98	------	------	------	------	S	11.7	4.8	A.-Cu. SE	S.-Cu.	------	ϟ p.
24	59.95	------	------	------	------	SE	12.6	3.2	A.-Cu. E	Cu.-N. SE	------	
25	60.16	------	------	------	------	NE	14.2	.8	A.-Cu., Ci.-S.	Cu.-N.	1	p a. ∞
26	59.28	------	------	------	------	S	8.3	6.5	------	Cu.-N. SE	.8	●° p.
27	59.28	------	------	------	------	SE	8.3	7.5	A.-Cu. E	S.-Cu. E	.3	●° a. ⛈ p.
28	59.71	------	------	------	------	Variable	6.6	1.8	Ci.-S. W	Cu.-N. E	------	
29	59.32	------	------	------	------	ENE	10.8	2.2	A.-Cu. S	S.-Cu.	------	
30	58.35	------	------	------	------	NE	11.8	2.8	A.-Cu. SE	Cu.-N.	------	Ω a. ≡°
31	59.66	------	------	------	------	NE	10.7	.5	------	Cu.-N.	------	Ω a. ∞
Mean	757.76	------	------	------	------	------	------	5.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	156.8[1]	

[1] 30 days of observation: the amount of rainfall could not be measured on the 13th.

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.1	21.2	96	68	5	5	------	Ω ≡ a. ⊕ p.
2	32.5	22	96	71	6	5	------	Ω ≡² a.
3	32.4	22.6	96	76	7	8	------	Ω ≡ a.
4	32.2	22.4	97	72	6	8	------	Ω° ≡ a. ◡ p.
5	32.3	22.2	95	76	6	7	------	Ω° ≡° a.
6	32.7	21.7	85	72	6	7	------	Ω ≡ a.
7	32.2	23.2	96	84	10	9	14.5	● ⌒ ↙ a. ⊤ ↙ ● ◡²
8	32.3	23.2	97	85	8	9	------	Ω ≡ ↙ a. ◡ p.
9	32.3	23.4	98	78	10	9	8.6	● a. p. ↙ ϟ p.
10	32.6	22.6	94	72	9	7	26.7	Ω a. Γϟ ●² p.
11	31.9	22.2	96	67	6	5	------	≡ a. ϟ p.
12	32.2	22.3	95	63	5	8	4.1	Ω ≡ ↙ a. ϟ ● p.
13	33.5	21.8	95	75	8	9	------	Ω ≡ a. ϟ p.
14	33.1	23.1	94	82	8	9	.8	Ω ≡ a. ●° ⊤ p.
15	33	22	96	68	3	7	------	Ω ≡ a. ϟ p.
16	.33	22.4	97	64	7	7	------	Ω ≡ a. ϟ p.
17	32.2	22.2	96	79	8	10	------	Ω ≡ a. d ϟ p.
18	32	22	91	77	7	10	18	Ω ≡ ●² a. d ⊤ p.
19	30.6	22.6	89	81	9	9	7.9	● a. p.
20	30.3	22.6	93	83	9	10	8.1	≡ ● a. d p.
21	31.4	20.9	95	72	7	8	3.8	Ω ≡ ● a.
22	32	21.3	96	86	7	9	1	Ω ≡ a. ● Γϟ p.
23	29.2	21.1	98	77	9	9	35.1	Ω ≡ ●² a. ϟ p.
24	31.5	20.1	96	70	3	7	------	Ω ≡ a.
25	31.6	20.8	93	79	7	10	7.9	Ω ≡ a. ● p.
26	31.8	20.6	96	80	8	9	------	Ω ≡ a.
27	31.4	21.3	96	90	8	10	30.2	Ω ≡ ↙ a. ● ⊤ p.
28	31.7	21.7	98	83	9	10	1	Ω ≡ a. ● ϟ p.
29	31.4	21.3	97	75	8	8	------	Ω ≡ a. d ⊤ p.
30	31.8	21.4	95	88	7	9	.5	Ω ≡ a. ⊤ ●° p.
31	30.6	21.9	97	84	8	8	23.9	Ω ≡ ●² ⊤ a. ◡ p.
Mean	31.9	21.9	95.1	76.7	7.2	8.2	------	
Total	------	------	------	------	------	------	192.1	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	------	21	96	78	------	------	------	Ω a.
2	------	22.4	96	73	------	------	------	Ω a.
3	------	23	·98	80	------	------	------	Ω a.
4	------	22.5	98	65	------	------	------	Ω a.
5	------	22	98	84	------	------	21.8	Ω a. ● p.
6	------	22	95	71	------	------	------	Ω ≡° a.
7	------	22.2	95	75	------	------	------	Ω a.
8	------	23.5	97	85	------	------	5.8	Ω ⌒ a. ● p.
9	------	23	97	88	------	------	2	d a. p. ↙ p.
10	------	22.5	97	78	------	------	------	Ω a.
11	------	22.2	90	76	------	------	------	d ⌒ a.
12	------	23.5	97	86	------	------	1	Ω a. ↙° d p.
13	------	22.8	93	77	------	------	------	
14	------	22	91	78	------	------	------	Ω a. ⊤ p.
15	------	22	98	81	------	------	------	Ω ≡ a.
16	------	23.2	97	76	------	------	------	Ω a. ⊤° ⌒ p.
17	------	22.4	95	82	------	------	.5	Ω a. p p.
18	------	21.5	95	92	------	------	6.9	Ω a. ● p.
19	------	22	96	85	------	------	22.4	Ω ≡° a. ● p.
20	------	23.3	93	84	------	------	2.8	Ω a. ● ⌒ p.
21	------	23	92	85	------	------	------	Ω a.
22	------	22.7	97	81	------	------	------	Ω a. ϟ p.
23	------	23.2	97	82	------	------	14.5	● d a.
24	------	21.5	96	73	------	------	------	Ω a. ⊤ p.
25	------	21.5	93	91	------	------	3	Ω a. ● p.
26	------	21.2	95	82	------	------	8.9	Ω p° a. ● d p.
27	------	21	97	76	------	------	------	Ω a.
28	------	22.2	96	90	------	------	3.6	d a. ● p.
29	------	22.5	95	81	------	------	.5	Ω d a.
30	------	22	97	78	------	------	30	Ω a. ● p.
31	------	22.5	97	86	------	------	4.3	Ω a. ● p.
Mean	------	22.3	95.6	80.6	------	------	------	
Total	------	------	------	------	------	------	128	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.3	22	87	75	2	3	------	
2	29.2	22.1	87	71	3	4	------	
3	29.8	23.2	91	70	5	2	------	
4	29.8	23.5	87	70	6	3	------	
5	30	23	87	72	4	3	------	
6	30.2	23	85	71	2	5	------	
7	29.2	22.9	88	69	3	7	------	
8	30.3	22.8	88	69	4	2	------	
9	30.7	22	88	70	1	2	------	
10	29.3	23.1	91	68	6	9	6.9	● a. p.
11	29	23.6	88	71	9	8	6.4	● p.
12	29.1	23	99	73	10	6	5.8	● a.
13	30.6	23.1	87	68	5	5	------	
14	30.8	22.2	87	72	2	2	------	
15	30.6	23	87	68	4	3	------	
16	29.7	23	87	73	4	3	------	
17	29.4	23.7	88	71	6	4	------	
18	30.1	23.3	86	72	3	3	------	
19	28.6	23.6	89	71	6	8	------	
20	29.6	23	86	71	3	4	------	
21	29.5	23.4	89	71	5	7	------	
22	30	23.1	90	73	6	3	------	
23	29.6	23.4	89	75	6	3	------	
24	29.4	23	86	74	2	5	------	
25	29.8	23	84	71	4	6	------	
26	30.3	23.6	85	72	5	7	4.3	● p.
27	29.3	23	91	71	8	9	3	● a.
28	29	23	85	73	6	8	4.6	● p.
29	30.4	23.1	90	74	4	3	------	
30	30.7	23.6	89	73	5	3	------	
31	29.6	23.3	86	73	7	8	------	●° a.
Mean	29.8	23.1	88	71.5	4.7	4.8	------	
Total	------	------	------	------	------	------	31	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.1	22.6	97	71	6	5	41.1	● p.
2	33.4	21.7	93	71	7	6	------	
3	34.2	22.7	96	70	7	5	------	Γϟ p.
4	33.3	22.5	94	72	7	6	------	⊕ p.
5	33	22	98	67	5	7	------	
6	34.2	22.2	96	64	6	7	17.3	● a.
7	33.6	21.6	96	63	7	6	31	● p.
8	34.1	22.5	92	70	7	5	------	⊕ p.
9	32.7	21.5	95	69	7	6	------	
10	34.2	22.2	97	62	7	7	25.9	● ⊤ p.
11	32.5	22.4	97	64	5	7	------	Γϟ p.
12	33.2	22.6	93	63	6	7	------	
13	32.9	22.3	94	62	6	7	14	● p.
14	33.6	22.2	96	69	7	6	------	
15	34.2	22.9	93	70	5	7	------	Γϟ p.
16	33.6	22.6	96	65	6	6	------	Γϟ p.
17	32.3	22.3	96	65	7	6	------	Γϟ p.
18	34.1	22.1	97	67	5	5	------	
19	34.6	22.6	94	66	7	6	18.3	● p.
20	32.3	22	95	66	5	6	------	
21	33.2	21.9	95	65	7	7	------	ϟ p.
22	32.6	21.5	95	65	5	7	------	
23	33.6	21.4	92	72	6	6	15.7	● p.
24	33.1	21.8	97	67	5	9	41.1	● p.
25	32.6	22.1	97	68	6	7	------	
26	33.6	22.4	97	67	6	7	------	Γϟ p.
27	34.5	21.1	93	70	6	5	------	
28	32.8	21.8	97	66	7	7	13.7	● p.
29	33.4	22.2	99	66	5	6	------	
30	33.1	22.3	95	66	6	5	------	⊤ p.
31	33.7	22.1	98	67	7	6	------	
Mean	33.4	22.1	95.5	66.9	6.2	6.3	------	
Total	------	------	------	------	------	------	218.1	

METEOROLOGICAL DATA, ETC.—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	22.3	97	66	3	2	------	≡² a. ⚡ p.
2	32.1	23.7	95	68	9	3	------	d a. ☈° p.
3	32.1	24.1	92	69	9	5	------	○² a. ⊍ ↙ p.
4	31.1	23.7	92	75	9	7	------	○² ☈° ⊍² p.
5	32.5	22.9	90	61	7	5	------	⚡ p.
6	32.1	23.1	91	62	2	3	3.8	☈ ● p.
7	32.5	23.1	93	66	8	5	15.2	☈ ● ⌒ p.
8	29	23.7	92	77	8	9	21.6	↙ ●² p.
9	31.9	22.7	96	75	5	5	------	○² ☈° ⊍ p.
10	31.9	23.5	96	74	5	5	5.1	○² a. ☈ ● p.
11	31.3	22.5	96	73	6	5	54.6	↙ ● a. ●² ⚡ p.
12	31 8	23.2	92	78	9	8	66	↙ ● a. p. ○² p.
13	31.1	22.1	96	80	9	7	------	○² a. ⚡ p.
14	31	21.7	96	74	2	3	------	≡² a. ☈° p.
15	32	22.1	96	71	3	8	------	Ω a. ⚡ p.
16	31.1	23.4	91	64	3	7	1.3	●° a. ⌒ ☈ p.
17	31.2	23.2	92	69	3	7	------	Ω ≡² a. ☈° ⌒ p.
18	33.1	23.2	95	67	3	5	12.7	● p.
19	32.5	23	96	69	4	7	17.8	☈ ● p.
20	32	22.9	94	66	5	6	5.1	☈ ● p.
21	33.6	23	92	59	9	7	3.8	↙ a. ↙ ● p.
22	30.5	23.2	92	66	1	9	5.1	Ω a. d ● p.
23	31.4	22.2	91	71	5	8	6.4	○² a. ● p.
24	32.6	22.5	94	65	7	8	------	d a. ☈° p.
25	32.2	23.1	92	74	4	5	------	⚡ p.
26	33.8	23.2	93	57	8	4	------	○² ⚡ p.
27	34.5	23.8	91	55	3	5	------	☈° p.
28	34.8	23.3	96	56	3	5	1.3	Ω ≡ a. ☈° ● p.
29	33.1	23.1	96	62	8	8	2.5	☈° ● p.
30	29.5	23.1	92	79	9	10	1.3	↙ ●° ☈° p.
31	33.1	22.8	92	57	9	7	------	☈° p.
Mean	32.1	23	93.5	67.9	5.7	6.1	------	
Total	------	------	------	------	------	------	223.6	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.2	------	96	66	7	4	------	Ω ∞ a. ⚡° p.
2	32.8	------	94	69	2	8	------	Ω ∞ a.
3	33.2	------	92	66	7	9	------	Ω a. ⊕ a. p.
4	33.3	------	95	64	8	10	------	⊖ a. ☈ p.
5	33.3	------	94	66	10	9	------	☈ p.
6	32.8	------	91	67	8	6	------	
7	33.3	------	89	60	8	8	------	☈° p.
8	33.4	------	92	86	5	10	5.9	● ⚡° p.
9	33.2	------	96	68	9	8	------	d ☈ p.
10	33.3	21	93	61	8	7	11.8	↙° ● p.
11	32.1	22.2	98	66	7	8	.3	○ d p.
12	33.1	22.7	95	62	10	10	.1	☈ d p.
13	35.1	22.5	94	61	10	7	.4	↙° ☈ d p.
14	32.7	20.9	91	64	8	9	3.6	○ ↙° ●° p.
15	32.9	21.7	96	73	7	8	------	
16	32.6	21.3	93	69	6	8	------	≡° a. ○ p.
17	32.7	21.8	94	68	8	5	31	○ ↙° ● ☈ p.
18	32.2	21.5	99	71	4	8	1.2	● ☈° p.
19	32	21.6	96	74	9	9	3.5	● p.
20	31.4	21.2	99	75	9	9	12.2	⊕ ● d p.
21	31	20.1	99	76	9	9	------	≡° a. d ⚡° p.
22	31.7	19.9	95	72	3	4	------	⊕ d p.
23	31.3	21.4	95	71	9	9	40	d ● p.
24	30.9	20.3	98	83	5	8	------	
25	31.7	20.9	100?	85	9	9	------	☈ d p.
26	31.6	21.7	100?	71	6	7	------	○ ⚡° p.
27	32.2	21.7	100?	69	7	4	------	↙° d ⌒ p.
28	32.3	21.1	98	71	6	8	.5	∞ a. ●° ☈ p.
29	32.4	21.9	100?	73	8	8	6.5	↙° ● ☈ p.
30	30.2	21.8	100?	78	9	9	4.1	☈ ↙ ● p.
31	32.2	21.8	97	73	9	4	------	↙° ⊍ p.
Mean	32.5	21.4	95.8	70.3	7.4	7.7	------	
Total	------	------	------	------	------	------	121.1	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.4	22.2	95	56	4	5	------	Ω ≡ a.
2	34.4	22.4	97	59	6	4	------	Ω ≡ a. ⚡ p.
3	34.1	23.5	96	67	3	6	------	Ω a. ⚡ p.
4	30.1	23.7	95	72	8	10	4.8	Ω a. ● ⊤ p.
5	33.7	22.9	86	63	7	4	------	≡ a. ⚡ p.
6	34.3	22.7	95	59	5	3	------	Ω ☈ a.
7	34.6	23.3	94	64	9	4	9.9	● ⌒ ≡ a.
8	34.8	23.1	96	76	8	10	------	Ω ☈ a. d ☈ ⊍
9	33.7	22.7	97	77	7	8	?	Ω a. ● ☈ p.
10	34.3	22	97	64	9	5	?	Ω a. ⊤° ● p.
11	34.1	23.1	96	60	4	4	------	⚡ p.
12	31.3	23.3	94	72	7	10	29	● a. ↙ p.
13	32.3	24	96	91	10	10	------	↙ a. d° p.
14	32.6	22.2	94	71	4	8	.8	●° a. ☈ p.
15	35	22.3	97	64	5	4	------	⚡ p.
16	33.6	23.5	97	64	7	5	------	Ω a. ⚡ p.
17	35	23.5	95	67	8	7	------	⊤° a. ☈ p.
18	35.1	23	97	68	8	8	------	Ω a.
19	32.7	23	95	72	6	7	------	Ω a. ⚡ p.
20	34.2	22.5	94	66	9	9	2.3	Ω a. ○ ☈ ● p.
21	33.3	22.1	97	65	6	4	------	≡ a. ☈ p.
22	33	23.6	93	66	10	5	1.3	☈ ● a. ⚡ p.
23	32.4	22.6	96	81	10	10	?	● a. ⚡ a. p.
24	32.2	22.4	96	64	8	7	------	Ω ⌒ a. ☈ p.
25	34	22.3	98	------	7	9	------	Ω a. ○ ☈ p.
26	33.6	23	96	63	6	7	------	Ω a. ⚡ p.
27	33.8	23.1	94	62	8	8	27.2	● a. ⚡ ●° p.
28	31.7	23.8	90	66	10	6	1	● ⌒ a. ⚡ p.
29	30.6	23	94	84	10	9	58.7	● a. p. ⚡ p.
30	29.8	22.7	89	81	10	10	119.1	●² a. ⚡ p.
31	29.4	23	93	80	8	9	------	⚡ p.
Mean	33.2	22.9	94.8	68.8	7.3	6.9	------	
Total	------	------	------	------	------	------	254.1[1]	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.3	22.1	96	69	6	4	1.8	● a. ⊤ p.
2	30.4	22.5	97	64	3	7	------	≡² ⊕ a. ☈ ⊖ p.
3	30.1	22.9	95	72	9	9	------	Ω a. ⊤° ⊍ p.
4	31.5	23.8	94	61	9	9	------	☈ p.
5	30.3	22.6	97	72	7	8	------	Ω a. ⊤ p.
6	30	22.5	98	67	7	6	------	Ω ≡ a. ⚡ p.
7	30	23.2	97	70	7	7	.5	Ω p a. ☈ p.
8	30	22.4	97	68	10	8	6.9	Ω a. ☈ ● p.
9	31	23	91	60	9	6	.5	Ω ∞ a. ☈ ●° p.
10	30	22.5	97	69	9	6	------	Ω a. ⊤° p.
11	30	23.4	95	64	7	7	------	Ω a. ↙ a. p.
12	30.4	23.6	95	66	10	8	------	Ω a. ⊕ p.
13	31.3	21.7	.92	64	7	7	15	Ω a. ☈ ● p.
14	29.5	22	98	72	8	8	------	Ω a.
15	30.7	22.8	92	72	9	7	------	Ω a. ⚡ p.
16	30.6	23	97	62	5	7	31	Ω ≡° a. ☈ ●² p.
17	30.3	22.4	97	77	7	6	.5	p ☈ p.
18	30.1	22.5	97	74	7	8	.3	Ω a. ☈ d p.
19	31.2	22.6	96	70	5	8	1.3	Ω a. ☈ ● p.
20	29.5	21.8	96	86	10	8	.3	d a. ☈ d° p.
21	31.6	22	99	72	6	9	.5	∞ a. ↙ ●° p.
22	29.6	22.9	95	84	1	8	4.3	Ω a. ● p.
23	29.6	21.6	95	65	7	8	------	Ω ≡² a.
24	29.7	21	100	91	9	8	3.8	Ω ≡ a. ☈ ● p.
25	31	23.1	98	72	7	7	------	Ω a. ☈ p.
26	32	22.3	94	64	7	7	.8	Ω a. ● ⌒ p.
27	29.3	22.4	96	87	3	7	2.5	Ω a. ● a. p.
28	28.5	23	97	94	8	10	8.4	⌒ d a. ● p.
29	29.1	23.2	97	79	8	9	10.7	● a. ☈ ●° p.
30	28.3	21.1	96	82	10	8	.5	≡² a. ● p.
31	30.3	22.2	96	75	7	7	9.9	Ω a. ● p.
Mean	30.2	22.5	96	72.4	7.2	7.5	------	
Total	------	------	------	------	------	------	99.5	

[1] 28 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

YAP (Western Carolines).
[ϕ=9° 29′ N; λ=138° 08′ E.]

Day.	Temperature. Maximum.	Minimum.	Relative humidity. 6 a. m.	2 p. m.	Cloudiness. 6 a. m.	2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	22.7	90	84	8	9	29.2	
2	29.4	21.5	93	78	10	8	2.3	
3	31.7	22.5	94	88?	8	2	3.8	
4	33	23	88?	74	1	4	3	
5	31.2	23	83?	76	3	5	1	
6	32.7	23.6	89	70	6	6	5.1	
7	32.8	23.5	84?	75	2	2	4.8	
8	32.8	22.8	96	80	5	7		
9	32.7	22.8	96	76	6	5	38.1	
10	29.1	21.7	94	93	10	10	88.9	
11	30.2	21.5	94	80	8	8	33	
12	31.3	21.7	96	83	7	7	------	
13	32	21.5	91	76	6	8	------	
14	31.3	23.7	92	71	3	5	1.3	
15	31.6	23	93	85	4	5	------	
16	32.3	23.5	81	78	4	5	------	
17	32	22.4	84?	83?	4	6	------	
18	30.1	21.7	94	81	7	5	------	
19	32	22	89	76	2	5	------	
20	29.4	22.4	96	79	8	7	15.2	
21	32.3	23	88	74	2	2	.5	
22	31	22.8	84	86	7	10	14	
23	29.3	22.2	94	90	10	8	5.1	
24	30.5	22	92	89	6	5	------	
25	30.2	22.9	85	86	4	5	------	
26	31.1	22.3	92	72	1	5	2.5	
27	30.1	23	95	88	6	6	4.3	
28	31.2	23.7	78?	87	5	9	3.3	
29	30.5	23	84	85	3	8	10.2	
30	31.3	22.1	89	79	8	6	------	
31	31	23.2	86	73	6	3	------	
Mean	31.2	22.6	89.8	80.5	5.5	6	------	
Total	------	------	------	------	------	------	265.6	

MAASIN.
[ϕ=10° 08′ N; λ=124° 50′ E.]

Day.	Temperature. Maximum.	Minimum.	Relative humidity. 6 a. m.	2 p. m.	Cloudiness. 6 a. m.	2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.7	24.5	88	84	2	4	------	ζ p.
2	30.6	24.2	93	81	4	7	------	
3	30	24	95	76	10	10	------	
4	31.5	25.6	84	81	10	10	------	∞ p.
5	29.7	24.5	95	77	10	10	------	∞ ζ p.
6	30.4	23	91	91	10	5	26.4	●² ⌈ζ² p.
7	31.8	23.2	92	71	3	7	------	⌈ζ a. ↙° ζ p.
8	31.2	24.8	90	82	10	10	------	↙ a. p.
9	29.4	26.4	89	79	10	8	------	⌣ ζ p.
10	31	24	89	78	10	9	------	d ⌈ζ ⌣ ⊖ p.
11	30	24.3	96	84	10	10	13.2	● ⌈ζ p.
12	31.6	23.3	93	83	10	10	------	↙° a. ζ ⌣ ⊖ p.
13	28.6	22.8	96	82	10	10	------	ζ ⌣ p.
14	29.6	24.3	92	78	10	8	13.7	↙ ● ⌈ζ² p.
15	30.5	21	92	80	8	9	------	
16	30	24	92	83	10	8	------	d ⌈ζ p.
17	30	24	88	75	10	10	------	ζ p.
18	30	24.2	89	77	10	8	------	d a.
19	30.2	23.6	89	80	10	10	------	d ⌈ζ p.
20	29.4	23	94	77	10	8	8.6	● ≡² a. d ≡ p.
21	30	23.5	93	71	10	7	------	
22	30.6	22.8	95	82	3	8	------	d ⌈ζ p.
23	29.9	22.9	96	90	10	10	4.6	d a. p. ● ⌈ζ p.
24	30	23	93	74	10	10	------	d ≡² a. ⌈ζ d p.
25	29.5	23.6	94	80	10	8	------	ζ d p.
26	29.5	23.1	96	75	10	10	4.1	ζ ● p.
27	30.9	23.7	91	66	10	10	------	d a. p. ≡ ⌈ζ p.
28	31.5	23.6	90	78	10	9	5.8	d ↙ ●° p.
29	30	23.4	94	79	10	8	8.1	● d p.
30	29.1	23.6	92	76	10	8	------	ζ d p.
31	30	22.5	86	72	10	9	------	ζ p.
Mean	30.2	23.7	91.8	78.8	9	8.6	------	
Total	------	------	------	------	------	------	84.5	

BACOLOD.
[ϕ=10° 41′ N; λ=122° 56′ E.]

Day.	Temperature. Maximum.	Minimum.	Relative humidity. 6 a. m.	2 p. m.	Cloudiness. 6 a. m.	2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10	0–10.	mm.	
1	30.8	22.6	95	70	2	2	------	
2	31.7	22.3	95	70	5	6	------	ζ p.
3	31.3	22.3	95	68	7	6	------	⌈ζ° p.
4	28.5	23.1	94	83	10	10	12.2	⊤° ●° a. ↙ ●° p.
5	30.9	22.5	93	77	4	7	------	⌈ζ p.
6	31.4	23.1	95	69	6	6	------	↙° ⊤ ⊖ p.
7	32.1	23.4	95	69	4	4	2	●° a. ↙° ζ ⌣ p.
8	31.4	24	94	73	8	9	------	⌈ζ° p.
9	30.5	23.6	96	76	10	8	11.4	● ⌒ a. ⌣ p.
10	30.7	23.4	91	76	9	7	------	⊖ p.
11	30.6	23	94	77	2	5	------	⊤° ⌒ ζ p.
12	30.4	24.3	89	74	10	10	.5	
13	28.9	23.3	94	79	10	9	7.1	d° a. ↙° ●° p.
14	30.9	23.7	90	72	10	7	2.3	d p.
15	30.9	22.2	96	71	8	6	------	⌈ζ p.
16	31.7	22.3	96	72	1	6	------	⌈ζ° p.
17	31.4	23.1	91	73	5	7	------	⌈ζ p.
18	30.7	22.7	95	69	9	8	------	⌈ζ p.
19	31.1	22.9	96	78	6	8	------	⌈ζ p.
20	30.1	22.7	95	76	9	8	.8	⌈ζ d p.
21	30.7	22.9	93	84	8	7	------	d° ⌒ a. ⌈ζ d° p.
22	30.3	21.4	96	84	6	6	1	Ω ≡ a. ↙° p ⊤ p.
23	30.5	21.7	95	76	4	8	.5	⊤ ↙° d ζ p.
24	30.6	21.8	94	90	7	9	10.7	⌈ζ ● p.
25	30	22.4	95	91	8	10	22.6	●° ⌒ a. ↙ ● ⌈ζ p.
26	30.6	22	96	71	6	6	17	↙ ● ⌈ζ p.
27	30.7	23	96	86	9	10	12.4	↙ ● ⌈ζ p.
28	31.3	22.7	97	74	6	3	------	↙ ζ ⊤° p.
29	30.6	23.9	83	72	4	3	------	↙° p.
30	31.6	24	88	65	6	3	------	↙ p.
31	31	23	91	66	6	5	------	↙ p.
Mean	30.8	22.9	93.6	75.2	6.6	6.7	------	
Total	------	------	------	------	------	------	100.5	

SAN JOSE BUENAVISTA.
[ϕ=10° 44′ N; λ=121° 55′ E.]

Day.	Temperature. Maximum.	Minimum.	Relative humidity. 6 a. m.	2 p. m.	Cloudiness. 6 a. m.	2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	23.5	92	70	10	3	1	⌒ ●° a.
2	32	23	86	69	6	4	------	
3	31.9	22.5	87	73	10	10	6.9	● p.
4	28	23.6	90	90	10	10	19	● ⊤ a. p.
5	32.4	23.7	92	77	8	9	------	ζ ⌣ ⊖ p.
6	32	24	87	78	4	10	------	d ⊤ p.
7	31	22.5	91	85	8	7	9.9	⌈ζ ⌣ ⊖ ● p.
8	31	23.4	95	76	10	10	17.8	● ⌈ζ a. ● ⌣ p.
9	31.9	25.5	89	82	10	10	12.7	● a. p.
10	30.8	24	95	81	10	10	14	● a. ●° p.
11	31.2	23	99	72	7	5	10.4	ζ ● p.
12	31	23.4	95	78	10	10	12.2	● a. p. ⌈ζ° p.
13	31.6	22.5	86?	91	10	10	22.1	● a. p. ↙ p.
14	29.6	25	92	92	10	10	25.4	● a. p.
15	31.9	22.8	88	72	8	7	------	
16	31.9	22.6	91	75	3	10	6.9	⌈ζ a. p. ● p.
17	31.3	22.3	90	74	4	10	------	d ζ p.
18	31.1	22.8	90	71	10	10	1	○ a. ●° ⌈ζ p.
19	33.5	23.8	90	82	5	10	------	⌈ζ d p.
20	29.9	23.1	91	82	10	10	4.3	● p.
21	31.6	22.8	92	79	10	10	?	● ⌈ζ p.
22	30.5	22.1	89	73	0	10	------	⌈ζ p.
23	31.7	22.3	91	81	7	10	13.5	d a. p. ● ⌈ζ p.
24	31.8	21.6	95	88	2	10	21.3	● p.
25	31	23.3	96	91	10	10	11.2	● ⊤ a. ● ⌈ζ p.
26	32.9	22.7	91	74	7	2	------	
27	31.9	23.3	88	70	10	10	------	ζ² p.
28	32.5	22.1	91	68	5	7	------	ζ² p.
29	32.5	23	86	72	4	5	------	
30	32.7	22.2	86	65	2	8	------	⊖ p.
31	33.1	20.7	88	68	3	10	------	
Mean	31.6	23	90.6	77.4	7.2	8.6	------	
Total	------	------	------	------	------	------	209.6	

[1] 30 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

TUBURAN.
[ϕ=10° 45′ N; λ=123° 50′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.8	22.4	92	62	1	2	------	≡° a. ∞² p.
2	31.1	22.7	91	67	9	8	------	◯° ⚡² p.
3	32.8	23.3	94	70	10	10	------	◯² ⚡² ∪² p.
4	31.7	25.8?	76?	68	10	10	------	◯² ∪² p.
5	31.8	22.7	91	67	9	8	------	◯° a. ⛈² d p.
6	31.4	23.5	93	72	9	6	------	d° a. ⚡² p.
7	31.2	23.7	93	65	9	5	4.8	d° a. ⛈° ● p.
8	32	24.1	95	62	10	10	3	●° ◯² a. ⛈ p.
9	32.8	24.5	84	63	10	8	------	⊤° ↙ a. ⏀° p.
10	32.9	23.4	89	62	10	9	------	◯² a. ◯° ⊤² p.
11	32.5	22.8	92	62	5	5	------	◯° a. ⚡² ∪² p.
12	33	24.2	87	64	10	10	------	↙ a. ◯² p.
13	32.1	26.4?	73?	62	10	10	------	↙ a. d° ⚡² p.
14	33.6	23	89	62	9	9	------	⛈² p.
15	32.1	23.1	91	65	10	8	------	≡² a. ⛈² p.
16	32.1	23.4	93	63	8	5	------	≡² ⌒ a. ⊤² p.
17	31.6	22.7	92	84	7	10	2.8	●° ⛈² p.
18	31.9	22.9	94	80	10	10	------	◯² ⊤² a. ⚡² p.
19	30.8	22.8	95	91	8	9	11.7	⛈° a. ●² ⚡² p.
20	29.1	20	97	84	10	10	3	⊤° a. ⛈² ●° p.
21	31.1	22.5	97	80	9	8	2	⚡² ●° p.
22	31.1	22.3	95	70	5	6	2.5	Ω² a. ●° ⌒° p.
23	30.6	22.6	96	88	9	10	40.1	d a. ●² ⛈ p.
24	31.8	22.4	97	74	10	9	8.9	● ⛈° p.
25	29.1	23.4	96	82	9	10	16	◯°p²a. ⛈²⌒²●²
26	30.9	22.8	97	73	8	9	------	⚡² p.
27	31.8	23.3	94	77	9	9	------	◯² ⚡² p.
28	33.3	22.7	95	71	8	7	------	⚡² p.
29	31.4	22.8	94	74	8	5	------	d ⛈ p.
30	33.4	23.2	95	63	4	7	------	⚡° p.
31	33.1	23	93	68	9	5	------	Ω° a. d° p.
Mean	31.8	23.2	91.9	70.8	8.5	8	------	
Total	------	------	------	------	------	------	94.8	

CUYO.
[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.1	22.6	91	71	1	2	------	
2	33.1	22.5	90	68	1	1	------	
3	33.3	22.8	89	69	2	3	------	
4	28.8	25.2	83?	83	9	9	2.5	d ● p.
5	31.4	24.3	85	76	7	4	.5	d a.
6	33.1	23	90	65	5	2	------	
7	32.7	23.5	84	67	4	2	11.7	⛈ a. ● a. p.
8	31.8	24.3	87	82	9	7	3.6	● p.
9	30.8	24.8	84	77	6	7	.8	d p.
10	32.7	23.4	89	69	9	5	1.5	●° a.
11	32.5	23.1	92	71	2	1	10.4	d a. ⚡ p.
12	30.3	23.5	88	81	8	9	1	d a.
13	30.6	25.8	85	79	7	7	------	
14	30.5	24	84	87	9	9	7.6	● p.
15	32.2	23.8	90	80	5	6	------	
16	31.9	22.5	90	72	1	6	------	
17	32.7	24.2	88	71	5	5	------	
18	32	23.4	90	85	7	8	.8	d p.
19	33.1	22.7	90	65	5	4	------	
20	26.7	22.4	90	90	7	10	25.7	⊤ ● a. d p.
21	30.7	21.8	93	89	6	7	1	●° p.
22	31.7	23.4	89	74	4	4	3.6	● a.
23	32	23.4	90	73	3	7	8.9	d p.
24	33	22.6	89	69	5	6	.8	
25	31.3	24.2	89	77	7	6	3	d a. ⚡ p.
26	32.2	23.2	92	81	6	7	2.3	● p.
27	32.3	23	93	71	5	4	------	⛈ p.
28	32.8	25	86	72	3	2	------	
29	32	25.5	83	68	2	3	------	
30	32	25.3	84	70	2	3	------	
31	32.2	24.6	82	69	1	4	------	
Mean	31.8	23.7	88	74.9	4.9	5.2	------	
Total	------	------	------	------	------	------	85.7	

PALANOC.
[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.6	25.2	93	69	4	7	------	
2	33.2	24.5	94	69	6	8	------	
3	31.4	25.4	89	73	8	9	7.4	
4	27.2	26.2	90	87	10	10	6.6	
5	32.5	24.6	94	78	4	8	------	
6	33.6	25	97	72	4	6	------	
7	31.4	26.5	83	76	4	8	------	
8	30.5	26	86	70	10	9	------	
9	31.5	27.2?	87?	68	10	8	------	
10	32.5	25.2	94	92	7	6	16.3	⊤ p.
11	30.6	25.8	94	77	6	7	.3	⊤ p.
12	30.4	26	90	69	9	10	------	
13	30	26.8	83	77	8	7	------	
14	31	26	89	61	9	7	------	
15	33.6	24.4	97	90	6	9	3.3	⊤ p.
16	33.5	24.2	97	70	3	6	------	
17	33.5	25.8	91	75	3	8	------	
18	33.8	25.4	95	85	8	7	------	
19	33.5	25	98	61	7	7	17.8	⊤ p.
20	30.2	22.6	98	78	10	8	3.3	⊤ a.
21	32.2	24.4	96	76	8	9	------	⊤ p.
22	32.4	24.2	96	66	4	6	------	
23	28.2	25.4	94	80	9	9	1.5	
24	33.4	23.8	95	64	9	8	.8	
25	30.6	25	94	74	8	9	14.2	
26	31.2	24	97	87	9	8	3.3	⊤ p.
27	31.6	25.4	95	68	6	5	------	
28	32.4	25.2	90	82	7	8	1.3	
29	32.2	25.2	90	68	6	7	.8	
30	32.2	25	90	70	6	9	------	
31	32	23.8	88	69	6	7	------	
Mean	31.8	25.1	92.4	74.2	6.9	7.7	------	
Total	------	------	------	------	------	------	76.9	

ROMBLON.
[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.3?	24.8	93	64	5	3	------	↙° a. p.
2	34.1	24.8	96	57	6	7	------	↙° ⚡ p.
3	32	24	95	72	6	7	3.8	⛈ ↙ ● p.
4	27	24.6	98	92	10	10	36.3	● ↙ a. p.
5	33.2	23.7	92	63	5	6	.5	⚡ p.
6	33	24.2	95	68	6	4	7.9	d p a. ⊤ ● p.
7	32	24.8	92	72	4	5	1.8	↙ ⊤ ● ⚡ p.
8	32.9	25.4	93	65	7	10	------	↙ p.
9	32.8	25.3	96	73	10	9	1.8	↙ ●° ⊤ a. ● ↙ p.
10	33.4	24.7	97	63	7	4	------	
11	32.7	24.1	94	71	4	3	.8	⊤ p p.
12	32.4	25.1	93	63	9	8	------	↙ p.
13	31.4	25.2	77?	75	10	10	18.8	↙ ● a. p.
14	28.3	23.9	91	81	7	10	10.2	● ⊤ ↙ a.
15	32.3	23.9	94	65	3	4	------	⚡ p.
16	32.8	24.8	95	67	4	7	------	p a. ⚡ p.
17	30.2	24.4	96	77	8	5	12.2	⊤ ● a. ⚡ p.
18	30.3	24.4	96	76	10	9	------	p a. ●° ⚡ p.
19	31.2	24.2	95	87	10	8	13.7	p a. ● ⛈ p.
20	28.8	23.9	96	80	10	8	.8	⛈ ● a. ⚡ p.
21	31.9	23.4	97	69	10	5	------	⚡ p p.
22	31.5	24	96	68	5	5	10.7	● a. ⚡ p.
23	31.9	24.8	94	72	6	10	.5	d° ⚡ p.
24	32.1	24.2	87	74	6	7	6.4	p a. ● ⛈ p.
25	31.1	24.8	94	76	8	10	15.7	● ⊤ ↙ p.
26	30	24.4	94	76	10	9	1.5	● a. ⛈ p p.
27	31.2	24.5	94	72	10	6	------	⛈ p.
28	31.6	25.4	93	70	8	8	16.3	● ⛈ p.
29	30.9	25.1	92	67	8	4	49.3	●² p.
30	31.1	24.2	91	72	5	4	.3	● a.
31	31.9	24.9	88	70	9	2	?	d ↙ ● p.
Mean	31.6	24.5	93.4	71.5	7.3	6.7	------	
Total	------	------	------	------	------	------	209.3[1]	

[1] 30 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

LAOANG.

[$\phi=12°\ 35'$ N; $\lambda=125°\ 01'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.6?	25	87	74	1	6	------	
2	31.7	23	88	68	6	4	------	
3	29.9	23.6	96	82	8	8	16.3	●^{2} p.
4	29.6	24.7	91	80	10	9	.5	●° a.
5	32	23.5	91	75	5	8	7.9	● p.
6	32.1	22.4	97	78	------	7	------	≡^{2} p.
7	29.6	24.6	80?	88	5	9	30.7	p a. ● p.
8	29.8	24.9	90	72	9	10	------	
9	33.3	23.8	83	68	7	8	------	⌒ p.
10	32.2	24.1	85?	74	2	4	------	
11	32.3	24.1	80?	72	6	5	------	
12	30.3	26.4	84	71	7	10	------	
13	33.3	25.6	78?	58	7	6	------	
14	32.7	23.4	90	69	5	5	------	
15	31.3	24	93	71	7	7	------	
16	33.6	22.7	94	68	5	2	------	
17	31.8	22.9	82?	71	4	6	------	≡ a.
18	31.3	22.8	90	72	8	6	------	
19	31.3	22.6	88	70	4	5	------	
20	31.4	23.3	95	78	7	9	14.5	●^{2} p.
21	30.7	22.8	85	73	6	4	------	
22	29.7	22.4	96	75	9	3	23.1	● a.
23	26.7	23.4	98	94	10	10	40.1	● a.
24	30.2	23.1	96	88	6	10	22.1	● a.
25	30.1	23.6	96	94	10	10	32	⌒ ● a.
26	31.2	23.1	92	71	6	6	------	
27	29.8	23.2	96	74	4	6	2.8	● p.
28	29.8	22.9	94	72	5	5	------	
29	30.3	23.6	94	67	2	3	------	
30	30.2	22.6	91	63	5	5	------	
31	30.3	20.5	92	70	3	7	------	p p.
Mean	31	23.5	90.1	74.2	6	6.5	------	
Total	------	------	------	------	------	------	190	

GUBAT.

[$\phi=12°\ 55'$ N; $\lambda=124°\ 08'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.5	22.8	96	56	2	5	------	
2	34.2	22.7	97	64	4	6	------	Ω a.
3	34.4	23.7	97	63	10	10	10.7	Ω a. ● d ⛈ p.
4	28	23.6	92	90	10	10	21.8	● ↙ a. p.
5	33	24	90	65	6	6	------	⊍ p.
6	33.5	23	97	66	8	6	------	d ⌒ a.
7	33.8	22.2	97	65	4	8	------	d a. ⌒ ⊍ p.
8	31.1	23.5	90	75	10	10	------	↙ a. p.
9	33.5	23.8	92	70	5	5	------	d ⊕ p.
10	33.8	22.4	94	60	4	6	------	
11	34.1	24.2	97	70	8	9	2.5	● a.
12	32.9	24.8	91	71	10	10	------	○ a. d p. ↙ a. p.
13	34.5	23.8	71?	63	10	10	------	↙ a. ○ ↙ d ⌒ p.
14	33.8	24	91	71	8	8	------	d a. p. ⚡ p.
15	34.2	22	97	63	6	6	------	⚡ p.
16	35.2	22	95	61	8	5	------	⚡ p.
17	34.5	22.3	98	59	4	8	------	⊤ ⚡ p.
18	34	22.5	97	60	8	6	------	⚡ p.
19	33.8	21.5	96	71	8	8	------	⚡ p.
20	34.4	22.8	97	63	9	6	------	⚡ p.
21	34.5	22.9	97	65	10	6	------	⚡ p.
22	33.8	22.4	97	66	8	8	------	d ⌒ a.
23	32	21.6	97	91	10	10	58.4	● ⛈ a. ⚡ p.
24	33	22.8	97	73	8	10	31.7	⛈ ● p.
25	29	23.6	85	81	10	10	30	● ↙ a. ⚡ ● p.
26	33	23.2	95	66	10	6	27.9	● d ⌒ a.
27	34.2	23.8	96	65	8	8	12.7	● a. d ⚡ p.
28	31.9	24	95	92	6	10	6.1	p a. ↙ ● p.
29	31	23	91	73	8	8	5.3	● a.
30	33.2	22.6	92	69	7	6	3.8	⌒ ↙ ● a.
31	33.1	21.9	93	76	5	6	33	p a. ● ⚡ p.
Mean	33.2	23	93.8	69.1	7.5	7.6	------	
Total	------	------	------	------	------	------	243.9	

SUMAY, GUAM (Ladrones Islands).

[$\phi=13°\ 24'$ N; $\lambda=144°\ 38'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30	25.4	83	73	7	9	22.1	↙ ● p.
2	30	24.2	86	89	5	6	7.9	●° a.
3	28.9	25.6	88	92	3	7	12.4	↙ ●° a. p.
4	26.6	24.5	85	85	9	10	12.4	↙ ● a. ↙ p.
5	30	23.7	89	78	8	4	------	⚡ p.
6	29.6	24	88	77	1	7	1.7	
7	28.9	23.6	88	78	8	9	20.1	⚡° p.
8	26.7	23.7	91	86	10	10	144.8	↙ ●^{2} a. p.
9	28.3	21.9	89	95	9	10	22.9	↙ ● a.
10	28.9	23.5	92	75	4	8	.4	
11	29.4	23	96	78	6	6	9.1	● p.
12	28.9	23.5	96	84	5	5	------	
13	26.3	23.9	88	95	7	10	11.7	● a.
14	28.3	23.5	90	80	8	5	21.2	⌒ ● a.
15	29.7	23.8	92	82	4	6	.3	⚡ p.
16	28.9	23.8	92	77	7	8	5.8	⛈ ● a.
17	30.5	23.2	93	66	8	5	------	
18	31.1	24.3	89	83	5	8	.8	
19	29.4	24.7	91	88	7	9	9.1	⌒ ● a. ⊤ p.
20	29.4	23.5	90	74	2	7	------	⚡° p.
21	29.3	23.5	95	80	4	6	1.8	⚡° p.
22	28.9	25	94	88	8	10	15	● ⛈ a.
23	29.7	25.4	85	70	3	3	.3	⌒ p.
24	30	24	88	70	4	3	2.2	
25	29.2	24.3	85	79	3	5	1.5	
26	28.3	25	86	91	5	10	13	● ⚡ p.
27	29.1	25	90	86	8	7	2.5	⚡ p.
28	29.1	25.8	82	78	7	6	.3	
29	29.4	24.5	84	78	5	4	------	
30	29.7	25.8	88	74	7	6	------	
31	29.5	24.2	93	78	2	6	------	
Mean	29.1	24.2	89.2	80.9	5.8	6.9	------	
Total	------	------	------	------	------	------	339.3	

CALAPAN.

[$\phi=13°\ 25'$ N; $\lambda=121°\ 11'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.5	23.8	91	69	6	6	------	●° a.
2	30.4	23.7	87	73	4	6	------	⛈° p.
3	32.5	24.4	93	71	2	8	------	⚡° a. ⊤° ↙ p.
4	27.2	23.7	84	90	9	10	------	●^{2} ↙^{2} a. ● p.
5	30.4	22.6	91	81	9	9	------	⛈° p.
6	30.3	23.3	88	75	3	4	------	⚡° p.
7	32.9	23.7	91	71	2	10	------	⚡ p.
8	32	23.7	90	------	6	10	------	↙° a. p. ⊍^{2} p.
9	31.5	24.7	88	68	9	8	------	d° ⌒^{2} a. ●° ⊍ p.
10	32.8	23.9	91	------	6	6	------	
11	33.1	23	91	72	3	2	------	↙° a. p. ⚡ p.
12	31.8	25.4	87	72	8	8	------	↙° a. p.
13	31.2	26.5	86	75	8	9	------	↙° a. p. ⚡ d° p.
14	30.4	23.3	92	72	6	10	------	↙° a. ⛈° p.
15	30.7	23.6	97	73	8	8	------	
16	32.8	23.5	87	72	3	4	------	⛈° p.
17	32.9	23.2	90	70	5	4	------	
18	31.4	23.3	89	74	6	2	------	⛈° ⌒° p.
19	30.3	23.4	91	74	8	8	------	⛈ p.
20	29.5	22.3	96	77	10	3	------	⚡° a. ∞^{2} p.
21	30.1	22.6	90	72	8	7	------	⛈° a. ⚡ ●° p.
22	30.9	23.2	95	70	9	9	------	⛈^{2} p.
23	30.3	23.3	89	76	10	5	------	⚡^{2} ● p.
24	27.5	22.8	94	76	10	10	------	●^{2} a. ●° a. p.
25	29.6	24.4	88	78	8	9	------	p ⌒^{2} a. ●° p.
26	27.8	22.8	95	87	10	10	------	● a. ●^{2} ⊤^{2} p.
27	29.7	22.8	91	78	9	6	------	⛈ a. ⊤ ●° p.
28	29.4	24.2	88	72	7	6	------	d^2 a.
29	29.4	23.2	94	77	5	3	------	⌒° ●^{2} a.
30	29.8	22.9	90	68	8	1	------	p^2 p.
31	29.6	25.1	82	75	8	3	------	⚡ p.
Mean	30.6	23.6	90.2	74.4	6.9	6.6	------	
Total	------	------	------	------	------	------	------	

METEOROLOGICAL DATA, ETC.—Continued.

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.9	24.2	87	68	1	7	------	≡° a. ϖ p.
2	34.6	22.9	95	67	4	8	------	⩽ ϖ p.
3	33 ?	23.1	91	65	9	9	101.6	d ⚡ ● p.
4	27.5	23	95	90	10	10	26.2	↙ ●a. d ● p.
5	31.6	25	94	77	8	8	------	⊕ ○ a. ϖ p.
6	32.4	22.9	96	74	8	8	2.3	∞ ● a.
7	31.8	22.9	92	84	6	9	9.1	da. ↙° ● ⚡ ϖ p.
8	30.2	24.5	88	76	10	10	------	● a.
9	33.6	27 ?	87	73	8	7	------	∞ ϖ p.
10	36.9?	23.8	97	57	6	4	------	⚡ ϖ p.
11	35.5	24.1	95	58	6	8	------	
12	31.6	26.1	86	78	10	10	2	↙ d a.
13	35.2	27.4?	80	56	10	8	------	
14	34.3	27.1?	85	71	8	8	------	⩽ p.
15	33.7	23.9	95	66	7	5	------	⚡ p.
16	33.1	23.6	94	70	6	5	------	⚡ p.
17	31.8	23.2	96	67	8	8	------	⩽ p.
18	32.1	23.2	95	72	9	6	------	d a. ⩽ p.
19	31.4	22.9	96	75	8	8	1.8	↙ ●° ⩽ p.
20	32.7	23.6	95	71	9	8	.5	⌒ ●° a. ⩽ p.
21	32.1	23.4	96	77	9	8	4.3	●° ⩽ p.
22	33.1	23	96	69	8	9	------	d a. d °p.
23	28.5	23.5	96	94	10	10	33.3	⊤ d a. ● a.p.
24	32.6	23	95	68	9	8	39.9	● ⌒²a. ↙ ● ⩽ p.
25	31.2	24.1	88	80	9	10	36.6	↙ ● a. ● d p.
26	32.8	24.3	88	75	9	8	31.5	● ⚡ p.
27	32.7	24	96	70	8	8	.5	d² a. ↙ ●° ⩽ p.
28	31.2	23	96	79	4	9	4.8	● a. p. d p.
29	33.3	23.1	94	64	5	7	------	d a.
30	32.3	22.4	94	69	5	4	------	d a. p.
31	33.3	21.6	95	63	5	9	------	●° p.
Mean	32.6	23.9	92.7	71.7	7.5	7.9	------	
Total	------	------	------	------	------	------	294.4	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	23.1	94	73	6	6	------	⊤ p.
2	31.2	22.3	97	69	4	7	------	○ a. ⩽° p.
3	31.1	22.9	97	77	7	7	------	○ a. ⊤ p.
4	27.8	23.1	93	95	4	10	25.7	d ● a. ↙ ● p.
5	31.8	20.8	97	73	7	7	------	⚡ p.
6	32.2	21.4	97	76	4	6	11.7	d ● ⊤ ○ a. ⌒ p.
7	31.3	20.8	96	78	1	7	------	⊤ p.
8	30.3	22.2	97	77	7	9	------	○ a. p. ↙ p.
9	30.5	23.1	98	76	9	7	19	↙ ● a. d ⩽° p.
10	30.5	21.6	97	76	4	6	------	○ a.
11	30.7	21.2	97	73	3	5	------	⚡ p.
12	31.2	23	97	81	7	7	18.3	○ a. ● p. ↙ p.
13	28.3	21.4	93	85	9	10	7.4?	⊤ a. ↙ ●² a. p.
14	30.2	23.2	95	83	9	8	.3	○ a. d p.
15	31.2	21.9	96	76	8	6	------	⊤ p.
16	31	21.2	97	69	3	5	.5	⊤ p.
17	30.9	22.4	97	80	5	8	------	⊤ p.
18	31.8	21.3	97	68	4	7	------	⊤ a. p. ⩽ p.
19	32.2	22	97	81	4	6	------	⚡ p.
20	32.7	21.3	97	62	7	7	1	● a. ⚡ p.
21	30.7	21.1	97	76	4	7	------	⊤ p.
22	31.3	21.6	96	79	6	9	.8	● ⊤ p.
23	32.2	21.4	97	62	6	7	.3	p ⊤ a.
24	29.8	21.9	97	72	9	7	------	○ p.
25	30.8	21.6	98	72	9	7	1.8	● ⊤ ↙ a. d p.
26	30.4	21.7	97	85	9	9	13.5	● a.
27	32.3	22.1	98	61	7	7	------	⌒ ⩽ p.
28	31.4	21.6	95	65	3	6	------	⩽° p.
29	30.4	20.9	96	71	2	7	.3	d p.
30	32.2	19.7	94	57	2	4	------	
31	31.6	20.7	93	58	5	6	------	⩽° p.
Mean	31	21.8	96.3	73.7	5.6	7	------	
Total	------	------	------	------	------	------	100.6	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.8	20	97	67	5	6	------	Ω a.
2	28.5	19.8	98	71	2	7	18	● p.
3	29.6	20.1	98	66	6	8	------	⊤° p.
4	28.8	20	98	72	10	10	62.5	● a. ⚡ ↙° ● p.
5	29.2	20	98	68	9	7	------	d a.
6	30	20.3	98	65	5	6	------	Ω a. d p.
7	30.2	20	98	62	5	8	------	Ω ≡ a. ⩽ p.
8	29.4	20.2	99	67	5	9	------	
9	29	20.2	98	69	5	7	16.8	● p.
10	30.5	19.8	98	65	7	8	------	Ω a. ⊤° p.
11	30.5	20.2	98	65	3	7	------	Ω a.
12	30.3	20.2	98	64	7	7	------	
13	30	20	98	64	9	8	22.4	↙° ● a.
14	30.1	20.6	98	66	5	5	38.9	● p.
15	30.3	20.3	98	65	6	7	------	Ω a.
16	30.5	20.2	97	69	2	8	------	≡ a. d p.
17	31	21.5	97	65	7	8	------	Ω ≡ a. ⊤ p.
18	30	19.8	98	67	8	7	34.5	Ω ≡ a. ⊤² ● p.
19	29.4	21.4	98	70	10	8	54.1	d a. ●² ⊤ p.
20	29.6	21	98	68	8	8	3.6	Ω ≡ a. ● p.
21	30.2	21	98	66	6	7	------	⩽ p.
22	31	20.7	98	66	7	5	21.1	Ω ≡ a. ⊤° ● p.
23	28.8	21.5	98	76	8	6	------	Ω a. ⊤ p.
24	29.2	21.4	98	75	10	8	48.8	● a. ⩽ p.
25	28.6	21.2	98	74	9	7	16.8	● a.
26	27.5	21.6	98	72	10	10	61.2	●° a. ● p.
27	27.5	21.5	98	82	7	8	25.1	d a. ● p.
28	30	20.8	97	72	7	6	------	d a.
29	28.8	20.3	99	73	2	7	------	d a.
30	29.6	20.2	98	77	3	8	------	≡ a.
31	30.2	20.6	96	70	3	6	------	Ω a.
Mean	29.6	20.5	97.9	69	6.3	7.3	------	
Total	------	------	------	------	------	------	423.8	

SAN ANTONIO.

[ϕ=14° 22′ N; λ=121° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	21	98	68	1	3	------	
2	30.6	21.2	98	67	1	10	------	
3	30	21.4	97	66	1	6	------	
4	29.5	20.6	98	98	10	10	46.2	
5	29.5	20.5	91?	72	9	9	------	
6	31	20.6	98?	69	10	3	------	
7	30	22.7	97?	68	1	2	------	
8	29.7	20	96	70	10	10	------	
9	31	22.3	95	82	10	6	8.1	
10	30.1	20	98	74	9	8	------	
11	28.1	20.2	96	84	8	7	3.8	
12	29.6	21.5	97	73	9	10	------	
13	29.8	22	97	87	10	10	------	
14	30.7	22	98	83	7	9	5.6	
15	31	20	96	83	8	9	------	
16	31.5	20.3	98	67	9	5	------	
17	30.7	20	96	62	1	7	------	
18	31.4	19.9	99	84	1	8	43.2	
19	30.7	20	98	73	10	10	3.3	
20	31.3	20.5	98	90	10	10	------	
21	30.5	20	93	94?	10	10	------	
22	32	20.2	99	89	9	10	36.8	
23	30.3	20.9	96?	93	10	9	38.1	
24	28.8	20.5	98	98	10	10	40.6	
25	29.4	20.5	96	92	10	10	42.2	
26	30	20.6	98	92	10	10	24.9	
27	30.3	20.8	91?	78	10	10	28.4	
28	30.6	20	98	78	9	7	2	
29	31.4	21	94	85	4	9	1.3	
30	30.5	20.7	91	89	2	6	1.3	
31	29.5	20.4	88	77	2	7	------	
Mean	30.3	20.7	96.2	80.2	7.1	8.1	------	
Total	------	------	------	------	------	------	325.8	

METEOROLOGICAL DATA, ETC.—Continued.

BALANGA.

[ϕ=14° 41′ N; λ=120° 32′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	23.5	92	77	6	6	0.3	d° a. d p.
2	31.5	23.1	91	69	7	10	------	ϟ p.
3	32.6	23.2	91	76	8	9	1.3	d ⊤ p.
4	26.5	22.5	90	88	10	10	188.7	d a. ↙ ●^{2} p.
5	28.8	22.5	92	82	10	10	52.1	● d^2 a. ⛈ ∪ p.
6	32.7	22.1	92	64	8	8	------	⊤° p.
7	33.5	21.5	92	63	0	6	9.9	⛈ ● p.
8	31.9	22.7	90	74	9	10	------	⛈ ↙° p.
9	30.5	24	88	82	10	10	14.7	● a. ↙° a. p.
10	28.9	22.9	92	78	10	9	------	d° a.
11	32.8	21.1	91	66	3	4	------	⛈ p.
12	32.5	21.2	91	72	9	9	------	d° ⊤° ϟ p.
13	27	24.4	74?	88	10	10	50.8	d a. ↙ ● p.
14	31.1	22.4	92	74	10	10	14.7	● a. ϟ° p.
15	31.6	22.7	93	71	10	9	3.6	● ⌒ a. ϟ p.
16	31	21.7	92	81	2	7	2.5	d^2 ϟ p.
17	31.5	22.9	92	87	9	10	7.9	⊤ ● ϟ° p.
18	32.1	22.1	92	73	4	8	------	⊤ a. ⌒ ⛈ p.
19	32	22.8	93	73	10	8	8.1	● a. d p.
20	31.4	23.1	92	76	9	10	8.9	⛈ ● p.
21	31.5	22.2	91	69	9	7	------	⛈ p.
22	31.1	22.3	92	75	3	10	23.9	⛈ ● p.
23	30	22.5	91	77	9	10	------	⊤ ϟ° p.
24	26.2	22.8	91	88	10	10	2	d a.
25	30.3	22	91	77	10	10	------	
26	27	22.3	92	90	10	10	1	d° a. ⊤ d ϟ° p.
27	31	22.1	96	76	10	9	------	ϟ p.
28	31.5	21.4	93	71	3	2	------	ϟ° p.
29	32	20.9	92	78	1	8	------	⌓ a. d° ϟ° p.
30	31.7	19.9	94	77	0	8	------	⌓ a.
31	------	------	------	------	------	------	------	
Mean	30.8	22.4	91.2	76.4	7.3	8.6	------	
Total	------	------	------	------	------	------	390.4	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	23.8	96	84	10	9	21.6	●° a. p. ↙ ● p.
2	31.9	23.1	98	72	10	9	·5	≡ a. ●° ϟ° p.
3	33.6	22.8	97	59	7	6	22.4	○ p.
4	26.8	22.6	97	80	10	10	99.3	● a. ↙^{2} ●^{2} p.
5	28.7	22.3	97	85	10	10	21.1	↙^{2} ● a. ϟ° p.
6	33.1	22.2	98	62	5	4	------	≡ ○ a.
7	33.6	22.2	97	61	0	1	------	⌓ ≡° a. ϟ° p.
8	32.5	22.3	96	69	5	10	2.5	○ a. ⊤° ↙° ●° p.
9	29	23.5	89	84	10	10	42.7	●^{2} ↙ a. ∪^{2} ⊍ p.
10	31.4	23.5	97	72	4	9	------	⌓ ≡ a. ○^{2} [illegible]^2 p.
11	32.6	22.3	97	60	3	2	------	⌓ ≡° ⊍^{2} a. ϟ° p.
12	32	23	95	70	7	6	------	d° a. ϟ° p.
13	32.1	24.3	81	89	10	10	6.4	↙ d a. p. ● p.
14	30.1	23	97	75	10	4	7.6	↙ ● a. ⊍ p.
15	31.7	23.3	98	90	10	9	.5	⌓ ≡^{2} a. d^2 ⛈° p.
16	32.8	21.8	97	65	2	5	13	⛈° d° ● p.
17	32.1	23	96	69	7	9	.5	d ϟ p.
18	32.1	22.6	97	71	3	5	55.4	≡ a. ⛈^{2} ● d p.
19	32	22.2	97	74	7	7	1.5	ϟ ●° p.
20	32.2	23.3	97	65	8	8	2	≡ ⊕ a. ●° ϟ° p.
21	32	22.1	98	65	6	4	2.3	●° ⛈ p.
22	32.1	22.2	97	82	2	7	5.3	≡ d° a. ●° ⛈ p.
23	31.2	22.8	97	65	8	8	------	ϟ° p.
24	29.7	21.8	96	75	4	10	------	
25	31.8	22.3	94	67	3	9	.3	d a. ○ ϟ° p.
26	29.2	22.1	95	76	10	10	.5	⌓ a. d ϟ° p.
27	31	22.9	96	70	10	10	------	d° a. p. ϟ° p.
28	32.2	21.2	96	58	2	2	------	ϟ° p.
29	32.2	21	92	66	0	4	------	⌓^{2} ≡° a.
30	32.2	21	95	54	0	6	------	⌓^{2} a.
31	32.2	21.2	96	50	3	0	------	⌓^{2} ≡° a. ∞ p.
Mean	31.5	22.5	95.7	70.5	6	6.9	------	
Total	------	------	------	------	------	------	305.4	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	23	90	67	3	6	------	⌒ p.
2	30.5	23	91	74	4	10	13.7	
3	33.5	24.4	88	72	8	7	34.3	
4	28.2	22	85	88	10	10	48.3	
5	29.5	23.2	99	78	10	10	4.3	↙ p.
6	29	21.8	95	74	8	5	42.2	
7	31.5	22	89	63	3	4	------	⛈^{2} ↙ p.
8	30.5	23	80	57?	6	10	50.8	
9	29.2	24.3	90	87	10	10	------	↙ p.
10	31.1	22.9	90	79	4	8	------	
11	31.2	22.1	91	69	3	5	------	
12	32.5	24	86	63	4	6	32.5	
13	33.5	23.6?	96	64	9	10	3	↙ a. p.
14	30.4	23.5	91	68	10	10	------	
15	31.5?	21.5	91	63	9	4	------	
16	30.2	22.6?	86	79	3	6	------	⛈ a. p.
17	29.3	24	82	74	5	7	------	ϟ p.
18	30	21.9	88	70	6	8	3.6	⌓ a.
19	29.2	23.1	97	78	4	6	17.8	⛈ p.
20	29.8	23.5	95	74	10	6	------	
21	29.5	23.5?	91	74	8	7	------	
22	29	23.3	91	79	10	8	8.1	
23	29.5	22.5	91	77	5	6	------	
24	30	23.5	89	71	7	9	------	
25	30.4	24.9	83	80	6	10	2.3	
26	27.9	23.8	91	80	9	10	50.8	
27	28	22.2	90	81	10	7	2.8	⛈ ↙ p.
28	29	22.8	91	71	5	3	------	
29	29.6	23.2?	87	73	6	3	6.9	
30	28.7?	21.8	90	81	4	6	------	
31	------	------	------	------	------	------	------	
Mean	30.2	23	89.8	73.6	6.6	7.2	------	
Total	------	------	------	------	------	------	321.4	

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	23.4	15.7	98	97	10	9	11.9	≡ a. d ● p.
2	23.5	15.2	99	92	6	6	15.7	≡ a. ● ⛈ p.
3	23.2	16.2	84	94	4	10	12.2	● p.
4	18	15.5	93	99	10	10	167.6	●^{2} a. p.
5	19.5	15	92	90	10	10	8.6	● a. p.
6	23.5	13.7	94	93	6	7	------	≡ p.
7	22.4	13.8	95	92	2	10	------	
8	20	13.8	87	90	7	10	315	d p.
9	22	14	98	93	10	10	44.2	● a. p.
10	20	15.8	95	92	7	10	5.8	● p.
11	22.4	13.6	91	93	4	10	3	≡ ● p.
12	22.2	14.6	95	97	3	10	106.7	≡ p.
13	17	13.4	99	99	10	10	568.4	●^{2} a. p.
14	------	------	------	------	10	10	22.4	d a. ● p.
15	------	------	------	------	10	3	------	≡ a.
16	------	------	------	------	3	7	30.5	● ⛈ p.
17	------	------	------	------	10	10	23.9	● ⌒ p.
18	------	------	------	------	4	10	10.7	d p.
19	------	------	------	------	2	10	6.1	d p.
20	------	------	------	------	7	10	71.9	d p.
21	------	------	------	------	3	7	1.3	d ⌒ p.
22	------	------	------	------	2	7	27.9	d p.
23	23.5	------	------	82	6	8	------	≡ p.
24	22.5	15	84	65	2	5	------	
25	23.7	13.4	93	87	4	8	------	
26	22.4	13.8	87	89	3	10	9.1	d p.
27	20	14.9	92	77	10	9	------	● a.
28	23.9	13.2	91	81	5	9	46.2	≡ ● p.
29	22.8	12.5	89	86	2	7	------	≡ p.
30	22.7	12.2	94	82	3	6	------	
31	23.9	11.4	98	75	4	5	------	
Mean	21.9	14.1	92.8	88.4	5.8	8.5	------	
Total	------	------	------	------	------	------	1509.1	

METEOROLOGICAL DATA, ETC.—Continued.

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	22.2	96	78	4	3	------	d° ϟ p.
2	32.5	22	93	------	3	3	------	⚡^{2} d° p.
3	32.5	22.6	95	78	8	10	3.6	T ● p.
4	32	22	90	95	8	10	8.1	↙^{2} ● p.
5	32.4	22	70?	65	10	8	28.4	● a.
6	32.6	21.8	95	69	6	6	------	⌒ p.
7	32.4	21.8	90	72	2	3	------	d° p.
8	31.2	22	97	64	10	6	81.3	↙^{2} ⌒ d ● p.
9	32	19.9	95	88	10	10	------	● a. ↙° a. p.
10	32.1	22.2	87	72	3	4	------	
11	32.4	22.4	95	72	3	3	67.3	⚡^{2} ● p.
12	30.5	21.8	93	76	3	5	50.8	●^{2} p.
13	29.6	21	93	95	10	10	106.7	●^{2} ↙ a. p.
14	31.4	22	95	73	3	3	------	
15	32.6	------	85	70	4	3	------	d° p.
16	32	------	95	66	3	3	------	Ω a d ⚡^{2} p.
17	32	------	95	73	4	4	------	Ω a.
18	32.2	------	97	74	4	3	------	Ω a.
19	32.4	------	96	71	6	3	------	Ω a. T d° p.
20	33	------	98	69	3	6	------	Ω a. ⚡^{2} d° ⌓ p.
21	33	20.6	97	71	3	3	------	Ω a.
22	31.4	------	95	72	3	3	------	Ω a. ⚡° p.
23	32	20.2	97	72	3	4	3.8	Ω a. T ●° ⌒ p.
24	31.8	21.4	95	72	3	4	------	Ω a. T p.
25	32	21.5	92	74	2	6	------	Ω a.
26	32	22	91	68	3	8	5.3	Ω a. ●° T p.
27	32	21.8	95	79	8	8	------	Ω a. d° p.
28	31.9	21	95	66	3	3	------	Ω a. T p.
29	32	21.2	98	70	2	2	------	Ω a.
30	32.2	21	96	60	2	3	------	Ω a.
31	32	21.6	95	69	2	3	------	Ω a.
Mean	32.1	21.6	93.4	73.1	4.5	4.9	------	
Total	------	------	------	------	------	------	355.3	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.3	21.8	97	66	10	6	------	Ω^2 a. ↙ ⌒° ⚡^{2} p.
2	32.7	20.4	97	63	7	10	------	Ω^2 ◯^{2} a. ⚡° ∪° p.
3	33.2	22.7	96	66	10	10	1.5	d° a ⌓^{2} ∪° ⚡° ●°
4	26.7	21	99	95	10	10	86.3	↙^{2} ● a. p.
5	28.8	20.8	90	82	10	9	2.8	↙^{2} ●° ◯° ϟ° ⌓^{2} ∪^{2}
6	34.1	20.1	99	59	4	3	------	Ω^2 ⊕ a. ⌓° ⚡° p.
7	33.7	20.8	98	62	10	5	3.8	Ω^2 ↙ d^2 ⚡ ⌓° ∪°
8	28.6	21	98	88	9	10	62.8	Ω° ↙ ● ◯° a. ⚡
9	29.6	21.2	98	85	10	10	14.5	↙ ● ◯° a ↙^{2} ●° ⚡°
10	34.5	20.4	99	55	9	6	.5	Ω° ◯° a. ⚡° d ⌓°
11	33.3	20	99	64	9	8	------	Ω° ⊕° a. ⚡° p.
12	33.2	21.6	96	60	9	9	60.4	Ω^2 ↙^{2} ●° ◯° ϟ°
13	28.5	18.2	99	73	10	10	36.1	↙^{2} ●° a. p.
14	33.6	21.7	86	56	10	9	.3	↙° d^2 ⊕° a. ϟ° p.
15	36.2	19.4	93	50	4	3	10.9	d° ●^{2} ⚡ p.
16	33.3	21.3	98	59	10	4	56.4	⊕° a. ↙^{2} ●^{2} ⚡^{2} p.
17	32.9	19.4	100	61	10	6	7.1	●^{2} a. ↙^{2} ●° ⚡° ⌓°
18	33.4	19.8	99	59	8	4	17.8	d^2 a. ↙^{2} ●^{2} ⚡^{2} p.
19	32.4	19.4	99	60	8	4	------	≡^{2} a. ⚡° p.
20	34.3	20.4	98	55	4	4	10.2	Ω^2 a. ⌒° ⚡° ●^{2} p.
21	33.8	20.7	98	58	10	7	.8	⚡ a. p. ⌒° d^2 p.
22	32.5	20.6	97	71	8	9	13	Ω^2 ⚡ a ●^{2} ⚡° p.
23	31.8	20.6	98	72	10	9	.8	⌒° ⚡ a. ⚡ ●° p.
24	29.8	20.5	99	88	10	9	25.1	●° a. ⚡ ●^{2} p.
25	30.2	20.5	99	75	10	6	3.3	●° ⊕° a. ↙ ⌒° p.
26	29.2	20.7	98	90	10	10	8.4	T° a. ↙ d^2 a. p.
27	29.3	18.8	99	70	10	10	17	●^{2} d° a. d^2 ϟ° p.
28	31.7	19.7	98	68	8	9	------	◯° a. ⚡ p.
29	32.8	19.2	97	55	8	2	------	Ω^2 a. ϟ° p.
30	31.1	19.6	96	71	4	9	.3	Ω d a. ⚡ ⊕° p.
31	32.9	18.6	98	51	6	3	------	Ω^2 ≡^{2} a.
Mean	32	20.4	97.3	67.3	8.5	7.2	------	
Total	------	------	------	------	------	------	440.1	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.6	25.9	84	73	5	8	1	Ω ≡ a. ⚡° p p.
2	30.7	25.8	85	76	8	10	1.3	Ω ≡ a. ⚡^{2} p p.
3	30.4	25.4	85?	76	4	5	7.6	Ω ≡ a. ●° ⚡° p.
4	28.1	24.2	86?	93	9	10	6.1	●° a. ↙ p.
5	30	24.8	80?	71	10	10	14.7	● a.
6	30.5	24.4	91	75	3	4	------	Ω^2 ≡^{2} a. d T° ϟ
7	31	24.7	88	75	0	3	------	Ω^2 ≡^{2} a.
8	30.7	24.8	80	70	0	10	21.1	Ω^2 ≡^{2} a. ↙ ●^{2} p.
9	27.2	23	88?	80	10	10	25.4	↙ ●^{2} a.
10	29.4	23.8	91	81	8	10	------	Ω ≡ d a. T° p.
11	29.5	24	80?	76	4	2	------	Ω^2 ≡^{2} a. T° ϟ p.
12	30.2	24.6	89	77	1	9	5.1	Ω^2 ≡^{2} a. ↙° p.
13	25.5	24.1	88?	96	10	10	152.4	↙ ●^{2} a. p.
14	29.5	23	87?	72	10	9	------	
15	29.4	23.2	90	75	4	3	24.9	Ω^2 ≡^{2} a. T° ●^{2} p.
16	29.5	24.5	90	78	4	0	------	≡^{2} a. ϟ p.
17	29.8	25	90	79	0	5	4.1	Ω^2 ≡^{2} a. T° ●° p.
18	30.2	24.5	88	73	0	5	------	≡^{2} a. ϟ p.
19	30.5	24.2	88	76	0	1	1	Ω^2 ≡ a. T° ϟ p.
20	30.4	24.8	84?	77	7	4	14	Ω^2 ≡^{2} a. T° ϟ ●
21	30.5	24.4	90	75	8	0	------	Ω^2 ≡^{2} a. T° ϟ p.
22	30.5	24.5	88	76	0	2	1	Ω^2 ≡ a. ⚡° p p.
23	30.4	23.5	88	78	3	2	4.1	Ω^2 ≡^{2} a. ⚡^{2} ●° p.
24	30.2	23.5	88	71	0	8	------	Ω^2 ≡^{2} a. T° p.
25	30.8	23.2	84?	65	2	5	------	Ω^2 ≡^{2} a.
26	30	24.4	85?	75	2	9	------	Ω^2 ≡^{2} a. d T° p.
27	29.6	25.2	85?	72	10	9	48.3	Ω^2 ≡^{2} a. ⚡° ●^{2} p.
28	29.6	23.8	85	71	9	1	------	T° ϟ p.
29	30.4	24.5	87	68	0	0	1.8	Ω^2 ≡^{2} a. ⌒° ⚡° ●°
30	29.9	24	82?	70	1	0	------	Ω^2 ≡^{2} a. ϟ p.
31	30.2	24	83?	68	0	0	------	Ω^2 ≡^{2} a.
Mean	29.8	24.3	86.4	75.4	4.3	5.3	------	
Total	------	------	------	------	------	------	333.9	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.3	24.5	94	71	4	10	52.6	⚡ ● p.
2	29.5	23.9	96	79	8	10	7.4	● a. p. ϟ p.
3	31.2	23.3	97	78	7	7	.5	≡° a. ⚡ ● p.
4	31.1	23.5	95	88	6	10	11.7	≡° ● a. ● ↙ p.
5	33.1	22.8	------	69	10	10	------	↙ a. ∪ p.
6	32.1	23.3	95	75	0	8	------	Ω ≡° a. T p.
7	35	22.9	97	------	0	3	------	Ω ≡° a.
8	32	25.2	85	69	8	10	24.4	↙ a. ↙^{2} d ● p.
9	31.3	22	------	79	10	10	3	● ↙^{2} a. ≡° ∪ p.
10	32.5	23.1	96	82	4	10	2.8	Ω a. ● T p.
11	31.9	22.3	94	75	0	4	------	Ω ≡° a. ⚡ p.
12	31.4	23.5	92	67	4	5	3	Ω ≡° ↙ a. ↙ ● ϟ
13	------	------	------	------	10	10	168.4	↙^{2} ● a. p.
14	30.4	------	------	66	10	10	21.1	● a. ↙° p.
15	31.7	22.3	85	70	2	5	1.3	Ω ≡° a. ϟ ● p.
16	32.1	23.3	96	70	5	6	6.1	≡° a. ϟ ● p.
17	31.2	23.2	97	70	6	7	------	≡° a. ϟ p.
18	31.4	23.3	94	68	0	6	------	≡° a. ϟ p.
19	32.1	23	94	66	0	4	.5	≡° a. ● ϟ p.
20	31.6	22.8	94	67	2	5	2.8	≡° a. ● ϟ p.
21	31.3	22.6	97	64	2	3	------	≡° a.
22	32.4	23.3	97	66	0	3	------	Ω^2 ≡° a.
23	31.4	23.1	93	72	1	5	2.3	Ω^2 ≡° a. ⚡ ● p.
24	35	22.9	97	59	1	4	------	Ω ≡^{2} a.
25	35.1	22.4	97	48	1	5	------	Ω ≡^{2} a.
26	35.2	23.6	82	------	1	6	------	≡° ↙ a. ↙ d ϟ p.
27	32	23.5	91	82	7	8	2.5	≡° a. T ● p.
28	32.8	22.3	92	57	1	3	------	≡° a.
29	33.3	22.2	95	56	0	2	------	Ω^2 ≡° a.
30	31.8	21.5	92	61	0	1	------	Ω ≡° a.
31	32.4	22	96	55	0	1	------	Ω ≡^{2} a.
Mean	32.2	23	93.7	68.9	3.5	6.2	------	
Total	------	------	------	------	------	------	310.4	

METEOROLOGICAL DATA, ETC.—Continued.

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.2	24.9	90	92	10	10	15	● d a. ↙° d p.
2	27	22.2	88	96	10	10	60.1	↙° a. ● d p.
3	28	22.3	95	82	10	10	46.2	● a. ↙° Ϟ² ⊤ p.
4	31.2	25.7	86?	72	6	7	4.3	d a. ↙° ≡ p.
5	30.9	25.3	81?	75	8	4	------	↙° a. p. ≡ p.
6	31.4	26.9	84?	75	4	1	------	≡ Ω² p.
7	31.1	24.2	91	74	2	2	.8	≡ d ↙° p.
8	29.6	26.4	81	71	5	9	------	↙° a. p. p° p.
9	29.9	25.5	83	79	10	10	15.6	↙° ● a. p.
10	30.5	26	82	81	10	7	5.1	d° a. ↙° ● Ϟ² p.
11	30.6	24.2	94	84	10	6	16.8	● ⌒ ⊤ a. ⊕ p.
12	29.3	25.7	77	78	3	10	1.3	↙ a. p. d p.
13	27.4	22.2	84	85	10	10	50.3	↙ ● a. p.
14	30	24.6	83	80	10	9	.5	↙° a. p. ≡ p.
15	30.6	26.4	92	69	10	2	2.5	●° ↙° a. ≡ Ω² p.
16	31.2	22.5	95	73	1	5	------	↙° p.
17	29.8	23.5	95	76	0	8	4.3	d a. p. ● p.
18	29.5	24.6	76?	69	2	9	1.5	p° a. ●° p.
19	29	24.3	79	70	10	9	2	● a.
20	29	25.1	81	77	10	8	.8	⌒ p° a. ● Ϟ² p.
21	30.1	23.8	95	78	10	3	51.3	●² ⌈Ϟ² a, Ω p.
22	30	22.9	91	74	1	2	1.3	d ⌒² a. p. Ω p.
23	30.6	24.7	85	69	2	1	1.7	↙° v a. d ↙° p.
24	30.7	25	79	67	2	2	.6	d a. v ≡ ⌒° Ϟ°
25	30.8	25.5	76	66	2	4	------	↙° a. p.
26	30.3	23.1	79	71	9	7	2.8	d ⌒° a. d² p.
27	30.3	25.1	83	74	1	1	------	
28	30.2	23.2	87	76	1	9	1	d a. p° p.
29	30.2	24.3	72	73	0	10	24.6	● d p.
30	29.2	22.7	88	65	0	2	------	≡ p.
31	29.9	21.9	88	67	0	2	------	↙° a. p. ≡ p.
Mean	29.9	24.3	85.2	75.4	5.5	6.1	------	
Total	------	------	------	------	------	------	310.4	

SEISMOLOGICAL BULLETIN FOR OCTOBER, 1908.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

19, $23^{h}\ 34^{m}$. **Tagbilaran** (Bohol). Earthquake of intensity II; vertical shocks lasting 3^{s}.

20, $10^{h}\ 43^{m}\ 30^{s}$.* **Central Luzon.** Earthquake of intensity IV. It was perceptible from the extreme southeast of the island to parallel 17°, an area 560 kilometers in length and 250 kilometers in width. It seems that in no place was it of greater intensity than that mentioned above. The center or focus seems to have been in the Pacific Ocean about 150 kilometers NE of Manila. Precisely in this region to the NE and E of the Island of Polillo terminates the deep depression in the bed of the ocean which exists along the eastern coasts of Mindanao, Samar, and southeastern Luzon. According to recent soundings taken by the officers of the *Planet,* at a distance of only 70 kilometers from the shore depths of more than 8,000 meters were found. Northeast of Polillo the depth increases from 2,000 to 5,000 meters in a space of about 60 kilometers.[2] The earthquake began in Manila with vertical movements which soon combined with waves moving NNE–SSW; these were succeeded by a pause of some seconds and then the waves began to repeat themselves, but this time with greater amplitude, though more slowly than at first. The entire duration of the earthquake including the calm was about 30^{s}.

The characteristic of this earthquake and that which caused the greatest alarm were the many repetitions which occurred during that day, the 20th, and the following day the 21st. Those which were perceptible in Manila and on the eastern coast from the Province of Laguna to the Province of Isabela, that is within the isoseismal IV of the first earthquake, took place as follows:

October 20:
- $11^{h}\ 10^{m}\ 19^{s}$, intensity III.
- $11^{h}\ 14^{m}\ 44^{s}$, intensity III.
- $13^{h}\ 40^{m}\ 00^{s}$, intensity IV.
- $13^{h}\ 50^{m}\ 29^{s}$, intensity III.
- $14^{h}\ 28^{m}\ 30^{s}$, intensity II.

October 20:
- $14^{h}\ 53^{m}\ 5^{s}$, intensity II.
- $15^{h}\ 9^{m}\ 15^{s}$, intensity, III.
- $15^{h}\ 57^{m}\ 30^{s}$, intensity III.
- $16^{h}\ 50^{m}\ 34^{s}$, intensity III.
- $18^{h}\ 28^{m}\ 00^{s}$, intensity III.

October 20:
- $23^{h}\ 9^{m}\ 33^{s}$, intensity III.

October 21:
- $0^{h}\ 40^{m}\ 53^{s}$, intensity III.
- $12^{h}\ 35^{m}\ 58^{s}$, intensity IV.
- $15^{h}\ 19^{m}\ 20^{s}$, intensity IV.

The almost innumerable repetitions of lighter intensity and registered only by the microseismographs can be seen in the "Records of the microseismographs."

Of these earthquakes it seems certain that those felt in Manila at $10^{h}\ 43^{m}\ 30^{s}$ and at $13^{h}\ 40^{m}\ 00^{s}$ were also registered by the microseismographs of some observatories of Europe. The seismological

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.

[2] Die Forschungsreise S. M. S. "Planet" ("Annalen der Hydrographie" Heft V, 1907.)

bulletin of the Geophysical Institute of Gottingen gives the two following microseismic disturbances for the 20th.

Beginning.			Second preliminary movements.			Principal portion.		End.	
h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*h.*	*m.*
2	56	39	3	7	00	3	32	4	40
5	52	00	6	3	53	6	26	7	30

The first of these disturbances was registered also in Triest, Laibach, and Gratz; in Hamburg both were registered though the beginning of the first preliminary movements of the second earthquake could not be distinguished because they were too weak while the beginning of the secondary movements made a good record which coincided with that of Gottingen. By a comparison of the time of Manila with that of Gottingen we find that the disturbance began there 13^m 9^s after the first earthquake and in the case of the other earthquake 12^m after it was felt in Manila. This is exactly the time it would take the preliminary waves to be propagated to Europe if we give them a mean velocity of 13 kilometers per second, which was the speed of the earthquake of Manila in 1901 and of those in the Camarines in 1907. If we take into consideration the long waves, or the principal part of the disturbance, we will then find that they took 48.5^m and 45.3^m, respectively, which represents velocities of 3.5 kilometers and 3 kilometers per second.

On the other hand if we take into account that the first preliminary movements of the two disturbances lasted 10^m 21^s and 11^m 53^s, respectively and apply the well known formulas of Omori and Laskás to them we will find that the center or origin of the two disturbances was situated at a distance of between 9,500 and 10,500 kilometers, which is the approximate distance of the Philippines from Gottingen.

22, 9^h 49^m 55^s.* **NE of Luzon and Batanes.** Oscillatory earthquake of intensity IV in Aparri and III in Santo Domingo (Batanes); direction ENE–WSW and NE–SW.

26, 5^h 58^m. **Baguio** (Benguet). Earthquake of intensity III.

26, 20^h 58^m. **Calbayog** (Northwestern Samar). Oscillatory earthquake of intensity III.

27, 13^h 18^m 6^s.* **Northeastern Luzon.** Oscillatory earthquake of intensity IV; oscillations were E–W. The origin of this earthquake as well as that of the 22d was to the E of the Babuyanes Islands.

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight=0h.]

No.	Date.	Component.	Beginning.			Maximum range of motion.			End.	Instrument.	Remarks.
			First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2 a.)	Period.			
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
		WSW-ENE	10 41 29	10 47 31	10 53 59	10 55 05	0.08	4.8	?	V. M.	
139	5	NNW-SSE	10 41 31	10 47 33	10 54 01	10 56 40	.12	4.8	?	V. M.	
		WSW-ENE	10 41 32	10 47 08	10 53 14	10 55 04	.07	11.4	?	H. P.	
		NNW-SSE	8 53 51	--------	--------	--------	------	------	9 43	V. M.	
140	7	WSW-ENE	8 53 51	--------	--------	--------	------	------	9 39	V. M.	
		WSW-ENE	8 53 52	--------	--------	--------	------	------	10 06	H. P.	
		NNW-SSE	--------	--------	10 43 30	--------	------	------	--------	V. M.	Vertical C. 1.80 mm. Earthquake, V,
141	20	WSW-ENE	--------	--------	10 43 30	--------	------	------	--------	V. M.	origin about 150 kms. NE of Manila
		WSW-ENE	--------	--------	10 43 30	--------	------	------	--------	H. P.	in the Pacific Sea.
142	20	WSW-ENE	11 04 13	--------	11 04 23	11 04 27	.13	1.6	--------	V. M.	V. C. 0.14 mm.
143	20	WSW-ENE	11 10 19	--------	11 10 37	11 10 47	1.60	1.2	--------	V. M.	V. C. 0.40 mm. Perceptible after-shock.
144	20	WSW-ENE	11 14 44	--------	11 15 02	11 15 27	1.08	2	--------	V. M.	V. C. 0.40 mm. Perceptible after-shock.
145	20	WSW-ENE	11 31 07	--------	11 31 25	11 31 33	.04	1	--------	V. M.	V. C. 0.05 mm.
146	20	WSW-ENE	11 32 41	--------	11 32 57	11 32 59	.18	2	--------	V. M.	V. C. 0.12 mm.
147	20	WSW-ENE	11 53 56	--------	11 54 12	11 54 15	.06	2	--------	V. M.	V. C. 0.02 mm.
148	20	WSW-ENE	--------	--------	12 14 23	12 14 25	.02	2	--------	V. M.	V. C. 0.01 mm.
149	20	WSW-ENE	12 33 35	--------	12 33 54	12 33 56	.46	2	--------	V. M.	V. C. 0.39 mm.
150	20	WSW-ENE	12 38 29	--------	12 38 46	12 38 49	.13	1.8	--------	V. M.	V. C. 0.06 mm.
151	20	WSW-ENE	--------	--------	12 50 49	--------	------	------	--------	V. M.	
152	20	WSW-ENE	--------	--------	12 55 09	--------	------	------	12 57	V. M.	
153	20	WSW-ENE	--------	--------	12 59 32	--------	------	------	--------	V. M.	
154	20	WSW-ENE	13 02 49	--------	13 03 08	13 03 11	.11	1.8	13 07	V. M.	V. C. 0.04 mm.
		NNW-SSE	--------	--------	13 40 00	--------	------	------	--------	V. M.	V. C. 1.85 mm. Second earthquake,
155	20	WSW-ENE	--------	--------	13 40 00	--------	------	------	--------	V. M.	IV, from the same origin.
		WSW-ENE	--------	--------	13 40 00	--------	------	------	--------	H. P.	
156	20	WSW-ENE	13 50 29	--------	13 50 43	13 50 44	1.28	2	--------	V. M.	V. C. 1.20 mm. Perceptible after-shock.
157	20	WSW-ENE	13 55 54	--------	13 56 12	13 56 14	.58	1.2	--------	V. M.	V. C. 0.65 mm.
158	20	WSW-ENE	14 06 59	--------	14 07 17	14 07 27	.29	2.4	--------	V. M.	V. C. 0.14 mm.
159	20	WSW-ENE	14 14 52	--------	14 15 15	14 15 18	.06	2.4	--------	V. M.	V. C. 0.03 mm.
160	20	WSW-ENE	14 17 17	--------	14 17 33	14 17 36	.07	2.2	--------	V. M.	V. C. 0.04 mm.
161	20	WSW-ENE	14 26 53	--------	14 27 13	14 27 15	.15	2.4	--------	V. M.	V. C. 0.12 mm.
162	20	WSW-ENE	14 28 30	--------	14 28 46	14 28 48	.80	2.4	--------	V. M.	V. C. 0.50 mm. Perceptible after-shock.
163	20	WSW-ENE	14 43 34	--------	14 43 53	14 53 54	.22	1.6	--------	V. M.	V. C. 0.24 mm.
164	20	WSW-ENE	14 53 05	--------	14 53 22	14 53 24	1.56	2	--------	V. M.	V. C. 1.35 mm. Perceptible after-shock.
165	20	WSW-ENE	15 06 44	--------	15 07 00	15 07 02	.06	1.8	--------	V. M.	V. C. 0.02 mm.
166	20	WSW-ENE	15 09 15	--------	15 09 31	15 09 55	1.92	2	--------	V. M.	V. C. 1.68 mm. Third earthquake, IV, from the same origin.
167	20	WSW-ENE	15 57 30	--------	15 57 46	15 57 49	.75	1.2	--------	V. M.	V. C. 0.41 mm. Perceptible after-shock.
168	20	WSW-ENE	16 48 47	--------	16 49 03	16 49 05	.11	1.2	--------	V. M.	V. C. 0.05 mm.
169	20	WSW-ENE	16 50 34	--------	16 50 53	16 51 05	1.97	1.2	--------	V. M.	V. C. 1.72 mm. Perceptible after-shock.
170	20	WSW-ENE	17 15 03	--------	17 15 22	17 15 27	.09	2.4	--------	V. M.	V. C. 0.02 mm.
171	20	WSW-ENE	17 18 40	--------	17 18 57	17 18 59	.12	2.4	--------	V. M.	V. C. 0.04 mm.
172	20	WSW-ENE	17 39 23	--------	17 39 39	17 39 41	.08	2.2	--------	V. M.	V. C. 0.02 mm.
173	20	WSW-ENE	17 49 58	--------	17 50 17	17 50 19	.06	2	--------	V. M.	V. C. 0.02 mm.
174	20	WSW-ENE	17 59 45	--------	18 00 02	18 00 05	.11	2.4	--------	V. M.	V. C. 0.02 mm.
175	20	WSW-ENE	18 25 51	--------	18 26 07	18 26 29	.08	2.2	--------	V. M.	V. C. 0.03 mm.
176	20	WSW-ENE	18 28 00	--------	18 28 17	18 28 19	.43	1.8	--------	V. M.	V. C. 0.29 mm. Perceptible after-shock.
177	20	WSW-ENE	18 39 37	--------	18 39 53	18 39 57	.10	1.6	--------	V. M.	
178	20	WSW-ENE	18 44 04	--------	18 44 20	18 44 25	.24	2	18 50	V. M.	V. C. 0.12 mm.
179	20	WSW-ENE	19 55 45	--------	19 56 01	19 56 04	.04	2.4	20 00	V. M.	V. C. 0.02 mm.
180	20	WSW-ENE	20 54 16	--------	20 54 36	20 54 38	.18	2.4	20 59	V. M.	V. C. 0.14 mm.
181	20	WSW-ENE	21 23 53	--------	21 24 12	21 24 14	.06	2.2	21 27	V. M.	V. C. 0.02 mm.
182	20	WSW-ENE	--------	--------	22 17 11	--------	------	------	22 20	V. M.	
183	20	WSW-ENE	--------	--------	22 26 21	--------	------	------	22 28	V. M.	
184	20	WSW-ENE	22 48 47	--------	22 49 03	22 49 05	.06	2.4	22 53	V. M.	
185	20	WSW-ENE	23 09 33	--------	23 09 50	23 09 54	.34	2.4	23 15	V. M.	V. C. 0.20 mm. Perceptible after-shock.
186	20	WSW-ENE	23 16 29	--------	23 16 46	23 16 49	.17	2	23 20	V. M.	V. C. 0.03 mm.
187	21	WSW-ENE	0 40 53	--------	0 41 11	0 41 15	.46	2.4	0 46	V. M.	V. C. 0.30 mm. Perceptible after-shock.
188	21	WSW-ENE	0 56 10	--------	0 56 26	0 56 32	.06	2.4	0 59	V. M.	V. C. 0.02 mm.
189	21	WSW-ENE	0 59 57	--------	1 00 16	1 00 20	.07	2.2	1 04	V. M.	V. C. 0.02 mm.
190	21	WSW-ENE	1 42 56	--------	1 43 14	1 43 16	.15	2	1 47	V. M.	V. C. 0.06 mm.
191	21	WSW-ENE	4 22 48	--------	4 23 05	4 23 08	.22	1.8	4 26	V. M.	V. C. 0.09 mm.
192	21	WSW-ENE	--------	--------	4 30 15	4 30 19	.03	2.4	4 32	V. M.	
193	21	WSW-ENE	5 01 09	--------	5 01 27	5 01 31	.05	2	5 04	V. M.	V. C. 0.02 mm.
194	21	WSW-ENE	6 07 58	--------	6 08 14	6 08 17	.10	2.2	6 11	V. M.	V. C. 0.05 mm.
195	21	WSW-ENE	7 14 47	--------	7 15 03	7 15 07	.03	2	7 18	V. M.	
196	21	WSW-ENE	7 42 44	--------	7 43 01	7 43 03	.06	2.2	7 47	V. M.	V. C. 0.02 mm.
197	21	WSW-ENE	9 13 05	--------	9 13 21	9 13 23	.03	2.4	9 16	V. M.	
198	21	WSW-ENE	12 35 58	--------	12 36 16	12 36 21	1.93	2.2	--------	V. M.	V. C. 1.38 mm. Fourth earthquake, IV, from the same origin.
199	21	WSW-ENE	12 40 11	--------	12 40 27	12 40 30	.30	2.4	--------	V. M.	V. C. 0.15 mm.
200	21	WSW-ENE	13 46 51	--------	13 47 07	13 47 09	.04	2.4	13 50	V. M.	V. C. 0.02 mm.
201	21	WSW-ENE	--------	--------	14 43 59	--------	------	------	14 47	V. M.	
202	21	WSW-ENE	14 49 32	--------	14 49 48	14 49 52	.04	2.4	14 52	V. M.	V. C. 0.01 mm.

RECORDS OF THE MICROSEISMOGRAPHS—Continued.

No.	Date.	Component.	Beginning.			Maximum range of motion.			End.	Instrument.	Remarks.
			First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2a).	Period.			
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
203	21	WSW-ENE	15 19 20	-----	15 19 37	15 19 44	2.20	2.2	15 36	V. M.	V. C. 1.65 mm. Fifth earthquake, IV, from the same origin.
204	21	WSW-ENE	16 01 25	-----	16 01 43	16 01 45	.30	2.4	16 05	V. M.	V. C. 0.22 mm.
205	21	WSW-ENE	-----	-----	16 08 24	16 08 27	.04	2.4	16 11	V. M.	V. C. 0.01 mm.
206	21	WSW-ENE	16 27 57	-----	16 28 13	16 28 15	.07	2.4	16 31	V. M.	V. C. 0.04 mm.
207	21	WSW-ENE	-----	-----	16 54 29	-----	-----	-----	16 56	V. M.	
208	21	WSW-ENE	17 28 34	-----	17 28 50	17 28 53	.03	2.4	17 31	V. M.	
209	21	WSW-ENE	17 47 20	-----	17 47 35	17 47 37	.02	2.4	17 50	V. M.	
210	21	WSW-ENE	19 44 04	-----	19 44 23	19 44 26	.18	2.4	19 49	V. M.	V. C. 0.13 mm.
211	21	WSW-ENE	-----	-----	20 11 38	-----	-----	-----	20 14	V. M.	
212	21	WSW-ENE	-----	-----	22 32 07	-----	-----	-----	22 34	V. M.	
213	22	WSW-ENE	-----	-----	1 10 11	-----	-----	-----	1 11	V. M.	
214	22	WSW-ENE	1 26 11	-----	1 26 27	1 26 29	.09	2.4	1 29	V. M.	V. C. 0.02 mm.
215	22	WSW-ENE	1 47 07	-----	1 47 23	1 47 26	.02	2.4	1 50	V. M.	
216	22	WSW-ENE	-----	-----	2 08 53	2 08 59	.02	2.4	2 11	V. M.	
217	22	WSW-ENE	2 13 36	-----	2 13 54	2 13 56	.06	2.4	2 18	V. M.	V. C. 0.02 mm.
218	22	WSW-ENE	6 09 41	-----	6 09 57	6 10 01	.05	2.4	6 13	V. M.	V. C. 0.03 mm.
219	22	WSW-ENE	9 49 55	-----	9 50 46	9 51 30	.74	2	10 04	V. M.	V. C. 0.06 mm.
220	22	WSW-ENE	12 33 48	-----	12 34 04	12 34 06	.02	2.4	12 37	V. M.	
221	22	WSW-ENE	14 12 22	-----	14 12 39	14 12 42	.03	2.4	14 16	V. M.	V. C. 0.02 mm.
222	22	WSW-ENE	15 53 04	-----	15 53 22	15 53 24	.07	2.4	15 57	V. M.	
223	22	WSW-ENE	19 31 06	-----	19 31 22	19 31 25	.03	2.2	19 34	V. M.	
224	23	WSW-ENE	-----	-----	1 21 47	1 21 50	.02	2.2	1 25	V. M.	V. C. 0.02 mm.
225	23	WSW-ENE	10 09 25	-----	10 09 43	10 09 45	.02	2.4	10 12	V. M.	
226	23	WSW-ENE	13 04 20	-----	13 04 35	13 04 38	.02	2.4	13 06	V. M.	
227	23	WSW-ENE	-----	-----	19 43 05	-----	-----	-----	19 45	V. M.	
228	24	WSW-ENE	0 04 49	-----	0 05 05	0 05 09	.07	2.4	0 09	V. M.	V. C. 0.02 mm.
229	24	WSW-ENE	4 22 44	-----	-----	-----	-----	-----	4 36	V. M.	
230	24	WSW-ENE	5 05 22	-----	5 05 40	5 05 43	.08	2.4	5 08	V. M.	V. C. 0.02 mm.
231	24	WSW-ENE	10 03 17	-----	10 03 33	10 03 36	.03	2.4	10 05	V. M.	
232	24	WSW-ENE	13 49 36	-----	13 49 55	13 49 56	.21	2	13 56	V. M.	V. C. 0.12 mm.
233	24	WSW-ENE	15 13 40	-----	15 13 59	15 14 04	.05	2.4	15 19	V. M.	V. C. 0.02 mm.
234	24	WSW-ENE	17 40 33	-----	17 40 49	17 41 03	.24	2.4	17 47	V. M.	V. C. 0.10 mm.
235	25	WSW-ENE	4 35 26	-----	4 35 41	4 35 44	.04	2.4	4 38	V. M.	
236	25	WSW-ENE	5 24 34	-----	-----	-----	-----	-----	-----	V. M.	
237	25	WSW-ENE	5 31 42	-----	-----	-----	-----	-----	5 53	V. M.	
238	25	WSW-ENE	10 51 17	-----	10 51 32	10 52 05	.32	2.4	10 57	V. M.	V. C. 0.18 mm.
		WSW-ENE	13 18 06	-----	13 19 05	13 19 13	.50	2.4	13 35	V. M.	
239	27	NNW-SSE	13 18 06	-----	13 19 04	13 20 14	.38	2.4	13 36	V. M.	
		NNW-SSE	13 18 14	-----	13 19 10	13 20 16	.32	9	13 36	H. P.	
240	28	WSW-ENE	23 06 37	-----	23 06 53	23 06 59	.06	2.4	23 10	V. M.	
241	29	WSW-ENE	1 19 37	-----	1 19 55	1 19 59	.52	2.4	1 25	V. M.	V. C. 0.54 mm.
242	29	WSW-ENE	12 34 03	-----	12 34 20	12 34 26	.34	2.4	12 38	V. M.	V. C. 0.24 mm.
243	30	WSW-ENE	-----	-----	17 55 17	-----	-----	-----	17 57	V. M.	V. C. 0.02 mm.
244	31	WSW-ENE	8 55 44	-----	8 56 03	8 56 06	.07	2.2	8 59	V. M.	
245	31	WSW-ENE	-----	-----	16 27 23	16 27 31	.06	2.4	16 30	V. M.	V. C. 0.02 mm.
246	31	WSW-ENE	-----	-----	22 27 52	22 27 55	.04	2.4	22 30	V. M.	

Instrumental constants.—Vicentini microseismograph (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=9.2 seconds; WSW–ENE pendulum, T=10.8 seconds. Magnification of the record: NNW–SSE, 15 times; WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters which extends many kilometers toward north and south and only four to the east, where volcanic tuff outcrops. To the west lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS[1].

19, 23^h 34^m. **Tagbilaran** (Bohol). Temblor de tierra de intensidad II; choques verticales durante 3^s.

20, 10^h 43^m 30^s.* **Centro de Luzón.** Temblor de tierra de intensidad IV. Fué perceptible desde el extremo SE de la isla hasta el paralelo 17°, en un área de 560 Km. de largo y 250 Km. de ancho. No consta tuviese en alguna parte mayor intensidad que la arriba indicada: el centro ó foco parece hallarse á unos 150 Km. de Manila hacia el NE en el Mar Pacífico. Precisamente en esa región, al NE y E de la Isla Polillo, termina la profunda fosa que se abre á lo largo de las costas orientales de Mindanao, Sámar y parte SE de Luzón. Según recientes sondajes hechos por los oficiales del *Planet,* á solos 70 Km. de las costas se encuentran profundidades de más de 8,000 metros. Al NE de la Isla Polillo las profundidades aumentan de 2,000 á 5,000 metros en el espacio de unos 60 Kms.[2] El terremoto comenzó en Manila con movimientos trepidatorios que se combinaron luego con ondulaciones de NNE–SSW; siguiéronse unos momentos de pausa, y volvieron á repetirse las ondulaciones de mayor amplitud pero más lentas que las primeras: la duración total del terremoto, incluyendo los momentos de calma, fué de unos 30^s.

Lo característico de este terremoto y lo que causó más alarma fueron las muchas repeticiones que hubo durante el día 20 y el siguiente 21. Las perceptibles en Manila y en la costa oriental desde la Provincia de la Laguna hasta la de la Isabela, ó sea en la región limitada por la línea isoseismal IV, del primer temblor, tuvieron lugar á las horas siguientes:

Octubre 20:
11^h 10^m 19^s, intensidad III.
11^h 14^m 44^s, intensidad III.
13^h 40^m 00^s, intensidad IV.
13^h 50^m 29^s, intensidad III.
14^h 28^m 30^s, intensidad II.

Octubre 20:
14^h 53^m 5^s, intensidad II.
15^h 9^m 15^s, intensidad III.
15^h 57^m 30^s, intensidad III.
16^h 50^m 34^s, intensidad III.
18^h 28^m 00^s, intensidad III.

Octubre 20:
23^h 9^m 33^s, intensidad III.
Octubre 21:
0^h 40^m 53^s, intensidad III.
12^h 35^m 58^s, intensidad IV.
15^h 19^m 20^s, intensidad IV.

Las casi innumerables repeticiones de menor intensidad registradas solamente por los microseismógrafos pueden verse en los "Records of the microseismographs."

De estos terremotos parece indudable que los sentidos á 10^h 43^m 30^s y á 13^h 40^m 00^s fueron registrados también por los microseismógrafos de algunos Observatorios de Europa:

En el Boletín seismológico del Instituto geofísico de Gottingen aparecen el 20 las dos perturbaciones microséismicas siguientes:

Principio.			Segundos movimientos preliminares.			Parte principal.		Fin.	
h.	*m.*	*s.*	*h.*	*m.*	*s.*	*h.*	*m.*	*h.*	*m.*
2	56	39	3	7	0	3	32	4	40
5	52	0	6	3	53	6	26	7	30

La primera de estas perturbaciones se registró también en Trieste, Laibach, Graz: en Amburgo se registraron las dos perturbaciones pero de la segunda no pudo distinguirse el principio de los primeros movimientos preliminares por ser demasiado débiles pero sí el principio de los segundos, el

[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120° E de Greenwich.

[2] Die Forschungsreise S. M. S. "Planet" ("Annalen der Hydrographie" Heft V, 1907.)

cual coincide con Gottingen. Comparando las horas de Manila y de Gottingen resulta que la perturbación principió allí 13^{m} 9^{s} después del primer terremoto y 12^{m} después del segundo que es precisamente el tiempo que debieron emplear las ondas preliminares para propagarse hasta Europa dándoles una velocidad media de 13 Kms. por segundo, que es la hallada en el terremoto de 1901 y en los de Camarines de 1907. Si calculamos lo que tardaron en llegar las ondas lentas ó de la parte principal de las dos perturbaciones hallaremos que emplearon en recorrer los 10,300 Kms. que separan Manila de Gottingen 48.^{m}5 y 45.^{m}3 respectivamente, que representan velocidades de 3.5 y 3.0 Kms. por segundo. Por otra parte, si se tiene en cuenta que los primeros movimientos preliminares de las dos expresadas perturbaciones duraron 10^{m} 21^{s} y 11^{m} 53^{s} respectivamente y se aplican las conocidas fórmulas de Omori y Laskás se concluye que el centro que las dió origen se hallaba á una distancia de 9,500 á 10,500 Kms., dentro de la cual están comprendidas las Filipinas.

22, 9^{h} 49^{m} 55^{s}.* **NE de Luzón y Batanes.** Temblor oscilatorio de intensidad IV en Aparri y III en Sto. Domingo (Batanes); dirección ENE–WSW y NE–SW.

26, 5^{h} 58^{m}. **Baguio** (Benguet). Temblor de intensidad III.

26, 20^{h} 58^{m}. **Calbayog** (NW de Sámar). Temblor oscilatorio de intensidad III.

27, 13^{h} 18^{m} 6^{s}.* **NE de Luzón.** Temblor oscilatorio de intensidad IV; las oscilaciones eran E–W. El origen tanto de este temblor como del sentido el 22 estaba hacia el E de las Islas Babuyanes.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1890–1907.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF OCTOBER.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Total land area of disturbance. Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1890	*h. m.*			*Km.*	*Km.*		
9	19 46	Ilocos Norte	Near the NW coast	60	30	III	
25	11 43	Albay	Near the Mayon Volcano	40	40	III	Repeated several times until 12h.
25	21 21	Camarines	S of St. Miguel Bay	30	30	III	
1891							
1	1 40	E Mindanao	Near the E coast	40	20	III	
3	5 15	do	Agusan River Valley	140	100	IV	
5	2 00	do	do	140	100	IV	
8	8 00	Camarines and Albay	Near the N coast	220	150	IV	
13	2 13	S Luzon and Mindoro	Near Taal Volcano	200	130	IV	
28	1 20	E Mindanao	Agusan River Valley	80	50	III	Repeated at 5h 30m.
30	6 6	S Luzon and Mindoro	Near Taal Volcano	210	150	IV	
31	8 33	do	do	80	50	III	
1892							
5	6 50	S Luzon	do	50	50	III	
9	8 41	do	do	50	50	III	
10	14 56	do	do	100	80	IV	
21	0 30	NE Mindanao	Near Lake Mainit	60	40	III	With rumbling sounds.
1893							
5	11 15	E Mindanao	Agusan River Valley	250	160	V	Many light aftershocks.
7		do	do			III	Several during the night and the early hours of the 8th.
15	18 2	do	do	300	220	V	
16	12 20	do	do	220	150	IV	
22	20 26	Rizal Province	N of Lake Bay	60	60	III	
27	2 7	Albay	Near Mayon Volcano	40	40	III	
1894							
4	4 29	S Mindanao	E Illana Bay	50	40	III	
9	14 14	do	do	50	40	III	
18	12 28	S Luzon	Near Taal Volcano	80	70	IV	
28	7 40	NE Mindanao	Near Lake Mainit	60	40	III	
31	10 47	Panay Island	SE part	40	40	III	
1895							
2	7 40	Albay	Near Mayon Volcano	80	60	IV	Felt at Manila by the Bertelli's tromometer.
2	10 51	Rizal Province	N of Lake Bay	30	30	III	
3	7 6	Nueva Vizcaya	About φ=15° 20′; λ=121° 10′	80	80	IV	
19	11 23	S Luzon and Mindoro	S of Taal Volcano	200	140	V	
29	21 44	W Luzon	S Zambales Range	100	80	IV	
1896							
7	4 16	NE Mindanao	Near Lake Mainit	40	40	III	
12	17 47	E Luzon	Casiguran Bay	60	30	III	Repeated at 21h.
19	4 22	NE Mindanao	Near Lake Mainit	60	50	III	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF OCTOBER—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origen of the disturbance.	Total land area of disturbance. Longer axis.	Total land area of disturbance. Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1897	*h. m.*			*Km.*	*Km.*		
6	21 00	Panay Island	About $\varphi=11°$; $\lambda=122° 30'$	80	60	IV	With rumbling sounds.
7	4 40	W Mindanao	SE Sulu Sea	120	30	III	
8	5 00	SE Mindanao	Near the Apo Volcano	460	420	VI	
8	15 30	W Mindanao	SE Sulu Sea	100	30	III	
11	4 10	SE Mindanao	Near the Apo Volcano	80	80	IV	
11	7 03	W Mindanao	SE Sulu Sea	240	80	IV	Repeated at $17^h 44^m$.
11	17 40	NE Mindanao	Near the NE coast	60	30	III	
12	9 33	W Mindanao	SE Sulu Sea	300	120	V	Frequent light aftershocks.
14	1 50	do	do	140	60	III	
15	13 23	do	do	280	110	V	
16	18 00	do	do	120	40	III	
17	8 00	do	do	140	40	III	
19	8 05	SE Luzon, Visayas and N Mindanao.	Near the N coast of Samar	800	600	X	Repeated 15^m later with intensity IX. Registered in Europe. Frequent light aftershocks.
19	10 10	SE Luzon and N Samar	do	100	90	IV	
19	15 15	SE Luzon and E Visayas	do	700	500	VIII	Registered in Europe.
19	19 00	do	do	600	500	V	Frequent aftershocks.
20	12 50	do	do	600	500	V	Do.
20	22 45	do	do	700	600	VII	Registered in Europe. Frequent aftershocks.
20	23 00	W Mindanao	SE Sulu Sea	80	20	III	
21	6 00	SE Luzon and E Visayas	Near the N coast of Samar	500	300	IV	
21	21 50	do	do	500	400	V	Daily minor aftershocks until the end of the month.
22	7 00	W Mindanao	SE Sulu Sea	120	50	IV	
24	2 00	do	do	90	30	III	Repeated at 4^h and $15^h 30^m$.
26	8 50	do	do	90	30	III	
26	21 05	Camarines	S. of St. Miguel bay	50	30	III	
27	6 00	SW Mindanao	Illana bay	300	140	V	Repeated at $11^h 15^m$.
27	23 54	W Mindanao	SE Sulu Sea	90	30	III	
28	3 28	do	do	90	30	III	
31	2 10	do	do	90	30	III	
1898							
1	18 00	E Mindanao	Agusan river valley	110	100	IV	
1	23 00	W Mindanao	SE Sulu Sea	60	40	III	
4	20 50	do	do	80	30	IV	
7	1 09	S Luzon	Near Taal Volcano	60	60	III	
17	11 42	W Mindanao	SE Sulu Sea	60	40	III	
18	11 00	do	do	120	40	III	Repeated stronger at $13^h 10^m$.
19	2 05	do	do	80	30	IV	
19	3 00	do	do	190	130	IV	
19	3 32	do	do	200	60	V	Registered at Manila and Batavia. Aftershock at 7^h.
25	16 00	SE Mindanao	E Davao Gulf	80	40	III	
27	5 12	W Mindanao	SE Sulu Sea	60	40	IV	
1899							
13	21 45	Manila city				III	
29	22 00	Cebu	N of Bohol Island	60	20	III	
1900							
4	22 3	Manila city				III	
8	3 00	Benguet Province				III	
18	2 28	do				III	Felt at Manila by the Bertelli's tromometer.
18	11 00	Ilocos Sur	Near the Ilocos coast	80	50	IV	Repeated at $14^h 30^m$.
1901		None					

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF OCTOBER—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Total land area of disturbance. Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1902	*h. m.*			*Km.*	*Km.*		
13	16 25	E Mindanao	N Agusan River Valley	80	60	III	
15	1 36	W Mindanao	SE Sulu Sea	450	400	V	Registered at Manila.
21	18 10	Cebu and Bohol	N of Bohol Island	80	40	III	
1903							
4	0 45	N Mindanao	Near Camiguin Volcano	100	60	III	Repeated 15m later.
5	13 30	E Mindanao	N Agusan River Valley	80	40	III	
8	16 55	NE Mindanao	Near Lake Mainit	120	60	IV	Repeated at 22h 48m.
12	3 16	S Mindanao	E Illana Bay	40	20	II	
12	9 00	E Mindanao	Agusan River Valley	80	50	IV	
14	4 10	do	do	60	50	III	
16	21 9	W Luzon	Near N Zambales Range	380	200	IV	
18	14 10	E Mindanao	Agusan River Valley	200	160	IV	Repeated at 20h 5m.
26	7 16	do	do	400	300	V	Registered at Manila. Aftershock at 7h 30m.
26	17 51	N Luzon	Near the N coast	90	70	III	
28	8 50	Ilocos	Near the Ilocos coast	200	60	IV	
30	11 28	Cuyo Island				III	
1904							
1	18 16	E Mindanao	Agusan River Valley	500	400	VII	Registered in Europe.
2	3 40	E Samar	Near the E coast	80	40	IV	
4	9 17	SE Luzon and Visayas	Near N Masbate	400	360	V	Do.
6	0 4	NE Luzon	Near the NE coast	60	30	III	
6	14 00	E Mindanao	Agusan River Valley	60	50	III	
9	2 39	N Luzon	N central range	350	260	VII	Do.
10	21 35	Basilan Island	N Celebes Sea			III	
10	22 00	E Luzon	S Casiguran Bay	60	30	III	
13	16 53	NE Leyte	SW Samar	80	60	III	
14	0 23	Batanes Islands	E of the group			III	Registered at Manila.
14	18 35	NE Mindanao	E Butuan Bay	120	60	IV	
15	11 13	N Luzon	N central range	200	150	IV	Do.
29	3 21	W Leyte	Near the W coast	60	20	III	
29	6 54	Leyte Island	do	150	80	IV	Aftershocks at 10h 11m, 12h 20m and 22h 8m.
30	14 21	NE Mindanao	E Butuan Bay	80	30	III	
1905							
3	0 3	NE Leyte	Near SW Samar	60	40	III	
8	9 11	N Luzon	E of Babuyanes Islands	180	100	IV	Registered at Manila.
8	10 18	W Mindanao	SE Sulu Sea	80	30	III	
11	19 24	NE Luzon	E of Babuyanes Islands	60	40	III	
13	0 25	do	do	180	140	IV	Registered at Manila. Aftershock at 1h 15m.
19	22 20	NE Mindanao	SE Butuan Bay	140	80	IV	
20	0 25	do	do	200	120	V	Registered at Manila, Perth, Batavia and Bombay. Aftershocks at 4h 15m and 4h 20m.
20	14 30	SE Mindanao	Near the SE coast	60	20	III	
21	4 42	Ilocos	Near the Ilocos coast	180	90	IV	Registered at Manila.
21	15 20	do	do	150	60	III	Registered at Manila. Aftershocks some minutes later.
22	23 40	W Luzon	Near the Zambales coast	80	30	III	
24	12 42	do	N Zambales Range	60	40	III	Do.
24	23 00	NW Cebu	S of Masbate Island	70	20	IV	
25	21 31	E Mindanao	Agusan River Valley	100	60	III	
27	9 2	NE Luzon	E of Babuyanes Islands	90	50	III	Do.
31	15 9	N Luzon	do	200	180	IV	Do.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF OCTOBER—Continned.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1906	*h. m.*			*Km.*	*Km.*		
4	8 15	N Negros Island	Near Canlaon Volcano	90	60	II	
7	2 28	W Leyte	Near the W coast	60	30	III	Registered at Manila. Aftershocks some minutes later.
8	13 18	E Mindanao	Agusan River Valley	110	80	III	
9	0 25	NE Mindanao	Near the NE coast	80	40	IV	
10	15 20	E Mindanao	Off the E coast	390	80	IV	Registered in Australia.
10	20 50	do	do	390	200	V	Registered in Europe. Aftershock at 21^h 15^m.
11	13 10	N Negros Island	Near Canlaon Volcano	80	40	III	
17	17 42	Luzon Island	Nueva Vizcaya Province	520	204	V	Registered in Europe.
18	9 26	Bulacan Province	Eastern Range	100	90	III	Moderate aftershocks at 18^h 35^m, and many minor during the night and on the 18th.
21	6 49	Laguna Province	E of Lake Bay	80	60	II	
27	12 57	NE Luzon	Near the N coast	60	40	III	
1907							
1	22 16	Ilocos	Near the Ilocos coast	50	20	II	
4	18 33	E Mindanao	Agusan River Valley	150	100	IV	Registered at Manila.
5	11 32	Panay and Negros	Between Panay and Negros	200	180	IV	Registered at Manila and Zikawei.
5	11 15	E Mindanao	Agusan River Valley	90	50	III	
27	14 00	Calamianes Islands	SE China Sea	------	------	III	

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BULLETIN FOR NOVEMBER, 1908.

METEOROLOGICAL BULLETIN FOR NOVEMBER, 1908.

By Rev. José Coronas, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—Owing to the various depressions that crossed the Philippine Islands during this month, the monthly mean of atmospheric pressure for all the stations of the Weather Bureau is less than the normal and also less than the mean of November of last year. These differences naturally are more pronounced in that part of our Archipelago which felt more the influence of those depressions, that is to say, in Luzon and the northern Visayas. We give below in a table, as usually, a résumé of the pressure and temperature for this month.

The highest pressures were registered throughout the Archipelago on the 9th; the lowest took place generally on the 20th in central and northern Luzon, and on the 27th in the Visayas and Mindanao. In the stations of southeastern Luzon, the lowest daily mean was that of the 15th.

The monthly mean temperature has been everywhere, especially in Luzon, somewhat lower than the mean of November, 1907. That of Manila differs from the normal by —0.9° C. The absolute maximum and minimum registered in the Observatory were 33.0° C. and 19.7° C. on the 6th and 17th, respectively.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, NOVEMBER, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from November, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from November, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.30	—0.76	760.02	9	754.71	27	26.5	—0.5	32.6[1]	4	22.4	2
Surigao	57.59	— .84	60.57	9	55.05	27	26.1	----------	32.5	15	22.2[2]	20
Cebu	57.66	— .59	60.71	9	55.06	27	26.3	— .3	31.2	4	21.9	17
Iloilo	57.71	— .78	60.80	9	55.01	27	26.2	— .5	33	4	21.1	17
Ormoc	57.78	— .78	60.90	9	54.98	27	25.4	— .3	33.4	1	19.3	1
Tacloban	57.96	— .84	61.22	9	54.89	27	26.3	— .3	33	17	21.5	16
Capiz	57.92	—1.12	61.10	9	54.97	27	26.2	— .6	31.7	21	18.9	17
Calbayog	58.02	—1.16	61.58	9	54.85	27	25.4[3]	----------	----------	--------	20.5	17
Legaspi	57.83	—1.44	61.98	9	53.38	15	26.1	—1	31.1	5	20	17
Atimonan	58.32	—1.25	62.40	9	53.95	20	26.3	—1.1	33.4	8	20.9	17
Olongapo	58.11	—1.08	61.58	9	53.05	20	25.6	—1.4	33.3	5,6	19.6	17
San Isidro[1]	58.23	—1.45	62.20	9	52.24	20	25	—1.1	32.2	11	19.6	2
Dagupan	58.17	—1.20	61.86	9	51.08	20	26.2	—1	35.4?	6	20.6	4
Bolinao	57.85	----------	61.43	9	50.48	20	27	----------	32.8	9	22[2]	2
Vigan	58.40	—1.06	61.92	9	51.19	20	26.8	—1	33.4	18	21.3	29
Tuguegarao	59.64	----------	63.82	9	53.80	20	25.4	----------	33.7	6	19.8	4
Aparri	60.40	—1	64.04	9	55.08	20	----------	----------	----------	--------	----------	----------

[1] 29 days only. [2] 27 days only. [3] 24 days only.

Precipitation.—With very few exceptions, the rains during this month were heavier throughout the Archipelago than those of November, 1907. Noteworthy was the extraordinary quantity of water collected by the pluviometers of Atimonan during the month, which was greater by 1,108.3 millimeters than the amount registered in the preceding year. The rains were so extraordinarily abundant in that station during the depression of the 14th, 15th, and 16th, that 766.6 millimeters of water fell during these three days only.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF NOVEMBER, 1908.

Station.	Total.	Departure from November, 1907.	Rainy days.	Departure from November, 1907.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from November, 1907.	Rainy days.	Departure from November, 1907.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	251.8	+65.6	20	0	36.3	25	Gubat	533.6	−30.6	26	+5	55.9	12
Isabela, Basilan	149.4	+13.8	19	0	21.1	24	Sumay, Guam, Ladrones Is.	111.9		22		38.1	9
Davao	290	+92.1	12	+5	49	26	Legaspi	414.5	−88.1	25	+6	58.7	9
Cotabato	408.7	+262.4	22	+10	48.3	7	Virac	551.7		26		100.8	12
Cagayan, Misamis	176.3		14		52.8	23	Batangas	465.3	+441.9	14	+2	165.4	27
Dapitan	341.2	+187.4	19	−1	71.1	10	Atimonan	1,277.9	+1,108.3	22	+3	312	16
Butuan	215.1	−19.8	21	0	40.6	11	Silang	359.6	+311	11	+4	90.7	27
Yap, W. Carolines	225.4	+15.8	23	+7	50.8	17	San Antonio, Laguna	508.3	+250.9	26	+4	58.4	14
Tagbilaran	204.7	+87	23	+4	50.7	10	Corregidor	88.9	+59.1	5	+3	30.5	16
Surigao	446.1	−186	24	+1	61.7	8	Manila	218.5	+174.4	14	+1	56	28
Maasin	439.3	−12	16	+2	65.3	29	Olongapo	240.2	+232	11	+9	141.3	20
Cebu	194.5	−16.3	20	+1	56.4	24	San Isidro	359.7	+349.3	10	+4	119.4	20
Bacolod	189.8	+92.9	17	−1	42.7	13	Tarlac	288.5	+275	9	+6	124.7	28
Iloilo	345.8	+244.8	16	+1	65.9	14	Dagupan	230.2	+215.8	9	+2	121.7	20
San Jose, Buenavista	507.1	+446.9	15	+9	170.2	13	Bolinao	118.7	+102.4	6	+3	53.3	20
Tuburan	169.6	+76.7	15	+2	38.1?	12	Baguio, Benguet	80.2	+32.9	5	−3	47	20
Cuyo	213.6	+200.7	13	+9	68.1	12	San Fernando, Union	73.3	+70.5	7	+5	32.5	22
Ormoc	187.8	−10.1	21	+6	27.2	13	Echague	402.6		17		113.8	28
Tacloban	392.8	+54	20	−1	71.4	28	Candon	144.2	+140.4	4	+2	134.6	22
Capiz	449.2	+318.1	19	+1	93.9	24	Vigan	5.6	+2.5	4	+1	2.5	23
Borongan	468.7	−45	25	0	55.9	11	Tuguegarao	227.3	+87.3	10	−4	149.3	29
Calbayog	261.6	+68.8	25	+4	44.4	10	Laoag	16.8	+12	4	+2	12.4	29
Palanoc	400.2	+184.2	20	+2	79.2	14	Aparri	190	+29.2	18	+6	40.1	29
Laoang	573.2		25		115.6	10	Sto. Domingo, Batanes Is.	416.5	+20.6	22	+5	104.6	23

DEPRESSIONS AND TYPHOONS.

In a short résumé which appeared in the newspapers of the city in the beginning of December, referring to the principal depressions of November, we said the following:

Likewise we deem worthy of mention the tracks of the typhoons or depressions which have visited the Islands from the 13th to the 21st. One depression formed in the Jolo Sea and moved NE and ENE until it appeared near Catanduanes Island, where it remained almost stationary for one or two days and then turned W or WSW toward the China Sea. This extraordinary movement is almost unknown in our latitudes but it is what actually occurred in the depression of the 13th to 17th.

No less strange was the case of the typhoon of the 20th, which on that day crossed the Island of Luzon, somewhat far to the north of Manila, that is to say, between parallels 16° and 17° north. It is not surprising, then, that after a path so extraordinary for this season of the year, it recurved in the China Sea and finally filled up and disappeared W of the Balintang Channel. This typhoon crossed the center of the Island of Luzon on the 20th; but the Observatory sent the first warning of its existence to Indo-China, China, Formosa, and Japan at 5 p. m. on the 15th when the center of the disturbance was located to the SSE of the Island of Guam. From that day the course of the typhoon was followed daily until its filling up in the China Sea was announced by telegram to Hongkong, 5 p. m. of the 22d, seven days after its appearance to the SSE of the Ladrones Islands.

It is not our intention to discuss at length here these typhoons and depressions, though we may take the opportunity of doing so on some other occasion. We will only indicate briefly their tracks, including some illustrations which may help our readers to see for themselves the truth of what we have to say about these atmospheric disturbances.

DEPRESSION OF NOVEMBER 13 TO 17 1908.

First of all we will copy what the Observatory stated in reference to this depression in the weather notes for the days 13th to 17th, inclusive:

November 13, 12.10 p. m.: Pressure is relatively low in the neighborhood of Palawan Island.

November 14, 12.10 p. m.: The depression situated yesterday in the neighborhood of Palawan Island appears to have moved northeastward: its center seemed to lie this early morning between Luzon and the Visayas, probably north of Panay.

November 15, 12.15 p. m.: The small depression situated yesterday between Luzon and the Visayas continued moving northeastward and appears this early morning somewhere between Catanduanes and southeastern Luzon.

November 16, 12.15 p. m.: The depression of the preceding days has remained almost stationary for the last twenty-four hours.

November 16, 4 p. m.: The small depression or typhoon which has been stationary for more than one day over southeastern Luzon seems to move at present west or west-northwest coming nearer to Manila.

November 17, 12.10 p. m.: The shallow depression situated yesterday afternoon southeast of Manila continued moving westward toward the China Sea.

To the observatories of Tokio, Zikawei, Taihoku, Hongkong, and Phulien were sent the following typhoon warnings on the 14th, 15th, 16th, and 17th.

November 14, 11 a. m.: Typhoon between the Visayas and Luzon, direction unknown.

November 14, 4 p. m.: Typhoon near or over southeastern Luzon, moving NE.

November 15, 5 p. m.: Typhoon near or over southeastern Luzon, moving E.

November 16, 9 a. m.: Typhoon near or over southeastern Luzon, almost stationary.

November 16, 6 p. m.: Typhoon SE of Manila, over or near southern Luzon, moving W or WNW.

November 17, noon: Typhoon SW of Manila, filling up.

That our readers may easily follow for themselves the movements of this depression and understand the motives that caused the Observatory to suppose in these notes and warnings a cyclonic track so exceptional for the Philippines, we have thought it necessary to publish in plates XXXIII and XXXIV the weather maps of 6 a. m. and 2 p. m. of the 13th, 6 a. m. and 2 p. m. of the 14th, 2 p. m. of the 15th, 6 a. m. and 2 p. m. of the 16th, and 6 a. m. of the 17th.

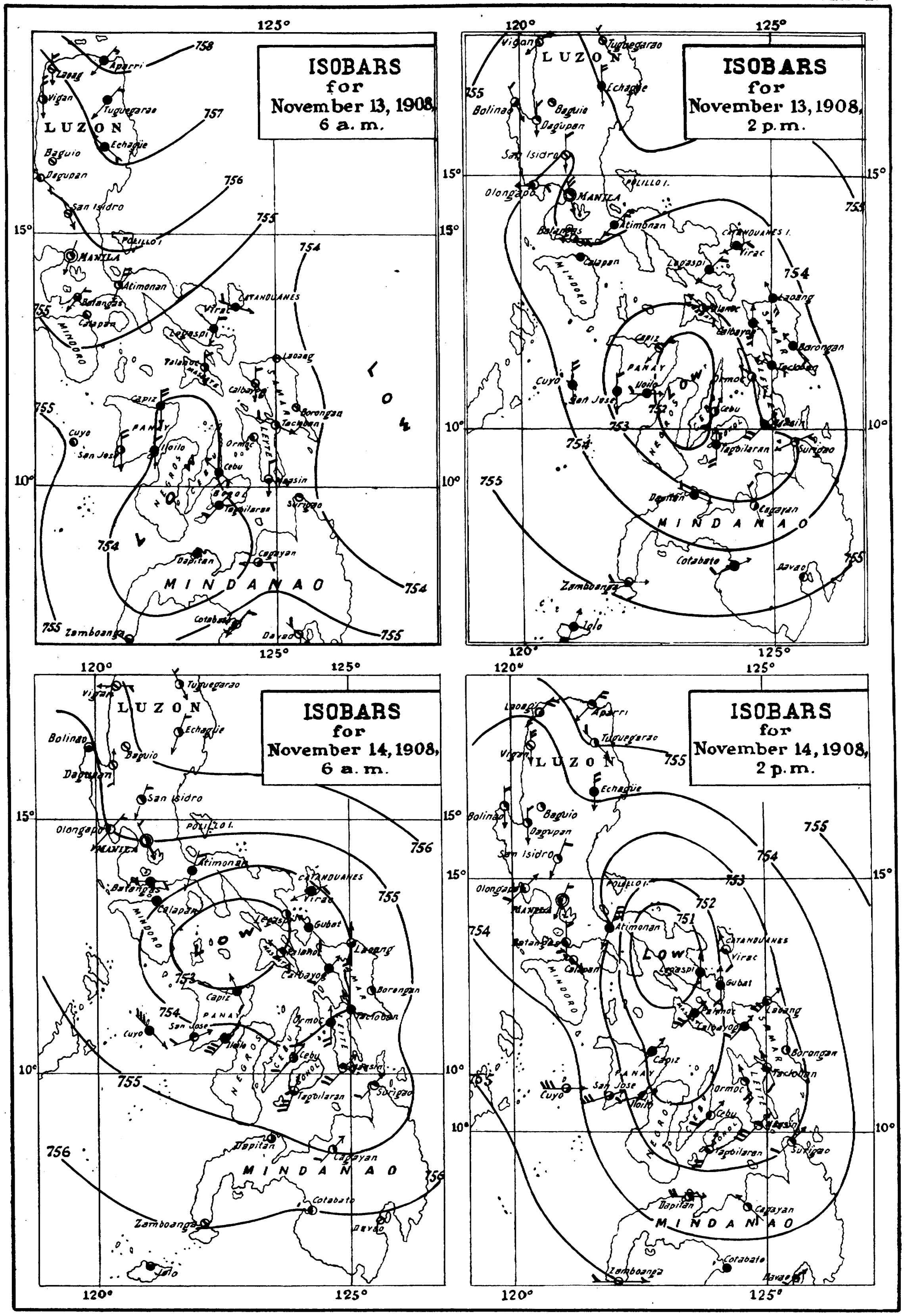
Our readers will see that the weather maps of plate XXXIII corresponding to November 13 differ somewhat from what is supposed in the weather note of that day mentioned above. The center of the depression instead of being in the vicinity of Palawan Island and the western region of the Jolo Sea, was somewhat further east, between northwestern Mindanao and southern Negros Island. By comparing the maps of the 13th with those of the 14th, we see that the depression apparently moved, not northeasterly, as was said in the weather note of the 14th, but rather toward the north. These differences are to be attributed to the fact that the Observatory received at the time no telegraphic reports from the stations of Cuyo, San José, and Iloilo, and consequently it was not possible to locate the depression with complete certainty. Afterwards when we received the observations of the above-mentioned stations, together with those of Dapitan, Jolo, and Zamboanga, we were able to complete the maps and convince ourselves that the center of low-pressure, which had been in the Jolo Sea on the 12th, had moved somewhat to the east, as may be seen in the first small map of Plate XXXIII.

We have begun purposely with the map of 6 a. m. of the 13th, that it may not be thought that the depression, which appeared on that day in the vicinity of the eastern region of the Jolo Sea and of northwestern Mindanao and sourthern Negros Island, was the same one that on the 11th and 12th was located between the Philippines and the Western Carolines to the east of Visayas and north of Mindanao, as the Observatory indicated in the weather notes of the 12th and 13th. These notes are given further on. This depression was filling up before it reached the Archipelago; and the map of 6 a. m. of the 13th just mentioned indicates clearly that before this depression filled up the other in the Jolo Sea was already in existence or at least it was in the process of formation. Even in the weather maps of 6 a. m. and 2 p. m. of the 12th two centers of low-pressure could be perfectly distinguised, one in the Jolo Sea and the other in the Pacific between the Carolines and the Visayas; but we have determined not to publish them, since the one of 6 a. m. of the 13th is sufficient for our purpose. At 2 p. m. of the same day only the depression of the Visayas remained: that of the Pacific had filled up, as was announced in the weather note of 12.10 p. m. on that day.

The other weather maps of plates XXXIII and XXXIV show so clearly the track of this depression that we do not deem it necessary to detain ourselves longer on this subject. We will state only that as an effect of this disturbance very abundant rains were reported and some rather heavy floods took place in southern Luzon.

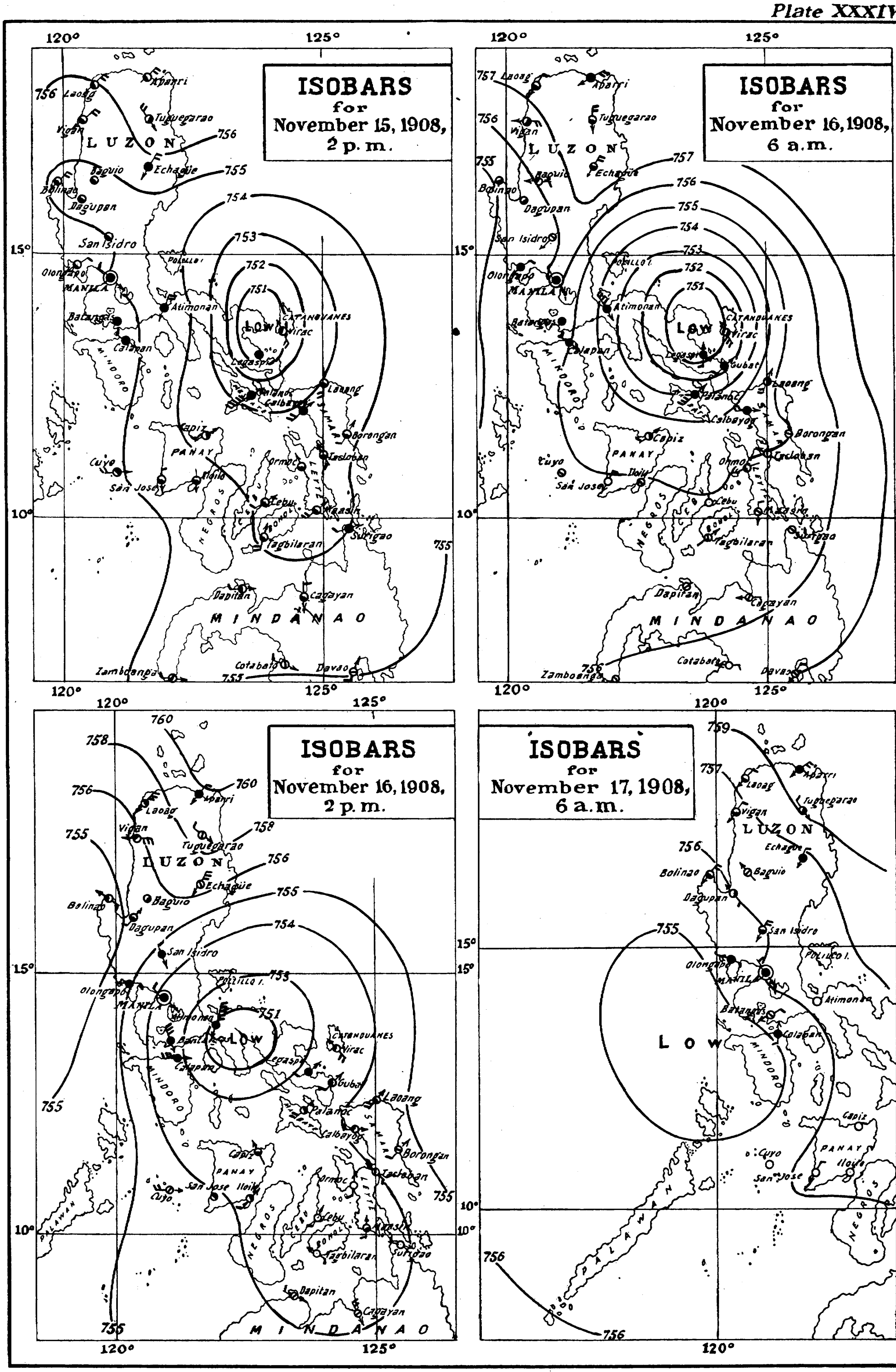
Here we copy the parts of the notes for the 12th and 13th which refer to the other depression of the Pacific filled on the spot east of the Philippines.

Plate XXXIII



N.B.-The barometric readings have been reduced to standard gravity.

Plate XXXIV



N.B.—The barometric readings have been reduced to standard gravity.

November 12, 11.50 a. m.: Pressure is low over the Pacific east of the Visayas owing to a depression which appeared yesterday afternoon between the Western Carolines and the Philippines; its actual direction, however, can not be ascertained.

November 13, 12.10 p. m.: Pressure is low over the Pacific east of the northern Visayas or of southeastern Luzon. The depression mentioned in yesterday's weather note seems to be filling up east of the Archipelago.

TYPHOON OF NOVEMBER 15 TO 22, 1908.

Origin of this typhoon.—The following typhoon warnings were sent by Manila Observatory to Tokio, Zikawei, Taihoku, Hongkong, and Phulien on the 15th and 16th:

November 15, 5 p. m.: Typhoon SSE of Guam, direction unknown.
November 16, 6 p. m.: Typhoon SW of Guam, moving W or WNW.

We give here in a table the observations taken in Guam from the 14th to the 17th, inclusive. According to them it would seem that the typhoon was formed on the 15th south of the Ladrones Islands.

METEOROLOGICAL OBSERVATIONS MADE AT SUMAY, GUAM, LADRONES ISLANDS, NOVEMBER 14 TO 17, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.	Rainfall (daily total).	Remarks.
			Direction.	Force.			
November 14:	*mm.*	*mm.*		*0-12.*		*mm.*	
6 a. m.	757.62	—0.82	SSE	0	o	----	
2 p. m.	55.75	— .44	E	2	c	----	
6 p. m.	57.30	— .11	E	0	c	----	
November 15:							
6 a. m.	56.91	— .71	ENE	2	c	----	Slight swell from NW.
2 p. m.	54.73	—1.02	ENE	3	c	----	Wind squalls with practically no rain.
6 p. m.	55.65	—1.65	E	3	o	0.5	Wind squalls with no rain.
November 16:							
6 a. m.	54.09	—2.82	E	3	o	----	Very slight swell from NW.
2 p. m.	55.05	+ .32	S	3	o	----	Squally in the morning.
6 p. m.	55.44	— .21	S	2	c	7.9	No swell.
November 17:							
6 a. m.	57.41	+3.32	ESE	3	c	----	Sea from SE.
2 p. m.	56.69	+1.64	SE	3	c	----	Squally in the morning with no rain.
6 p. m.	57.30	+1.86	ESE	2	c	.5	

The typhoon north of Yap, Western Carolines.—As the following observations of Yap indicate, the vortex of this typhoon crossed by the north of this station on the afternoon of the 17th moving to W by N.

METEOROLOGICAL OBSERVATIONS MADE AT YAP, WESTERN CAROLINES, NOVEMBER 16 TO 19, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.	Rainfall (daily total).
			Direction.	Force.		
November 16:	*mm.*	*mm.*		*0-12.*		*mm.*
6 a. m.	757.2	0	N	1	c	----
2 p. m.	54.6	— .6	NNW	3	o	30.5
November 17:						
6 a. m.	55.8	—1.4	W	5	o	----
1 p. m.	53.5	----	SW	5	o	----
3 p. m.	53.2	----	SW	5	----	50.8
November 18:						
6 a. m.	55.9	+ .1	ESE	4	o	----
2 p. m.	55.7	----	SE	4	c	7.6
November 19:						
2 p. m.	57.1	+1.4	S	4	c	5.1

The Observatory gave out on the 17th the following typhoon warnings:

November 17, noon: Typhoon N of the Western Carolines, moving NW.
November 17, 4 p. m.: Typhoon N of Yap, moving WNW.

The typhoon in the Philippines.—Manila Observatory continued to follow the course of this typhoon as may be seen from the following warnings, which on the 18th, 19th, and 20th were sent to the stations in the Philippines and the observatories of Tokio, Zikawei, Taihoku, Hongkong, and Phulien:

November 18, 4 p. m.: Typhoon E of the northern Visayas or southeastern Luzon, moving W or WNW.
November 19, 4 p. m.: Typhoon E of southern Luzon, moving WNW.
November 20, 9 a. m.: Typhoon NE of Manila, moving WNW.
November 20, 5 p. m.: Typhoon W of Luzon, less than 100 miles distant, moving WNW.

In Plate XXXV we give the cyclonic track of this typhoon and there our readers may see the correctness of the warnings given out by the Observatory. In the same plate we show the distribution of isobars at noon of the 20th, and the barographic curve of Baler, a station on the eastern coast of Luzon.

According to the curve of Baler, the vortex must have entered Luzon at about 10.30 a. m.; and although we did not have at that time any observer in that station, still we have learned that the winds blew there from the northeast and southeast: hence the vortex passed very close by the south.

By a comparison of this data from Baler with the position of the cyclonic center at noon, as represented in Plate XXXV, and also with the hour when the barometric minimum and the backing or veering of the winds were recorded in Baguio, Dagupan, Candon, and Vigan, we find that this typhoon crossed the Island of Luzon with a very extraordinary velocity of 28 to 30 miles per hour; a velocity much greater than that it had in the Pacific before reaching the Philippines and also from what it had afterwards in the China Sea. This velocity is so exceptional and almost incredible for our latitudes, that, if it was not for the multitude of reports that seem to confirm it, we would have doubted the correctness of the time given by the barograph of Baler and we would not even have dared to mention it.

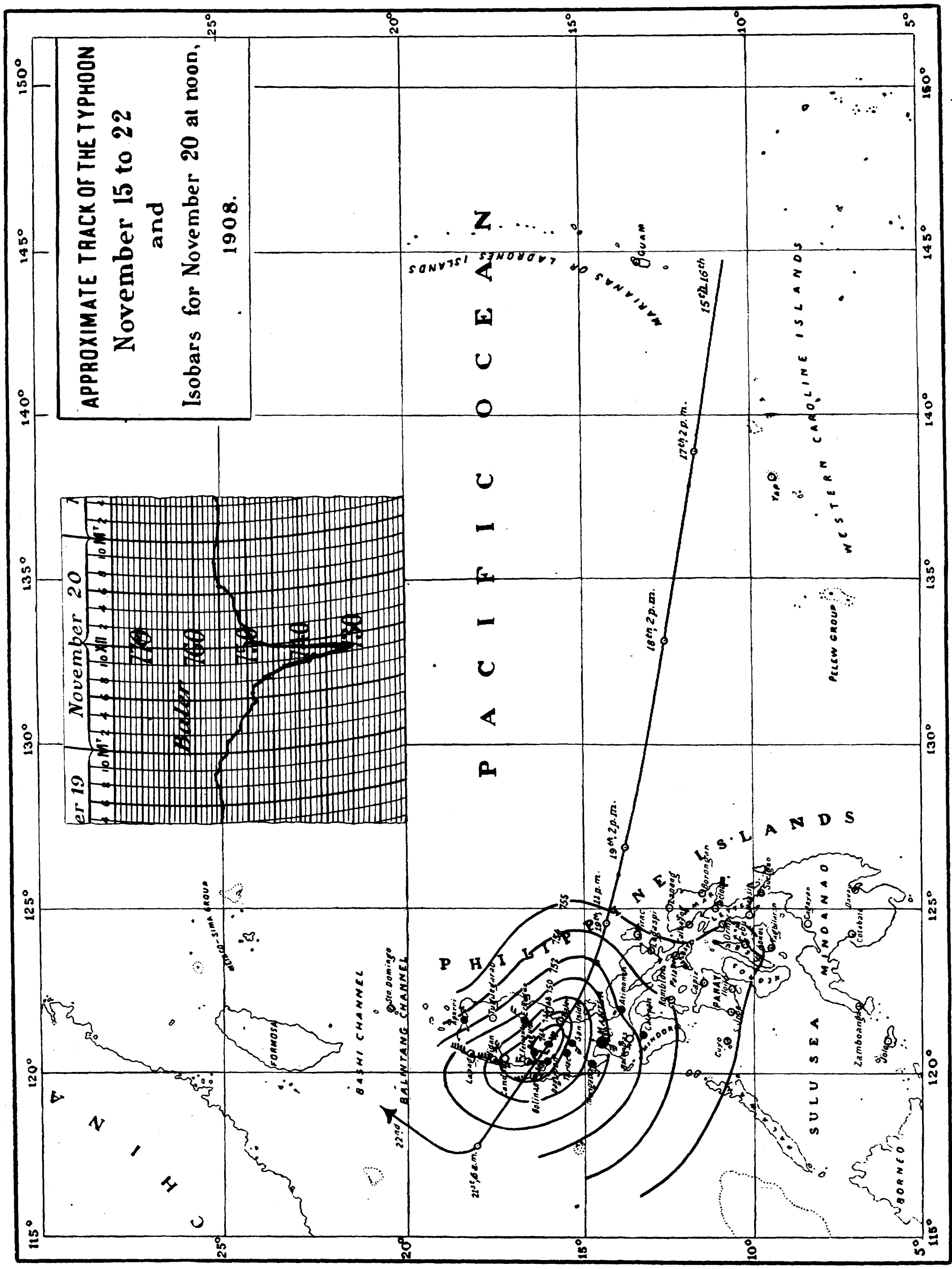
Nevertheless, it ought to be borne in mind that there is question here of a cyclone so very abnormal in its track that we do not now recall any other which during the latter half of November has ever crossed our Archipelago so far north as this one. Now to prove that the irregularity in the cyclonic track can bring with it irregularity in the velocity of translation of a typhoon and *vice versâ*, we have the testimony of the distinguished meteorologist Father Viñes in these words: "Whenever a notable anomaly in the velocity of a cyclone is observed, we may suspect some irregularity in the track or some anomaly in regard to its normal direction or the law of recurving." (Investigaciones relativas á la circulación y traslación ciclónica en los huracanes de las Antillas, pág. 65.)

We regret that the lack of space does not permit us to discuss other anomalies observed in this typhoon.

Recurving of the typhoon in the China Sea.—As shown in the track given in Plate XXXV, the typhoon, which had moved to W by N and to WNW across the Pacific Ocean, traversed Luzon Island moving to NW by W and seems to have kept this same direction in the China Sea till the early morning of the 21st. Our weather maps for the morning of the 22d show clearly that the typhoon instead of continuing its movement toward NW by W had recurved to the west of northern Luzon and that it tended to disappear. In the afternoon of the same day we had not the slightest doubt that the typhoon was filling up in the northeastern part of the China Sea, and Tokio, Zikawei, Taihoku, Hongkong, and Phulien were so advised in the following cablegram:

November 22, 5 p. m.: Typhoon over NE China Sea, filling up.

Plate XXXV



N.B.-The barometric readings have been reduced to standard gravity.

The following typhoon warning had been received from Hongkong Observatory on the same day:

November 22, 11 a. m.: Typhoon W of Bashee Channel, moving NE.

At 6 a. m. of the 23d, a center of low pressure appeared still on the weather map, southwest of Formosa, but with rising barometers everywhere, including Formosa. In the map of 2 p. m. the last vestige of the depression had disappeared.

DEPRESSION OF NOVEMBER 25 TO 28, 1908.

We close the discussion of the various depressions of this month with a few words on the following typhoon warnings given out by the Observatory on the 26th and 27th:

November 26, 7 p. m.: Typhoon E of the Visayas, direction unknown.
November 27, 9 a. m.: Typhoon E the northern Visayas or southeastern Luzon, moving W or WNW.
November 27, 5 p. m.: Typhoon between the Visayas and Luzon, filling up.

This depression was formed apparently on the 25th in the vicinity of the Pelew Islands and moved in a NW by W direction until the 27th. On the 27th, on arriving north of Samar and east of the southeastern extremity of Luzon, it directed its course straight westward and crossed the inter-island seas between Luzon and the Visayas in this direction in the form of a shallow depression of very little importance. Probably it filled up a little afterwards in the China Sea, southwest of Manila.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Á las varias depresiones que durante este mes han cruzado las Islas Filipinas debe atribuirse el que la media mensual de la presión atmosférica resulte para todas las estaciones inferior á la normal así como también á la media de Noviembre del año próximo pasado. Estas diferencias son naturalmente más pronunciadas en la parte de nuestro Archipiélago que más sintió la influencia de dichas depresiones, es decir en Luzón y norte de las Visayas. Examínese á este efecto la tabla-resumen de presión y temperatura que acompaña el texto inglés.

Las máximas presiones fueron registradas en todas partes el día 9: las mínimas tuvieron lugar generalmente el día 20 en el centro y norte de Luzón y el 27 en las Visayas y Mindanao. Sin embargo, en las estaciones del SE de Luzón se observó la media diaria más baja el día 15.

La temperatura media mensual resulta para todas las estaciones, y especialmente para Luzón, algo inferior á la media de Noviembre, 1907. La de Manila difiere de la normal en —0.9° C. La máxima y mínima absoluta registradas en el Observatorio han sido 33.0° C y 19.7° C habiéndose observado respectivamente los días 6 y 17.

Precipitación acuosa.—Salvas rarísimas excepciones, las lluvias caídas este mes han superado en todo el Archipiélago las de Noviembre, 1907. Es digno de notarse la extraordinaria cantidad de agua recogida en los pluviómetros de Atimonan la cual se separa de la del año anterior en +1108.3 mm. Fueron tan extraordinariamente abundantes estas lluvias en dicha estación de Atimonan durante la depresión de los días 14, 15 y 16, que solamente en estos tres días se recogieron 766.6 mm. de agua.

DEPRESIONES Y TIFONES.

En un breve resumen del mes que apareció á principios de Diciembre en todos los periódicos de la capital decíamos lo siguiente refiriéndonos á las principales depresiones de Noviembre:

También son dignas de atención las trayectorias de los baguios ó depresiones que han visitado las Filipinas del 13 al 21. Una depresión formada en el Mar de Joló que se mueve al NE y ENE hasta llegar cerca de Catanduanes, que se estaciona allí por uno ó dos días y vuelve luego atrás moviéndose al W ó WSW en dirección al Mar de China, es cosa poco menos que desconocida en nuestras latitudes. Sin embargo, esto es lo que sucedió con la depresión de 13 al 17 del mes que acaba de transcurrir.

No menos raro nos parece el caso de un baguio que en Noviembre atraviese la Isla de Luzón por el norte de Manila y algo lejos, es decir, entre los paralelos 16 y 17, como lo hizo el tifón del día 20. No es, pues, de extrañar que, después de una trayectoria tan extraordinaria para esta época del año, intentase recurvar en el Mar de China y viniese al fin á deshacerse al oeste del canal de Balintang. Este tifón atravesó el centro de la Isla de Luzón el día 20; pero el Observatorio de Manila envió su primer anuncio á Indochina, China, Formosa y Japón á 5 p. m. del 15 cuando se hallaba el centro ciclónico al SSE de Guam. Desde dicho día se fué siguiendo diariamente el curso del tifón hasta que se deshizo en el Mar de China, según queda indicado y según se anunció á Hongkong en un telegrama transmitido á 5 p. m. del 22, ó sea, siete días después de la aparición del baguio al SSE de las Marianas.

No es nuestro intento detenernos mucho al presente en discutir estos baguios ó depresiones, aunque tal vez lo hagamos en otra ocasión más oportuna. Nos contentaremos con indicar brevemente su trayectoria, incluyendo varias ilustraciones que ayuden á nuestros lectores para ver por sí mismos la verdad de lo que vayamos diciendo.

DEPRESIÓN DE 13 Á 17 DE NOVIEMBRE, 1908.

Ante todo copiaremos aquí lo que referente á esta depresión dijo el Observatorio en las notas del tiempo desde el 13 al 17 ambos inclusive:

Día 13, 12.10 p. m.: La presión atmosférica está relativamente baja en los alrededores de la Isla Palawan.

Día 14, 12.10 p. m.: La depresión situada ayer en los alrededores de la Isla Palawan parece haberse movido hacia el NE: su centro se hallaba esta madrugada entre Luzón y Visayas, probablemente al N de Panay.

Día 15, 12.15 p. m.: La pequeña depresión situada ayer entre Luzón y Visayas continúa moviéndose hacia el NE y aparece esta madrugada entre Catanduanes y SE de Luzón.

Día 16, 12.15 p. m.: La depresión de los días anteriores ha permanecido casi estacionaria durante las últimas 24 horas.

Día 16, 4 p. m.: La pequeña depresión ó tifón que ha estado estacionaria por más de un día en el SE de Luzón parece moverse al presente hacia el W ó WNW acercándose algo más á Manila.

Día 17, 12.10 p. m.: La depresión situada ayer tarde al SE de Manila continuó moviéndose hacia el W en dirección al Mar de China.

Á los Observatorios de Tokio, Zikawei, Taihoku, Hongkong y Phulien se enviaron los siguientes avisos de tifón los días 14, 15, 16 y 17:

Día 14, 11 a. m.: Tifón entre las Visayas y Luzón; dirección desconocida.
Día 14, 4 p. m.: Tifón en, ó cerca de, la parte sudeste de Luzón, moviéndose al NE.
Día 15, 5 p. m.: Tifón en, ó cerca de, la parte sudeste de Luzón, moviéndose al E.
Día 16, 9 a. m.: Tifón en, ó cerca de, la parte sudeste de Luzón, casi estacionario.
Día 16, 6 p. m.: Tifón al SE de Manila, en, ó cerca de, la parte sur de Luzón, moviéndose al W ó WNW.
Día 17, mediodía: Tifón al SW de Manila, deshaciéndose.

Á fin de que nuestros lectores puedan fácilmente seguir por sí mismos el movimiento de esta depresión, y convencerse de los motivos que tuvo el Observatorio para suponer en estas notas y avisos una trayectoria tan excepcional para Filipinas, hemos creído conveniente publicar en las dos Láminas XXXIII y XXXIV los mapas del tiempo de 6 a. m. y 2 p. m. del 13, 6 a. m. y 2 p. m. del 14, 2 p. m. del 15, 6 a. m. y 2 p. m. del 16 y 6 a. m. del 17.

Desde luego habrán echado de ver nuestros lectores en la Lámina XXXIII que los mapitas del tiempo correspondientes al día 13 difieren algo de lo supuesto en la nota del tiempo de dicho día: el centro de la depresión, en vez de hallarse en los alrededores de la Isla Palawan y región occidental del Mar de Joló, demora algo más al este, en los alrededores del noroeste de Mindanao y sur de Negros. De ahí que comparando los mapas del 13 con los del 14 la depresión parece haberse movido, no al nordeste, como se dijo en la nota del tiempo del 14, sino más bien hacia el norte. Débense atribuir estas divergencias á que el Observatorio se hallaba incomunicado el día 13 con las estaciones de Cuyo, San José é Iloílo, y por consiguiente no fué entonces posible situar la depresión con entera seguridad. Posteriormente cuando recibimos las observaciones de dichas estaciones más las de Dapitan, Joló y Zamboanga, pudimos completar los mapas citados y convencernos de que el centro de baja presión que el 12 demoraba en el Mar de Joló se había movido algo al este según aparece en el primer mapita de la Lámina XXXIII.

De intento empezamos esta serie de mapas con el de 6 a. m. del 13 para que no se crea que la depresión que aparece dicho día en los alrededores de la región oriental del Mar de Joló y del noroeste de Mindanao y sur de Negros era la misma que el 11 y 12 demoraba en el Pacífico entre las Filipinas y las Carolinas Occidentales al este de las Visayas ó del norte de Mindanao, según lo indicó el Observatorio en las notas del tiempo de los días 12 y 13 que copiaremos luego. Esta depresión se fué deshaciendo antes de llegar al Archipiélago: y el mapa citado de 6 a. m. del 13 indica claramente que antes de deshacerse, existía ya, ó al menos se estaba formando, la otra depresión del Mar de Joló. Aun en los mapas del tiempo de 6 a. m. y 2 p. m. del 12 se distinguían perfectamente dos centros de baja presión, uno en el Mar de Joló y otro en el Pacífico entre las Carolinas y las Visayas: con todo, no los hemos querido reproducir aquí, pues el de 6 a. m. del 13 basta para nuestro objeto. Á 2 p. m. del mismo día no aparece más que la depresión de las Visayas; la del Pacífico se ha acabado de rellenar conforme se anunció en la nota del tiempo de 12.10 p. m. del mismo día.

Los otros mapitas del tiempo de las Láminas XXXIII y XXXIV señalan de un modo tan claro la trayectoria de esta depresión, en verdad bien extraordinaria, que no creemos sea necesario extendernos más sobre el particular. Sólo diremos que, efecto de ella, se observaron muy abundantes lluvias y aun notables inundaciones en el sur de Luzón.

Véanse á continuación las partes de las notas arriba indicadas que se refieren á la depresión del Pacífico que se deshizo al este de Filipinas:

Día 12, 11.50 a. m.: La presión atmosférica está baja en el Pacífico, al este de las Islas Visayas, debido á una depresión que apareció ayer tarde entre las Carolinas Occidentales y las Filipinas; su actual dirección, sin embargo, no se puede aún precisar.

Día 13, 12.10 p. m.: La presión atmosférica está baja en el Pacífico al este de las Visayas septentrionales ó del SE de Luzón. La depresión mencionada en la nota del tiempo de ayer parece estar rellenándose al E de Filipinas.

TIFÓN DE 15 Á 22 DE NOVIEMBRE, 1908.

Origen de este tifón.—Los siguientes anuncios de tifón fueron enviados por el Observatorio de Manila á Tokio, Zikawei, Taihoku, Hongkong y Phulien los días 15 y 16:

Día 15, 5 p. m.: Tifón al SSE de Guam, dirección desconocida.
Día 16, 6 p. m.: Tifón al SW de Guam, moviéndose al W ó WNW.

En el texto inglés damos en una tabla las observaciones hechas en Guam del 14 al 17 ambos inclusive. Según ellas, el tifón parece se estaba formando el día 15 al sur de las Islas Marianas.

El tifón al norte de Yap, Carolinas Occidentales.—Según indican las observaciones hechas en Yap (véanse en el texto inglés), el vórtice de este baguio cruzó por el norte de aquella estación la tarde del 17 moviéndose al W¼NW.

El Observatorio envió dicho día los siguientes avisos de tifón:

Día 17, mediodía: Tifón al N de las Carolinas Occidentales, moviéndose al NW.
Día 17, 4 p. m.: Tifón al N de Yap moviéndose al WNW.

El tifón en Filipinas.—Desde Manila se fué siguiendo el curso de este tifón con los siguientes avisos enviados los días 18, 19 y 20 á las estaciones de Filipinas y á los Observatorios de Tokio, Zikawei, Taihoku, Hongkong y Phulien:

Día 18, 4 p. m.: Tifón al E de las Visayas septentrionales ó de la parte sudeste de Luzón, moviéndose al W ó WNW.
Día 19, 4 p. m.: Tifón al E de la parte sur de Luzón, moviéndose al WNW.
Día 20, 9 a. m.: Tifón al NE de Manila, moviéndose al WNW.
Día 20, 5 p. m.: Tifón al W de Luzón, distancia menor de 100 millas, moviéndose al WNW.

En la Lámina XXXV damos la trayectoria de este baguio y por ella echarán de ver nuestros lectores la exactitud de estos avisos dados por el Observatorio. En la misma lámina incluímos la distribución de isobaras á las 12 mediodía del 20 y la curva barográfica obtenida en Baler, estación situada en la costa oriental de Luzón.

Según esta curva de Baler, el vórtice hubo de penetrar en Luzón á eso de las 10.30 a. m.; y aunque por desgracia no había entonces observador en aquella estación, sin embargo, nos consta que los vientos que soplaron fueron del NE y SE. De donde el vórtice pasó muy cerca por el Sur.

Comparando estos datos de Baler con la posición del centro ciclónico á las 12 mediodía, tal como se representa en la lámina citada, y con la hora en que se registró la mínima barométrica y consiguiente role de vientos en Baguio, Dagupan, Candón y Vigan, parece poder deducirse que este baguio atravesó la Isla de Luzón con una velocidad sumamente extraordinaria de 28 á 30 millas por hora: velocidad muy superior á la que tenía en el Pacífico antes de llegar á Filipinas y á la que tuvo después en el Mar de China. Es esta velocidad tan excepcional y aun increíble para nuestras latitudes, que á no ser por la multitud de datos que parecen comprobarla, hubiéramos dudado muchísimo de la exactitud de la hora dada por el barógrafo de Baler y no nos hubiéramos atrevido ni siquiera á mencionarla.

Con todo, debe tenerse presente que se trata aquí de un baguio muy anormal en su trayectoria, como que no recordamos otro alguno que en la segunda mitad del mes de Noviembre haya atravesado nuestro Archipiélago por tan altos paralelos. Ahora bien, que la anormalidad en la trayectoria puede llevar consigo anormalidad en la velocidad de traslación de un baguio y viceversa, lo atestigua el distinguido Meteorologista P. Viñes con estas palabras: "Siempre que se observe alguna notable anomalía en la velocidad de traslación del ciclón, puede desde luego sospecharse alguna irregularidad en la trayectoria, ó alguna singular anomalía respecto á la dirección normal de ella, ó á la ley de las recurvas." ("Investigaciones relativas á la circulación y traslación ciclónica en los huracanes de las Antillas," pág. 65.)

Sentimos que la falta de tiempo nos impida hoy extendernos más sobre otras anomalías observadas en este baguio.

Recurva del tifón en el Mar de China.—Según se ve en la trayectoria que damos en la lámina XXXV, el tifón que se había dirigido al W¼NW y WNW á través del Pacífico, cruzó la Isla de Luzón moviéndose al NW¼W y conservó probablemente la misma dirección en el Mar de China hasta la madrugada del 21. Nuestros mapas del tiempo de la mañana del 22 indicaban claramente que el tifón, en vez de seguir adelante al NW¼W, había recurvado al W del Norte de Luzón y que tendía á deshacerse. Por la tarde del mismo día no tuvimos la menor duda de que el tifón se estaba rellenando en la parte nordeste del Mar de China, y así se avisó á Tokio, Zikawei, Taihoku, Hongkong y Phulien con el siguiente cablegrama:

Día 22, 5 p. m.: Tifón en la parte NE del Mar de China, deshaciéndose.

Del Observatorio de Hongkong se había recibido el mismo día este aviso de tifón:

Día 22, 11 a. m.: Tifón al W del Canal de Bashi, moviéndose al NE.

El día 23 á 6 a. m. todavía aparece en el mapa del tiempo un centro de baja presión hacia el SW de Formosa, pero con barómetros subiendo en todas partes, incluso en Formosa. En el mapa de 2 p. m. no quedan ya rastros de ninguna depresión.

DEPRESIÓN DE 25 Á 28 DE NOVIEMBRE, 1908.

Vamos á terminar lo referente á las depresiones de este mes diciendo dos palabras sobre la que anunció el Observatorio los días 26 y 27 con los siguientes avisos de tifón:

Día 26, 7 p. m.: Tifón al E de las Visayas; dirección desconocida.

Día 27, 9 a. m.: Tifón al E de las Visayas septentrionales ó de la parte sudeste de Luzón, moviéndose al W ó WNW.

Día 27, 5 p. m.: Tifón entre las Visayas y Luzón; deshaciéndose.

Esta depresión se formó, al parecer, el día 25 en los alrededores de las Islas Palaos, moviéndose hasta el 27 en dirección al NW¼W. El día 17 al llegar al norte de Sámar y este de la extremidad sudeste de Luzón se dirigió enteramente al W, atravesando en esta dirección los mares interinsulares entre Luzón y las Islas Visayas en forma de una depresión de muy poca importancia. Probablemente se deshizo poco después al SW de Manila, en el Mar de China.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Temperature. Open air.[2] Mean.	Temperature. Open air.[2] Maximum.	Temperature. Open air.[2] Minimum.	Underground. 0.25 meter. 8 a. m.	Underground. 0.25 meter. 2 p. m.	Underground. 0.50 meter. 8 a. m.	Underground. 0.50 meter. 2 p. m.	Underground. 1.50 meters. 8 a. m.	Underground. 2.50 meters. 8 a. m.	Relative humidity, mean.	Vapor pressure, mean.	Evaporation.[2] Free exposure, total.	Evaporation.[2] Shelter, total.
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	mm.	mm.
1	759.38	26.2	32.2	20.4	27.3	28.8	28.1	28.4	28.3	28.3	72.1	17.7	4.8	3.8
2	58.96	25.7	31.9	21.8	27.9	29.1	28.2	28.4	28.3	28.3	78.9	19.2	2.9	2.3
3	58.48	25.4	31.3	21	27.7	28.5	28.2	28.4	28.3	28.3	84.2	20.3	1.8	1.9
4	59.14	25.5	30.4	20.6	27.4	28.3	28.1	28.3	28.2	28.3	82.7	19.9	2.2	1.9
5	59.23	26.8	32.9	22.7	27.7	29	28.1	28.4	28.2	28.3	77.8	20.2	3.6	2.6
6	59.02	26.6	33	22.4	27.8	29.1	28.2	28.5	28.3	28.4	80.6	20.7	3	2.2
7	59.63	26.6	32	22.2	28.1	29.3	28.3	28.6	28.3	28.4	81	20.8	2.6	2.1
8	61.11	25.9	31.8	21.5	28	28.9	28.4	28.5	28.2	28.4	78.4	19.2	3.1	3
9	62.19	24.4	28.6	21.4	27.5	28	28.3	28.2	28.2	28.3	88.5	20.1	.3	.8
10	61	25.1	31.5	20.8	26.8	28	27.9	28	28.1	28.2	87	20.5	.9	1.1
11	59.08	25.8	30.6	21.9	27.4	28.2	28	28	28.1	28.3	84.7	20.8	2	1.8
12	57.90	25.7	31.4	21	27.1	28.3	27.9	28.1	28.1	28.3	75.2	18	4.8	3.9
13	57.16	25.1	29.1	20.9	26.9	27.9	27.8	27.9	28.1	28.3	81.5	19.3	2.2	2.1
14	56.19	25.7	29.5	22.3	26.9	27.8	27.8	27.9	28	28.2	75.8	18.5	2.9	2.9
15	57.53	23.2	25.1	21.7	26.8	26.8	27.6	27.5	28	28.2	93.8	19.7	.1	.4
16	57.12	22.1	22.6	21.1	26	25.5	27.2	27	28	28.2	90.5	17.9	.7	1.2
17	58.13	22.3	24.4	19.7	24.9	25.5	26.7	26.7	27.8	28	96.2	19.3	0	.2
18	58.96	24.1	28.4	21.2	25.4	26.3	26.6	26.7	28	28.1	92.4	20.6	.6	.8
19	57.10	24.8	28.8	20.8	25.9	26.8	26.7	26.7	28	28.2	83.3	19.3	1.8	1.5
20	53.42	23.8	25.4	20.3	26	25.9	26.7	26.8	27.9	28	93	20.4	.3	1
21	56.77	26.5	31.4	23.5	25.4	27.3	26.3	26.7	27.9	28.1	81.5	20.8	2.1	1.8
22	57.64	26.9	32.5	21.3	26.9	27.9	26.8	27.2	27.9	28.2	80.6	21	3.4	3.1
23	58.21	26.6	31.7	22.4	27.2	28.5	27.2	27.6	27.8	28	84.3	21.7	2.4	1.9
24	59.33	26.1	31	21.2	27.2	28.2	27.3	27.7	27.8	28.1	82.3	20.6	2.2	1.7
25	59.29	25.1	30.2	21.6	27.1	27.9	27.6	27.7	27.9	28.2	87.2	20.6	1	1
26	58.45	25	29.8	21.4	26.9	27.7	27.3	27.4	27.7	28.2	83.9	19.5	2.1	2.3
27	56.14	22.6	24.1	21.9	26.5	26.2	27.2	27	27.6	28	93.2	19	.1	.7
28	56.35	22.6	25.2	21.5	25.8	25.7	26.9	26.6	27.8	28	96.3	19.6	.1	.5
29	57.82	24.5	27.9	21.4	25.4	26.2	26.6	26.5	27.5	28.1	93.5	21.4	.6	.7
30	58.78	26.2	31.7	22.7	26.1	27.6	26.5	26.9	27.6	28	80.5	20	3.7	3.3
Mean	758.32	25.1	29.5	21.5	26.8	27.6	27.5	27.6	28	28.2	84.7	19.9	1.9	1.8
Total													58.3	54.5
Departure from normal	—1.11	—0.9	—0.7	—0.7							+2.2	—0.6	—76.5	

Date.	Wind. Prevailing direction.	Wind. Total movement.	Wind. Maximum hourly velocity.	Wind. Direction at the time of the maximum velocity.	Clouds. Amount, mean.	Clouds. Prevailing form and its direction. Upper.		Clouds. Prevailing form and its direction. Lower.		Sunshine.		Rainfall.	Miscellaneous.
		Km.	Km.		0–10.					h.	m.	mm.	
1	NE	135	14	E	1.7			Cu.	E by N	10	05		Ω ≡ a.
2	NE, WNW	125.5	13.5	E	4.2			Cu.	E by N	7	35		Ω² ≡° a.
3	NE quad.	136	11	NNW	6.8	A.-Cu.		Cu.	E	7	20	0.2	Ω ≡ a. p d p.
4	NNE	154	17.5	NNE	6.2	A.-Cu.		Cu.	E	5	15		Ω ≡² d a. d° p.
5	E, WNW	144.5	14.5	SE	2.2	Ci.		Cu.	ENE	9	25		Ω ≡² a.
6	Variable	136.5	13	SE	5.5	Ci.	E by S	Cu.	SE	9	05		Ω ≡ ⌒ a.
7	E	84.5	11.5	W	4.3	Ci.	SE by S	Cu.	E	9	30		Ω ≡ a. ⦣ p.
8	E	159.5	17.5	E	5.9	Ci.	N	Cu.	E	7	00		≡ a.
9	N, E	135.5	15.5	E	9.1	Ci.-S.		Cu.-N.	E	1	40	2.1	●° a. p. ⊤° ≡ p.
10	NE	98	10	NNE	8.2	A.-Cu.	ESE	Cu.-N.	E	4	00	2.3	Ω ≡ ⊕ a. ●° ⊤° p.
11	ENE, NW	175.5	16	WNW	9.5	Ci.-S.	S	Cu.	ENE	4	25		Ω ≡ a. ◯ p.
12	NE quad.	298	27	N	7.9	Ci.-S.	S by E	Cu.	ENE	6	45		Ω ≡° a. ◯° a. p.
13	NNE	192	21	N	9.7	Ci.-S.		S.-Cu.	ENE	1	05	.5	Ω ≡ ◯ a. ●° ⦣ p.
14	NNE, NNW	356	22.5	NNW	10	Ci.-S.		S.-Cu.	ENE	0	00		◯ a.
15	NE quad.	129	18	NW	10	Ci.-S.		N.	N	0	00	11.8	≡ a. ●° a. p.
16	NNW	503.5	40	NNW	10	Ci.-S.		Fr.-N.	NNE	0	00	24.9	●° d° a. p. ↙° p.
17	Northerly	248	24	N by W	9.7	A.-Cu.	E by S	N.	E	0	00	26.3	● d a. p.
18	N, NW	94.5	12.5	N	10	A.-Cu.	SE by E	Fr.-N.	SE by E	1	05	8.9	● d a. p.
19	WSW	115.5	12.5	WSW	9.7	Ci.-S.	E by S	Cu.	NE	2	05		≡ a. ◯ p.
20	SE	499	42	SW by W	10			Fr.-N.	WSW	0	00	42.2	↙ a. ● d a. p.
21	SE	290.5	22	SE by S	5.5	Ci.-S.	NE	Cu.		7	25		≡ a. ⊕ ⊤° p.
22	SE quad.	154	17.5	SE by S	5.8	Ci.	W	Cu.	SE	9	15	.5	Ω ≡ a. d p.
23	Variable	168.5	16.5	NW	5.4	Ci.		Cu.	ESE	7	35		Ω² ≡ a.
24	ESE	134	12	W	7.2	Ci.-S.	SW	N.-cf.	E	5	50		≡ ⌒ a. ⦣ p.
25	NNE	94	12	W	6.4	A.-Cu.	E	Cu.	E by N	6	05	17.5	Ω ≡ p° a. ● d°
26	NNE	139	17.5	NNE	9	Ci.-S.	SE	Cu.	NE by E	3	50		≡ a.
27	NNW	469.5	32	NNW	10			N.	ENE	0	00	25.1	≡ ●° a. ●° ↙° p.
28	N	395	29	N	10			N.	NE, E	0	00	56	●° a. p. ●² p.
29	NW, N	157.5	14.5	N	9.8	Ci.-S.	E	Cu.	SE	0	55	.2	d a.
30	E	253.5	25	ESE	7.2	Ci.-S.	SE	Cu.	E	8	25		≡ ⌒ a.
Mean		205.8	19		7.6					4	31		
Total										135	40	218.5	
Departure from normal		+42.8			+1.3					—26	31	+86.9	

[1] All the mean values given in this table are deduced from hourly observations.
[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, −1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	757.72	26.3	31.7	22.8	81.5	NNE	1.3	7.2	----------	S.-Cu., Cu.-N. E	0.9	●° ↙° a.
2	57.56	26.2	31.5	22.4	78.8	NNE	1.7	7.8	Ci.-S.	Cu.-N. NE	9.7	●² p.
3	57.05	26.2	31.5	22.8	83.8	Variable	.8	9.8	A.-S.	Cu.-N., N. E	1.5	● p.
4	57.41	26.7	32.6	23	82.1	NNE, NW	1	7.2	Ci.-S.	Cu.-N. E, NE	4	● p.
5	58.34	25.8	29.6	23.8	86.8	Variable	1.2	9.8	A.-S.	N. E, NE	4.3	d a. ● p.
6	58.35	26.2	31.1	22.6	85.3	NNE	1.2	6.2	Ci.-S.	Cu. E	5.8	● ⊍ p.
7	58.76	26	28.8	23.5	86.2	NNE, SE	1	9.8	A.-S.	N. ENE	14.8	●² ↙° ⊤ a. ⌈ϟ ⊍ p.
8	59.60	26	30.2	23.5	87.3	NNE	1	8.2	Ci.-S.	Cu. NE	11.7	●² ↙° ⊤ p.
9	60.02	26.8	30	23.5	83.7	NNE	1.3	6.5	----------	Variable	11.6	●² a. d p.
10	59.14	25.7	29.6	23.1	85.8	N, NNE	1.2	9.2	Ci.-S. N	N. NE	50.7	●² a. ⊤ d p.
11	57.51	25.7	29.5	22.8	84.3	NNE	1.2	10	A.-S.	N. E	5.3	● p.
12	56.13	26.2	32.5	22.6	83.3	SW	1.2	9.8	A.-S.	Cu. SW	30.4	d a. ●² p.
13	55.55	26	27	23	84.5	SSW	3.2	10	----------	N. SW	3.4	● a. d p. ↙°
14	55.98	26.2	28.1	24.2	79.9	SSW	3.8	10	A.-S.	N. SW	1.1	d a. ●° p. ↙°
15	56.72	26.8	30	24.6	84.3	SSW	2.3	9	Ci.-S.	S.-Cu. SW	3.4	● p.
16	56.81	27.2	29.7	23.8	82.5	ESE	1.2	5	Ci.-S.	Cu. SW, W	------	
17	57.29	26.7	32.3	22.6	83.3	NNE	1.3	5.8	Ci.-S.	Cu. E	------	⊤ p.
18	57.10	27.3	32.3	23.5	81.1	N	1.2	9.2	A.-S.	Cu. NE	.3	d² a. ϟ² p.
19	56.29	26.6	30.2	23.7	80.9	N	1	10	Ci.-S. SW	N. NNW, N	7.1	●² a. d° p.
20	56.21	27.6	------	23.9	79.1	Variable	1.2	9	A.-S.	Cu. S	------	d° a.
21	57.12	27.2	30.5	22.7	81.3	N, SE	1.5	6.5	A.-S.	Cu.-N. E	13	⊤ ● ϟ p.
22	57.45	26.7	31.1	23	82	NNE	1.2	6.5	A.-S. E	Variable	------	⊤² p.
23	57.96	26.4	31.2	23.6	82.5	NNE	1.3	7.2	A.-Cu., Ci.-S.	Cu.-N. SE, E	------	⌒ p.
24	58.34	26.5	30.9	22.9	84.5	NNE	1.3	9	Ci.-S.	N., Cu. E	17.3	● a. p.
25	57.45	26.8	29.8	23.9	82.1	NNE	1.2	9.8	A.-Cu.	Cu.-N. E, NE	1.8	● p.
26	56.08	26.4	30.2	23.5	82.6	NNE	1	9	A.-S., Ci.-S.	S.-Cu. E	------	
27	54.71	26.8	30.2	24	81.8	S	1.5	9	A.-Cu.	Cu.-N. WNW	1.3	d² ↙° a. ●° p.
28	55.77	27.8	30	25.6	77.3	S quad.	2.2	7	Ci.-S.	Cu. SW	------	↙° a.
29	57.35	26.7	28.5	24.4	83.7	SE, NNE	1	9.2	A.-Cu., Ci.-S.	N. NNE	4.1	● a. d° p.
30	57.28	26.8	31.1	23	82.2	N	1.3	9	Ci.-S. SE	Cu.-N. E, NE	1.2	● p. ⊍
Mean	757.30	26.5	30.4	23.4	82.8	----------	1.4	8.4	----------	----------	------	
Total	--------	------	------	------	------	----------	--------	--------	----------	----------	204.7	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, −1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.32	26.8	30.8	23.3	82.5	E by N	1.3	4.5	Ci.-S., Ci.	Fr.-Cu. ENE	------	⌒ a. ↙° Ω p.
2	57.86	25.9	29.7	23.1	86.8	E by N	.7	8.5	Ci.	N.-cf. ENE	11.9	ϟ ⌒ Ω d ↙° ●
3	57.30	25.1	30.3	22.9	93	SE	.2	8.8	Ci. S	Cu.-N. E	35.8	● a. p. ϟ p.
4	57.96	25.4	29.5	22.7	92.5	Calm	--------	9.5	Ci.-S. SSE	N.-cf. E	32.8	d Ω ≡° a. ● ○ p.
5	58.46	26.2	30.8	23.5	89.7	ENE	.3	9.5	Ci., Ci.-S.	N.-cf. E	5.6	●° a. Ω p.
6	58.62	27	31.5	23	86.2	NE by E	.7	7	Ci.-S. S, SSW	Cu.-N. E	1	p° Ω ≡° ⌈ϟ ∞.
7	59	25.6	29.2	23.5	90.8	Calm	--------	9.5	Ci.-S. S	Cu.-N. NE	22.6	Ω ≡° ↙ ● a. ⌈ϟ p.
8	60.08	25.5	28.7	23.4	92.8	Calm	--------	9.5	Ci.-S.	Cu.-N. E	61.7	● ⌈ϟ a. p. ↙ p.
9	60.57	26.2	30.4	23.3	89.2	ENE	1	5.8	Ci.-S. SE	Cu.-N. E	20.3	● ⌈ϟ ≡° a. ●² p.
10	59.38	24.7	26.9	22.6	92.8	NE	.7	9.8	----------	N. E	53.3	● a. p.
11	57.45	25.2	26.9	23	88.8	N by E	.5	10	A.-Cu.	N.-cf. NE, NW	9.7	● a. d p.
12	56.24	25.5	29.8	23.2	89.2	N	.5	8.5	Ci.-S. N	Fr.-N. W	7.1	●° a. p. Ω
13	55.89	26.4	30.2	23.2	87.3	E by N	.7	9.5	Ci.-S. S	N.-cf. SW	1.8	Ω a. d° p.
14	56.10	27.7	30.9	------	72.5	SW	1.8	10	A.-Cu. SSW	Fr.-N. SW	------	↙° a. ϟ p.
15	56.79	27.2	32.5	23.2	78.8	WSW	.5	7.2	Ci.-S. E, NE	Fr.-Cu. SW	------	ϟ Ω ≡° a. ⌈ϟ p.
16	57.01	26.6	30.2	22.9	84.5	W by N	.2	4	Ci.-S.	Cu.-N. W	9.1	●° Ω ≡° a. ϟ p.
17	57.61	26.5	30	22.9	86.2	N	.7	5.2	Ci.-S. E	Cu.-N.	------	Ω² ≡°
18	57.17	26.1	28.8	23.5	86.3	NNW, WNW	.8	9.5	Ci.-S.	Fr.-N. NW, N	10.7	Ω a. ○ ●° p. ↙°
19	56.38	26	29.2	------	84.2	WSW	1	9.8	Ci.-S.	Fr.-N. W	------	ϟ² ↙° ≡° a. p. ○
20	56.68	26.3	30.4	22.2	86.1	NNE	.2	8.5	A.-Cu. SE, ENE	Variable	7.1	ϟ Ω ≡° ○ ● ∞
21	57.48	26.7	30.6	23.5	87.8	E by N	.7	7	Ci.-S. NE	Cu.-N. E	1	Ω² ≡° ⌈ϟ ∞ ↙ ●°
22	57.72	26.4	29.6	------	84	NNW	.8	4	Ci.-S. ENE	Cu. E	------	ϟ Ω² ≡° a.
23	58.12	26.5	30	23.2	86.7	ENE	.7	8.8	Ci.-S. E	Cu.-N. ENE	48.3	●° a. ϟ² ↙ ●² p.
24	58.76	25.7	29.2	22.5	87.8	NNE	.8	10	Ci -S. E	Fr.-N. NE	16.8	d° ≡° a. ○ ●° p.
25	57.86	25.4	29.2	23 4	92	N by E	.2	9.8	A.-Cu. E	Variable	20.8	●² a. Ω p.
26	56.27	25.7	26.8	23.2	90.5	NNW	1.2	9.5	A.-Cu.	Fr.-N. NE	1.3	Ω ●° a. Ω p.
27	55.05	26.6	30.9	22.9	86.3	W	.2	7	Ci.-S. SSE	Fr.-N. SSW	6.9	Ω a. ⊤° ●° p.
28	56.23	26.9	30.4	23.9	86.8	N	.3	7.2	Ci.-S. SE	Cu.-N. S	6.1	●° a. ϟ ⊤ p.
29	57.63	24.8	27.1	23.6	93.8	SSW	.2	10	Ci.-S.	N.	44.7	● a. p. Ω°
30	57.57	25.2	29.1	22.3	92	SE, NE	.7	10	Ci.-S. E	Fr.-N. NE	9.7	Ω ●° ↙° ⊍
Mean	757.59	26.1	29.7	23.1	87.6	----------	.6	8.3	----------	----------	------	
Total	--------	------	------	------	------	----------	--------	--------	----------	----------	446.1	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	758.28	27	30.6	23.2	77.5	E	9.4	2.5	Ci.	Cu. ENE, E	------	Ω ≡° a.
2	57.80	27.1	30.5	22.9	79.7	ENE	9.9	3.5	Ci.	Cu. NE, ENE	------	Ω ≡° a.
3	57.38	27.3	30.9	24	78.8	N, E	9.6	5.2	Ci.	Cu. ENE	------	Ω ≡° a. ⌈ʓ p.
4	57.88	27.5	31.2	23.4	81.2	E	8.2	4.5	Ci., Ci.-S.	Cu. E, ENE	1.3	d ≡° a. ⌈ʓ p.
5	58.68	26	29.5	24.4	87.4	E	5.1	9	Ci.-S.	Cu.-N. E	7.1	● ≡° a. ⌈ʓ Ω² p.
6	58.74	26.6	31	23.5	82.8	SE, E	4.9	3.8	Ci.	Cu. E, ENE	------	Ω ≡° a. 〈 p.
7	59.16	25.8	30.5	23	85.8	N, E	6.7	6.2	Ci.-S.	Cu. ENE	5.1	Ω² ≡° a. ● ⩊ p.
8	59.98	26.7	30.6	23	83	ENE	10.1	5	Ci.-S.	Cu. ENE	3.8	Ω ≡° a. ● ⌈ʓ p.
9	60.71	27.3	30.5	24.6	81	NE quad.	9.6	4.5	A.-Cu. E	Cu. E, ENE	------	Ω ≡° a. ⌈ʓ p.
10	59.60	26.2	29.6	24.1	83.7	N, E	7.8	8.5	Ci.-S.	N.-cf. ENE	1.5	d a. p. ≡°
11	57.78	25	28.9	22.7	91.8	SE	3.3	8.8	Ci.-S.	Variable	10.4	● ≡° a. p ↯° p.
12	56.46	24.6	28	23.2	90.2	N	4.2	8.2	Ci.-S.	Cu.-N. WSW, W	7.6	● ≡° a. Ω p.
13	55.58	26.1	28	23.4	87.3	S	11.2	8.2	Ci.-S.	N. SSW	14	● a. p. ↯°
14	55.79	25.7	28.4	23.2	80	SW	11.6	8.8	Ci.-S.	Cu.-N. SW, WSW	3	Ω ≡° ⌒ a. ● p. ↯°
15	56.77	26.6	31	22.9	82.5	SW	7.9	7	Ci.-S.	Cu. WSW	.5	Ω ≡° a. ●° ⌈ʓ° p.
16	57.03	26.1	30.7	22	83.6	SW, SSW	6.3	2.8	Ci.	Cu. W, SW	------	Ω² ≡°
17	57.71	26.3	30.5	21.9	81.5	E	7.3	3.2	Ci.	Cu. ENE	------	Ω ≡° a. ⌈ʓ p.
18	57.49	26	31	22.8	84.2	ENE, NE	5.9	7	Ci.-S. E	Cu.-N. NNE	12.4	Ω ≡° ●° ⌈ʓ ◯
19	56.62	26.2	30.3	23.4	81.7	S	3.5	8.5	Ci.-S.	N.-cf. N, NNW	.8	Ω ≡° ⩊ d a.
20	56.69	27.2	31.1	23.7	81.8	S, SW	5.9	5	Ci.	Cu. SSW	------	Ω a. ∞ p.
21	57.61	26.8	31	23	82.5	S, ESE	4	3.8	Ci.	Cu. SW, SSW	------	Ω² ≡° a. ⌈ʓ p.
22	57.71	26.6	30	23.5	83	E	6.3	4	Ci.	Cu. ENE	40.9	Ω ≡° a. ⌈ʓ ↯° ●
23	58.29	26.7	30.5	23.1	80.3	E	5.8	3.8	Ci.	Cu. E	------	Ω² ≡° a. ⌈ʓ p.
24	58.86	26	29.1	22	82.5	E, NE	7.3	7.5	A.-Cu.	Cu. ENE	56.4	●² ⌈ʓ ↯° ≡° a. ●° p.
25	57.92	26.2	30	22.9	82.5	NE	7.3	7	Ci.-S.	N.-cf. NE	4.3	Ω² ●° ≡° a.
56	56.51	26.4	30	23.6	82.2	NE, N	6.4	8.2	Ci.-S.	Cu. NE, NNE	1.8	●° ≡° a ◯ 〈 p.
27	55.06	26.4	30.5	23.3	83.2	SW	6.7	6.2	A.-Cu.	Cu. W, WSW	3.3	Ω ≡° ↯ ●° ⌈ʓ
28	56.20	26.3	29.9	23.4	85.7	SSW, SW	5.4	6	Ci.-S., Ci.	N.-cf. SSW	7.4	● ≡° a. ⌈ʓ p.
29	57.77	25.2	29	23.3	90	E, N	4.3	8.2	Ci.-S.	Cu.-N. SSE, ENE	10.4	↯ ● ≡° ⌈ʓ
30	57.85	26.5	29.7	23	82.9	E, NE	7.1	5.5	Ci.-S.	Cu. ENE	2.5	Ω ≡° p a.
Mean	757.66	26.3	30.1	23.2	83.3	------------	7	6	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	194.5	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	758.07	27	31.6	23.5	76.8	NE	13.5	4	Variable	Cu. NE	------	Ω a.
2	57.76	27.1	31.5	24	76.4	NE	14.6	4.2	Ci.	Cu. ENE, NE	------	Ω a. ϖ p.
3	57.35	27.1	32	24	77.1	NE	14.2	5.2	Ci.	Cu.	1	d a. ⌈ʓ ● p.
4	57.88	28	33	24.4	79.3	NNE	11.6	5.5	Ci.	Cu.	------	p° a. 〈 p.
5	58.79	25.6	28.1	24	91.3	NE	6.6	10	A.-S.	N. NE	4.8	〈 ●° a.
6	58.76	27	32.9	23	80	NE	5.8	7.5	Ci.-S.	Cu. NE	.8	Ω a. ⌈ʓ° p.
7	59.21	26.4	31.5	23.4	80.8	NE	8.9	9	Ci.-S.	Cu.	------	⊕ 〈 ⩊ ϖ p.
8	60.07	27.4	31.6	23.9	77.8	NE	---------	7	A.-Cu.	Cu.	1.3	⩊ ϖ Ω² d a. ● p.
9	60.80	26.7	32	24	82.5	NE quad.	13.6	7	Ci.-S.	Variable	13.7	● a. p. ⌒
10	59.89	25.5	30.1	22.6	86.3	NNE	13.2	9.8	A.-Cu.	N.	58.7	●² a. p.
11	58.10	25.1	29.6	23.2	90.8	NNE	9.7	10	Variable	N., Fr.-N.	16	● a. p. ⊕² ⊤
12	56.86	24.4	27	23.5	94.5	N	5.2	10	Ci., A.-S.	Fr.-N. NE	41.4	d a. ● p.
13	55.55	24	25	22.5	95.3	N	6.1	10	A.-S.	N. NE	51.8	● a. p.
14	55.72	24.1	25.2	22.4	90.9	WSW	16.4	10	------------	N. SW	65.9	● a. p. ϖ
15	56.85	25.8	28.7	22.9	87.3	SW	3.5	9.8	A.-S.	N. SW	6.9	ϖ ● ⊤ a. d p.
16	56.91	25.6	29.5	21.8	83.1	SW	---------	6.5	Ci.-S.	Cu.	------	Ω² ≡° a.
17	57.74	25.9	31	21.1	80.8	E	---------	3.8	Ci.	Cu.	------	Ω² a.
18	57.94	26.4	31	22.9	82.7	NE	8.1	9.8	Ci.-S.	Cu.	------	ϖ Ω a. ◯² ⊕² p.
19	56.82	26.3	30.6	23.5	79	NNE	---------	9.5	Ci.-S.	Cu. NNE	------	d ◯ ⊕ a.
20	56.18	26	29.7	23	85.2	Variable	---------	9.8	A.-S., Ci.-S.	N. SW	36.8	● ⊤ 〈 ↯°
21	57.53	26	30	22.5	84.3	Variable	---------	6.8	Ci.-S.	Cu.	33.8	● a. p. ≡° ⌈ʓ
22	57.88	26.3	30.8	23	84.7	NE, SW	---------	7.5	A.-S.	Cu. E	------	d p.
23	58.13	27.2	31.6	23.5	82	SW, SE	---------	6.5	Ci.-S., Ci.	S.-Cu. N	------	Ω a.
24	58.86	26.2	30.6	24	84.3	NE	---------	8.8	A.-Cu. E	Fr.-N.	1	●° a.
25	58.15	26	30	23.9	82.9	N, NE	12.8	9.8	A.-Cu.	S.-Cu.	------	d a.
26	56.99	26.4	30.6	23.4	84.4	N, NE	11.8	9.5	A.-S.	Variable	5.8	● p.
27	55.01	25.9	28.6	23.6	85.5	SW	---------	9.5	A.-S.	S.-Cu. N	6.1	● ↯° a. d p.
28	55.92	26.2	29.5	23.4	84.5	SW	8.6	8.5	Ci.-S.	S.-Cu.	------	ϖ p.
29	57.59	26.6	31.2	24.2	85.7	E	---------	8.8	Ci.-S. E	S.-Cu. S	------	Ω a. ϖ d p.
30	57.85	27	31.5	24.4	80.9	NE	12.5	8.8	Ci.-S. E by S	Cu. NE	------	⊕ p.
Mean	757.71	26.2	30.2	23.3	83.9	------------	10.4	8.1	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	345.8	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	758.43	25.7	33.4	19.3	73.5	N	6.6	1.8	A.-Cu. ENE	Cu.	------	Ω a.
2	57.95	26.4	32.9	20.7	70.5	N, NE	8.6	1.8	A.-Cu. E	Cu.	------	Ω a.
3	57.58	26.5	31.8	22.5	74.8	Variable	6.2	4.5	Ci. ESE	Cu. NE, ENE	------	d° < p.
4	58	26.6	31.5	22	79.8	Variable	5.1	5.5	Ci. SE	Cu. ESE, NE	------	Ω° a. ⌣ d° ⊕ p.
5	58.80	24.8	28	22.5	90.7	ENE, NW	3.5	9.5	Ci.-S.	Cu.	8.1	●° a.
6	58.86	24.8	30.3	20.8	87.8	N	4.2	5.5	Ci.	Cu. E	5.1	Ω² ● < ○
7	59.44	24	29.5	20.9	91.5	Variable	4.8	8	Ci.-S.	Cu.-N. ENE	24.1	Ω² ● ⊏ ⌣
8	60.26	25.3	30.5	22.2	88	N	4.9	7.5	Ci.	Cu. ENE	1.5	● ⊤ < p.
9	60.90	25.7	29.7	23.2	87	N	6.1	7	A.-Cu. ENE	Cu.-N. ENE	4.6	< a. ⊤ ● p.
10	59.75	24.2	27	22	89.1	E, N	6.1	10	Ci.-S.	Cu -N. ENE	13	● a. d p.
11	57.85	24.1	26.5	22.9	93.2	N	4.4	10	Ci.-S.	Cu.	11.9	●° a. p.
12	56.55	24.3	27.5	22.6	92.2	N, S	4.5	9	Ci.-S.	Cu.	4.8	● a. d p.
13	55.97	24.2	27.2	21.4	92.7	SE	9.9	9.5	Ci.-S.	Cu., Cu.-N.	27.2	⊕ ≡° ● d <
14	55.86	26.2	28.9	23.2	85.5	SSE	22.9	10	Ci.-S.	Cu.-N. SW	9.9	● ↙ <
15	56.79	26	29.4	23	82	S, N	11.8	9.8	Ci.-S.	Cu. SW, WSW	19.8	● ⊏ p.
16	57.01	26.1	30.1	22	78.2	S	6	4.2	Ci.	Cu. WSW	------	
17	57.85	26	30.8	21	82.5	SSW, S	4.9	5.5	Ci.	Cu. NE	------	d a. ⊤ p.
18	57.57	25.2	30.5	21.7	87.8	Variable	5.4	9.8	Ci.-S.	Cu. NE	2	● ⊏ p.
19	56.56	24.6	27.5	21.7	85.8	N, NW	3.8	10	Ci.-S.	Cu. NW	------	
20	56.65	26.4	30.5	23	78.3	Variable	8.3	7.5	A.-Cu. SSW	Cu. S, SE	------	⊤ < p.
21	57.63	25.6	31.3	21.7	84.7	Variable	4.8	3.5	A.-Cu. SE	Cu.	2.5	Ω a. ● ⊤ < p.
22	57.83	25.9	31.5	22.2	87	SSW, S	5	5	Ci.	Cu.	5.1	< d a. ⊏ p.
23	58.28	25.7	30.9	21.8	85.9	Variable	5.2	6.5	A.-Cu. SE	Cu. ENE	------	< a. p. d
24	59.03	25.3	29.9	22.8	86.8	Variable	5.3	9.5	Ci.-S.	Cu.-N. E	16.8	● a. p. ⊤
25	58.25	25.4	28.6	22.3	86.8	N	3.9	9.8	Ci.-S.	Cu. E, ENE	4.8	d a.
26	56.63	25.1	29.1	21.8	89.2	N	3.9	9.8	Ci.-S.	Cu. E, NE	1	d a. p. <
27	54.98	25.2	29	22,3	88.8	SSE	6.4	7	Ci. NE	Cu. W, SW	5.1	● a. < p.
28	56.28	25.8	29.8	23	85.5	Variable	8.1	8	Ci. NE	Cu. S, SE	2.5	●° a. < p.
29	57.91	24.2	28.5	21.8	91.7	NE	3.2	9.8	Ci.-S.	Cu.-N.	11.4	d a. ● p.
30	57.86	25.4	30	21.2	86.3	NNE, SE	5.1	8.5	Ci. E	Cu. ENE	6.6	d a. ● ⊤° p.
Mean	757.78	25.4	29.7	22	85.5	------	6.3	7.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	187.8	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E: barometer above sea, 5.5 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.79	27.3	32.5	22.2	74.8	ENE, E	1.2	2.8	------	Cu. ENE	------	Ω² a.
2	58.36	27.1	32.7	23.7	76.7	ENE	1.2	4.5	------	Cu. ENE	------	Ω ⌒² a.
3	57.87	26.8	32.5	24.2	79.3	WNW, E	.8	5	Ci.-S. WNW	Cu. E	------	Ω a. d ⊕² p.
4	58.35	27.7	32.2	24	77.8	ESE	.7	5	Ci.-S. WNW	Cu. E	------	○² ⌣²
5	59.12	25.6	27.9	23.8	90.7	SE, SSE	.2	8.8	Ci.-S.	N. SSE, SE	63.2	● ⊏ a.
6	59.13	26.8	31.7	23.4	84.8	WNW	.5	7	Ci.-S. NE	Cu. SSE, ESE	------	○° a. ⊕° p.
7	59.64	25.4	30	24	89.8	WNW, S	1.2	8.5	Ci.-S. SW	N. ESE	60.2	Ω² a. ● p.
8	60.69	26.4	31.2	24	85.5	WNW, E	1	8	Ci.-S.	Cu.-N. E	7.1	● p. ⌒
9	61.22	26.7	30.8	24.3	84.2	Variable	1.2	7.2	Ci,-S. NNW	Cu.-N. E	6.6	⊏ d a. ⊏ ● p.
10	60.39	24.7	27	22.8	89.3	NW, N	.8	10	------	N. E	20.1	● a. p.
11	58.06	25	28.8	23.6	90	NW quad.	1.2	9	------	N. N	23.6	● a. p.
12	56.50	25.7	30	23.6	89.2	NW quad.	1.2	8.5	Ci. SE	Cu.-N. N	5.5	● a.
13	56.01	25.4	30	23.3	89.7	ESE	.7	9.2	------	N. S	32.2	● a. p, ⊕²
14	55.72	26.1	30.2	23.5	82.3	SE, SSE	1	9	------	Cu.-N. SW	4.3	●° a. p.
15	56.56	25.7	30.5	21.9	80.8	SSE	1	7	Ci.-Cu. NE	N.-cf. SW	.5	⊕° Ω a. ●° p.
16	57.03	26.1	31.8	21.5	78.4	SE	.7	3.8	Ci.-S.	Cu. WNW	------	Ω² a.
17	58.01	26.7	33	23.3	80	WNW, ESE	1	6.5	Ci. E	Cu. NW, SE	------	⊕° a. ○² p.
18	57.71	26.6	30.8	24	84.8	NW	1.3	8.5	Ci. S	Cu. NNE	10.6	Ω ● ⊏ a. ● p.
19	55.96	25.4	28.7	24	82.5	W	1.7	9.2	Ci.	Fr.-N., N. NNW	------	d p.
20	56.84	26.9	32	23	82.2	SE	1	7.5	Variable	Cu. SE	------	Ω a.
21	57.87	27.6	32	24.6	85.7	ESE	.7	3.8	Ci.-S.	Cu. ESE	.8	●° a. ⌒ p.
22	58.21	27.3	32.8	24.2	85.5	E, SSE	.5	6	Ci.-S. S	Variable	2.1	●° a. p.
23	58.54	26.9	32.5	23.7	82.5	W quad.	.8	5.2	Ci.-Cu. W	Cu. E, ESE	------	
24	59.38	25.3	31.2	23.5	87.8	Variable	.8	9.2	Ci.-Cu.	N. ENE	19.3	● a. ↙ ● p.
25	58.42	26	30.2	23.2	84.1	ENE	.7	9.2	------	Cu.-N. NE, E	2.6	● a. ⌒² p.
26	56.74	25.6	29	24	89	NW	1	9.8	Ci.-Cu. SSE	N. ENE	8.4	● a. p.
27	54.89	26.5	31.8	23.5	85.9	SE	1	6.8	Ci.-S. SE	Variable	24.6	● a. ↙ ● p.
28	56.46	26.8	31.8	23.5	84.5	SE quad.	1	8	Ci. NE by E	Variable	71.4	↙ ● a. d p.
29	58.04	25.4	28.5	24.2	91.7	W	1	8.5	Ci.-S.	Cu.-N. E	14	● a. p.
30	58.22	26.3	31.5	23.4	82.3	E	.7	8	Ci. NNW	Cu.-N. E	15.7	● a. p. ⌣² ⊕°
Mean	757.96	26.3	30.9	23.5	84.4	------	.9	7.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	392.8	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.71	27.6	30.4	22.1	84.2	NNE	1	5.8	Ci.	Variable	------	
2	58.42	27.7	30.5	23.2	84	NE	1	5	Ci.	Cu. E, NE	------	
3	57.94	27.9	30.4	22.5	83.3	NE	.8	5.8	Variable	Cu. E	------	d° ϟ p.
4	58.32	27.5	29.4	22.7	87.8	NE	1	7.5	Ci.-S., Ci.	Cu.-N., N. NE	7.6	
5	58.89	26.2	28.4	22.5	92.2	NE	.3	9.8	Ci.-S.	N. E, NE	34	● a. p.
6	58.96	26.3	30.4	20.9	91.7	ENE, NE	.3	5.8	Ci.-S., Ci.	Cu.-N. NE	------	
7	59.43	26	30.2	20.6	90.7	NE	.3	7.5	Ci.-S.	Cu.-N. E	4.6	⌓ a. ●² ϟ p.
8	60.61	27.5	30.4	21.8	84.3	NE	.8	6.2	Ci.	Cu. E	1.8	d a.
9	61.10	27.1	29.8	22.5	89.3	NNE, NE	1.7	9	Ci.-S.	Cu.-N. NE	.8	⛈° a. ● p.
10	60.26	26	28.7	22.	90	NE	.8	9.8	Ci.-S.	N. NE	8.7	● a. p. ϟ p.
11	58.38	25.8	29.3	21.5	90.7	NE	.5	9.8	Ci.-S.	N., Cu.-N. NE	28.5	●² a. ↙° ● p.
12	56.76	25.9	27.8	21.8	90	NE, N	1.5	9.5	Ci.-S.	N.	49	●² a. p.
13	55.40	25.2	28.1	21.9	92.7	NE	1.8	9.2	Ci.	N. N	92.2	●² a. p.
14	54.98	23.4	24.8	20.3	96.2	SE	.5	10	------	N.	80	●² a. p.
15	56.66	25.2	28	20.2	87.8	W quad.	1.2	9.8	Ci.-S.	N., Cu.-N. W	3.3	● a.
16	56.69	26.2	30.2	21.1	84.5	SW quad.	1	9.5	Ci.-S.	Cu.-N. SW, NW	------	⌒° a.
17	58	25.2	29.7	18.9	87.3	SSE, E	.3	3	Ci.	Cu. SE	------	⌓ a.
18	58.39	25.6	28.8	20.2	89.3	NE	.7	9	Ci.-S.	Cu.-N. E, W	1.8	●° p.
19	57.01	26.4	28.9	22.6	83.3	WNW	1.2	8.5	Ci.-S.	Cu.-N. NW	------	↙° p.
20	56.08	26	30.4	21.5	88.7	S quad.	.3	9.5	Ci.-S.	N. SW	2	d° ⊤° p.
21	57.76	26.4	31.7	20.2	88	SSE, E	.3	6.8	Ci.-S.	Cu.-N. SE	11.7	● ⛈° p.
22	58.16	25.8	29	20.6	89.5	ESE, NNE	.3	4.5	Ci.	Cu.-N. SE, E	------	⊤° p.
23	58.38	26.2	29.2	20.6	90	ENE, NNW	.3	3.5	Ci.-S.	Cu.-N. E	1.8	●° ⛈° a.
24	59.14	25.4	28.5	21.1	93.9	NW, NE	.2	9	Ci.-S.	Cu.-N. E	93.9	● ⛈° a. p² ↙ p.
25	58.66	25.9	28.7	21.5	91.2	NNE, NE	.3	9.5	Ci.-S.	Cu.-N. NE	4.1	● a. d p.
26	57.62	27	28.5	23.5	87.6	NE	1.5	9.5	Ci.-S.	Cu.-N. NE	------	
27	54.97	25.2	27	21.6	94.7	Variable	.8	10	------	N. N	21.6	● a. p.
28	55.81	26	30.4	21.1	90.2	S	.2	8.8	Ci.-S., Ci.	Cu.-N. S	------	
29	57.76	25.8	28.8	21	91.8	NE	.2	8.5	Ci.-S.	Cu.-N. NE	------	
30	58.38	26.8	29.9	22.4	87.8	ENE	.7	8.5	Ci.-S.	Cu.-N. NE	1.8	● a. d° ⊍ ⊽ p.
Mean	757.92	26.2	29.2	21.5	89.1	------	.7	8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	449.2	

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.91	------	------	22	------	N	1	6.8	Ci.	S.-Cu. E, SE	------	ϟ p.
2	58.50	------	------	22	------	N, NE	1	6.5	Ci.	S.-Cu. SE, E	------	ϟ p.
3	57.98	------	------	21.3	------	N, NE	1	5.8	Ci.	S.-Cu. E	------	ϟ p.
4	58.38	------	------	23.1	------	N	1	6.5	A.-Cu. E	S.-Cu. E	1	p ϟ ⊍² p.
5	59.22	25.2	27	22.8	92.5	N	1	8.2	Ci.-S.	S.-Cu. SE	15.2	●° a. ⊍ ϟ p.
6	59.14	25.4	------	21.8	89.3	N	1	6.8	Ci, Ci.-S.	S.-Cu. E	2.8	●° ϟ p.
7	59.58	26.2	31.5	22.2	86.7	N	.8	6.2	A.-Cu. E	S.-Cu. E	1	●° a. ϟ p.
8	60.80	26.2	31.4	21.6	81.3	N	1	6	A.-Cu. E	S.-Cu. E	.5	p ϟ p.
9	61.58	25.6	31	23.1	88.8	N	1	8	Ci.-S.	S.-Cu. E	4.3	p a. p. ϟ p.
10	60.45	23.7	26.6	22.2	94.3	N	1	8.8	Ci.-S.	Cu.-N. E	44.4	● a. p. ϟ p.
11	58.16	24.2	29	22.5	93.3	N	1	9	Ci.-S.	Cu.-N. E	30.7	● a. p. ϟ p.
12	56.68	24.3	27.5	22	94.3	N	1	9	Ci.-S.	Cu.-N. E	15.7	●° a. p. ϟ p.
13	56.12	24.6	29.8	22	91.5	N, S	1	7.5	Ci.-S.	Cu.-N. SE	4.1	●° a. d ϟ p.
14	55.35	25.9	29.2	23.2	86.2	SW	2.2	8.8	Ci.-S.	Cu.-N. SW	15	● ↙° a. p.
15	56.07	26	27.8	24	80.8	W	3	8	Ci.-S.	Cu.-N. W	9.1	●° ↙° a. p. ⌒² p.
16	56.96	26.2	31.9	21.8	84.3	W, N	2	7.8	Ci.-S.	Cu.-N. W	5.1	●° ↙° a. ϟ p.
17	58.15	------	------	20.5	------	N, W	1	5.8	Ci.	S.-Cu. W, SE	------	ϟ p.
18	57.95	25.9	31	23	87.8	N, NE	1	8	Ci.-S.	Cu.-N. E	20.6	d a. ● ↙° ⛈ p.
19	55.93	24.8	26.6	23.4	82.8	N, W	1	9	Ci.-S.	Cu.-N. N, NW	5.1	●° p.
20	56.58	26.1	32	22.8	86	S	1.2	8.2	Ci.-S. SE	S.-Cu. S	11.2	⛈ ● ↙ ϟ p.
21	57.95	25.8	------	22	87.5	N	1	7	Ci. E	S.-Cu. SE	15.7	p a. ↙ ● ϟ p.
22	58.21	26.3	32.5	22.5	85.8	N	1	7.5	Variable	Cu.-N., S.-Cu. SE	.8	d a. ◯² ϟ p.
23	58.48	------	------	22	------	N, S	1	6.2	Ci.	S.-Cu. E	------	ϟ p.
24	59.51	25.4	32.2	22.4	88.3	N	1	7.2	Ci.-S.	S.-Cu., Cu.-N. E	5.1	●° a. p. ϟ p.
25	58.85	24.7	27	23	92.8	N, NE	1	8.2	Ci.-S.	Cu.-N. E	10.4	●° a. p. ϟ p.
26	57.09	24.7	29	22.4	92.8	N	1	8	Ci.-S.	Cu.-N. E	14.2	●° ↙° a. d p.
27	54.85	25.6	29.5	23.3	91	N	1.2	7.2	Ci.-S.	S.-Cu. E, SW	1	●° a. ϟ p.
28	56.45	26.6	------	23.3	86.7	N	1	7.5	A.-Cu. SE	S.-Cu. SE	11.9	d a. ⛈ ● ↙° ϟ p.
29	58.23	24.8	29	23	93.7	N	1	8.2	Ci.-S.	Cu.-N. E	14.7	d a. ● ↙ ϟ ⊍ p.
30	58.56	25.8	30.4	22.2	87.7	N, NE	1	7.2	Ci.-S. E	S.-Cu. E	2	⊍² ϟ ●° p. ◯
Mean	758.02	25.4	29.6	22.4	88.6	------	1.1	7.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	261.6	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 4.2 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	759.11	27.1	30.2	22.4	77.5	E	11.8	5.2	Ci., A.-Cu.	Cu.-N. ENE	30	● a. p.
2	58.74	27.3	31	23.9	76.8	E, NE	13	1.8	------	Cu. ENE, NE	7.6	● p.
3	58.36	26.7	29.7	24	81.1	E quad.	10.8	4	------	Cu. NE, ENE	3.6	● a. d p.
4	58.58	27.1	29	25.2	85.4	NE	11.1	8.8	Ci.-S.	Cu.-N. ENE	5.8	● a. p.
5	59.36	26.1	31.1	23.5	85.2	NE	9.6	8.8	Ci.-S.	Fr.-N. ENE	16.5	d a. ● ⊤ p.
6	59.20	26.7	31	22.9	83.8	E	5.6	2	Ci. NE	Cu. E, NE	------	≡° a.
7	59.72	27.3	31	23.6	81.8	E	9.8	5.2	------	Cu.-N. ENE	1.3	● a. ⊍ p.
8	61.07	27.7	31	24.9	77.6	NE, E	12.7	2	Ci.	Cu. NE	2	p a.
9	61.98	25.3	27	23	90	NE	12.7	10	------	N. ENE	58.7	● [↯² a. ● p.
10	60.42	27.1	30.5	24	79.3	NE	13.3	9.5	Ci.-S.	Cu.-N. NE	3.8	d a. ↯ °● p.
11	58.24	26.4	29.9	23	86.8	NNE	10.9	8.5	Ci.-S.	Fr.-N. NNE	20.1	● a. p
12	56.67	25.2	26.7	23.4	89.5	NE	13.8	10	Ci.-S.	N. NE	47.2	● a. p.
13	55.95	24.8	25.9	23.1	93.5	NE	11.9	10	------	N. NE	35.3	● a. p.
14	54.42	24.3	25.5	23.1	93.5	Variable	6.5	10	------	Fr.-N. SSE, S	41.7	● a. p.
15	53.38	24	28	22	92.3	W	5.8	10	Ci.-S.	N. W	27.2	d a. ● p.
16	54.94	23.7	25.7	22	95	SW quad.	8.3	10	------	N. SSW, SW	11.2	●° a. p.
17	58.28	25.2	29.8	20	83.2	E	4	1.8	Ci. ESE	Cu.	------	≡° a.
18	58.22	25.5	27.8	23.2	85	ENE, NNE	12.6	10	Ci.-S.	Fr.-N. NE	31	● a. p.
19	55.27	24.5	27	21.4	78.8	NNE	14.8	10	Ci.-S.	N. N, NW	2	d a. p.
20	55.57	26.5	30.5	21.8	77.7	SSW	9.8	10	Ci.-S.	Cu. S	.5	p a.
21	57.68	27.2	30.5	22.9	82.3	E	8.4	4.2	Ci. SSE	Cu.	------	≡° a.
22	58.06	27.1	30.5	23.4	82.8	E	7.1	3	Ci. SE	Cu.	------	↯ p.
23	58.68	27.3	30.5	24.5	80.8	E	9.8	3.5	Ci. E, ENE	Cu.	------	≡° a.
24	59.42	27	30.6	24.1	81.3	E quad.	10.6	5	Ci. E	Cu. E	6.9	● a.
25	58.96	26.6	30	24.6	81.5	NE	11.6	8.8	Ci.-S.	Cu.-N. NE	1.5	d p.
26	57.50	26.2	28.5	24	85.5	NE	12.6	9.8	Ci.-S.	Fr.-N. NE	13	● a. p.
27	54.25	25.7	27	24	91	NNE	8.5	10	------	N. NE	21.1	● a. p.
28	56.19	26.6	30	24	85	E	9.1	9	Ci.-S.	N. SE	9.7	●² [↯
29	58.22	25.2	27.6	23	91	E	6.6	10	Ci.-S.	N. ESE	6.1	d ² a. ● p.
30	58.64	26.6	29.9	24	85	NE	13.4	6.5	Ci. SW	Cu.-N. ENE	10.7	● a. p.
Mean	757.83	26.1	29.1	23.3	84.7	------	10.2	7.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	414.5	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 7.8 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	759.50	27.8	32.3	24.9	79	NE	17.3	7.8	A.-Cu. NE	S.-Cu. NE	6.6	⌒² ● p.
2	59.14	26.7	32.5	23.5	83.8	E	10.5	9.5	Ci.-S.	S.-Cu. ENE	10.4	● a. d ⊖ p.
3	58.74	27	30.3	24.7	85.2	NE	11 .	7.8	Ci.	S.-Cu. NE	8.6	↙ ●° [↯ ⊖ p.
4	59.27	27.3	32.8	24.7	84.7	NE	13.9	7	Ci.	S.-Cu. NE	46.2	● a. p. ⊖
5	59.50	27.7	32.2	24.7	86.8	NE	8.1?	6.8	Ci.	S.-Cu. NE	10.6	● ○ ↯ ⊖
6	59.43	27.3	32.9	23.9	88.5	Calm	1.7	7	Ci.	S.-Cu. ENE	------	⊖ p.
7	59.90	27.8	33.2	25.1	85.7	NE	7.8	6	Ci.	S.-Cu. NE	------	⊖ Ω d ⊤ ↯
8	61.38	28.2	33.4	25.2	81	NE	12.3	5	Ci.	S.-Cu., Cu. ENE	------	⊖ p.
9	62.40	26.8	27.5	24.5	85.8	NE	14.7	9.5	Ci.-S.	S.-Cu. ENE	21.6	● [↯ a. ⊖.
10	61.05	27.8	33	24.5	83.1	NE	14.3	6.8	A.-Cu. ENE	S.-Cu., Cu. ENE	------	d a. ↯ p. ⊖
11	59.06	26.9	32.2	23.6	87.3	NE	15	7.2	Ci. SE	S.-Cu. E, NE	2.5	p a. d ∞ p.
12	57.71	27.2	28.9	25.9	81.5	NNE	24.6	8.8	Ci., Ci.-S.	S.-Cu. NE	------	⊖ d a. ↙° p.
13	57	26	27.4	24.3	89.3	NE	------	10	Ci.-S.	S.-Cu. NE	51.3	↙ ● a. p.
14	55.65	24.3	26.1	22.5	94.8	NNE	------	10	Ci.-S.	N. NE by N	247.9	↙ ●² a. p.
15	56.71	23.6	24.8	22.5	95	NNW	------	10	------	N. N	206.7	↙ ●² a. p.
16	55.04	23.5	24.8	21.5	96.3	NNW	------	10	Ci.-S.	N. N	312	↙ ●² a. p.
17	58.10	25.5	30.5	20.9	86	ENE	------	5.5	Ci. E	Cu. E	1.5	⊖ a.
18	59.07	25.4	27.9	23.4	87.6	E, NE	13.6?	9.8	Ci.	S.-Cu. NE	6.4	Ω d a. ● p.
19	57.02	25	28.3	21.9	84.7	NNE	20.1?	10	Ci., Ci.-S.	S.-Cu. NNE	7.6	d a. ● p.
20	53.95	24.6	26.4	21.5	80.3	SSW	------	10	Ci.-S.	Fr.-N. SW	58.6	●² ↙° a. d p.
21	57.11	27	32.6	22.6	86.8	Calm	.5	6.5	Ci.	S.-Cu. SSE	------	Ω a. ↯ p.
22	58.01	25.7	30.5	22.5	90.3	N by W	1.2	4.5	Ci. SE	S.-Cu., Cu. S	3.8	Ω ≡° a. d ↯ p.
23	58.60	26	30.3	23	90.3	Calm	.6	8	Ci.	S.-Cu. NNE	------	Ω a. ⌒ [↯ d ↯ p.
24	59.53	26.3	32.8	22	88	NE	------	7.5	Ci. E	S-Cu. NE	------	Ω a. d ↯ p.
25	59.30	27	32.5	24.7	87.7	NE	------	7.8	Ci.	S.-Cu., Cu. NE	8.9	d a. p.
26	58.45	26.7	28.8	24.1	86.9	NE	------	8.5	Ci.	S.-Cu. NE	16	● a. p.
27	55.62	24.8	26.5	23.5	96.2	NNE, NE	------	10	Ci.-S.	N. NNE	216.7	↙ ●² a. p.
28	56.21	25.8	29.4	23.5	94.3	ENE, NNE	6.7	9.5	Ci. ENE	S.-Cu. E, SE	23.4	○ a. ● p.
29	58.02	25.8	27.8	23.5	93.2	Calm	1.1	10	Ci.-S.	S.-Cu. SE	6.3	d a. p.
30	59.02	26.4	29.8	22.9	88.5	NE	12.6?	6	Ci. E	S.-Cu. NE	4.3	●° ⊖ p.
Mean	758.32	26.3	29.9	23.5	87.6	------	------	8.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	1,277.9	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[ϕ=14° 49′ N; λ=120° 16′ E; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.98	26.3	31.9	21.6	69.7	ENE	1.6	10	Ci.-S.	Cu.	--------	≡° a. p.
2	58.79	26.1	32.9	21	73.7	NE quad.	1.2	4.2	A.-Cu. E	Cu. E	--------	≡° a. ∞ p.
3	58.30	26.1	31.3	21.2	77.7	ENE	1.4	9.5	A.-Cu.	Cu.-N. ENE	--------	d p. ≡°
4	58.84	26.8	32.9	20.9	74.7	NE quad.	1.3	5	A.-Cu. E	Cu.	--------	Ω a. ⌒ p. ≡° ∞
5	59.02	27.6	33.3	23.8	74.3	NE quad.	1.3	4.8	Ci.-S.	Cu. S	--------	≡° ◯° a. ∞ ϟ p.
6	58.78	27.3	33.3	22	77.2	NNE, ENE	1.2	7	Ci.-S.	Cu. E	--------	≡° a. ∞ p.
7	59.34	27.2	33.1	23.1	80	NNE, E	1.2	6.2	Ci.-S.	Cu. E	--------	≡° a. ∞ ☈ ϟ p.
8	60.70	26.5	32.6	22.1	78	NNE, ENE	1.2	7.5	Ci.-S.	Cu. E	--------	⊍ ≡° a. ∞ ⊖ p.
9	61.58	25.4	30.7	21.4	77.8	NNE, ENE	1.9	9.2	Ci.-S.	Cu.-N. E	--------	≡° ⊖ a. d° ∞ p.
10	60.73	27.1	32.9	24.6	73.2	NE	1.7	8.2	A.-Cu. E by N	Cu. E	--------	≡° a. d° ⌒² p.
11	58.99	26	32.2	21.9	85	Variable	1.3	8.2	Ci.-S. SE	Cu. ENE	--------	⊖ ≡° a. ◯² ∞ p.
12	57.83	26	32.2	21.3	78	NNE, ENE	1.3	8.2	Ci.-S. S	Cu. ENE, NE	--------	⊖ ≡° Ω ◯° ∞
13	57.11	25.9	32.5	20.9	81.5	NNE	1.1	9.2	Ci.-S. SE	Cu. ENE	--------	Ω ⊍ ≡ ◯° ϟ ∞
14	56.25	25.9	31.4	21.9	83.1	Variable	1.4	9	A.-Cu. E	Cu.	--------	⊍ ≡° a. ∞ p.
15	57.20	24.8	27.9	23.3	87.2	NNE	1	10	Ci.-S.	Cu.-N. N	--------	
16	57.51	22.4	23.5	21.6	90.7	NE quad.	1	10	Ci.-S.	Cu.-N. N	15	d² a. ● ≡ p.
17	58.28	21.8	24.1	19.6	94.5	E quad.	.8	10	Ci.-S.	N. ENE	25	●° a. p.
18	58.41	25	28.5	21.1	84	ENE	1.8	9	Ci.-S.	Cu.-N. ESE, E	--------	d° a. p. ⌒ ∞
19	57.14	25.5	30	22	79	ENE, NNE	1.1	9.8	Ci.-S. ESE	Cu.-N. N	--------	≡° a. ◯°
20	53.05	23.8	25.9	21.5	93.8	NNE, SW	2.7	10	Ci.-S.	N. W	141.3	d a. ↙ ● p.
21	56.47	25.6	29.8	22.6	89.4	NE	1	8	A.-Cu. SSE	Cu. SSE	1.3	d ⌒² a ∞ p.
22	57.48	26.4	31.5	22.9	87.2	ENE	1.5	6.8	Ci.-S. NNW	Cu.-N. SE	9.4	☈ a. p. ϟ ∞ ● p.
23	58.06	26.4	31.1	23.7	88	Variable	1.2	5.2	Ci.-S.	Cu. ESE	5.1	≡° a. ☈² ● p.
24	59.04	26.1	31.4	23	85.8	ENE	1.4	5.8	Ci.-S.	Cu. SE, E	12.2	● a. p. ⌒ p.
25	58.98	26.3	31.4	22.2	86.2	NNE, ENE	1.2	6	Ci.-S.	Cu. E	1.3	≡° a. ● p.
26	58.18	26.1	31.9	21.6	80.5	NE quad.	1.4	8.8	Ci.-S.	Cu. E, NE	--------	≡° a. ◯° a. p.
27	56.41	22.8	25.4	21.2	94.2	NE	1	10	Ci.-S.	Cu.-N. ENE	13.8	≡° d° a. ●° p.
28	56.09	23.6	24.9	22.3	93.3	NE	1.3	10	Ci.-S.	N. E	15.5	d a. ● p.
29	57.34	25.8	29.5	23	88.5	ENE	1.4	9	Ci.-S.	Cu. E	--------	
30	58.41	26.7	30.7	24.4	81.6	ENE	1.3	7.5	Ci.-S.	Cu. E	.3	d a. p. ∞ ⊍ p.
Mean	758.11	25.6	30.4	22.1	82.9	------------	1.3	8.1	------------	------------	--------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	240.2	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
1	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
2	758.96	25.1	31	19.6	77.8	Variable	0.7	5.2	A.-Cu.	Variable	1.3	Ω² a. d p.
3	58.41	25.6	31.3	22	81	ESE	.8	5.8	Ci.-S.	Cu.-N. E	------	Ω a. p.
4	59.16	25.5	31.7	20.5	76.8	NW, ESE	.5	5.5	Ci. NE	S.-Cu. E	------	Ω a. p.
5	59.17	26.6	31.6	22.5	73.6	NW	1.2	4	Ci.	S.-Cu. E	------	Ω² a. ϟ p.
6	59	25.8	31.8	21.6	80.5	NE, E	.8	5	Ci. SE	S.-Cu. E	------	Ω ⊕² a.
7	59.44	26.9	31.5	22.6	75	Variable	1	4	Ci. E	Variable	------	Ω a. ϟ p.
8	61.02	26.1	31.5	21.8	73.5	Variable	1	5.2	Ci. NE, E	Cu.-N.	------	Ω a. ⊖² p.
9	62.20	25.3	29.5	21.1	77.2	Variable	1.1	6.8	Ci., Ci.-S. SE	Cu. E	------	Ω d° a.
10	61.07	25.6	30.2	21.6	76.2	NW, NE	1.4	6.8	A.-Cu. SE	Variable	------	d p.
11	59.14	26.2	32.2	22.5	76.7	NW, ESE	.8	7.2	Ci. E, S	Variable	------	⊖² a.
12	57.89	25.8	31	20.9	72.2	NW	.8	6.2	Ci., Ci.-S. SE	Cu. E	------	Ω a. ◯² p.
13	57.17	25.9	31.5	20.4	73.9	NNW, NE	1.2	5.5	Ci. S	Variable	------	Ω a. ϟ p.
14	56.27	25.8	31	22	72.3	NE quad.	1.2	9.5	A.-Cu. S	Cu. NE	------	Ω a.
15	57.30	24	25	23	86	Variable	.7	10	A.-S.	N. NE, E	------	
16	57.32	22.9	25	21.6	80.8	NNW	2	10	A.-S.	N. NE	3	d a. p. ↙° p.
17	57.71	24.7	28.4	22.2	71.5	NNE	2.4	9.8	A.-Cu. SW	N. ENE, E	.3	↙° a.
18	58.89	23.3	26.2	21.5	91	Variable	.4	9.5	Ci.-S.	N. E, NE	15.2	●° a. d ≡ p.
19	57.13	24.9	29.1	21	77.1	NNW	.5	8.2	Ci.-S. SE	N., Cu. NE	------	◯² p.
20	52.24	22.1	23.6	20.5	94.3	Variable	2.4	10	A.-S.	N. WNW, S	119.4	●² a. ↙ ● p.
21	56.44	25.8	31.5	21.5	83.2	SE, ESE	.7	6.8	Ci.-S., Ci. NW	Variable	------	
22	57.49	26.4	32	22	82.7	Variable	.5	4.8	Ci. ESE	Variable	58.4	Ω a. ☈ ●² p.
23	58.16	25.8	30.6	22.6	82.7	ESE	.6	5.8	A.-Cu. SE, ESE	Cu.-N.	------	Ω² ≡ a. ϟ p.
24	59.28	25.8	29.5	22	79.3	E	.8	5.5	A.-Cu. SE	Cu.-N. ENE, E	------	Ω a.
25	59.18	25.7	30.5	22.1	79.7	ESE	.7	6	Ci.	S.-Cu.	------	Ω a. p° p.
26	58.45	25.4	31.8	21.2	78	NNW, ESE	.6	6	Ci., Ci.-S. SE	S.-Cu.	------	Ω ≡° a. ◯° p.
27	56.62	23	24.1	22	90.7	NW	1	10	A.-S.	N. NE, NNE	7.9	d a. p.
28	56.66	22.2	24	21.5	95.2	NNE, NW	1.8	10	A.-S.	N. NE	101.6	●² a. p. ↙° a.
29	57.94	23.2	25.7	21.5	94.8	NNW, NE	.6	10	A. S.	N. E	50.8	d a. ●² p.
30	59.08	24.6	28.5	22.5	84.3	NNE	1	7.2	Ci. E	Cu. E, SE	1.8	p° a.
Mean	758.23	25	29.4	21.6	80.6	------------	1	7.1	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	359.7	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	759.01	27.2	34.5	22.4	67.3	S	11.3	1	----	Cu.	----	
2	58.92	26.3	32.4	21.4	74	Variable	5.9	3.2	A.-Cu.	Cu.	----	
3	58.31	26.8	33.3	21.9	74.9	Variable	7.6	2	Ci.	S.-Cu.	----	ζ p.
4	59.23	26.6	32.4	20.6	75.8	Variable	6.3	3.8	Ci.	Cu.	----	⊕ p.
5	59.22	27.8	33.9	23	77	N	6.7	4	Ci.	S.-Cu., Cu.	----	
6	58.86	28.4	35.4	22.2	73.2	SE	8.1	6.5	Ci.	Cu.	----	ζ p.
7	59.30	28.6	35.1	23.7	74.3	Variable	7.1	6.8	Ci.	Cu.	----	ζ d° p.
8	60.84	28	34.9	23	70.8	SE	8.4	5.8	Ci.	Cu., S.-Cu.	----	⊕ a.
9	61.86	27.4	33.6	22	70	SE	13.1	8	Ci.	Cu.	----	⋓ p.
10	60.91	27.2	34.2	21.4	64.8	SE	8.8	4.2	Ci.-S.	Cu., S.-Cu.	----	⊕ a. p.
11	59.32	26.6	31.9	22.3	76.6	NW	7	7	Ci.-S.	S.-Cu., Cu.	----	⊕ p.
12	58	26.5	32.1	21.6	77.	NW, N	7.1	7.5	Ci.-S.	S.-Cu., Cu.	----	⊕ a.
13	57.30	26.2	31.7	22	77.5	SE, N	7.4	9.2	A.-Cu.	S.-Cu.	----	⊕ a.
14	56.38	26.6	32.5	21.8	76.5	Variable	7.6	8.2	Variable	S.-Cu., Cu.	----	
15	57.15	25.4	29.4	23	84	SE, SW	5.4	10	----	S.-Cu.	----	
16	57.59	23.7	28.7	21.5	86.7	S, SW	4.7	10	----	S.-Cu.	6.4	p p.
17	57.68	25.2	32.5	21	78.5	Variable	7.6	9.5	Ci.-S.	S.-Cu. E, ESE	----	⋓ p.
18	58.69	24.9	28.8	22	79.4	SE	9.1	9.5	A.-Cu.	S.-Cu. E	----	d p.
19	57.23	25.7	30.4	20.9	76.5	S, NW	7	9.5	Ci.-S.	S.-Cu., Cu.	----	
20	51.08	24.1	27	20.7	93.7	NW, SE	27.3	10	----	N. NW	121.7	↙ ● a. p.
21	55.80	26.6	31.8	21.8	80.8	SE	19.5	7.5	A.-Cu.	S.-Cu.	5.1	↙ ● ⌒ a. ζ p.
22	57.45	27.2	34.3	22.8	79.2	SE	12.2	3.8	Ci.	Cu., S.-Cu.	2	p ⊤ ζ p.
23	58.19	26.5	31.5	22.8	88.3	N	6.6	6.8	A.-Cu.	S.-Cu. SE	17.3	●² a. d ⌒ p.
24	59.09	27.1	33.4	23.1	76.8	SE	10.9	5	Ci.	Cu.	----	⊕ a.
25	59.11	26.8	33.4	22.6	77.3	Variable	7.8	2.8	Ci.	Cu.	----	
26	58.45	26.4	33.4	21.7	77.8	SE	7	7	Ci.-S.	S.-Cu., Cu.	----	
27	56.84	24.3	28.5	22.3	91	W, S	4	9.8	----	S.-Cu. NNE	3.8	d p.
28	56.81	22.8	24	22	98.2	S	4.8	10	----	N.	37.6	● a. p.
29	57.70	24.2	26.9	21.7	91.3	SE, SSE	9.5	10	----	S.-Cu. SSE	15.5	● a.
30	58.74	25.7	32.3	22.4	81.7	SE	12.3	6.8	Ci.	Cu.	20.8	● a.
Mean	758.17	26.2	31.8	22.1	79	----	8.9	6.8	----	----	----	
Total	----	----	----	----	----	----	----	----	----	----	230.2	

BOLINAO.

[ϕ=16° 21′ N; λ=119° 53′ E; barometer above sea, 8.5 meters; gravity correction not applied, —1.67 mm.]

	mm.	°C.	°C.	°C.	P. ct.		0-12.[1]	0-10.			mm.	
1	758.25	26.8	30.6	22.4	78	ESE	2.5	1.8	Ci.-S.	Cu.	----	≡° a. Ω ⋓
2	58.43	26.8	31.2	22	79	Variable	1.2	1.5	A.-Cu.	Cu., S.-Cu.	----	≡° a. Ω² ⋓
3	58.01	27	30.9	22.8	78.8	N	1.8	4.5	Ci.	Cu.	----	≡° a. Ω
4	58.66	26.7	30.4	22.9	79.2	N	1.8	1.5	Ci.-S.	Cu.	----	≡° a. Ω°
5	58.69	27.9	31.8	23.1	79.8	ESE	1.2	6.8	Ci.-S.	Cu. E	----	≡° a. Ω
6	58.60	28.4	32	24.8	77.5	ESE	1.2	6.8	Ci.-S.	Cu.	----	≡° a. Ω
7	59.04	28.7	32.4	24.8	78.9	Variable	1.2	8.2	Ci.	Cu. E	----	⌈ζ p. Ω
8	60.51	27.7	31.5	23.5	80	Variable	1.8	8.8	Ci.	Cu.	----	≡° a. Ω
9	61.43	27.6	32.8	23.6	77.2	SSE, ESE	1.5	7.8	Ci.-S.	Cu.	----	≡° a. Ω
10	60.47	27.1	32.2	23	75	Variable	1.2	5.2	Ci.	Cu.	----	≡° a. Ω
11	58.80	27.2	31.5	22.4	79.3	NNW	.8	9.5	Ci.-S.	Cu.	----	Ω°
12	57.61	27.6	32	22.7	81.5	N quad.	1.2	9	Ci.-S.	Cu.	----	
13	57.02	27.9	30.8	24.4	79.3	Variable	1.2	10	Ci.-S.	Cu.-N.	----	≡° a.
14	56.28	27.9	30.6	23.5	79.5	N quad.	1.5	10	Ci.-S.	Cu. NE	----	Ω°
15	56.82	27.2	29.9	26.4	76.3	NNE, NE	3.2	10	Ci.-S.	S.-Cu.	----	≡° Ω
16	57.22	25.5	29	22.3	85.2	SSE, ESE	.5	9.8	A.-Cu., Ci.-S.	S.-Cu.	----	≡° Ω a. d° p:
17	57.08	26.6	30	22.4	77.7	Variable	1.5	10	Ci.-S.	S.-Cu., Cu.	----	≡° Ω
18	58.10	26.3	30	22.2	80.3	SE	1.5	9.8	Ci.-S.	S.-Cu., Cu.	----	≡° ↙° a.
19	57.14	26.3	30	23.4	77.8	Variable	1.5	10	Ci.-S.	Cu.-N.	----	≡° a. Ω°
20	50.48	25.7[2]	26.8	----	91.8[2]	NNE	7.5	10	Ci.-S.	Cu.-N., N.	53.3	↙ ● a. p.
21	54.93	26.2	30	----	86.7	SE	2.5	9.8	Ci.-S. NE by N	Cu. S	----	↙° a. ⊤ p.
22	57.30	27	31.4	23.4	83.8	Variable	1.8	7	A.-Cu. S by W	Cu.	3	≡° Ω ↙° ⊤ ●° ⌈ζ ⌒
23	58.32	27.2	30.2	23.9	86.5	NNE	2.2	8.8	A.-Cu., Ci.	Cu. NE	16	⊤ ↙° ζ p.
24	58.99	27.5	31.6	23.8	79.8	SE	2	8	A.-Cu.	Cu.	20.8	●² p.
25	59.19	27.3	30.8	23.7	82.2	SE	1.5	4.8	Ci., Ci.-S.	Cu.	----	≡° a. Ω
26	58.46	26.8	30	22.8	82.2	NNW, NNE	1	8	Ci., Ci.-S.	Cu.	----	≡° a. Ω
27	56.97	26.7	29	23.7	81.1	NE	5.2	10	Ci.-S.	Cu. NE	----	↙° a. p.
28	56.61	24.9	26.7	----	88	Variable	2.8	10	----	N.	20.8	↙° ●° a. p.
29	57.61	25.4	28.4	22.8	90.2	ESE	1.2	10	Ci.-S.	Cu.-N., Cu.	----	↙
30	58.44	26.6	31	23.9	87.3	SE quad.	2	9.8	Ci.-S.	Cu.	4.8	●° ↙ a.
Mean	757.85	27	30.5	23	81.3	----	1.9	7.9	----	----	----	
Total	----	----	----	----	----	----	----	----	----	----	118.7	

[1] Mean deduced from four observations only.

[2] Mean deduced from five observations only.

METEOROLOGICAL DATA, ETC.—Continued.

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	759.14	27.1	31	24.6	------	E, SW	1	0	Ci.-S., Ci.	Cu.	------	
2	59.05	26.7	30.5	23.5	78.6	Variable	1	.8	Variable	Cu. N by W	------	≡° a. ϖ p.
3	58.37	27.1	31.1	23.6	75.9	ESE	1.2	0	Ci.	Cu.	------	Ω ≡° a.
4	59.33	26.9	31.4	23.8	69.3	Variable	.8	0	Ci.	Cu.	------	≡° a.
5	59.42	26.8	31.4	23.2	77.8	Variable	.8	0	Ci.	Cu.	------	Ω ≡° a. ϖ p.
6	59.18	27.1	31.5	23.9	80.2	Variable	1.2	1.8	Ci.-S.	Cu.	------	Ω ≡° a. ϖ p.
7	59.37	27.9	32	25	78.5	Variable	1	0	Ci.	Cu.	------	Ω ≡° a. ⟨ p.
8	61.03	28.1	31.2	25.2	76	N	1.2	.5	Ci.	Cu.	------	≡° a.
9	61.92	27.6	32.5	24.3	70.6	Variable	.8	0	Ci.	Cu.	------	≡° a. Ω p.
10	60.97	27.3	31.9	23.9	70	SE	1	0	Ci.	Cu.	------	≡° a.
11	59.29	26.9	31	22.3	74.7	Variable	1.2	.2	Ci. SW, S	Cu.	------	Ω° ≡° a.
12	58.20	26.4	31.4	21.5	70.2	Variable	1.7	.2	Ci.-S. S	Cu.	------	Ω ≡° a. ∞² ↯ p.
13	57.48	26.8	30.9	24	73.8	NNE	2.3	5.2	A.-Cu. ENE	S.-Cu., Cu.	------	≡° a. ○ ↯° p.
14	56.82	26.4	30.2	22.5	69.3	N	2	4.8	Ci.-S.	Cu.	------	≡° a. ↯° p.
15	57.78	26	30.9	22	63.8	ENE	2.3	6.8	Ci.-S.	S.-Cu.	------	ϖ ≡° a.
16	58.42	26.6	30	24	------	E	4.2	9.2	Ci.-S.	S.-Cu. ENE	------	d° a. ↯° ⊕
17	57.89	27.6	32.1	24	------	NE quad.	2.3	6	Ci.-S. S	S.-Cu., Cu. ENE	------	≡° a. ⊕ p. ↯°
18	58.74	27	33.4	23.5	72.8	Variable	1.5	3.8	Ci.-S.	S.-Cu.	------	ϖ ≡° Ω a. ○ p.
19	57.69	26.3	31.3	23.4	61.5	N	1.3	7	Ci.-S.	S.-Cu. ESE	------	≡° a. ○ p.
20	51.19	26.2	29.9	22.9	73.4	NNE	3.3	10	Ci.-S.	S.-Cu. NE, ESE	1.3	≡° a. d² p. ↯
21	55.51	27.6	32.1	23.6	79.8	Variable	.5	7	Ci.-S.	S.-Cu. SSE	------	≡° a.
22	57.54	27	31.8	24.7	81.2	SE, E	1.2	4.2	Ci.-S.	S.-Cu. SSW	.5	Ω ≡° ●° ⌒ ⌈⊠ ⟨
23	58.53	26.7	30.4	23.8	82.8	NW	1.2	.2	Ci., A.-Cu.	Cu. NNW	2.5	● a. ⟨° p.
24	59.38	26.9	30.6	24.2	82.1	Variable	1	3	A.-Cu.	S.-Cu. S	------	≡° ⊕ a.
25	59.26	26.8	31	23.4	81.4	SE, WNW	1.2	1	Ci.	Cu. NW by N	------	≡° Ω a.
26	58.65	27.1	31.2	23	74.8?	Variable	1.3	.8	Ci., Ci.-S.	Cu.	------	Ω° ≡° a. ○ d p.
27	57.93	25.8	31.5	23.1	72.8	NE, NNE	3.5	10	Ci.-S.	S.-Cu. NE	------	≡° a. d° p. ↯
28	57.28	25.6	27.7	23	73.2	NNE	2.5	10	Ci.-S.	S.-Cu. ENE	------	↯° d° a.
29	57.76	24.9	28.2	21.3	84.7	NE quad.	1.2	10	Ci.-S.	Cu.-N.	1.3	d a. p.
30	58.94	26.2	29.9	23.8	84.3	Variable	1	5.8	A.-Cu. S	Cu. E by N	------	d° ⌒ ⊕ a. ϖ p.
Mean	758.40	26.8	31	23.5	75.3	------	1.6	3.6	------	------	------	
Total	------	------	------	------	------	------		------	------	------	5.6	

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temp. Mean.	Temp. Maximum.	Temp. Minimum.	Relative humidity (mean).	Wind prevailing direction.	Wind force (mean).	Clouds amount (mean).	Clouds upper.	Clouds lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	760.40	25.1	30.5	20.1	81	N	.8	5	------	Cu.-N.	------	Ω² ≡ a.
2	60.15	26.8	32.2	22.5	81.8	S, N	.3	4.5	------	Cu. SW	------	Ω a. d p.
3	59.67	26	31.5	22.2	82.3	NW	.7	4.8	------	Cu. NW	------	d a.
4	60.32	25.5	30.8	19.8	86.7	NE	.3	4	------	Cu. SE	------	Ω² ≡° a.
5	59.68	27	33.3	20.9	80.3	NW	.2	3.2	------	Cu.	------	Ω² a.
6	58.96	27.1	33.7	21.5	78	NW	.2	1.2	Ci.	Cu.	------	Ω² ≡ a.
7	59.66	27.1	33.2	22.3	81	N	.2	3.2	------	Cu.	------	Ω² ≡ a.
8	61.97	26.6	31.7	23.2	82.7	Variable	.5	6.5	------	Variable	------	Ω d a.
9	63.82	25.2	32.3	20.1	78.3	SW	.3	5.5	------	Variable	------	Ω a.
10	62.36	26.1	32.9	20.6	81.8	Variable	.5	3.8	------	Variable	------	Ω² a.
11	60.19	26.4	32.5	22.6	81.8	NW	.5	6.5	Ci.-S.	S.-Cu., Cu.-N. SE	------	Ω a.
12	59.07	25.5	31.5	20.1	80.3	NW	1	6.5	Ci.	Cu. NW, NE	6.9	Ω a. ● p.
13	58.92	25.2	30.2	21.6	82.8	NW	2.2	7.5	Ci.-S.	Cu.-N. NW, SE	11.9	● a.
14	58.44	24.4	29	20.4	84.2	NW	2.2	9.5	Ci.-S.	Cu.-N. N, NW	------	↯° a. p.
15	59.14	24.4	27.4	22.3	89.2	NW	2.2	9.5	Ci.-S.	Cu.-N. N	------	↯° a. p. d a.
16	60.59	24.1	27.7	21.4	72.8	NW, N	2.5	7.8	Ci. N	Cu.-N. NE	------	↯° d
17	60.52	23.9	26.8	20.6	83.7	NW	1	8.8	------	Cu.-N. N	------	
18	60.53	23.8	27.5	21.6	87.2	N, NE	.8	8	------	N.	1.5	● a.
19	59.02	24.3	28.6	20.5	76.7?	NW	1.5	7.2	Variable	Cu. NE	3.6	Ω a. ● p.
20	53.80	25.2	27.2	23.2	89.2	NW	1.8	8.5	------	N. E, SE	20.1	↯° ● a.
21	56.76	26.2	31.7	22.3	84.7	SSE, SE	.3	8	Ci.-S., Ci.	Cu.	------	d a.
22	57.31	26.7	32.1	22	85.5	SE	.5	5.8	Ci.	Cu. SE	------	Ω a.
23	58.59	27.3	32.6	23.2	86.2	SE, NE	.3	5.2	------	Cu. S	------	Ω a.
24	60.18	26.6	31	23.2	86.2	S	.2	7.8	------	Cu.-N. SE	8.4	Ω a. ● p.
25	60.38	25.3	30.2	21.2	90	NW	.2	4	------	S.	------	d ≡° a.
26	60.14	25.8	30	20.7	82.2	NW	.5	7.2	Ci.-S.	Cu.-N. SE	------	Ω a. ⌒ p.
27	59.66	23.3	24.9	21	89	NW, N	2.8	9.5	Ci.-S.	Cu.-N. N, NE	9.9	↯ ● p.
28	59.23	22.5	23	20.1	94.2	NE, N	2.5	10	------	N., Cu.-N. NE	13.7	↯ ● a. p.
29	59.53	23	23.3	21.8	99.2	N	.5	10	------	N.	149.3	●² a. p.
30	60.26	24.8	29	21.5	92	Calm	------	5	Ci.	Cu. W, S	2	● ≡° a. ϖ p.
Mean	759.64	25.4	29.9	21.5	84.4	------	.9	6.5	------	------	------	
Total	------	------	------	------	------	------			------	------	227.3	

METEOROLOGICAL DATA, ETC.—Continued.

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	761.09					E	8.5	6.5	A.-Cu. E	S.-Cu. E	0.8	●° p.
2	60.54					Variable	10	4.2	A.-Cu. SE	Cu.-N. SE, E	.5	p p.
3	60.41					NE, E	12.6	.2		Cu.-N.		Ω ≡° a.
4	60.78					S, E	6	2.8		Cu.-N., S.-Cu. E		Ω ≡° a.
5	60.12					S, E	8.6	1.2	Ci. E			Ω ≡° a.
6	59.46					NE	9.9	0				Ω ≡° a.
7	60.24					W, NE	13.5	3.5	A.-Cu. E	Cu.-N.		Ω ≡° a.
8	62.37					E	11.1	6.5	A.-Cu. E	S.-Cu. ENE		∞
9	64.04					SE, E	7.2	3.2		Cu.-N. S	.3	p a.
10	62.81					S, NE	10.9	.8		S.-Cu., Cu.-N.		Ω a. ≡°
11	60.66					Variable	11.5	1		Cu.-N. E		Ω ≡° a.
12	59.94					SW, NE	15.2	4.8	Ci. W	Cu.-N. E	30	◌ ↙° ● p.
13	60.06					NE	28.3	10		Cu.-N. NE	4.6	● ↙° a. p.
14	59.52					NE	24.9	10		Cu.-N. NE	2.5	● a. ↙° p.
15	60.38					NE	27.9	10		S.-Cu. ENE	2	↙° ● p.
16	61.71					NE	31.9	10		N. NE	4.8	↙° ●° a. p.
17	61.56					NE	25	10		N E	31.7	● ↙° a. p.
18	61.45					NE, E	20.6	10		S.-Cu. E	3.3	● a.
19	60.07					NE	14.9	8.5	Ci. E	Cu.-N. NE	5.1	○ a. ● ↙° p.
20	55.08					NE, E	30.6	10	Ci.-S.	N. NE	27.2	● ↙ a. d p.
21	57.18					E	8.7	10	Ci.-S.	S.-Cu. SSE	.3	●° a. ⊤° ⌒ p.
22	57.66					S, NNW	10	2.5	Ci. W	Cu.-N. N		⌈ß° p.
23	59.04					NNW, N	6.2	5.2		Cu.-N. E		⌈ß° p.
24	60.47					SE	9.8	3	A.-Cu. E	Cu.-N. SE		
25	60.88					E	8.3	4.8		Cu.-N. NE		
26	60.74					E, NE	10.7	5.5	Ci.-S.	Cu.-N. NE	2	●° a. p.
27	61.36					NE	37.5	10		N. NE	14.7	↙ ● a. p.
28	60.89					NE	39.8	10		N. NE	19.6	↙ ● a. p.
29	60.58					NE	30.9	10		N. NE	40.1	↙ ● a. p.
30	60.77					E	5	4	Ci.	S.-Cu.	.5	d a. ≡°
Mean	760.40						16.5	5.9				
Total											190	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.8	21.1	96	80	6	7	10.9	Ω ≡● a. ● < p.
2	31.5	21.2	95	82	8	9	2.3	Ω ≡ ↙ a. ●° p.
3	31.5	20.8	93	71	4	6	1.5	Ω ≡ a. ●° p.
4	31.4	21.7	91	75	10	8	1	d a. ●° p.
5	31.3	22	95	74	8	7	------	Ω ≡ ⌒ a.
6	30.9	21.3	96	91	8	10	1.3	Ω ≡ a. ● ⌈ p.
7	28.3	22.1	97	93	10	10	32.8	● a. p.
8	31.5	21.1	97	74	7	7	.8	Ω² ≡ p a. ⌈< ⫝
9	31.5	21.6	94	79	7	9	8.9	Ω² ≡ ● a. ● p.
10	29.9	21.2	97	79	10	9	1.5	●° a.
11	31.3	22.1	98	77	9	9	------	Ω ≡ a. < p.
12	30.3	21.6	96	76	8	9	10.7	Ω ≡ a. ● p.
13	30.9	22.1	96	83	10	10	13.5	● a. p.
14	31.2	21.8	93	73	8	8	------	d a. < p.
15	30.4	21.2	94	77	8	8	------	Ω ≡ a.
16	32.3	20.8	96	63	6	7	------	Ω ≡ a. < p.
17	32.3	21.8	96	69	6	8	------	Ω ≡ a. < p.
18	31.8	22.8	84?	69	9	7	------	Ω° ↙° a. < p.
19	31.5	23.1	92	92	10	10	17.8	Ω° ≡ ● a. ⊤ ●.
20	31.9	22.4	95	71	7	6	------	Ω ≡ ⌒ a. d < p.
21	29	22.4	94	85	10	9	8.1	↙ a. p. ● p.
22	32.3	21.6	96	71	9	8	1	↙ ⊤ ●° a.
23	30.8	22.7	97	77	8	9	1.3	Ω ≡ a. ⌒ ● p.
24	31.8	22.9	97	92	8	10	------	Ω ≡ a. d p.
25	29	22.3	95	82	8	9	36.3	Ω ≡ a. ● a. p.
26	27.2	23.6	92	92	10	10	31.7	Ω ≡ d a. ● a. p.
27	29.4	22.4	93	81	10	10	26.4	● ↙ a. < p.
28	30	21.9	93	77	10	8	29.5	● a.
29	31.9	21.2	97	67	6	4	------	Ω ≡ a. < p.
30	31.5	21.2	94	80	4	8	14.5	Ω ≡ a. ⊕ ● p.
Mean	30.8	21.9	94.6	78.4	8.1	8.3	------	
Total	------	------	------	------	------	------	251.8	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	------	22	96	76	------	------	1.8	Ω a. p < p.
2	------	22	96	73	------	------	------	Ω a.
3	------	22.8	93	77	------	------	------	Ω a.
4	------	22	98	84	------	------	20.3	p a. ● < p.
5	------	23	93	93	------	------	11.7	d a. p. ● p.
6	------	22.5	98	88	------	------	8.1	● a.
7	------	22.5	97	90	------	------	14.5	● ≡ a. p p.
8	------	22.5	93	78?	------	------	3.8	d a. p ⌈< p.
9	------	22.6	89?	88	------	------	------	Ω a.
10	------	22.4	96	78	------	------	4.1	Ω a. ● p.
11	29.8	22.5	96	81	------	------	------	Ω a.
12	28.7	22.5	96	83	------	------	19.3	d a. p. ↙° ● p.
13	29.5	23.5	97	84	------	------	2.8	p a. p. ↙ p.
14	28.9	23	96	85	------	------	4.6	Ω a. ↙° p a. p.
15	29.8	22	98	84	------	------	------	Ω a.
16	30.8	21.4	95	78	------	------	------	Ω a.
17	30.8	22.5	95	81	------	------	------	Ω ≡° a.
18	30	23.5	96	89	------	------	------	Ω ≡° a. ↙° p.
19	30.8	23	97	83	------	------	------	Ω a.
20	31	22.5	91	84	------	------	3.8	● a.
21	31.8	22.4	96	84	------	------	2	Ω ↙° p ⌈< a.
22	30.1	22.5	96	75	------	------	------	Ω a. ↙ p.
23	29.5	21.5	98	75	------	------	4.3	● ≡° ⊤ a.
24	30	22.5	96	74	------	------	21.1	● a.
25	29.3	22.5	96	82	------	------	------	Ω a.
26	30.3	22.6	96	81	------	------	1.5	Ω a. p < p.
27	27.8	23	96	84	------	------	14.5	↙ ● a. p p.
28	29.3	23	96	80	------	------	9.7	● ↙° a. d p.
29	29.3	22	96	91	------	------	.5	Ω a. d ⊤ ⌒ p.
30	32.3	23	95	82	------	------	1	Ω a. d p.
Mean	30	22.5	95.6	82.2	------	------	------	
Total	------	------	------	------	------	------	149.4	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.4	22.8	85	69	4	7	------	
2	29.2	23	84	74	3	8	------	
3	29.6	22.6	85	73	2	8	------	
4	29.3	22.4	86	71	7	10	------	
5	29.4	23.1	86	78	8	9	------	
6	29.1	22.9	88	77	10	10	3.8	● a.
7	30.1	23.5	91	71	10	10	6.6	● p.
8	30.5	23.2	89	70	9	8	------	
9	29.6	23.1	87	71	8	10	------	
10	30.2	23.1	85	74	5	6	------	
11	29.2	23.5	88	71	5	7	------	
12	29	23	86	68	6	7	------	
13	29.7	23.5	87	71	8	9	------	
14	29.6	22.1	86	71	5	7	2.5	● p.
15	30.2	22.9	84	73	5	5	------	
16	------	------	------	------	------	------	------	
17	------	------	------	------	------	------	------	
18	------	------	------	------	------	------	------	
19	------	------	------	------	------	------	------	
20	------	------	------	------	------	------	------	
21	------	------	------	------	------	------	------	
22	------	------	------	------	------	------	------	
23	28.7	------	------	------	------	8	2.5	↙° ● p.
24	28.7	23.3	------	------	9	8	------	≡° a. ↙° p.
25	28.7	23.4	------	------	10	10	------	≡° a.
26	28.3	22.8	------	------	10	10	14.7	≡° ● a. ↙° ● p.
27	28.8	23	------	------	10	9	22.6	● ↙ a.
28	29.3	23.2	------	------	10	4	4.3	● a. ↙° p.
29	30.7	22.6	------	------	3	2	2	●° ≡° a. d° p.
30	29.9	23.5	------	------	10	10	1.5	Ω ≡° a. d° p.
Mean	29.4	23	86.5	72.1	7.1	7.9	------	
Total	------	------	------	------	------	------	------	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.3	21.2	96	64	6	7	31	●² p.
2	33.2	22.1	94	69	6	7	------	
3	32.5	22	86	70	5	7	------	
4	32.7	22	90	67	6	5	------	
5	32.7	23.2	98	64	7	5	------	
6	32.6	22.4	96	69	7	5	------	
7	33.8	21.2	97	78	9	9	31.2	●² a.
8	30.5	20.3	99	82	7	8	------	
9	33	21.9	97	66	6	7	14.5	● p.
10	33.1	21.5	98	74	5	8	18.3	● ⊤ p.
11	29.7	22	97	79	6	9	------	
12	33.3	21.8	96	71	6	7	8.1	● p.
13	30	21.6	96	81	6	8	------	
14	32.1	22	97	71	7	6	------	
15	35.9?	22.3	97	65	7	6	------	
16	36.2?	21.4	96	65	6	5	------	
17	36.2?	22.8	96	68	7	7	------	⌈< p.
18	31.2	22.6	92	67	6	7	------	
19	31.3	23.1	93	74	6	7	------	
20	32.3	22.5	97	80	5	8	21.3	● p.
21	34.4	22.1	95	77	6	6	16.5	● p.
22	34.7	21.6	96	69	7	7	13.2	● p.
23	31.6	22.2	96	75	6	8	------	
24	30.8	22.1	93	80	8	8	------	
25	30.9	22	96	78	6	5	42.4	●² p.
26	30.3	22.1	97	76	7	6	49	●² p.
27	30.6	22.3	99	69	7	7	------	
28	31.7	22.2	96	75	6	7	------	
29	30.6	22.9	97	88	5	9	38.9	●² p.
30	31.7	21.6	96	71	8	7	5.6	● ⌈< p.
Mean	32.4	22	95.6	72.7	6.4	6.9	------	
Total	------	------	------	------	------	------	290	

METEOROLOGICAL DATA, ETC.—Continued.

COTABATO.

[$\phi=7°\ 13'$ N; $\lambda=124°\ 15'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	23.5	87	62	2	7	38.1	Ω a. [ꓘ ● p.
2	33.1	22.8	96	57	9	3	6.4	d a. [ꓘ ● p.
3	------	23.2	93	57	3	4	10.2	Ω ≡ a. ↯ ● p.
4	34.5	23.6	93	65	4	8	45.7	↯ a. ↯ ● p.
5	32.1	24.2	94	68	8	7	7.6	○² a. ● p.
6	33.1	22.8	95	69	4	6	38.1	↯ ● p.
7	29.1	23.2	95	84	9	10	48.3	d a. ● a. p.
8	32.4	22	96	58	10	7	30.5	[ꓘ ● p.
9	33.6	22.1	92	55	3	4	26.7	↯ ● ⊤ p.
10	30.1	22.1	95	70	8	7	20.3	Ω ○ a. ● p.
11	31.2	23.1	95	72	7	8	10.2	○ a. ● p.
12	30.4	23.6	95	77	8	8	24.1	d a. ↯° ● p.
13	30	23.3	90	87	10	10	30.5	d a. ● a. p.
14	30.1	23	93	91	10	10	34.3	d a. ● a. p.
15	30.2	22.8	96	72	8	4	------	d a. p.
16	33.1	22.4	94	68	2	3	------	Ω ≡ a.
17	33.2	23.6	93	62	4	8	------	↯ ⊤ p.
18	31.2	23.4	94	74	8	9	------	○² a. ⋖ p.
19	32	24.1	94	74	10	9	------	⋖ p.
20	31.4	22.9	96	68	7	10	------	[ꓘ° p.
21	32.4	23.1	94	67	10	7	1.3	● p.
22	32.6	23.4	96	62	10	4	5.1	d a. ●° p.
23	33.1	23	93	67	5	4	10.2	Ω a. ● p.
24	32	23.2	96	68	10	10	1.3	○ a. d p.
25	32.4	23.6	95	65	7	10	------	○ a.
26	30.4	24.6	94	74	10	10	1.3	○² a. ●° p.
27	30.6	23.4	95	73	10	9	5.8	●° a. ● p.
28	31.4	23.4	97	68	10	4	------	d a.
29	32.1	23.5	90	64	3	4	1.3	Ω a. ●° p.
30	32	23.4	96	64	5	8	11.4	● p.
Mean	31.8	23.2	94.1	68.7	7.1	7.1	------	
Total	------	------	------	------	------	------	408.7	

CAGAYAN, MISAMIS.

[$\phi=8°\ 29'$ N; $\lambda=124°\ 38'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.7	21.5	99	67	2	8	------	○ [ꓘ p.
2	32	20.6	99	70	3	4	------	Ω° ≡² a. ↯° p.
3	32.4	21.4	99	73	8	8	------	Ω° a. ⊕ p.
4	32.2	21.5	100?	75	8	9	1	[ꓘ ↯° ●° p.
5	30.5	21.8	100	77	10	9	10.7	d a. p. ● p.
6	31.3	20.7	100?	76	8	4	15.7	Ω a. d ● p.
7	29.4	21.7	99	88	10	10	.5	d p.
8	31.5	21.1	100?	86	6	9	------	[ꓘ d p.
9	31.8	21.2	100?	71	1	8	------	Ω a. ↯° d p.
10	30.7	21.6	98	80	9	10	1.1	↯° ●° p.
11	31	21.8	100?	77	10	9	------	[ꓘ p.
12	30.9	21.4	100?	84	9	9	------	Ω a. [ꓘ d p.
13	32.6	22.3	98	78	10	9	------	
14	32.3	22	99	67	8	10	------	d p.
15	33.4	21.3	97	64	10	8	------	
16	33.2	21.3	92	62	7	4	------	∞ a. ⋖° p.
17	32.5	22.2	95	65	2	8	------	Ω² a. ⌒° p.
18	32.4	22.6	92	70	8	9	1.5	Ω° a. ●° p.
19	31.8	22.5	96	69	10	10	------	⋖° p.
20	32.2	22	94	68	10	8	------	Ω° a.
21	33.2	22.9	90	59	8	6	25.9	d ● ↯° p.
22	31.4	21.9	96	69	9	4	.4	d ⋖² ⊤° p.
23	31.5	22.6	96	73	10	9	52.8	d ⌒° a. d ● p.
24	30.4	22	97	75	10	9	------	⊕° d p.
25	30.5	22.8	97	75	9	9	.3	d p.
26	30.3	22.9	93	74	10	10	------	⊤² p.
27	31.3	23	93	79	10	10	36.3	[ꓘ d ● p.
28	31.3	22.2	97	68	10	6	28.3	● p.
29	30.5	21.7	97	77	8	10	.3	d p.
30	31	21.4	94	80	8	8	1.5	●° p.
Mean	31.6	21.9	96.9	73.2	8	8.1	------	
Total	------	------	------	------	------	------	176.3	

DAPITAN.

[$\phi=8°\ 40'$ N; $\lambda=123°\ 25'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	24	87	68	8	5	------	⋖ p.
2	31.2	24.3	88	66	8	5	------	Ω ≡ a. ⋖ p.
3	31.6	24.3	95	70	8	6	0.8	●° a. ⊖ p.
4	32.9	23.5	86?	69	7	7	13.5	●° a. ● p.
5	30.8	23.8	97	82	8	7	3.8	● a.
6	32.9	21.5	98	72	7	4	3	● ⊖ p.
7	31.4	22.6	97	68	10	8	6.1	● a. p. ⋖ p.
8	32.8	22.1	96	73	10	8	4.8	● a. ⊖ ⊍ [ꓘ ●° p.
9	32.8	22.7	95?	65	9	6	27.9	⋖ ● a. ⊍ ⊖ p.
10	------	23.4	92	63	10	8	71.1	●² a. ⋖ p.
11	30.7	23.2	96	69	10	9	11.9	≡² a. ● p.
12	------	22.4	97	71	9	8	8.9	● p.
13	------	22.6	95	65	10	10	38.1	● a. p.
14	30.3	22.5	90	69	10	10	4.1	●° a. ↯ ● p.
15	31	21.3	95	76	10	10	1	●° ⋖ p.
16	33.8	22.2	98	67	5	6	------	
17	33	22.3	97	65	4	3	------	≡ a.
18	33.8	22.8	95	69	10	5	------	Ω ≡ a.
19	32	23	97	63	10	8	3.3	● a.
20	34.3	21.6	95	83	4	10	------	Ω a. d ⊤° p.
21	33.4	22.3	95	71	4	7	------	Ω a. ⊤ p.
22	35.2	22.4	97	59	5	6	------	⋖ p.
23	33.6	------	96	------	5	------	44.4	≡ a. ●
24	30.6	23	96	67	10	7	31.7	≡ ● a. ⋖ ● p.
25	28.3	22.9	98	78	10	10	58.7	≡ ● a. ⋖ ● p.
26	31.6	23.6	96	66	10	5	------	⋖ p.
27	30.6	23.5	97	73	10	10	.5	●° ⋖ p.
28	33	23.2	96	68	5	4	------	
29	33.6	22.3	97	66	8	9	------	≡ a.
30	30.8	24.7	95	74	8	8	7.6	● a. p. ↯ p.
Mean	32.1	22.9	95	69.5	8.1	7.2	------	
Total	------	------	------	------	------	------	341.2	

BUTUAN.

[$\phi=8°\ 56'$ N; $\lambda=125°\ 32'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.3	21.7	97	93	6	7	12.7	Ω ≡² a. ● p.
2	29	22	96	93	7	7	7.9	Ω a. ● p.
3	29.5	22.8	96	98	8	9	7.9	p° a. ● p.
4	27.9	23	98	74	9	7	3.8	● a.
5	29.3	22.2	96	92	10	7	11.7	● a. ↯ ● p.
6	29.9	22.3	98	87	6	9	.5	≡² a. [ꓘ ●° p.
7	26.1	21.6	97	88	9	10	5.3	≡² p° ● a.
8	27.7	21.7	99	84	7	9	3.6	≡² ● a. ⊤ p p.
9	30.1	22.6	96	87	3	5	1.8	Ω a. ● p.
10	28.3	22.6	96	86	7	10	------	Ω ∞ a. ⊤ p.
11	28.1	23	97	75	9	9	40.6	Ω a. d ↯ ● p.
12	28.6	23.1	98	71	10	7	1.5	Ω a. ● [ꓘ p.
13	30.5	22.6	97	73	10	9	4.3	Ω a. ● [ꓘ p.
14	29	22.6	97	70	7	9	6.6	p a. p° ↯ ● p.
15	30.4	22.3	97	59	6	6	------	Ω a.
16	30.1	22.2	96	68	2	3	------	Ω a. ⋖ p.
17	29.9	22	98	70	1	9	------	Ω ∞ a. ⊕ ⊤ p.
18	28.8	22.7	96	77	8	9	17	Ω a. ● p.
19	28.5	23	96	78	10	8	26.2	●² a. ⋖ p.
20	29.6	22.6	95	80	9	7	------	Ω a.
21	30.1	22.3	96	81	7	9	------	Ω ∞ a. p° ⌒ p.
22	29.5	22.9	95	66	3	6	------	
23	30.1	22.7	95	86	8	9	26.4	● a. ↯ ● p.
24	28.5	22.7	96	63	10	9	14	● a. d p.
25	28.3	22.9	95	75	8	10	------	Ω a.
26	28	23	97	78	10	9	1.5	Ω ∞ p° a. ● p.
27	29.2	22.9	97	72	8	3	10.4	≡² a. [ꓘ ● p.
28	29.3	22.9	96	68	9	6	------	p ⊤ p.
29	27	22.6	96	93	4	10	4.3	Ω a. ● a. p.
30	28.8	22.4	96	68	9	10	7.1	Ω ∞ a. ● p.
Mean	29	22.5	96.5	78.4	7.3	7.9	------	
Total	------	------	------	------	------	------	215.1	

METEOROLOGICAL DATA, ETC.—Continued.

YAP (Western Carolines).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	22.9	95	89	4	8	7.9	
2	29.5	23.5	95	78	5	7	6.9	
3	31	22.8	88	94	8	10	3.3	
4	30	23	80?	89	5	2	------	
5	31	22.7	96	79	6	3	4.1	
6	29	22.5	91	80	7	5	------	
7	29.5	23.7	82?	72	3	4	12.7	
8	29	22.8	90	92	5	9	5.1	
9	29.9	22.9	90	90	8	7	2.5	
10	30.2	22.6	89	75	6	5	------	
11	30.7	21.2	90	82	8	8	10.2	
12	30.5	24.5	90	79	7	7	2.5	
13	30.8	24.5	88	78	6	6	3.8	
14	30.5	26.5?	93	86	4	4	2.5	
15	31.3	23.7	96	80	5	7	15.2	
16	29.5	23.7	88	84	10	6	30.5	
17	28	22.3	84	87	8	10	50.8	
18	28.2	22.5	83	90	6	10	7.6	
19	28.9	22.7	94	93	9	8	5.1	
20	29	22.5	92	81	4	7	------	
21	29.8	22.6	87	78	5	8	6.4	
22	29	22.5	84	80	4	4	------	
23	29.5	22.4	90	87	4	9	3.8	
24	28.7	23.7	90	84	6	9	------	
25	28.9	22.2	94	84	8	8	7.6	
26	29.5	22.2	92	88	9	8	10.2	
27	29.9	22	88	93	6	7	7.6	
28	30.1	23.8	89	82	8	9	12.7	
29	30	24	86	85	8	8	6.4	
30	28.1	24	89	92	10	10	------	
Mean	29.7	23.1	89.4	84.4	6.4	7.1	------	
Total	------	------	------	------	------	------	225.4	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	24	88	75	8	3	------	
2	31.6	22.4	88	70	8	10	------	d a. ↙° ↯ ⋓ p.
3	31	23	87	85	10	10	7.9	d a. ● ↯ ⋓ ⊕ p.
4	30	23.2	90	77	6	10	------	d ≡ a. ⊕ ⋓ ↯ p.
5	30.7	24	96	76	10	10	------	⊕ ⋓ ↯ p.
6	29.4	23.6	92	79	10	10	------	d a. ⊕ ⋓ ↯ p.
7	29.2	23.1	88	84	10	10	------	d ≡^{2} ⛈ ⋓ ⊕ p.
8	29	23	91	85	8	10	17.3	d a. p. ● ⛈ p.
9	30.1	23.6	95	81	8	7	6.9	● a.
10	31	23.2	95	86	10	10	53.3	d a. p. ● ↯ p.
11	28.5	22.8	96	84	10	10	22.6	● a. d p.
12	28.1	23.1	95	87	10	8	46.5	d ≡^{2} ● a. ↯ p.
13	28	23.3	93	91	10	10	29.8	≡ ↙ ● a. ↯^{2} d p.
14	27.9	24.8	89	85	10	10	------	≡ d a. d ⛈ p.
15	28.5	24.4	80	82	10	10	48.8	≡^{2} ↙ ●^{2} ⛈ p.
16	29.5	23.1	96	84	4	8	------	
17	30.2	23.3	91	76	7	10	18.8	d ● ⛈ p.
18	29.6	23.5	88	72	10	10	------	↯ p.
19	30	23.3	95	74	10	10	------	↙° a. p.
20	28.5	22.8	91	75	10	8	------	
21	29.8	24.4	87	82	8	4	14.2	⊤ d ● p.
22	30.5	23.6	95	75	8	7	------	⌒ a. ↯ d p.
23	29.5	23.5	95	77	10	9	14.7	d a. p. ↯ ↙ ● p.
24	31	22.2	95	78	10	10	8.6	d ● ↯ p.
25	30	23.4	95	91	10	10	10.4	d ● ≡ ⛈ p.
26	30	23.2	95	73	10	10	------	d ≡ ↯ p.
27	29.8	24	93	85	10	8	11.7	d ≡ a. ↙ ● ↯ p.
28	28.5	24.6	93	80	10	10	------	d ≡ ↙ a.
29	29	23.5	90	95	10	10	65.3	d ●^{2} a. ⛈ ● p.
30	28.6	22.5	94	78	10	8	62.5	d a. ●^{2} ↯ p.
Mean	29.6	23.4	91.9	80.7	9.2	9	------	
Total	------	------	------	------	------	------	439.3	

BACOLOD.

[ϕ=10° 41′ N; λ=122° 56′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10	0–10.	mm.	
1	32	22.5	93	64	4	1	------	↙ ⊕ p.
2	31.9	22.1	88	68	1	1	------	↙ ⊕ p.
3	31.7	23.1	87	73	3	1	0.8	≡° a. ↙ ⛈ d p.
4	30.7	22.6	96	78	6	6	------	↙ ↯ ⊕ p.
5	27.6	23.9	95	87	10	10	3.6	⊤° d° a. ↯ d p.
6	30	21.6	96	76	8	6	------	↯ ⊕ p.
7	30.8	23.1	88	72	7	8	1	⛈ d ⋓ p.
8	30.3	22.6	92	71	7	6	------	↙ d° p.
9	30.5	24	91	81	7	8	3	●° ⊤ a. ↙° ⛈ ⊕
10	29.3	23.4	97	84	9	9	4.6	●° a. p.
11	28.8	22.6	97	83	10	10	9.4	● a. ↙° p.
12	27.2	22.1	94	96	10	10	37.8	● a. p.
13	26.1	22.4	97	92	10	10	42.7	● ⌒ a. ↙ ● p.
14	25.6	23	94	89	10	10	31.5	↙ ● a. p.
15	28.3	22.1	91	87	10	9	2	⌒ ⊤° ↙ ●° a. d p.
16	29.9	20.6	95	73	6	7	------	
17	30	20.5	95	82	1	2	------	⊤ p.
18	29.4	22.2	91	72	8	8	------	
19	28.9	23.8	91	70	9	10	------	○ p.
20	30.6	21.9	90	81	10	8	22.9	●^{2} ⊤ ↯ p.
21	29.7	21.9	94	77	7	7	3	⛈ ●° p.
22	29.4	22.7	92	85	6	8	------	⛈ ⌒ p.
23	30	22.7	92	94	6	7	6.9	Ω a. ● ⊤ p.
24	28.7	23.2	90	77	10	9	2.5	●° a. d p.
25	28.4	23.7	91	77	9	9	------	↙ p.
26	29.3	24.2	90	84	10	8	8.4	↙ ●° ↯ p.
27	28.5	23.3	93	81	10	9	8.4	● a. d° ↯ p.
28	30.1	22.8	93	74	10	8	------	
29	29.9	22.5	96	83	7	10	1.3	⊤ ●° p.
30	30.4	22.3	96	77	6	6	------	↙ ⋓ p.
Mean	29.5	22.6	92.8	79.6	7.6	7.4	------	
Total	------	------	------	------	------	------	189.8	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	21	86	65	1	4	------	
2	33.5	20.9	86	61	1	4	------	
3	33.5	21.5	83	62	10	3	------	↯ p.
4	32.9	22.3	91	71	3	7	------	
5	28.3	22.3	91	84	10	10	1.3	●° a.
6	31.9	22.5	91	84	8	10	45	● ⛈ p.
7	31.9	22	91	80	8	10	.8	●° ⊤ p.
8	32.2	21.8	90	69	4	5	------	Ω a.
9	33	22.5	88	69	10	10	------	⛈ p.
10	32.1	23.5	93	70	10	10	7.6	● ⛈ p.
11	29.2	22.8	90	77	10	10	2	d a. ●° p.
12	28.9	22.5	93	88	10	10	91.2	↙° ●^{2} p.
13	24.5	22.1	88	97	10	10	170.2	↙ ●^{2} a. p.
14	24.9	22.9	95	97	10	10	70.1	● a. ↙ p.
15	28.3	23.1	91	88	10	10	22.6	● a.
16	31	20.6	89	73	3	10	------	
17	31.4	20.4	90	53	2	2	------	
18	30.5	19.6	86	71	10	10	------	
19	31.8	21	92	68	10	10	------	
20	28.9	23	91	85	10	10	23.1	●° a. ● p.
21	32	22.4	94	79	10	2	1	●° a.
22	32	23.6	94	68	4	2	------	
23	32.6	22.6	90	75	6	9	------	d p.
24	30.9	22.9	93	78	10	10	------	d p.
25	31.9	22.4	90	75	10	10	------	d p.
26	32	22	92	65	10	10	------	↯ p.
27	26.6	22.5	93	89	10	10	43.2	● a. p.
28	31.9	24.2	92	74	10	3	2	●° a.
29	33.5	23.2	91	72	4	10	26.7	Ω a. ● p.
30	31.6	22.8	95	75	4	7	.3	p ⊕^{2} ⋓^{2} p.
Mean	30.9	22.2	90.6	75.4	7.6	7.9	------	
Total	------	------	------	------	------	------	507.1	

METEOROLOGICAL DATA, ETC.—Continued.

TUBURAN.
[ϕ=10° 45′ N; λ=123° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.1	22	95	70	2	7	------	⌓² ≡² a. ϟ² p.
2	33.9	21.6	92	67	2	8	------	⌓° a. ∞² ⊕° p.
3	34.3	22.4	92	68	8	7	2.8	●° ⎾° ⊍° p.
4	32.2	23.3	95	70	5	7	------	ϟ² ⊍² ⊕² p.
5	28.6	24.2	96	83	10	10	9.7	● d a. ⊍² p.
6	30.6	22.4	97	75	8	5	------	d ϟ² ⊍° p.
7	30.2	23.2	95	88	6	10	11.4	d a. ● ⊤² ⊍° p.
8	32.2	22.2	96	75	8	8	------	⌒° d ⊤ ϟ² p.
9	32.6	23.9	96	66	9	7	------	d a. ϟ² ⊕² p.
10	30.9	23.5	93	79	10	10	6.9	● ⌒² a. ◯² p.
11	29.2	23.9	95	87	10	10	2.5	d a. ●° p.
12	26.1	23.5	96	96	10	10	38.1?	d a. ●² a. p.
13	27.9	22	97	82	10	10	------	d a. p.
14	27.3	23.2	96	83	10	10	19.8	●² ↙° a. d p.
15	30.5	22.2	83	74	10	9	6.9	d a. ● p.
16	31.6	21.5	95	67	5	6	------	⌓² a.
17	31.3	21.7	94	74	1	6	------	⌓° ≡² a. ϟ° p.
18	29.5	23.1	95	84	10	10	------	◯° a. ⊤² d p.
19	29	24.6	85	74	10	10	------	
20	32.1	22	92	73	10	8	------	
21	31.1	22.7	95	69	4	7	------	⌓ᶜ ≡° a. ◯° ⎾ p.
22	30.9	23.4	94	79	10	6	18.5?	●° ⌒² a. ●² ⎾° p.
23	30.4	22.7	97	79	5	9	------	d ⊤° p.
24	29.9	23.2	95	74	10	9	2.5	●° a. ⊤° d p.
25	29.3	23.4	95	82	10	9	22.4	●² a. ◯° p.
26	29	23	97	82	10	10	4.3	⌒² ●° p.
27	30.3	24.5	94	75	10	9	------	d a. p.
28	30.2	23.7	95	91	9	10	8.1	d a. ● ◯° ⊍² p.
29	28.4	23.2	96	92	10	10	13.2?	●² a. ⊤² ● p.
30	30.4	22.4	98	88	10	10	2.5	●° ⊍² p.
Mean	30.5	23	94.4	78.2	8.1	8.6	------	
Total	------	------	------	------	------	------	169.6	

CUYO.
[ϕ=10° 51′ N; λ=121° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.4	24.9	86	67	2	1	------	
2	32.5	24.5	85	64	1	2	------	
3	32.7	25	79	66	2	4	------	
4	33.2	25.5	88	69	2	3	------	
5	31.4	25.6	86	83	8	9	7.1	ϟ p.
6	32.7	22.6	92	74	4	7	.5	d p.
7	32.4	23.1	91	72	4	6	.8	⎾ p.
8	32.3	23.4	90	65	5	4	------	
9	31.6	25.6	79	71	2	4	------	
10	31.7	25.2	76	70	6	5	------	⌒ a.
11	31.7	24.5	80	72	9	6	9.4	
12	27.2	23.1	90	89	10	10	68.1	● a. p p.
13	27.2	20.7	87	86	10	10	35.1	● p.
14	26.7	22.4	90	87	10	10	26.7	● a.
15	30.4	22.9	88	81	10	9	1.3	
16	31	21.9	90	73	7	6	------	
17	32.2	20.4	89	64	3	1	------	
18	32.4	20.9	93	73	4	7	------	
19	30.2	24.5	73?	71	4	7	------	
20	30.3	22.9	83	78	9	7	10.2	● p.
21	32.2	22.8	91	75	7	5	------	ϟ p.
22	33.3	23.2	89	71	6	4	------	ϟ p.
23	32.8	22.8	91	71	5	4	------	
24	30.9	22.4	90	81	7	7	19	● p.
25	31.3	22	90	77	6	4	------	
26	30.8	24.9	86	75	7	6	------	
27	30.1	24.2	79	83	9	10	10.2	● p.
28	31.2	22.7	90	76	9	8	24.9	● p.
29	32.3	22.4	92	70	4	5	.3	
30	33.4	23.4	91	75	2	5	------	
Mean	31.4	23.3	86.8	74.3	5.8	5.9	------	
Total	------	------	------	------	------	------	213.6	

BORONGAN.
[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.5	21.9	96	66	9	5	1.3	●° a. ↙ p.
2	30.1	22.5	92	77	8	6	2	●° ↙ a. p.
3	30.7	23.9	92	71	10	7	3.3	● a. ↙ p.
4	30.2	23	98	69	8	6	6.9	● a. ↙² p.
5	30	22.9	97	74	10	8	13.5	● a. p. ↙ p.
6	30.1	22.1	97	71	10	8	10.7	● a. ↙ a. p.
7	31.2	23.7	97	75	9	7	26.7	● a. ↙ a. p.
8	30.9	24	96	70	10	8	24.6	●² a. ↙ p.
9	30.3	24.3	92	92	9	10	28.4	● a. p.
10	24.8	23	97	97	10	10	51.8	●² a. p.
11	27	22	97	93	10	10	55.9	≡ ●² a. ●² ϟ p.
12	28.5	22.8	97	84	10	8	28.4	⌓ ≡ a. ↙ ⎾ ● p.
13	29.7	21.5	96	81	6	10	5.6	⌓ ≡ a. ↙ ● p.
14	30	22.5	98	69	10	10	------	≡ a.
15	29.7	21.9	97	79	10	9	.5	≡ a. ●° p.
16	29.9	21.8	95	71	4	6	------	⌓ ≡° a.
17	30.2	22.1	96	75	2	8	------	⌓ a. ↙ p.
18	29.2	23	95	78	9	10	.8	●° a. ↙ ⊤ p.
19	27.2	23.9	95	97	10	10	2.8	↙ ●° a. p.
20	30	22.3	97	78	8	9	12.2	↙ a. ● a. p.
21	30.2	22.8	98	72	8	6	------	≡ a. ↙ p.
22	30.5	23.6	97	75	5	4	22.9	● a. p.
23	30.3	23.1	96	74	5	8	30.5	≡ a. ⎾ ●² p.
24	29	22.3	98	86	10	10	38.1	≡ ● a. ●² p.
25	27	22	97	83	10	10	26.7	● a. p. ↙ p.
26	27.8	23.1	97	84	10	10	38.6	●² a. ● p.
27	31.2	22.3	98	73	4	6	------	↙ a. p. ϟ p.
28	29.5	23.2	97	75	10	8	11.7	≡ ● a. ↙ p.
29	27.5	23.2	97	90	10	10	5.8	● a. p.
30	29.6	23.7	86?	81	10	10	19	↙ a. p. ● p.
Mean	29.4	22.8	95.9	78.7	8.5	8.2	------	
Total	------	------	------	------	------	------	468.7	

PALANOC.
[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32	24.6	90	74	8	7	------	
2	32.5	24.4	92	65	8	4	------	
3	33	24	92	63	4	6	------	
4	33	------	------	78	------	7	14.2	
5	30.4	25.2	93	90	8	9	9.1	⊤ p.
6	31.8	24.6	95	71	7	6	------	
7	32.6	24.4	98	71	6	8	------	
8	32.8	24.5	92	65	7	6	1.8	
9	28.6	25	95	94	9	10	27.7	⊤ p.
10	------	23	96	97	10	10	50.5	
11	28.8	23.6	97	89	9	9	38.6	
12	26.2	23.6	98	89	10	10	26.4	
13	29.2	24.4	95	93	9	10	53.3	
14	24.5	23.2	98	89	10	10	79.2	
15	25.2	23	97	80	10	10	14.5	
16	26.6	24.2	86	80	10	10	5.1	
17	30.8	21	96	65	6	8	.3	
18	28.4	23	96	95	10	10	30	
19	26.4	23.5	86	81	10	10	.5	
20	30.4	24.5	98?	77?	9	10	------	
21	31.6	24.2	95	71	9	9	------	
22	31.6	24	95	68	7	6	------	
23	31.5	24.4	95	65	8	7	------	
24	31.8	24.6	85	71	7	8	------	
25	30.2	25.6	85	75	9	9	10.4	
26	27.2	24	93	86	10	9	6.4	
27	29.4	25	93	88	10	10	6.6	
28	29.2	24.2	95	93	10	9	21.3	
29	29.4	23.8	98	76	9	9	1	
30	31.2	24.6	91	71	9	7	3.3	
Mean	29.9	24.1	93.6	79	8.6	8.4	------	
Total	------	------	------	------	------	------	400.2	

METEOROLOGICAL DATA, ETC.—Continued.

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.7	22.9	91	69	6	5	36.1	●^{2} a.
2	29.8	23.2	89	71	8	7	1.3	
3	30.2	22	97	78	6	8	23.9	● p.
4	30.8	24.2	97	74	7	3	9.9	● a.
5	27.6	24.4	93	88	10	7	10.4	● p.
6	30 1	22.5	98	79	5	5	11.4	● p.
7	30.7	23.4	95	72	7	6	------	
8	29.8	23.5	88	76	4	5	6.4	● p.
9	29.4	24.1	95?	83	10	9	52.3	●° a. ● p.
10	27.3	22.5	93	100	10	10	115.6	●^{2} ☈^{2} a. p.
11	27.2	22.4	97	96	7	10	69.1	●^{2} a. p.
12	26.3	23.2	97	91	10	10	21.3	● a. p.
13	29.3	22.3	97	94	7	10	8.6	≡ a. ● p.
14	28.3	23.2	93	76	10	10	3.8	● p.
15	28.6	22.6	91	80	7	10	3.8	● a.
16	30.9	23.5	87	66	8	9	------	
17	29.2	22.7	94	71	5	8	47.5	●^{2} p.
18	29.2	22.7	97	81	10	10	1.5	● a.
19	26.8	23	75?	86	10	10	5.1	● a.
20	30.2	22.5	87	75	7	9	2	●° a.
21	30.2	23	96	76	8	8	6.1	● p.
22	29.4	22.7	89	82	7	7	------	
23	29.9	23	96	76	8	6	1.3	
24	28.8	23.5	96	80	7	8	------	
25	27.2	23.2	87	89	10	10	11.4	● a. p.
26	28.8	23.8	89	80	10	10	74.9	● a. p.
27	31	23.4	96	86	8	10	17.5	● a. p.
28	29.4	22.8	97	86	8	9	10.4	● a. p.
29	27.9	24	98	86	10	8	21.6	● a. p.
30	29	22.9	91	79	7	9	------	
Mean	29.1	23.1	92.9	80.9	7.9	8.2	------	
Total	------	------	------	------	------	------	573.2	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.6	22.8	98	72	8	6	20.8	● a. d p.
2	34	22.1	90	69	8	7	7.6	● ↙ a. p.
3	32.9	24	82	73	8	8	6.4	● ↙ p.
4	33.2	24.9	95	71	10	10	5.1	● p.
5	30.2	24.8	87	92	8	10	30.7	●^{2} a. ● p.
6	33.3	21.8	95	71	5	6	------	
7	32.7	23	95	69	8	6	2.5	● a.
8	33.5	24	80	68	8	8	2	● a.
9	30.5	22.6	90	95	10	10	40.4	☈ ●^{2} a. ⊤ ● p.
10	31.4	23.4	80	77	10	10	20.3	● p.
11	31.4	23.2	97	83	10	10	52.8	↙ a. ● a. p.
12	28.9	23.2	92	94	10	10	55.9	● a. p.
13	31.4	23	98	80	10	10	29	● a. p.
14	27	22.8	91	97	10	10	28.4	● a. p.
15	28.3	23	95	93	10	10	33	d a. ● p.
16	28.6	22.2	97	91	10	10	5.3	d a. p. ● p.
17	33.1	20.6	98	74	8	8	------	d p.
18	31.3	22.9	97	79	10	10	26.2	● a. p.
19	29.8	20.8	80	90	10	10	12.7	d a. p. ↙ ● p.
20	32.1	21.8	83	70	10	10	------	
21	32.5	21.9	97	71	5	6	1.3	⊤ ● p.
22	34.5	22.4	96	72	8	5	------	
23	34.9	24	98	69	6	5	5.1	d ● p.
24	33	23.6	92	75	8	6	5.6	● a. d p.
25	29.2	23.2	95	82	10	10	27.9	↙ a. ● a. p.
26	29.5	23.4	96	84	10	10	39.4	●^{2} a. ↙ ● p.
27	30.5	23	97	77	10	8	7.6	● a. d p.
28	32	24	93	77	10	10	38.6	●^{2} p.
29	29.7	22.9	98	84	10	10	16.3	● a. d p.
30	30.6	24	89	79	10	8	12.7	● ↙ p.
Mean	31.4	23	92.4	79.3	8.9	8.6	------	
Total	------	------	------	------	------	------	533.6	

SUMAY, GUAM (Ladrones Islands).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.3	24.4	92	84	6	5	0.6	
2	29.9	23.3	88	78	6	7	------	☈ p.
3	29.4	24.5	91	78	8	10	2.3	☈ a. ☇ p.
4	30	25.1	86	78	2	5	------	
5	28	26.1	86	84	3	5	9.7	
6	28.9	23.1	91	83	1	6	------	
7	29	25	85	77	3	4	.8	
8	29.2	25	86	71	3	5	4.1	
9	27.2	24.5	92	89	9	10	38.1	
10	28.1	22.1	91	82	9	9	.3	☈ p.
11	28.6	24	80	74	8	8	5.3	☈ a.
12	29.4	24.5	92	75	9	7	.9	
13	29.7	23.2	92	84	1	7	------	
14	29.5	23.6	92	70	8	7	------	
15	28.7	25.1	90	86	7	7	.5	↙ p.
16	27.7	24.7	81?	91	8	9	7.9	
17	29.2	24.5	84	75	6	7	.5	
18	30	25.8	86	73	3	4	.5	
19	29.7	26	83	78	4	6	.5	
20	29.9	26.3	82	72	2	7	------	
21	29.1	25.6	93	75	8	5	------	
22	29.2	25.8	85	72	7	5	------	
23	29.3	26.0?	85	73	7	7	7.1	
24	28.3	24.1	92	88	8	10	20.2	☈^{2} p.
25	28.3	23	91	81	8	9	1.5	↙ p.
26	29.7	25.2	80	76	7	6	.3	⌒ a.
27	29.4	26.2	81	73	2	3	.1	
28	29.8	25.6	89	75	7	5	.3	
29	28.7	26	90	80	8	8	1	
30	28.3	25.6	90	95	4	5	9.4	
Mean	29	24.8	87.5	79	5.7	6.6	------	
Total	------	------	------	------	------	------	111.9	

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	------	------	------	------	------	------	------	
2	------	------	------	------	------	------	------	
3	------	------	------	------	------	------	------	
4	------	------	------	------	------	------	------	
5	------	------	------	------	------	------	------	
6	------	------	------	------	------	------	------	
7	30.7	22.8	87	77	4	5	------	●° a. ● ⊤ p.
8	30.5	23.7	91	77	6	7	------	●° a. ☇° p.
9	------	24.4	92	88	8	10	------	●^{2} a. ●° p.
10	------	24.6	90	76	9	10	------	d p.
11	------	23.3	96	69	10	5	------	⊤° p.
12	------	23.4	88	66	10	9	------	
13	------	23.6	92	79	10	10	------	●^{2} p.
14	------	23.2	91	73	10	10	------	↙° ●^{2} a. ● p.
15	------	22.7	89	85	10	10	------	● a. p.
16	------	20.7	84	98	10	10	------	●° a. ●^{2} ↙^{2} p.
17	------	21.3	99	76	10	6	------	⊕ a. p. ↙ p.
18	------	20.8	92	71	6	10	------	∞^{2} ●° p.
19	------	22.3	96	68	10	10	------	●° p.
20	------	22.4	83	77	10	10	------	d a. p.
21	------	22.5	98	81	7	10	------	☈^{2} a. ●° ⊤^{2} p.
22	29.8	22.4	97	79	5	5	------	●° a. p. ☇° p.
23	30.4	22.8	92	71	5	5	------	●° a. p p.
24	29.5	22.8	96	75	8	5	------	●^{2} a. ● p.
25	30.5	23.1	96	66	7	2	------	●^{2} ☈ a. ⌒° p^{2}p.
26	29.2	23.6	97	75	9	10	------	●^{2} a. ●° p.
27	25.7	20.1?	91	96	10	10	------	● a. p. ↙° p.
28	27.5	------	95	91	10	10	------	↙ ● a. p.
29	29.2	23	97	77	10	8	------	● p.
30	29.5	22.7	92	70	10	8	------	●^{2} ↙° a.
Mean	29.3	22.7	92.5	77.5	8.5	8.1	------	
Total	------	------	------	------	------	------	------	

METEOROLOGICAL DATA, ETC.—Continued.

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.6	23.4	95	64	3	5	22.4	● d a. d ☇ p.
2	34.1	23.5	91	69	4	5	2.5	● a. d p.
3	35	22.5	92	68	8	9	6.6	●° a. ⌒² ☇ ● p.
4	33.6	24.4	95	78	9	8	.8	↙ ●° a. ⦶° ☇ p.
5	34	23.5	92	72	6	9	5.3	↙° ● p.
6	32.7	22.7	97	79	4	5	6.6	d ● a.
7	33.2	23	97	72	7	7	14.7	●⌒²a. ⌒⦶°●°p.
8	34	23.4	91	66	4	5	------	⌒ p.
9	29.4	23.9	92	84	10	10	34.8	↙ ●² ⌈☇² a. ☇ p.
10	33.6	25.5	78?	67	9	8	------	d p.
11	32.4	24.4	96	85	10	9	17.5	↙ ● d a. ● p.
12	28.6	24.2	92	89	9	10	100.8	● a. ●² d p.
13	29.4	23.3	98	92	10	9	18	● d a. p. ☇ p.
14	27.9	23.2	96	86	10	10	64.3	↙ ● a. p.
15	30	24	88?	90	10	10	14	↙ ● a. ☇ p.
16	29.2	23.8	92	85	10	3	6.4	↙° a. ● p.
17	31.5	22	96	79	6	8	21.1	d° ● p.
18	32	24	95	79	9	10	.8	d° a. ●° p.
19	29	24.2	77	75	10	10	12.7	d° a. ● p. ↙ a. p.
20	30.9	22.6	80?	76	10	8	------	
21	32.5	25.5	93	74	8	8	.8	●° p.
22	32.9	22.2	96	78	8	8	------	d a. p.
23	32.2	25.5	95	71	8	8	3	● a. p ⌒ p.
24	32	24.1	92	74	9	7	27.7	↙ ● ⌒ a. ●° p.
25	32.7	22.8	94	81	6	9	2	d ● p.
26	32.5	23.8	86	74	10	9	29.7	d° ● p.
27	31	23	97	85	10	8	84.3	● a. T ↙ ● p.
28	29	23.6	94	86	9	10	24.9	↙ ● a. p. d p.
29	30.1	24.4	93	90	10	10	20.1	●° a. ●² ↙ p.
30	31.5	24.5	91	83	7	8	9.9	d ● a. ⌒ ⦶ ● ↙
Mean	31.7	23.7	92	78.4	8.1	8.1	------	
Total	------	------	------	------	------	------	551.7	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.3	20.8	93	48	6	6	------	
2	31.4	20.5	96	59	3	5	------	
3	31.3	20	96	67	4	5	0.3	
4	32.1	21.5	95	67	5	7	.3	d p.
5	32.7	23.1	95	58	4	6	------	☇° p.
6	32.8	21.9	97	57	4	4	------	⦶ p.
7	32.6	21.1	97	59	5	5	------	◡ p.
8	31.8	20.5	96	61	5	6	------	↙° p.
9	30.1	20.8	95	86	7	9	.3	T p a. ↙° p.
10	32.7	22.5	91	64	8	7	------	↙° p.
11	29.8	21.1	97	89	8	9	3	● a.
12	32.2	19.6	92	61	7	7	------	
13	29.3	20.6	88	86	7	8	52.8	● p.
14	26.4	21.2	98	88	10	9	58.9	● a. p. d p.
15	23.6	20.9	98	98	10	10	44.4	● a. p.
16	22.8	19.7	99	98	10	10	122.7	●² a. p. ↙° p.
17	29.3	19.1	99	67	6	6	------	↙° p.
18	31.1	20.3	98	77	5	8	.5	d p.
19	29.8	19.5	97	73	8	9	------	T° p.
20	26.8	20.3	93	87	10	9	6.1	↙ ● a. d p.
21	31.9	22.3	97	70	7	7	------	T p.
22	32.8	21.5	97	62	6	6	------	☇ p.
23	32.9	21.3	97	88	3	8	------	
24	31.3	21.6	97	68	5	6	2	● ○ a. ● p.
25	31.3	20.4	97	78	3	5	.5	●° a.
26	31.2	20.2	97	67	4	7	------	
27	24.5	21.2	97	96	10	10	165.4	d a. ●² a. p.
28	30.7	20.6	99	83	9	10	8.1	● ○ a. d ● p.
29	30.1	22.3	99	73	8	7	------	
30	30.8	23.2	91	67	7	7	------	○ p.
Mean	30.3	21	95.9	73.4	6.5	7.3	------	
Total	------	------	------	------	------	------	465.3	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	20.8	97	71	3	5	------	≡ a.
2	29.8	21	98	70	8	7	------	d a. ↙° p.
3	29.7	20.4	98	69	3	9	4.1	d a. ● p.
4	29	20.7	97	70	2	9	------	d a. p.
5	30.1	21.5	97	68	7	4	------	↙° p.
6	31	21.5	97	68	9	9	------	Ω ≡ a.
7	30.7	21	98	67	2	7	------	
8	31.2	21.4	98	64	7	8	------	d a. ☇ p.
9	29	19	97	71	4	10	6.6	d a. ● p.
10	28.8	21	98	70	8	10	4.8	● a. d p.
11	29.2	20.9	97	72	9	10	------	p a. ☇ p.
12	29.5	19	98	69	4	9	------	≡ a.
13	27.2	19.4	98	73	7	9	5.1	≡ a. ● p.
14	27	20.3	97	75	10	9	------	d a. p.
15	26.6	20	98	72	10	10	52.8	● a. p.
16	25.5	18	98	77	8	10	56.4	d a. ●² p.
17	27.6	19.5	98	71	9	8	------	
18	28.5	21	98	71	10	8	34.5	d a. ● p.
19	27.2	19.5	97	70	9	8	------	Ω a.
20	27.3	18.2	96	74	10	10	74.4	●² ↙° ⌈☇ a.
21	28	20.6	98	71	8	5	------	Ω ≡ a.
22	30	20	98	68	2	7	------	≡ a.
23	29.6	20.8	97	67	2	8	1.8	Ω ≡ a. ● p.
24	29.5	21.4	97	69	3	8	------	d p.
25	29	20.4	98	68	2	7	------	≡ a. d p.
26	29.1	21	99	69	7	8	------	☇ p.
27	29	20.3	97	72	10	10	90.7	●² a. p. ↙° p.
28	27.5	21.3	98	71	10	8	28.4	●° a. ●² p.
29	27.2	21	98	70	9	7	------	Ω a.
30	27.7	21.6	98	71	8	7	------	d a. ↙° p.
Mean	28.7	20.4	97.6	70.3	6.7	8.1	------	
Total	------	------	------	------	------	------	359.6	

SAN ANTONIO.

[ϕ=14° 22′ N; λ=121° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	20.6	90	75	3	4	------	
2	31	21.4	93	77	7	4	3.8	
3	31	21.9	96	91	7	8	8.1	
4	31.7	22.5	96	89	1	8	------	
5	31.6	21.8	90	73	5	9	------	
6	------	21.7	97	80	10	2	6.1	
7	------	21.4	95	80	1	1	.5	
8	------	21.2	97	77	3	4	2.3	
9	32.5	21.5	92	87	5	8	24.1	
10	32	22.5	85?	85	7	9	31.5	
11	32	21.6	97	78	7	10	25.9	
12	28.5	21.8	97	81	10	10	3	
13	28.5	21.2	87?	95	10	10	41.9	
14	28.4	21	96	91	10	10	58.4	
15	28.4	20	99	99	10	10	54.6	
16	22	19	99	93	10	10	44.4	
17	26.5	17 ?	91	93	3	4	10.2	
18	24.8	16.9?	95	92	10	10	5.1	
19	28	20.5	98	94	10	10	29.2	
20	23.6	18	97?	99	10	10	34	
21	29.6	20.3	92	79	8	1	7.1	
22	30.3	20.4	97	78	1	3	7.6	
23	29.9	20	98	73	1	5	3	
24	28	20.6	95	75	6	7	7.6	
25	27.9	21.4	90	87	1	6	19.1	
26	27.6	21.3	89	82	9	10	12.7	
27	23.2	21.4	91	91	10	10	------	
28	25.5	20.6	98	90	10	10	37.1	
29	26.4	21.4	96	83	10	10	3.8	
30	26.3	21.6	95	97	10	10	27.2	
Mean	28.4	20.8	94.3	85.5	6.8	7.4	------	
Total	------	------	------	------	------	------	508.3	

METEOROLOGICAL DATA, ETC.—Continued.

CORREGIDOR.

[ϕ=14° 23′ N; λ=120° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.8	22.5	76	59	2	2	------	
2	32.2	22.7	84	62	10	2	2.5	● p.
3	29.6	22	80?	71	10	10	------	
4	30	23.1	79	66	2	10	------	
5	32	21.3	85?	64	10	2	------	
6	32.5	22.5	80?	67	2	2	------	
7	32	22.1	92	66	10	2	------	
8	31.7	22.7	92	68	10	10	------	
9	29	22.6	85	84	10	10	------	
10	29.5	20.2	81?	91	10	10	------	
11	30.5	23.4	84	80	10	10	------	
12	30	22.9	88	69	10	10	------	
13	29.8	21.4	80?	80	10	10	------	
14	29.7	23.2	92	74	10	10	------	
15	26.5	22.2	98	88	10	10	------	
16	25.6	21.5	91	97	10	10	30.5	d ● a.
17	25	17.7?	96?	97	10	10	5.1	● a.
18	27.8	20.7	92	84	10	10	------	
19	29.5	22.7	92	70	10	10	------	
20	26.4	21.7	92	90	10	10	27.9	d ● a.
21	31.7	22.2	95	81	10	3	------	
22	31.6	21.5	98	78	8	8	------	
23	31.5	22.5	87	72	10	10	------	
24	30.3	22.5	93	71	10	10	------	
25	29.5	22.7	92	79	8	10	------	
26	30	22.5	88	72	10	10	------	
27	26	20	92	94	10	10	22.9	d ● a.
28	25.1	------	96	95	10	10	------	
29	29.5	20.4	94	88	10	10	------	
30	31	22.9	92	72	10	10	------	
Mean	29.6	21.9	88.9	77.6	9.1	8.4	------	
Total	------	------	------	------	------	------	88.9	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	19.6	93	48	0	0	------	≡° Ω² a.
2	32.6	19.5	94	63	0	10	------	≡° Ω² a. ↯° p.
3	32.5	20.8	94	63	10	7	------	Ω a. ⏀² p. ↯° a. p.
4	32.6	20	93	60	0	10	------	≡° Ω² a.
5	33	21.7	92	63	1	2	------	≡° Ω a.
6	32.6	20.5	95	62	3	4	------	≡ Ω² a. ⋖° a. p.
7	33.2	22.5	97	63	1	3	------	≡° Ω a. ⏀ d° p.
8	33	21.8	96	63	3	4	------	≡ Ω a. ⏀ p.
9	31	20.5	92	64	4	8	------	⏀² Ω a. ◯ ↯° p.
10	33	19.9	94	54	4	9	------	≡° Ω a.
11	32.4	22	94	55	10	6	------	≡° Ω a.
12	32	20.4	95	51	6	6	------	≡° Ω² ⊕ a.
13	32.2	20.3	95	60	4	7	------	≡° Ω² a. ⌐K° p.
14	32.5	20.8	93	52	7	8	------	Ω² a.
15	26.3	21.5	94	76	10	10	------	
16	24.1	20.2	89	84	10	10	2	d² a. d° p.
17	28	20.9	76?	73	10	10	------	d° a. p.
18	28	21.5	91	79	10	19	9.4	● a. d° p.
19	30.5	20.4	94	58	10	7	2.8	◯² a. ●° p.
20	24.5	20.3	94	97	10	10	102.6	● ⊤° a. ●² ↯² p.
21	30.5	19.8	95	66	7	4	------	↯ d° a. ⋖ a. p.
22	31.1	21.6	88	68	2	4	------	≡ Ω² a. ⌐K p.
23	31	22.7	98	65	10	7	5.1	≡² ● ⌐K° a. ⋖ p.
24	31.1	22.5	96	64	1	9	------	≡° Ω a. ⋖° p.
25	31.2	21.5	96	59	1	2	------	≡° Ω a.
26	31.3	20.5	95	59	2	8	------	≡ Ω a.
27	26.5	21.1	96	90	10	10	8.1	≡° Ω a. ●° a. p.
28	22.7	21.5	96	98	10	10	124.7	●² a. p.
29	26.1	21.5	100	89	10	10	14.2	●° d a.
30	30	22.1	98	67	10	7	19.6	● ↯° a. ◯ p.
Mean	30.2	21	93.8	67.1	5.9	7.1	------	
Total	------	------	------	------	------	------	288.5	

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	22.5	12	78	79	2	7	------	
2	23.3	11.5	86	75	2	3	------	
3	25	11.9	95	62	3	5	------	
4	24.5	11	63	71	0	6	------	
5	24	13.4	79	78	2	6	------	
6	24.2	12.4	79	73	2	7	------	
7	24.1	13.2	94	83	2	8	------	
8	24.7	12.9	94	64	1	2	------	
9	23.5	11.5	72	63	3	3	------	
10	24.4	10	79	73	3	3	------	
11	22.6	11.2	93	80	4	7	------	
12	23.4	10.9	94	83	6	7	------	≡ a.
13	22.4	11	89	81	7	7	1	● p.
14	22	11	98	84	5	9	------	
15	20.8	12	89	88	9	10	------	≡ p.
16	18.6	11.4	78	91	9	10	------	≡ p.
17	22.9	12.4	83	61	6	6	------	
18	22.1	12.6	91	61	9	6	------	
19	22.5	12	89	88	7	8	------	≡ p.
20	17	13.5	94	99	10	10	47	≡ d ↯ a. ● ↯° p.
21	22.5	14.2	98	78	10	7	------	d ↯ a.
22	24.2	15	89	78	5	4	------	
23	23.3	15	92	91	4	9	------	≡ p.
24	22.7	13.4	94	78	2	6	------	
25	23.9	13	94	56	2	5	------	
26	22.7	11	89	82	3	6	------	
27	21	12	79	70	5	10	10.9	
28	17.3	15.5	98	92	10	10	12.7	● a. d p.
29	19.2	15.2	97	79	10	10	8.6	d a. ● p.
30	21.4	14	88	59	9	3	------	
Mean	22.4	12.5	87.8	76.7	5.1	6.7	------	
Total	------	------	------	------	------	------	80.2	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rainfall.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	20	91	71	3	2	------	Ω ≡ a.
2	31.5	20.8	96	68	3	2	------	Ω ≡ a.
3	32	20	96	69	2	6	------	Ω ≡ a.
4	31.6	19.6	86	69	2	3	------	Ω ≡ a.
5	32.5	20.4	95	68	3	2	------	Ω ≡ a.
6	33	20.6	95	62	4	3	------	Ω ≡ a.
7	32	21	97	70	3	3	------	Ω ≡ a.
8	32	21.4	86	78	3	6	------	Ω ≡ a.
9	32.2	21.2	95	60	2	2	------	Ω ≡ a.
10	33.2	21.2	97	60	2	3	------	Ω ≡ a.
11	32.2	21	96	60	3	4	------	Ω ≡ a.
12	32.2	19.8	96	67	6	4	------	Ω ≡ a.
13	31.2	21.4	93	65	6	3	------	Ω ≡ a.
14	32.2	21	95	68	4	6	------	Ω ≡ a.
15	30.8	21.4	96	71	6	6	------	Ω ≡ a.
16	29	21	95	73	6	8	1.3	Ω ≡ ●° a. d p.
17	31	19.8	97	63	3	4	------	Ω ≡ a.
18	30.6	21.2	95	68	8	6	.6	Ω ≡ a. d p.
19	30	21.4	98	72	6	8	------	Ω a. d° p.
20	28.6	21.6	91	75	8	10	14	Ω a. ↯ ● p.
21	32.2	21	74?	68	10	3	------	Ω a.
22	32.2	21.2	96	66	3	3	32.5	Ω a. ⊤ ● p.
23	30.4	22	95	78	4	6	------	Ω a.
24	31.6	23	95	68	3	3	------	Ω ≡ a.
25	31.4	21.6	93	71	3	4	------	Ω ≡ a. ⌒ p.
26	30.4	21.4	95	71	3	4	------	Ω ≡ a.
27	28.2	20.8	95	77	6	8	1.3	Ω a. ●° p.
28	28	21	95	95	10	10	18	Ω a. ●° a. p.
29	28	21	97	85	10	10	5.6	Ω ●° a.
30	30	22.2	95	75	10	6	------	Ω ⌒ a. d ⏀ p.
Mean	31.1	21	93.9	70.4	4.8	4.9	------	
Total	------	------	------	------	------	------	73.3	

METEOROLOGICAL DATA, ETC.—Continued.

ECHAGÜE.

[$\phi=16°\ 41'$ N; $\lambda=121°\ 39'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.6	19	97	55	4	4	------	Ω² a. ☈ p.
2	32.5	19.2	96	63	10	9	------	Ω² ☈ ⊕° a. d° ⌒°
3	32.7	20.3	97	62	10	4	------	Ω² ☈ d° ⊕° a. ↙°
4	31.6	17.1	96	62	5	9	------	Ω° ⊕° a. ↙ ϖ² p.
5	33.8	19.9	98	54	10	3	------	Ω² ⊕° a.
6	34.8	18.4	95	50	7	4	------	Ω² a. <° p.
7	34	20.3	96	58	9	8	------	Ω² a. ☈ p.
8	33.5	20	98	66	10	9	------	Ω² ≡² a. ☈ p.
9	31.1	18	98	62	10	7	0.8	Ω² d² ⊕° ☈ ⌒°
10	29.8	17.2	98	73	6	10	.3	Ω² ⊕° ↙° d ⌒° ϖ²
11	32	20.5	98	64	10	8	1.8	●° a. ⊕° ◯° p.
12	31.7	18.1	97	60	9	4	.8	Ω² ≡² ◯° ⊕° ☈ ●°
13	28.9	19.4	99	84	10	10	10.9	↙ ● ☈ ⊕° a.
14	27.9	19.1	95	75	9	10	7.4	↙ ●° p.
15	23.7	19.2	98	91	10	10	5.8	●° a. d° p.
16	25.3	18	95	76	10	10	.3	d² a. ↙° p.
17	25.6	17.5	98	85	10	9	5.3	●° a. ☈ p.
18	27.3	19.4	99	83	10	10	2.8	●° a. d° a. p.
19	29.6	18.6	97	58	10	7	------	◯ a. ↙ ☈ p.
20	24.3	19.1	97	94	10	10	96.3	↙ ● a. ↙° d² p.
21	30.7	18.9	100	74	9	8	------	◯ a. ⊕° ☈ ⌒° p.
22	32.9	19.4	98	60	8	4	------	☈ ◯ a. p. ↙° d° p.
23	32.7	20.7	96	68	9	6	------	↙ a. ☈ d° ⌒° p.
24	30.2	18.3	99	65	7	8	1.3	Ω² ≡² ◯° ☈ ⌒° d²
25	31.8	19.6	98	65	9	5	------	≡² a. ☈ ↙° p.
26	28.8	19.7	96	77	10	9	1.3	d² ⌒° ◯ a. ☈ p.
27	23.8	20	96	97	10	10	35.6	●° ↙ a. p.
28	23.6	18.6	98	97	10	10	113.8	↙ ●° a. ↙ ●² p.
29	22.7	19	100	100	10	10	104.4	● a. ●² p.
30	30	18.9	100	70	6	4	13.7	● ≡² ⊕ a. ☈ ϖ°
Mean	29.7	19	97.4	71.6	8.9	7.6	------	
Total	------	------	------	------	------	------	402.6	

CANDON.

[$\phi=17°\ 12'$ N; $\lambda=120°\ 26'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.9	22.9	83	68	0	1	------	Ω² ≡² a.
2	29.9	22.5	86	68	0	6	------	Ω² ≡² a.
3	30.4	24.4	85	68	1	6	------	Ω² ≡² a.
4	30.4	22.6	86	66	0	0	------	Ω² ≡² a.
5	30.5	23	87	72	0	0	------	Ω² ≡² a.
6	30.5	23	86	68	4	0	------	Ω² ≡² a. < ϖ° p.
7	30.7	24	85	73	4	2	------	Ω² ≡² a. ☈° p.
8	31	24	86	71	5	2	------	Ω² ≡² a.
9	30.5	23.8	78?	74	4	3	------	Ω² ≡² a.
10	30.6	21.2	84	65	1	2	------	Ω² ≡² a.
11	29.6	23.1	88	70	3	8	------	Ω² ≡² a.
12	29.9	22.5	84	62	3	7	------	Ω² ≡² a.
13	30.5	23.4	85	74	8	9	------	
14	31	22.5	80	68	7	9	------	
15	29.1	23.7	72?	65	9	10	------	↙° p.
16	29.8	23.2	66?	52	9	8	------	↙° a. p. d° p.
17	31	23.2	68?	65	7	8	------	↙ p.
18	29.1	23.9	79?	74	9	9	------	Ω° a.
19	29.5	22	82	56	8	9	------	
20	29.1	23.1	83	63	9	10	2	d ↙ ● p.
21	30.6	23.6	87	69	8	7	------	d° p.
22	30.2	24	88	73	3	7	134.6	≡ a. ●² ☈² p.
23	29.5	23.9	89	79	4	3	------	≡ a. d° p.
24	29	25.1	90	79	8	4	------	Ω² a.
25	29.4	23.9	90	78	4	3	------	Ω² ≡ a.
26	29	22.8	91	74	0	9	------	Ω² ≡² a.
27	28.2	23	78?	70	9	10	------	↙ p.
28	26.5	24.2	79?	73	10	10	5.1	d ↙ a. ●° p.
29	26	23.2	87	85	10	10	2.5	●° a. d a. p.
30	28.8	23.7	90	75	9	7	------	Ω a.
Mean	29.7	23.3	83.4	69.9	5.2	6	------	
Total	------	------	------	------	------	------	144.2	

LAOAG.

[$\phi=18°\ 12'$ N; $\lambda=120°\ 35'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.9	17.9	90	46	0	0	------	≡² a.
2	33.5	21.6	92	56	1	3	------	≡ a.
3	34.2	22.8	84	56	4	0	------	≡° a.
4	32.8	19	95	50	0	0	------	≡ a.
5	32.1	21.2	96	62	0	0	------	≡ a.
6	32	22.6	95	64	1	2	------	≡ a.
7	34	22.7	97	63	3	1	------	≡ a.
8	33.2	22.1	93	62	2	6	------	≡ a.
9	34	20	92	50	0	1	------	≡ a. ↙° p.
10	34.3	19.2	91	47	0	0	------	≡² a.
11	33.1	20.8	90	47	0	1	------	≡ a.
12	34.6	18	94	46	1	4	------	≡² a. d ↙° p.
13	32.7	24	77	53	6	6	------	↙° p.
14	31.2	21.2	87	61	3	8	------	≡ a. ↙° a. p.
15	30.5	22.8	81	51	8	9	------	ᵾ a. ↙° p.
16	30.5	22.4	91	48	8	8	------	↙ a. p.
17	31.7	23	63	53	9	7	------	↙ a. p.
18	32.7	23.2	84	52	6	5	------	≡° ↙ a.
19	31.6	19.5	91	41	4	9	------	≡ a.
20	30.3	24.3	75	65	10	10	0.8	↙² a. p. ●° p.
21	31.4	23.4	97	66	8	8	1.3	≡° a. ● p.
22	32.5	23	96	69	3	8	2.3	≡° a. ● p.
23	31.5	23.1	97	66	2	2	------	
24	31	22.7	97	70	1	4	------	≡ a.
25	32.4	22	96	55	0	2	------	≡ a.
26	34.2	20.1	97	52	0	5	------	≡² Ω a. ↙ p.
27	28.9	22.7	78?	62	10	10	------	↙ a. p. d p.
28	28.1	23.3	69?	67	10	10	------	↙ d a. p.
29	25.6	22.4	92	88	10	10	12.4	● a. p. ⌒ p.
30	31.9	22.3	98	52	8	3	------	≡ a. ≡° p.
Mean	32	21.8	89.2	57.3	3.9	4.7	------	
Total	------	------	------	------	------	------	16.8	

SANTO DOMINGO.

[$\phi=20°\ 28'$ N; $\lambda=121°\ 59'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.3	24.3	84	77	10	8	4.1	⌒ a. ● p. d
2	29.3	24.2	77	68	10	7	------	↙° a. p.
3	29.5	22.7	76	62	4	3	------	↙° p.
4	30	24	81	68	0	4	------	↙ a. p.
5	30.2	24.8	88	69	3	3	.2	d a.
6	30	24.8	85	75	3	4	------	d° a. Ω p.
7	29.8	22.3	92	68	1	4	------	Ω a. p. ≡ p.
8	29.4	25.2	84	67	9	3	1.5	⌒ a. d a. p.
9	29.7	24.7	78	76	2	8	4.1	d a. ● p.
10	29.6	23.5	79	66	3	2	------	↙° a. p. ≡ p.
11	30	24.2	82	69	3	1	.7	d° v a. ≡ d p.
12	25.4	22.3	85	81	10	9	11.8	● d ↙ a. p.
13	26.9	21.4	71	77	10	7	8.6	↙° a. d² p.
14	25.8	21.7	68	59	7	3	1.3	d a. p. ↙° p.
15	26.9	23.2	62	65	7	10	6.6	d a. ↙ ● p.
16	24.3	20.4	62	60	5	10	1.5	d a. ↙° a. p.
17	25.2	22.7	62?	69	10	10	12.7	d ↙° a. p. ● p.
18	27.5	21.7	66	67	10	10	------	d° p.
19	26.2	21.1	64?	76	4	10	2.5	↙° a. p. ●° p.
20	27.4	22.7	72	77	10	10	18.8	↙ d a. p. ● p.
21	28.3	22.2	87	85	4	10	------	↙° a. p.
22	29.3	25.9	91	82	10	4	47.5	d a. ● ↙ p.
23	23.6	21.7	85	92	10	10	104.6	d a. ●² ↙ a. p.
24	25.2	21.7	97	85	10	10	34.8	● a. Ω p. d
25	26.3	20.5?	69?	91	2	10	37.3	● a. Ω p. d
26	27.2	22.8	94	80	10	10	17.8	● a. d ↙ p.
27	21.5	19.9	82	82	10	10	6.4	↙° d a. p.
28	22.5	18.7	78	81	10	10	5.1	p° a. ↙° d p.
29	23.3	20.5	83	75	10	10	14	● d a. p.
30	25.3	21.2	88	85	10	10	74.6	● d a. p.
Mean	27.2	22.6	79.1	74.5	6.9	7.3	------	
Total	------	------	------	------	------	------	416.5	

SEISMOLOGICAL BULLETIN FOR NOVEMBER, 1908.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

4, 6^h 23^m 12^s. **Aparri** (NE of Luzon). Oscillatory earthquake; direction E–W; intensity IV; duration 10^s.

4, 22^h 35^m. **Butuan** (N of Mindanao). Oscillatory earthquake; direction ENE–WSW; intensity III; duration 6^s.

7, 4^h 57^m 15^s.* **Northeastern Mindanao.** Earthquake of intensity V. From the reports of the observers of Butuan and Surigao it is supposed that the origin of this earthquake was in the northeastern part of the Agusan River Valley, not far from Butuan, where the intensity was V and earthquake waves from the east accompanied by subterranean noises were distinctly observed.

11, 2^h 53^m 18^s.* **Northeastern Mindanao.** Earthquake of intensity IV. The origin of this earthquake seems to have been to the north of the origin of the preceding one in the Bay of Butuan. Several repetitions of varying intensity followed the principal shock at the following hours:

8^h 45^m 24^s,* III.
11^h 24^m 04^s, IV.
12^h 19^m 55^s,* III.
14^h 30^m 00^s, III.

It is very probable that the origin of all these shocks was in the southeastern part of the Bay of Butuan.

A few hours after this another center became active about 350 kilometers to the west in the eastern part of the Jolo Sea.

11, 21^h 20^m 01^s.* **Visayan Islands and northern Mindanao.** Earthquake of intensity V. The center was situated in the eastern part of the Jolo Sea to the SSW of Panay Island; it had the intensity V in the stations of Panay and was perceptible in the other Visayan Islands, Negros, Cebu, Bohol, Masbate, and Leyte, in northern Mindanao and Jolo, comprehending an area of 350 kilometers radius. There was one repetition of intensity IV at 21^h 40^m 35^s* and others barely perceptible in a radius of 150 kilometers from the center at 21^h 40^m 39^s* and 22^h 05^m 48^s* on the 11th and at 2^h 51^m 46^s*, 4^h 40^m, 19^h 47^m, and 21^h 26^m on the 12th.

We find only one of the earthquakes registered by observatories outside of this Archipelago. This was the one that occurred at 21^h 20^m 01^s and was recorded by Zikawei and probably by Japan and Batavia observatories.

13, 7^h 10^m. **Northeastern Mindanao.** Oscillatory earthquake of intensity III; oscillations NNW–SSE observed in Butuan. There were two repetitions of less intensity between 7^h 25^m and 8^h. These earthquakes seemed to proceed from the same center as those of the 11th, in the southeastern part of the Bay of Butuan.

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.

17, 2^h. **Iloilo** (southeastern Panay). Earthquake of intensity III.

17, 4^h. **Legaspi** (southeastern Luzon). Earthquake of intensity III.

23, 22^h 25^m 52^s.* **Northern Luzon.** Oscillatory earthquake, direction E–W, intensity IV, at Aparri and Tuguegarao, E of the Central Range, preceded by noises similar to distant thunder: it was felt in N Ilocos, W of the said range, with less intensity.

25, 8^h 39^m. **Northeastern Mindanao.** Earthquake of intensity III; center in the Bay of Butuan.

27, 17^h 10^m. **Butuan** (N of Mindanao). Earthquake of intensity III.

28, 9^h. **Butuan** (N of Mindanao). Oscillatory earthquake, direction NNE–SSW, intensity III; origin in the Bay of Butuan.

29, 3^h 35^m 37^s.* **Panay and Negros.** Earthquake of intensity III, duration 10^s.

29, 8^h 26^m 21^s.* **Calauag** (E of Lamon Bay). Earthquake of intensity III.

29, 20^h 05^m 24^s.* **Eastern Mindanao.** Earthquake of intensity IV. The center was situated in the southwestern part of the Agusan River Valley. The earthquake was perceptible in an area of 140 kilometers radius.

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight=0^h.]

No.	Date.	Component.	Beginning.			Maximum range of motion.			End.	Instrument.	Remarks.
			First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2 a.).	Period.			
			h. m. s.	h. m. s.	h. m. s.	h. m. s.	mm.	s.	h. m.		
247	1	WSW-ENE	-----	-----	9 48 23	9 48 31	0.04	2.4	9 50	V. M.	
248	1	WSW-ENE	19 19 54	-----	19 20 02	19 20 04	.08	2.4	19 24	V. M.	Vertical C. 0.02 mm.
249	2	NNW-SSE	13 21 14	13 26 15	13 31 17	13 35 29	.04	14.4	14 23	V. M.	
		WSW-ENE	13 21 14	13 26 22	13 31 31	13 35 06	.05	14.4	14 25	V. M.	
		WSW-ENE	13 21 19	13 26 15	13 31 35	13 35 07	1.15	13.5	14 40	H. P.	
250	2	WSW-ENE	15 25 24	-----	-----	-----	-----	-----	15 58	V. M.	
		WSW-ENE	15 25 25	-----	-----	-----	-----	-----	16 07	H. P.	
251	6	WSW-ENE	15 17 07	15 24 28	15 31 26	15 37 34	.01	8.8	16 50	V. M.	
		NNW-SSE	15 17 11	15 24 17	15 31 29	15 34 00	.01	8.2	16 50	V. M.	
		NNW-SSE	15 17 09	15 24 11	15 31 00	15 34 04	.01	9.9	16 46	H. P.	
252	7	WSW-ENE	4 57 15	-----	-----	-----	-----	-----	5 15	V. M.	Earthquake, V, N Agusan River Valley.
		NNW-SSE	4 57 13	-----	-----	-----	-----	-----	5 13	V. M.	
253	8	WSW-ENE	23 49 20	-----	23 49 36	23 49 38	.08	2.2	23 52	V. M.	V. C. 0.05 mm.
254	10	WSW-ENE	16 31 02	-----	16 31 17	16 31 52	.13	2.4	16 34	V. M.	V. C. 0.02 mm.
255	11	WSW-ENE	1 01 04	-----	1 01 17	1 01 23	.20	2.4	1 05	V. M.	V. C. 0.10 mm.
		NNW-SSE	1 01 03	-----	1 01 18	1 01 20	.16	2.4	1 05	V. M.	
256	11	NNW-SSE	2 53 08	2 55 18	2 57 42	2 59 15	.03	8.8	4 00	V. M.	Earthquake, IV, N Agusan River
		WSW-ENE	2 53 06	2 55 10	2 57 24	2 57 46	.03	11.2	4 00	V. M.	Valley.
		WSW-ENE	2 53 18	2 55 20	2 57 21	2 57 39	1.21	11.1	3 45	H. P.	
257	11	NNW-SSE	8 45 22	-----	-----	-----	-----	-----	9 47	V. M.	Earthquake, III, N Agusan River
		WSW-ENE	8 45 26	-----	-----	-----	-----	-----	9 47	V. M.	Valley.
		WSW-ENE	8 45 39	-----	-----	-----	-----	-----	9 27	H. P.	
258	11	NNW-SSE	11 34 06	11 36 25	11 38 23	11 40 03	.01	8	12 18	V. M.	Earthquake, IV, N Agusan River
		WSW-ENE	11 34 02	11 36 11	11 38 12	11 38 27	.03	7.2	12 18	V. M.	Valley.
		WSW-ENE	11 34 06	11 36 11	11 38 11	11 38 22	.59	11.4	12 18	H. P.	
259	11	WSW-ENE	12 19 53	-----	12 20 10	12 20 18	.11	2.4	12 24	V. M.	V. C. 0.04 mm. Earthquake, III, N
		NNW-SSE	12 19 57	-----	12 20 12	12 20 22	.12	2.4	12 24	V. M.	Agusan River Valley.
260	11	NNW-SSE	21 20 01	-----	21 21 08	21 21 28	1.83	2.4	-----	V. M.	V. C. 0.31 mm. Origin near southern
		WSW-ENE	21 20 03	-----	21 21 04	21 21 35	1.78	2.4	-----	V. M.	Panay I.
		WSW-ENE	21 20 05	-----	21 21 09	21 22 11	5.53	10.8	-----	H. P.	
261	11	NNW-SSE	21 40 39	-----	21 41 41	21 41 53	.03	8.8	-----	V. M.	From the same origin.
		WSW-ENE	21 40 35	-----	21 41 39	21 43 45	.03	9.6	-----	V. M.	
262	11	NNW-SSE	22 05 48	-----	22 07 15	-----	-----	-----	-----	V. M.	Do.
263	12	NNW-SSE	2 51 45	-----	2 53 10	2 53 56	.10	2.4	3 12	V. M.	Do.
		WSW-ENE	2 51 47	-----	2 53 01	2 54 15	.11	2.4	3 12	V. M.	
		WSW-ENE	2 51 48	-----	2 53 01	2 55 06	.23	8.4	3 12	H. P.	
264	15	WSW-ENE	9 33 37	-----	-----	-----	-----	-----	9 55	V. M.	
		WSW-ENE	9 33 39	-----	-----	-----	-----	-----	10 00	H. P.	
265	18	WSW-ENE	18 39 51	-----	-----	-----	-----	-----	19 43	V. M.	
		WSW-ENE	18 39 53	-----	-----	-----	-----	-----	19 46	H. P.	
266	19	WSW-ENE	23 45 26	-----	23 45 45	23 45 47	.07	2.4	23 49	V. M.	V. C. 0.05 mm.
		NNW-SSE	23 45 26	-----	23 45 43	23 45 58	.08	2.4	23 49	V. M.	
267	23	NNW-SSE	20 45 47	20 52 49	21 00 06	21 01 30	.01	8.8	21 30	V. M.	
		WSW-ENE	20 45 51	20 53 04	21 00 10	21 01 24	.01	9.6	21 30	V. M.	
		WSW-ENE	20 45 51	20 53 05	21 00 08	21 01 28	.01	9.9	21 40	H. P.	
268	23	WSW-ENE	22 25 50	-----	22 26 42	22 27 18	.20	2.4	22 45	V. M.	V. C. 0.02 mm. Earthquake, IV, at
		NNW-SSE	22 25 54	-----	22 26 39	22 27 03	.07	2.4	22 45	V. M.	Aparri (N of Luzon).
269	23	NNW-SSE	23 50 30	-----	-----	-----	-----	-----	24 30	V. M.	
		WSW-ENE	23 50 30	-----	-----	-----	-----	-----	24 30	V. M.	
		WSW-ENE	23 50 41	-----	-----	-----	-----	-----	24 10	H. P.	
270	29	NNW-SSE	3 35 37	-----	-----	-----	-----	-----	4 16	V. M.	Earthquake, III, at Iloilo (Panay).
		WSW-ENE	3 35 41	-----	-----	-----	-----	-----	4 03	V. M.	
		WSW-ENE	3 36 03	-----	-----	-----	-----	-----	3 53	H. P.	
271	29	NNW-SSE	8 26 20	-----	8 26 37	8 26 42	.36	2.4	8 31	V. M.	V. C. 0.38 mm. Earthquake, III, at
		WSW-ENE	8 26 22	-----	8 26 37	8 26 39	.34	2.4	8 31	V. M.	Calaoag (E Lamon Bay).
		WSW-ENE	8 26 25	-----	8 26 40	8 26 42	.01	1.8	8 30	H. P.	

Instrumental constants.—Vicentini microseismograph (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=9.2 seconds; WSW–ENE pendulum, T=10.8 seconds. Magnification of the record: NNW–SSE, 15 times; WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters which extends many kilometers toward north and south and only four to the east, where volcanic tuff outcrops. To the west lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

4, 6^h 23^m 12^s. **Aparri** (NE de Luzón). Temblor oscilatorio, dirección E–W, intensidad IV, duración 10^s.

4, 22^h 35^m. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección ENE–WSW, intensidad III, duración 6^s.

7, 4^h 57^m 15^s.* **NE de Mindanao.** Temblor de tierra de intensidad V. De las notas enviadas por los observadores de Butúan y Surigao se desprende que el origen de este terremoto se hallaba en la parte NE del valle del río Agusan, no lejos de Butúan, donde tuvo intensidad V y se observaron distintamente ondulaciones procedentes del E acompañadas de ruído subterráneo.

11, 2^h 53^m 18^s.* **NE de Mindanao.** Temblor de tierra de intensidad IV. El origen de este terremoto parece hallarse más al N que el del precedente, en la bahía de Butúan. Siguiéronse durante el día repeticiones de varia intensidad, á las horas siguientes:

8^h 45^m 24^s,* III.
11^h 24^m 04^s, IV.
12^h 19^m 55^s,* III.
14^h 30^m 00^s, III.

Es muy probable que el origen de todos estos terremotos se hallaba en la parte SE de la bahía de Butúan.

Pocas horas más tarde entró en actividad otro centro situado á unos 350 kilómetros más al W, en la parte oriental del mar de Joló.

11, 21^h 20^m 1^s.* **Islas Visayas y N de Mindanao.** Temblor de tierra de intensidad V. El centro se hallaba en la parte oriental del mar de Joló al SSW de la Isla de Panay; tuvo fuerza V en las estaciones del S de esta isla y fué bien perceptible en las otras Islas Visayas, Negros, Cebú, Bohol, Masbate y Leyte, en la parte N de Mindanao y en Joló, comprendiendo un área de un radio de unos 350 kilómetros. Hubo luego una repetición de intensidad IV á 21^h 40^m 35^s,* y otras sólo perceptibles en un radio de unos 150 kilómetros del centro á 21^h 40^m 39^s* y 22^h 05^m 48^s* del día 11 y á 2^h 51^m 46^s* 4^h 40^m 19^h 47^m y 21^h 26^m del 12.

De estos terremotos tan solo encontramos registrado por los aparatos de los Observatorios de fuera del Archipiélago el ocurrido á 21^h 20^m 1^s que lo fué en Zikawei y probablemente en el Japón y en Batavia.

13, 7^h 10^m. **NE de Mindanao.** Temblor oscilatorio de intensidad III; obsérvanse en Butúan oscilaciones de NNW–SSE. Repitió dos veces con menos intensidad entre 7^h 25^m y 8^h. Estos temblores parece procedieron del mismo centro que los del día 11, situado en la parte SE de la bahía de Butúan.

17, 2^h. **Iloílo** (SE de Panay). Temblor de intensidad III.

17, 4^h. **Legaspi** (SE de Luzón). Temblor de intensidad III.

23, 22^h 25^m 52^s.* **Norte de Luzón.** Temblor oscilatorio, dirección E–W, en Aparri y Tuguegarao, al E de la Cordillera Central, intensidad IV; precedido de un ruído semejante á un trueno lejano: se sintió en Ilocos Norte, W de dicha cordillera, con menos intensidad.

25, 8^h 39^m. **NE de Mindanao.** Temblor de intensidad III: centro en la bahía de Butúan.

27, 17^h 10^m. **Butúan** (N de Mindanao). Temblor de tierra de intensidad II.

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[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120 E de Greenwich.

28, 9^h. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección NNE–SSW, intensidad III: origen en la bahía de Butúan.

29, 3^h 35^m 37^s.* **Islas de Panay y Negros.** Temblor de tierra de intensidad III, duración 10^s.

29, 8^h 26^m 21^s.* **Calauag** (E de la Bahía de Lamon). Temblor de tierra de intensidad III.

29, 20^h 05^m 24^s. **E de Mindanao.** Temblor de tierra de intensidad IV. El centro se hallaba en la parte SW del valle del río Agusan: fué perceptible en un área de un radio de 140 kilómetros.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1890–1907.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF NOVEMBER.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance.		Intensity (Rossi-Forel).	Remarks.
				Longer axis.	Shorter axis.		
	h. m.			*Km.*	*Km.*		
1890	-------	None.					
1891							
3	1 26	Mindoro I	NE part	70	50	III	
3	5 35	S Luzon	SE of Taal Volcano	80	60	IV	
4	8 30	S Luzon and Mindoro	Near the N coast of Mindoro	180	70	IV	
14	10 31	Ilocos and Abra	W Central Range	100	60	IV	
21	17 00	Albay	E of Mayon Volcano	60	20	IV	Repeated at 23h 20m.
23	21 36	Mindoro I	NE part	50	30	III	
29	16 50	W Negros I	Near Canlaon Volcano	80	60	III	
30	4 00	do	do	100	60	IV	
1892							
2	10 06	NE Mindanao	Near the NE coast	70	20	III	
25	5 43	S Luzon	Near Taal Volcano	60	60	II	
27	21 03	do	do	60	60	III	
1893							
9	8 46	W Mindanao	SE Sulu Sea	60	30	III	
15	5 06	NE Mindanao	Near Lake Mainit	40	40	III	
15	22 10	Cuyo I	N Sulu Sea	------	------	IV	
16	2 10	do	do	------	------	III	
16	12 27	Central Luzon	Eastern Range	320	180	V	
25	7 02	NE Mindanao	Near Lake Mainit	40	40	III	
29	18 13	SE Mindanao	W Davao Gulf	80	60	III	
1894							
7	9 00	E Mindanao	Agusan River Valley	80	80	III	Some light shocks about 23h 58m.
10	16 55	S Luzon	Near Taal Volcano	110	80	IV	
1895							
7	18 43	Albay	Near Mayon Volcano	40	40	III	
9	7 50	NE Luzon	Near the N coast	60	20	IV	Felt at Manila by the Bertelli's tromometer.
10	14 11	Rizal Province	N of Lake Bay	50	50	II	
12	21 16	NE Mindanao	Near Lake Mainit	60	60	III	
13	2 21	E Mindanao	Agusan River Valley	80	70	IV	
15	6 00	do	do	40	40	III	
16	17 08	NE Luzon	Near the NE coast	60	30	III	
21	11 06	E Mindanao	Agusan River Valley	200	160	IV	
23	1 00	NE Mindanao	Near Lake Mainit	40	40	III	
1896							
2	13 02	do	do	50	40	III	
13	6 15	Nueva Vizcaya Province	About φ=16° 20′, λ=121° 08′	120	120	IV	Do.
25	18 40	NE Mindanao	Off the NE coast	110	50	V	

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF NOVEMBER—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Total land area of disturbance. Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1897	*h. m.*			*Km.*	*Km.*		
1	10 11	W Mindanao	SE Sulu Sea	300	180	IV	
2	0 04	N Samar	Near N coast	80	80	III	
2	19 15	W Mindanao	E Sulu Sea	80	30	III	
3	3 28	do	SE Sulu Sea	100	40	III	
3	16 08	Camarines	E St. Miguel Bay	50	50	IV	Repeated at 23h 10m and 23h 20m.
4	17 30	do	do	140	80	IV	
5	17 20	E Mindanao	Off the E coast	60	10	III	
5	22 50	S Luzon	Near Taal Volcano	50	50	IV	Repeated at 23h 10m.
6	14 00	W Mindanao	SE Sulu Sea	100	40	III	Repeated 22h 52m.
7	4 00	Ilocos Norte	N Central Range	60	50	III	
7	4 20	E Mindanao	Agusan River	120	120	IV	
7	15 02	W Mindanao	SE Sulu Sea	90	40	III	
8	23 00	Albay	Near Mayon Volcano	60	60	III	Repeated many times during the night.
9	2 54	W Mindanao	SE Sulu Sea	140	80	IV	Repeated at 8h.
9	7 26	Albay	Near Mayon Volcano	60	60	III	
9	10 00	E Mindanao	Agusan River Valley	50	50	III	
10	2 50	W Mindanao	SE Sulu Sea	100	40	III	
10	12 16	Albay	Near Mayon Volcano	40	40	III	
10	12 21	NW Mindanao	About φ=8° 20′; λ=123° 30′	40	40	III	
13	5 00	W Mindanao	SE Sulu Sea	90	30	III	Repeated at 10h and 22h 52m.
14	1 51	do	do	90	40	III	Repeated at 15h 08m.
14	8 59	Central Luzon	W Central Range about φ=17° 30′	400	260	VIII	Registered in Europe.
14	15 30	NE Mindanao	Off the NE coast	200	140	IV	
22	14 10	N Samar	Near the N coast	100	80	III	
24	22 40	W Mindanao	SE Sulu Sea	200	100	V	
25	7 08	SE Mindanao	E of Davao Gulf	80	30	III	
27	3 25	Jolo and W Mindanao	SE Sulu Sea	200	90	IV	
28	19 30	N Samar	Near the N coast	100	100	V	Perceptible shocks were very frequent in the northernmost part of Samar during November.
29	2 45	W Mindanao	SE Sulu Sea	100	40	III	
1898							
3	3 40	W Mindanao	SE Sulu Sea	80	20	III	
9	------	E Mindanao	Agusan River Valley	------	------	III	
14	7 25	N Samar	Near the NE coast	100	80	IV	
21	8 20	SE Mindanao	E of Davao Gulf	80	30	III	
30	6 25	S Luzon	Near Taal Volcano	110	100	IV	
1899							
26	5 01	E Mindanao	Agusan River Valley	100	90	IV	
1900							
2	12 18	Manila	------	------	------	III	
11	10 44	do	------	------	------	II	
1901							
5	4 27	do	------	------	------	II	
10	14 00	N Mindanao	S of Camiguin Volcano	80	70	III	
16	13 09	Cebu and Leyte	N of Bohol I	------	------	IV	
1902							
1	6 26	S Luzon	E Lake Bay	120	60	III	
3	22 20	NE Mindanao	Near the NE coast	60	40	III	
4	1 44	Ilocos Province	Near the coast	140	50	III	
9	12 00	E Samar	Near the E coast	------	------	------	
12	21 07	Batanes Islands	South of the group	------	------	IV	Registered at Manila.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF NOVEMBER—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1902	*h. m.*			*Km.*	*Km.*		
17	8 38	S Luzon	Near Taal Volcano	280	150	VII	Registered outside of the Archipelago. Aftershocks at 11h 13m.
18	1 00	Pampanga Province	E Zambales Range	60	40	III	
18	9 04	NE Luzon	Near the N coast	80	60	III	Repeated at 9h 16m.
21	0 34	S Luzon	Eastern Range	200	180	IV	
21	15 04	Batanes Islands	Near S Formosa	------	------	IV	Registered in Europe.
1903							
1	16 42	do	SE of the group	------	------	III	Registered at Manila.
8	10 12	E Mindanao	Agusan River Valley	80	70	III	
8	16 55	NE Mindanao	Near the NE coast	60	30	III	
12	17 09	W Leyte	Near the W coast	50	30	III	
14	3 30	N Luzon	Near the N coast	70	50	III	Do.
17	14 05	NE Mindanao	Near the NE coast	60	30	III	
18	4 10	do	Off the NE coast	140	50	IV	Do.
21	3 54	SE Mindanao	Near the SE coast	80	30	III	
22	13 54	S Samar and N Leyte	Near S coast of Samar	150	140	IV	
25	13 30	E Mindanao	Agusan River Valley	100	80	IV	
26	2 16	N Panay	Near the N coast	110	60	IV	Do.
26	17 45	S Mindanao	E Illana Bay	70	20	III	
27	15 30	E Samar	Near the E coast	60	20	III	
27	18 55	S Mindanao	E Illana Bay	70	20	III	
28	21 05	do	Celebes Sea	250	50	IV	Registered outside of the Philippines.
29	3 13	Albay	Near Mayon Volcano	60	60	III	
29	13 15	E Samar	Near the E coast	40	20	II	
1904							
18	1 00	E Luzon	S Casiguran Bay	80	30	III	
18	19 22	Batanes Islands	SE of the group	------	------	IV	Registered at Manila.
19	3 09	Rizal Province	N of Lake Bay	50	30	II	
29	3 13	Albay	Near Mayon Volcano	40	40	III	
1905							
5	11 08	W Leyte	Near the W coast	60	20	III	Repeated twice, few minutes later.
6	0 50	do	do	60	20	III	Repeated at 18h 44m.
17	20 30	S Samar and N Leyte	Near the S coast of Samar	150	130	IV	Registered at Manila.
18	18 14	S Samar and Leyte	do	180	120	IV	Do.
23	14 53	Albay	Near Mayon Volcano	60	60	IV	
25	3 02	N Leyte	Near the NE coast	30	30	II	
25	21 55	N Luzon	Near the N coast	100	30	III	Do.
30	12 29	NE Mindanao	Near Lake Mainit	40	20	III	
1906							
3	0 30	E Mindanao	Near the E coast	60	20	III	
5	9 59	W Leyte	Near the W coast	40	10	II	
6	11 05	SE Mindanao	Near the SE coast	30	20	III	
9	17 23	E Mindanao	Off the E coast	300	30	III	
19	9 20	Ilocos Sur	W Central Range	10	10	III	Do.
1907							
4	2 10	E Mindanao	Agusan River Valley	300	240	IV	
5	1 02	N Mindanao	S of the Camiguin Volcano	80	30	III	
14	2 00	E Mindanao	Agusan River Valley	150	100	[illegible]	
16	13 15	Albay	E of Mayon Volcano	40	10	III	Do.
16	23 24	S Luzon and Mindoro	Near the SW coast	450	300	VI	Repeated at 23h 46m. Registered outside of the Philippines.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF NOVEMBER—Continned.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1907	*h. m.*			*Km.*	*Km.*		
17	2 14	do	do	200	160	IV	Repeated at $6^h\ 7^m$. Registered outside of the Philippines.
21	16 07	E Mindanao	Agusan River Valley	80	50	III	Registered in Europe.
24	21 59	Camarines	SE of St. Miguel Bay	600	400	IX	At $22^h\ 12^m$. Aftershock, force V, and some twenty light aftershocks during the rest of the night and on the 25th.
25	8 15	E Mindanao	Agusan River Valley	180	170	III	
26	23 30	Nueva Ecija Province	W Eastern Range	80	70	III	
27	1 45	NE Leyte	Near S Samar	40	40	III	
27	6 16	Nueva Ecija Province	W Eastern Range	60	60	II	
27	23 03	SE Panay	About φ=10° 50′, λ=122° 20′	70	70	III	
29	5 25	E Samar	Near the E coast	180	60	IV	
30	6 03	Ilocos	Near the Ilocos coast	90	30	III	

BULLETIN FOR DECEMBER, 1908.

METEOROLOGICAL BULLETIN FOR DECEMBER, 1908.

By Rev. José Coronas, S. J.,
Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure of the month, though below the normal, was nevertheless slightly above the mean pressure during December, 1907, at least as a rule: the exceptions being constituted by the stations in northern Luzon. For Manila it differed from the normal for December by —1.17 millimeters. The highest pressures have been recorded on the 12th in the southern part of the Archipelago, and on the 13th in the northern. The lowest pressures occurred during the typhoon which will be discussed further on; that is to say, on the 5th in Mindanao, the Visayas and southeast Luzon, and on the 6th in Mindoro, central and northern Luzon.

The mean temperature departed very little from both, the normal for the month, and the monthly mean for December of the preceding year. At Manila Observatory the absolute maximum and minimum have been 32.1° C. and 19.0° C., respectively, the former having been observed on the 9th and 25th, the latter on the 20th.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, DECEMBER, 1908.

Station.	Pressure.						Temperature.					
	Mean.	Departure from December, 1907.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from December, 1907.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.62	+0.12	759.87	12	753.38	5	26.2	—0.1	31.7	13	22.5	25, 30
Surigao	58.04	+ .26	60.68	12	52.76	5	25.7	+ .2	31.3	6		
Cebu	58.21	+ .51	60.74	12	53.14	5	26.1	+ .1	31.1	8	22.9	16
Iloilo	58.18	+ .22	60.50	12	53.94	5	26	— .1	32.4	9	20.3	22
Ormoc	58.29	+ .33	60.86	12	51.68	5	25.3	+ .2	32.7	13	19.9	26
Tacloban	58.67	+ .44	61.54	12	49.90	5	[1]26	+ .2	[1]32.2	9, 16, 17	[1]23	Various
Capiz	58.75	+ .21	61.36	13	53.41	5	[2]26.2	— .1	[2]30.2	7, 8	[2]20	8
Calbayog	58.80	+ .18	61.76	12	49.04	5	[1]25.2	+ .3	[3]31.5	10	21.6	25
Legaspi	59.11	+ .35	61.81	12	51.97	5	26.2	+ .2	30.9	8	21.2	21
Atimonan	59.43	— .05	62.25	13	52.40	6	26.1	+ .5	32.5	12	22	26
Olongapo	58.99		61.96	13	51.20	6	26.1	— .1	32.8	25	19.2	20
San Isidro	59.35	— .21	62.31	13	52.42	6	25	— .1	32	9	18.4	20
Dagupan	59.18	+ .03	62.28	13	52.34	6	25.9	— .2	34.8?	18	18.9	20
Bolinao	58.74		61.95	13	51.85	6	26.5		32	2, 20, 23	20.5	14
Vigan	59.28	— .15	62.33	13	52.35	6	[3]26.5	0	33	2, 13, 14	21.4	1
Tuguegarao	60.78		64.28	13	55.41	6	24.9		32.4	26	19.1	31
Aparri	61.32	— .93	64.52	13	56.34	6						

[1] From 29 days only. [2] From 30 days only. [3] From 28 days only.

Precipitation.—As may be seen in the accompanying table, the number of stations which during this month registered rainfalls in excess of that observed during December of the preceding year, reached as high as 26, while only 17 report a smaller amount.

The total rainfall as determined for Manila by the rain gauges of the Observatory, exceeded the normal quantity by 56.1 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF DECEMBER, 1908.

Station.	Total.	Departure from December, 1907.	Rainy days.	Departure from December, 1907.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from December, 1907.	Rainy days.	Departure from December, 1907.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	260.8	+ 50.9	23	+3	78	11	Gubat	809.1	+126.7	25	−4	63.5	5
Isabela, Basilan	279.2	− 52.7	17	−5	68.6	1	Sumay, Guam, Ladrones Is.	90.4		20		31.7	3
Zamboanga	147.3	+ 57.5	12	0	46.7	15	Legaspi	646.5	−107.1	28	+1	113.3	31
Davao	494.3	+214.3	17	+7	80	20	Virac	393.2	−121.3	29	+5	105.2	15
Cotabato	262.4	+ 73.5	18	+5	38.4	20	Batangas	213.2	+111.9	20	+5	123.2	6
Cagayan, Misamis	77.9		21		39.4	22	Atimonan	462.7	−313.5	21	−7	106.5	5
Dapitan	218.8	− 73.2	20	+3	44.7	23	Silang	215.9	−130.4	13	−4	70.4	6
Butuan	470.8	+193.7	25	+4	140.2	5	San Antonio, Laguna	532.6	+ 1	26	−2	59.7	6
Tagbilaran	159.7	+ .2	24	+5	33.8	10	Corregidor	59.4	+ 40.6	4	+2	18.8	6
Surigao	782.9	+ 83	28	+2	84.3	18	Manila	116.1	+ 41.8	11	−6	79.8	6
Maasin	485.9	− 15.5	20	+7	64.3	5	Olongapo	93		7		89.9	6
Cebu	88.9	−105.6	20	+4	16	5	San Isidro	39.2	− 2.1	7	−3	17	6
Bacolod	150.7	− 22.5	15	−2	37.6	8	Tarlac	81.6	+ 56.2	4	−1	71.4	6
Iloilo	147.4	− 70.7	20	0	28.2	5	Dagupan	46.3	+ 84.7	4	0	29.2	6
San Jose, Buenavista	53.7	− 19.9	11	−2	16.5	5	Bolinao	15.5	− 5.4	4	−3	7.9	6
Tuburan	223.6	+ 22.2	17	0	58.9	5	Baguio, Benguet	80.8	+ 13	6	+3	55.9	6
Cuyo	35.3	− 9.8	4	−2	19.3	5	San Fernando, Union	8.6		3		4.1	6
Ormoc	344	+ 68.3	20	+1	86.1	5	Echague	162.4	− 73.9	18	−8	77.7	6
Tacloban	574.6	+ 67.1	27	+4	83.5	31	Candon	52.6	+ 44.7	4	+2	30.2	7
Capiz	258.9	+ 57.1	19	+1	59.4	5	Vigan	17.3	+ 15.8	4	+3	8.9	6
Borongan	912	+205.6	28	−1	179.8	31	Tuguegarao	220.1	+ 87.6	12	−3	57.6	7
Calbayog	410.5	− 16	26	−3	72.6	5	Laoag	45.2	+ 38	5	+2	29.2	8
Palanoc, Masbate	445.3	+155.7	24	+1	66	31	Aparri	234.2	− 64.4	19	−1	91.4	6
Romblon	494 ?		23?		187.4?	6	Sto. Domingo, Batanes Is	552.3	+272.8	22	−2	144.3	9
Laoang	702		28		101.6	31							

DEPRESSIONS AND TYPHOONS.

During the whole month of December only one typhoon took place. As we believe it to be of special value to those who are interested in the study of atmospheric disturbances in the Philippines, we will discuss its track at some length.

THE TYPHOON OF DECEMBER 2 TO 8, 1908.

This storm was truly remarkable, not so much on account of its intensity, as for crossing the Archipelago so close to Luzon Island, and inclining its track so much to the north in the China Sea—circumstances very rarely observed in the typhoons of December. It must indeed have been very surprising to see typhoon signals hoisted at Hongkong in a month in which the typhoon season is generally believed to be over.

Origin of this typhoon.—On December 3 and 4 Manila Observatory sent the following typhoon warnings to Japan, Formosa, the China coast, and Indo-China:

December 3, 2.30 p. m.: Typhoon south of the Western Carolines; direction unknown.

December 4, 8.30 a. m.: Typhoon east of the Pelew Islands; moving west-northwest.

The Observatory based these warnings on a few cablegrams from our stations on Guam and Yap. The observations made at Sumay, Guam, and at Yap are given in the two following tables. It will be noticed that the observer at Yap made hourly observations from noon till 10 p. m. of the 3d.

METEOROLOGICAL OBSERVATIONS MADE AT SUMAY, GUAM, LADRONES ISLANDS, DECEMBER 2 TO 4, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.	Rainfall (daily total).	Remarks.
December 2:	*mm.*	*mm.*		*0-12.*		*mm.*	
6 a. m	756.38	—0.28	ENE	2	o		
2 p. m	55.26	+ .05	ENE	4	o		
6 p. m	55.59	— .72	ENE	5	o	2.3	
December 3:							
6 a. m	55.36	—1.02	E	4	c		
1 p. m	54.91		ESE	5	o, q		At 9 a. m., 10.50 a. m. and noon showers of short duration.
2 p. m	55.13	— .13	ESE	5	o, q		From 1 to 2.15 p. m. heavy rain; wind force 7 in squalls.
6 p. m	56.54	+ .95	ESE	3	o	31.7	
December 4:							
6 a. m	58.18	+2.82	E	1	o		
2 p. m	56.81	+1.68	E	4	c		

METEOROLOGICAL OBSERVATIONS MADE AT YAP, WESTERN CAROLINES, DECEMBER 2 TO 4, 1908.

Date and hour.	Pressure.	Wind. Direction.	Wind. Force.	Weather.
December 2:	*mm.*		*0-12.*	
2 p. m	753.1	NNE	3	o
December 3:				
6 a. m	53.6	NNE	2	o
Noon	51.4	NE	6	
12.30 p. m	50.5	NE	6	
2 p. m	49.3	NE	7	o
3 p. m	48.9	NE	7	
4 p. m	49.4	ENE	7	
5 p. m	50	ENE	7	
6 p. m	50.8	E	7	r
7 p. m	52	ENE	6	r
8 p. m	52.5	E	5	
9 p. m	53.1	E	4	
10 p. m	53.5	E	4	
December 4:				
6 a. m		E	3	c
2 p. m	53.9	ENE	2	o
4 p. m		S	3	b, c

From these observations we see that on the 2d the typhoon was already formed to the southeast of Yap and in the afternoon of the 3d it passed nearest to that station by the south, moving westward. This conclusion is confirmed by the observations made aboard the German steamer *Prinz Waldemar,* which was on her way from Sydney, Australia, to Yap. On the 3d this ship was between 5° and 7° latitude N and 139° to 141° longitude E, when, with a regular fall in the barometer, the wind was observed to come from west-northwest and west (force 3 and 2) in the morning, and from south-southwest (force 1 and 2) in the afternoon, with cloudy sky and passing rain showers. Probably the typhoon was then not yet fully developed; but there appears no reason for doubting that, as it passed by the south of Yap in the afternoon, it had passed north of the position of the *Prinz Waldemar.*

The typhoon in the Philippines.—The first station in the Philippines to give precursory signs of the approach of this storm was, as usually, that of Borongan. Situated on the eastern coast of Samar, this station is of great importance for the observing of one of the most valuable, and at times earliest, signs of a typhoon, namely, the hurricane swell. This phenomenon was observed at the said station in the afternoon of the 3d and reported to the Central Office in the words: "Swell from southeast." The same remark was repeated on the following day.

The convergence of cirrus clouds is generally another precursory sign of a typhoon, and in this instance it was observed in the following stations: Atimonan in the early morning of the 4th, Romblon and Manila in the afternoon of the same day. In all three places the convergence was toward the southeast, in which direction the vortex of the typhoon was at the time approximately situated.

These signs, together with the barometric gradient which had begun to manifest itself to the southeast of Manila, with prevailing winds from the north in the Visayas and southern Luzon, induced the Observatory to order the first storm signal hoisted in the easternmost stations of the Visayas. The next day, at 9 a. m., the following typhoon warning was sent to the foreign meteorological services and to all of our stations in the Archipelago:

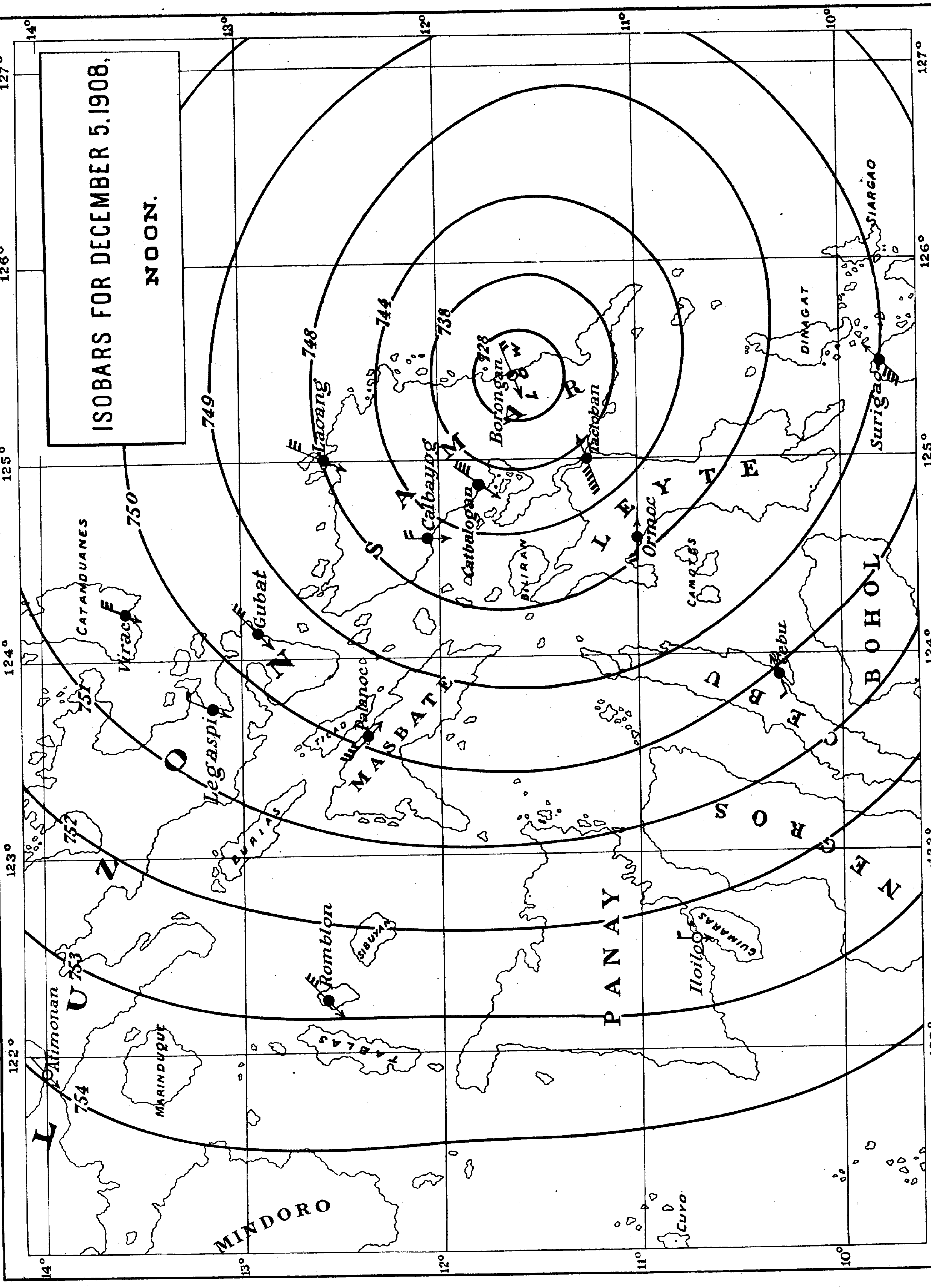
December 5, 9 a. m.: Typhoon east of the Visayan Islands, moving west-northwest.

At 3.05 p. m. of the same day we telegraphed another warning to our stations, locating the vortex within the Archipelago:

December 5, 3.05 p. m.: Typhoon crossing, the eastern Visayas; moving west-northwest.

We will now examine the course of the storm across the Visayan Islands and the interisland seas to the south of Luzon. The vortex, or rather the vortical region, of this typhoon passed over Borongan, where the relative and absolute calm, as well as the other phenomena which generally accompany the passing of the vortex, could be observed perfectly. The veering of the wind from north to east-northeast and southeast observed there from 11.45 to 12.30 tends to prove that the true vortex or cyclonic center passed south of, and very close to, that station. The observations made by the observer, the Rev. Cesario Montes, O. F. M., are so interesting that we publish them in full in the subjoined table. One phenomenon calls our attention especially in these observations, to wit, the electrical manifestations in the first or front part of the storm and in the vicinity of the vortex, when the barometer had already fallen to 723 millimeters. This is a phenomenon rarely observed in typical and well-developed typhoons.

Plate XXXVI.



N.B.-The barometric readings have been reduced to standard gravity.

METEOROLOGICAL OBSERVATIONS MADE AT BORONGAN, SAMAR, DECEMBER 3 TO 6, 1908.

Date and hour.	Pressure.	Wind.		Weather.	Rainfall (daily total).	Remarks.
		Direction.	Force.			
December 3:	*mm.*		*0-12.*		*mm.*	
6 a. m	757.81	NE	3	r		Rain in the morning.
2 p. m	56.29	NNE	5	q, l	41.4	Thundershower and swell from SE.
December 4:						
6 a. m	57.41	N by E	4	o		Somewhat gusty winds; swell from SE in the morning.
2 p. m	55.57	NNW	2	r	2	Slight rain and swell in the afternoon.
December 5:						
6 a. m	51.15	NNW	8	q		Squalls from N.
7 a. m	50.12	NNW	8	q		The squalls from N increase; dark horizons.
7.30 a. m	50.45	N	8	q		Winds tending to veer to the NE quadrant.
8 a. m	50.02	N-NNW	8	q		Rain increasing with strong gusts of winds.
8.30 a. m	49.19	N-N by W	9	q		Winds veering to NNE and NE.
9 a. m	48.48	NNW	10	q		Heavy squalls.
9.30 a. m	46.68	N	10	q		Do.
10 a. m	45.02	N	10	q		Do.
10.15 a. m	43.74	N-NNW	10	q		The nimbus come from N with great velocity.
10.30 a. m	42.15	N-NNE	11	q		Gusty wind with heavy rain.
10.45 a. m	39.46	N quad.	11	q		Very thick bank of clouds to the SE quadrant.
11 a. m	37.18	N-NNW	12	q		Frequent and very violent squalls.
11.15 a. m	34.68	N-NNE	12	q		Do.
11.20 a. m	31.64	N-NNW	12	q		Squalls increasing in violence.
11.25 a. m	29.36	N quad.	12	q		Extraordinary roaring of the sea.
11.30 a. m	28.56	N quad.	12	q		Abundant rain.
11.35 a. m	26.36	N-NNW	12	q		Do.
11.40 a. m	23.48	NNE	12	q		Thunderstorm to the ENE.
11.45 a. m	22.18	N-NNE	12	q, l, t		Continuous lightning with thunders in various points.
11.50 a. m	21.78	NNE	12	q, l, t		Do.
Noon	20.48	ENE	4	o		Rain ceased. Wind abating.
12.05 p. m	19.80	E	1	o		Sky clearing up a little, Cu. from NE prevailing.
12.10 p. m	19.59	Calm		o		Dead calm; a veil of Ci.-S. with some Cu. cover the sun.
12.20 p. m	20.45	Calm		o		Dead calm; sky extraordinarily clear overhead and to the SE.
12.30 p. m	21.66	SE	12	q		Hurricane winds with rain from the SE quad.
12.40 p. m	23.82	SE	12	q		Winds still increasing in violence with abundant rain.
12.50 p. m	25.29	SSE	12	q		Do.
2 p. m	47.18	S	6	q, l	142.7	Rain and lightning in the afternoon.
December 6:						
6 a. m	56.53	SW	2	r		Rain in the morning and in the afternoon.
2 p. m	56.91	S	1	o, r	8.6	

Catbalogan, situated on the western coast of Samar, was likewise traversed by the vortical region of this typhoon. The barometric minimum, the veering of the wind, and the other phenomena observed during the passage of the storm over Catbalogan were generally similar to those at Borongan, but less pronounced. The vortex crossed south of that station a little after 2 p. m.; that is to say, about two hours after it had passed over Borongan. The vortical calm lasted from 2 to 2.40 p. m., and the wind veered rapidly from north-northeast to east and south; the sky was only partly cloudy.

From the following table the readers may judge the state of the atmosphere in the Philippines at 6 a. m., 2 p. m., and 10 p. m. of December 5 and 6. These place before them some of the principal data which guided us in the giving out of typhoon warnings and in tracing the track of the storm as given in Plate XXXIX.

METEOROLOGICAL OBSERVATIONS FOR THE PHILIPPINES, DECEMBER 5 AND 6, 1908.

DECEMBER 5, 1908.

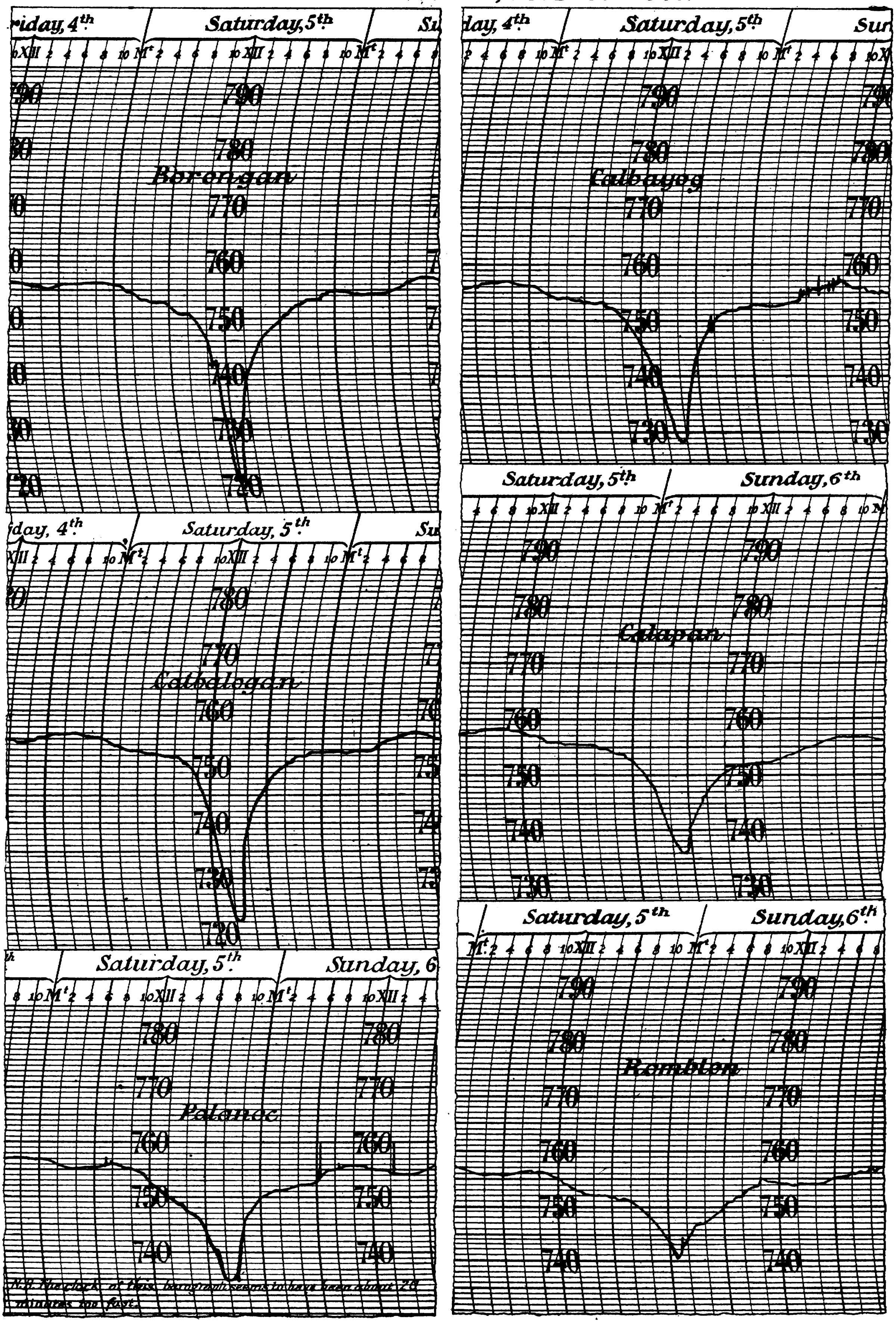
Stations.	6 a. m.					2 p. m.					10 p. m.				
	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.	Pressure.	Difference in 24 hours.	Wind. Direction.	Wind. Force.	Weather.
	mm.	*mm.*		*0–12.*		*mm.*	*mm.*		*0–12.*		*mm.*	*mm*		*0–12.*	
Aparri	760.07	—1.23	ENE	1	b	759.21	— 0.80	NE	2	o	759.66	—2.02	ENE	3	q
Tuguegarao	59.31	—1.28	NW	1	c	57.62	— 1.36	N	1	c	58.14	—2.77	N	1	r
Vigan	57.14	— .52	ESE	5	b	55.82	— .92	NE	4	c	56.34	—2.70	E	5	o
Bolinao	56.89	— .54	S	1	c	55.57	— 1.16	NNW	1	o	55.36	—3.34	-------	-------	-------
Dagupan	57.21	— .99	SE	1	b	55.50	— 1.17	N	2	o	55.59	—3.45	Calm	-------	o
Olongapo	57.03	— .33	NNE	1	c	54.94	— 1.89	NE	2	o	55.12	—3.77	ENE	1	o, d
Manila	57.05	—1.08	NE	1	o	55.11	— 1.93	NNE	2	q	54.15	—4.75	NNW	3	-------
Atimonan	56.55	—1.56	NNE	4	q	54.60	— 2.61	NNE	4	q	52.42	—6.48	NE by N	7	q
Batangas	56.60	—1.11	ENE	2	o, d	54.82	— 1.76	Calm	-------	r	-------	-------	-------	-------	-------
Calapan	57.45	—1.18	NW	1	o, d	56.39	— 1.64	Calm	-------	o	54.06	-------	NW by W	7	q
Legaspi	54.84	—2.63	NNE	2	o	50.07	— 6.56	NE	3	q	49.19	—8.06	ESE	3	q
Romblon	55.07	—2.13	NE	6	q	52.83	— 3.55	N	7	q	48.26	-------	NNE	12	q
Palanoc	55.69	—2.14	NNW	3	o	49.48	— 7.33	NW	9	q	47.06	-------	SSW	11	q
Calbayog	53.40	—3.78	N	1	r	38.11	—17.65	NNW	5	q	52.62	—4.37	S	5	q
Borongan	51.15	—6.26	NNW	8	q	47.18	— 8.39	S	6	q, l	-------	-------	-------	-------	-------
Capiz	55.28	—2.02	NW	2	o	52.09	— 4.41	WSW	2	r	50.40	—8.02	SW	2	r
Tacloban	52.02	—4.92	WNW	4	q	42.42	—12.89	SSW	12	q	53.20	—3.07	S	3	o
Ormoc	53.18	—3.59	N	1	r	46.97	— 8.20	SW	7	q	53.54	—2.62	SE	4	o
Iloilo	54.98	—1.95	NE	1	o	52.81	— 2.96	W	1	u, r	52.25	—4.84	SW	4	r
Cebu	53.97	—2.68	Calm	-------	r	50.96	— 4.05	WSW	1	r	53.29	—2.85	SSW	4	c
Surigao	52.09	—4.34	W by S	8	q	50.94	— 4.13	SW	7	o	55.08	— .62	Calm	-------	r

DECEMBER 6, 1908.

Aparri	756.58	— 3.49	ENE	3	q	754.93	— 4.28	NE	2	r	756.49	—3.17	E	1	r
Tuguegarao	55.63	— 3.68	Calm	-------	r	54.32	— 3.30	NW	1	r	55.83	—2.31	Calm	-------	r
Vigan	52.98	— 4.16	NNE	3	o, d	49.55	— 6.27	NNE	3	o	53.95	—2.39	SE	1	r
Bolinao	52.45	— 4.44	ENE	4	o	49.60	— 5.97	E	1	r	52.92	—2.44	-------	-------	-------
Dagupan	52.21	— 5	Calm	-------	o	50.06	— 5.44	E	2	p	54.68	— .91	SE	3	q
Olongapo	50.63	— 6.40	NNW	3	o, d	49.08	— 5.86	SSE	5	q	55.31	+ .19	SSW	3	q
Manila	49.16	— 7.89	N	4	q	51.36	— 3.75	ESE	2	r	56.15	+2	SE	1	-------
Atimonan	49.61	— 6.94	E	7	q	52.58	— 2.02	SSE	2	r	56.80	+4.38	Calm	-------	o
Batangas	40.61	—15.99	ENE	9	q	52.46	— 2.36	SSE	3	r	-------	-------	-------	-------	-------
Calapan	39.89	—17.56	S	9	q	51.95	— 4.44	SW by S	1	r	-------	-------	-------	-------	-------
Legaspi	54.26	— .58	Calm	-------	o	55.14	+ 5.07	Calm	-------	r	57.74	+8.55	Calm	-------	b
Romblon	50.73	— 4.34	S	7	q	53.84	+ 1.01	SSE	5	q	-------	-------	-------	-------	-------
Palanoc	54.06	— 1.63	SE	4	o	55.37	+ 5.89	SE	3	o	-------	-------	-------	-------	-------
Calbayog	55.21	+ 1.81	S	1	c	55.33	+17.22	S	1	o	57.81	+5.19	S	1	c
Borongan	56.53	+ 5.38	SW	2	o	56.91	+ 9.73	S	1	c	-------	-------	-------	-------	-------
Capiz	52.64	— 2.64	SW	1	o	54.22	+ 2.13	SE	1	o	57.17	+6.77	Calm	-------	o
Tacloban	55.83	+ 3.81	SE	0	o	55.42	+13	SSE	0	o	58.01	+4.81	S	1	c
Ormoc	55.42	+ 2.24	SE	1	o	55.38	+ 8.41	SSE	1	o	57.56	+4.02	E	0	b
Iloilo	54.16	— .82	SW	3	u, r	54,72	+ 1.91	SW	2	o	57.20	+4.95	SW	0	o
Cebu	55.16	+ 1.19	S	1	p	55.04	+ 4.08	SW	1	c	57.39	+4.10	Calm	-------	c
Surigao	55.09	+ 3	Calm	-------	c	55.11	+ 4.17	E	1	o	57.46	+2.38	Calm	-------	c

The following observations made at Palanoc, Masbate, seem to determine a further point in the track of this typhoon. According to these the vortex passed very close to the south of Palanoc shortly before 8 p. m.; the wind veered rapidly from northwest to north and then to southeast. The relative calm took place while the wind direction was southeast. The observer does not state how long the relative calm lasted, but it is probable that it was of rather long duration—if we may judge from the barometric curve of that station (see Pl. XXXVII), as the barometer remained at its approximate minimum for about one hour.

BAROGRAPHIC RECORDS, DECEMBER 1908. *Plate XXXVII.*



METEOROLOGICAL OBSERVATIONS MADE AT PALANOC, MASBATE, DECEMBER 5 and 6, 1908.

Date and hour.	Pressure.	Difference in 24 hours.	Wind.		Weather.	State of sea.	Rainfall (daily total).
			Direction.	Force.			
December 5:	*mm.*	*mm.*		*0-12.*			*mm.*
6 a. m	755.69	— 2.14	NNW	3	o	S	------
Noon	51.74	— 5.96	NW	7	q	R	------
1 p. m	50.68	— 6.72	NW	8	q	R	------
2 p. m	49.48	— 7.33	NW	9	q	R	------
3 p. m	48.41	— 8.09	NW	9	q	R	------
4 p. m	46.73	— 9.82	NW	11	q	R	------
5 p. m	44.58	—12.12	NW	11	q	R	------
6 p. m	41.18	—16.12	NW	12	q	R	------
7 p. m	36.21	—21.44	N	11	q	R	------
8 p. m	34.65	—23.10	SE	5	q	R	------
9 p. m	40.70	—17.10	S	12	q	R	------
10 p. m	47.06	—10.69	SSW	11	q	R	47
December 6:							
6 a. m	54.06	— 1.63	SE	4	o	S	.5

The observations of the steamer *Lal-loc,* anchored at the time in the port of Romblon, which are given in the next table, show perfectly the passing of the storm by the north of that island:

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "LAL-LOC" ANCHORED AT ROMBLON HARBOR, DECEMBER 5 AND 6, 1908.

[Captain, Mr. G. Roses.]

Date and hour.	Pressure.	Wind.		Weather.
		Direction.	Force.	
December 5:	*mm.*		*0-12.*	
1 p. m	751.5	N	4	------
4 p. m	52	NNW	5	r
8 p. m	------	NW	7	r
9 p. m	49	------	------	------
11 p. m	------	WNW	6	------
Midnight	43	WSW	9	------
December 6:				
1 a. m	43.5	WSW	10	------
2 a. m	44	SW	9	------
3 a. m	45	------	------	------
4 a. m	49	------	------	------
5 a. m	------	S	5	q
6 a. m	51	------	------	------
7 a. m	52	------	------	------
Noon	53.4	------	------	------

Finally, the observations made at Batangas and Calapan enable us to establish another point of the storm track in northern Mindoro. The vortex passed by the south of, and very close to, Calapan, a little before 5 a. m. of the 6th, and was closest to that town when southwest of it at about 5.10 a. m., at which time the relative calm was observed, as may be seen in the following table:

METEOROLOGICAL OBSERVATIONS FOR DECEMBER 5 TO 7, 1908.

Date and hour.	Calapan.						Batangas.					
	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Rainfall (daily total).	Remarks.	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Rainfall (daily total).	Remarks.
December 5:	mm.		0–12.		mm.		mm.		0–12.		mm.	
6 a. m	757.45	NW	1	o,d		Slight rain	756.60	E	2	o,d		Overcast with drizzle at intervals.
10 a. m	57.92	Calm		o		Overcast						
2 p. m	56.39	Calm		o		At 11 a. m. slight rain	54.82	Calm		r		Rainy at intervals.
4 p. m	55.65	Calm		r		Abundant rain	54.53	NE	1	r		Rainy; clouds running very fast at 10.50 p. m.
8 p. m	55.33	WNW	4	r		At 6.30 p. m. fresh winds with drizzle; 8 p. m. fresh winds with rain.						
10 p. m	54.06	NW by W	7	q		Gale at intervals; squally.						
Midnight	52.07	NW	8	q	15	do					26.2	
December 6:												
1 a. m						1.30 a. m. strong gale; squally.	50.33	NE	4	q		Frequent squalls from the NE quadrant.
2 a. m	48.89	NW	9	q		do	48.13	NNE	6	q		Gusty winds with rain.
3 a. m	43.83	NE quad.	12	q		Hurricane winds from NE quadrant veering to the E.	46.41	ENE	8	q		Squally; winds increasing in force.
3.30 a. m	41.84	NE quad.	12	q		do	45.11	NE	9	q		Gale with heavy rain.
4 a. m	39.45	NE quad.	12	q		do	43.76	ENE	9	q		Do.
4.30 a. m	37.52	NE quad.	12	q		do						
5 a. m	35.92	ESE	8	q		Winds and squalls decreasing; at 5.10 a. m. relative calm was observed.	40.24	E	10	q		Hurricane winds from the E quadrant with heavy rain.
5.30 a. m	37.07	SE by S	9	o		Strong gale from SE	39.89	SE	11	q		At 5.20 a. m. winds abated to force 4 to 5 of Beaufort scale. After 15 minutes they blew again with hurricane force from SE.
6 a. m	39.89	S	9	q		Strong gale from S	40.61	SE quad.	9	q		Winds from the SE quadrant abating gradually.
7 a. m	44.14	S	3	o		Gusty winds from S	42.46	ESE	8	q		Rainy; winds abating.
8 a. m	47.12	SSW	3	o		Weather improving	46.84	SSE	7	q		Rainy; winds moderating and veering to the S.
10 a. m	50.07	SSW	1	o		do	51.96	S	5	o		Overcast sky clearing up a little.
Noon	51.97	SW	1	o		do						
2 p. m	51.95	SW by S	1	o		At 1.01 p. m. heavy rain at intervals.	52.46	SSE	3	r		Rainy.
4 p. m	52.97	SSW	2	o,d		Slight rain						
6 p. m	54.37	SW	1	r	218.4	Heavy rain at intervals					123.2	
December 7:												
6 a. m	56.78	Calm		o		Drizzling	56.54	ESE	1	o		Overcast.
2 p. m	55.99	Calm		o	29	At 1.45 p. m. heavy rain	55.66	E	2	c		Cloudy.

The typhoon in the China Sea.—After the early hours of the 6th the typhoon changed its direction in a remarkable manner; for, having moved during the preceding days approximately toward west-northwest, it then began to incline more and more toward north until in the afternoon of the 6th it was moving in a north-northwest direction, which it retained till it reached approximately the latitude of Bolinao. To prove this change of direction it is sufficient to remember that the vortex passed south of Calapan in the early morning of the 6th and, nevertheless, between 6 and 7 p. m. of the same day it passed by the east of the steamer *Loongsang* which was then in the vicinity of parallel 16° N and meridian 118° 40′ E. See in Plate XXXIX the route followed by the *Loongsang* on her voyage from Hongkong to Manila and the directions of the wind observed on board, which indicate clearly the passing of the vortex by the east and north of the steamer.

On the 6th Manila Observatory sent the following typhoon warnings to Tokio, Zikawei, Taihoku, Hongkong, and Phulien:

December 6, 6 a. m.: Typhoon over or near Mindoro; moving west-northwest.
December 6, 11 a. m.: Typhoon southwest of Manila; moving west-northwest or northwest.
December 6, 5 p. m.: Typhoon west of Luzon, distance more than 100 miles; moving northwest.

By comparing these warnings with the track shown in Plate XXXIX we find that the typhoon inclined even more to the north than was supposed at the time, and also that at 5 p. m. the vortex was less than 100 miles distant from Luzon.

During the afternoon of the 7th the following cablegram was received from Hongkong Observatory:

7th, noon: Typhoon west of Luzon; moving northwest.

On the 8th Manila Observatory was of the opinion that the typhoon was filling up to the west of northern Luzon, and gave out this information in the following dispatch:

December 8, 11 a. m.: Typhoon west of northern Luzon, distance more than 100 miles; filling up.

Not long afterwards a cablegram phrased in almost the same words was received from Hongkong Observatory:

8th, noon: Typhoon northwest of Luzon; filling up.

This notwithstanding, Hongkong Observatory as well as that of Zikawei indicated in the weather notes of the following days that the typhoon had recurved and passed into the Pacific Ocean after crossing between Formosa and Luzon. But we hope to make it sufficiently clear: first, that the typhoon in question, after reaching the height of Bolinao, began to move almost due west, instead of continuing to recurve to the north and northeast, so that at midnight of the 7th the vortex was to the south of Hongkong, not far from 18° latitude; and secondly, that the observations of Santo Domingo, Batanes Islands, do not indicate anything like the passing of a typhoon by that place on the 9th, contrary to what was supposed by Hongkong Observatory in its weather note of the 10th and also in the track shown in Plate I of the Annual Report of the said observatory: "Meteorological Observations made at the Hongkong Observatory in the Year 1908."

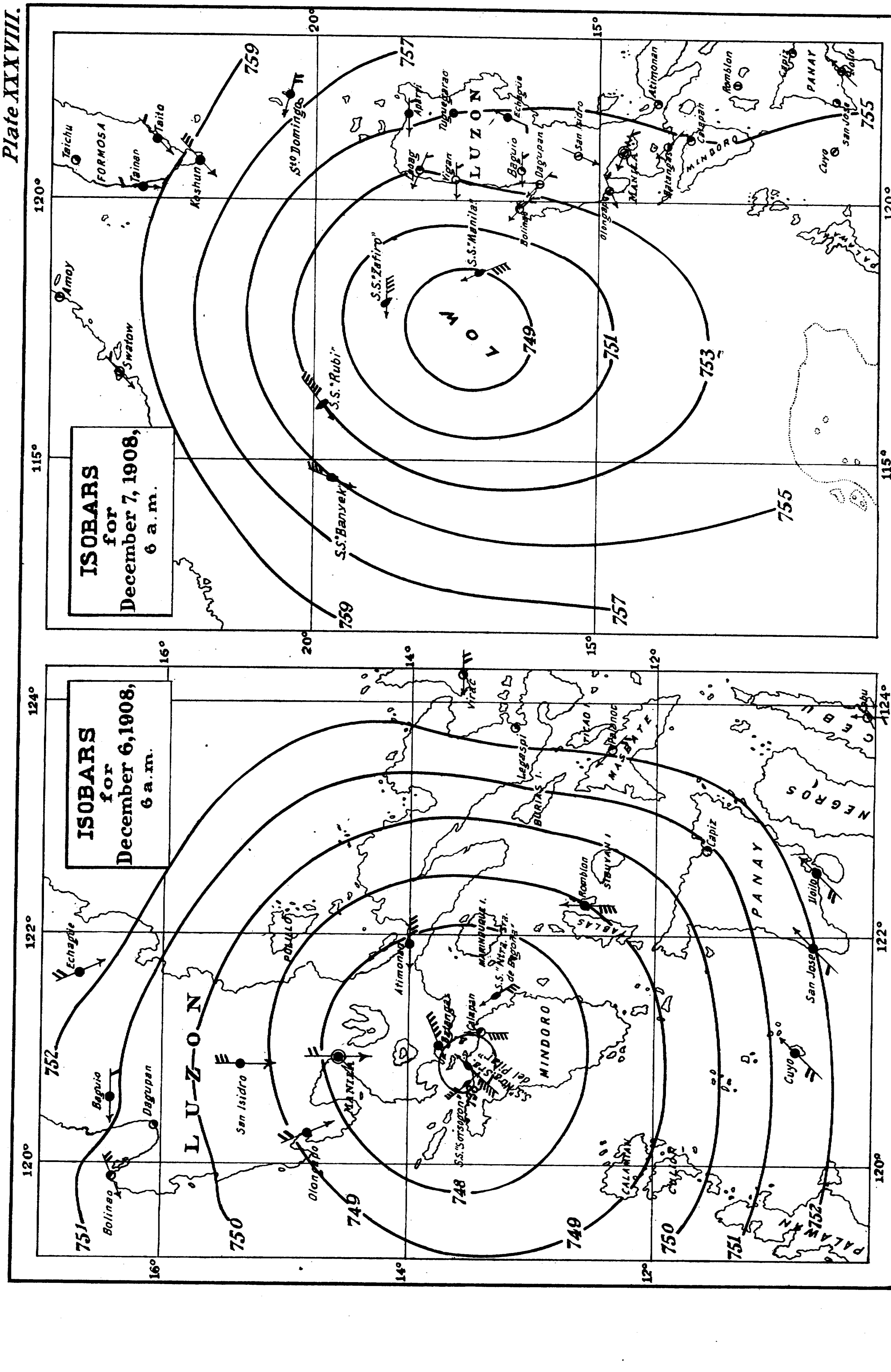
To prove our first point, I believe it will suffice to examine the very interesting observations made aboard the steamer *Ban-Yek* on her voyage from Hongkong to Manila, for which observations we are indebted to the kindness of Capt. Don Francisco Fábregas, master of the vessel.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "BAN-YEK," DECEMBER 6 TO 10, 1908.

[Captain, Mr. F. Fábregas.]

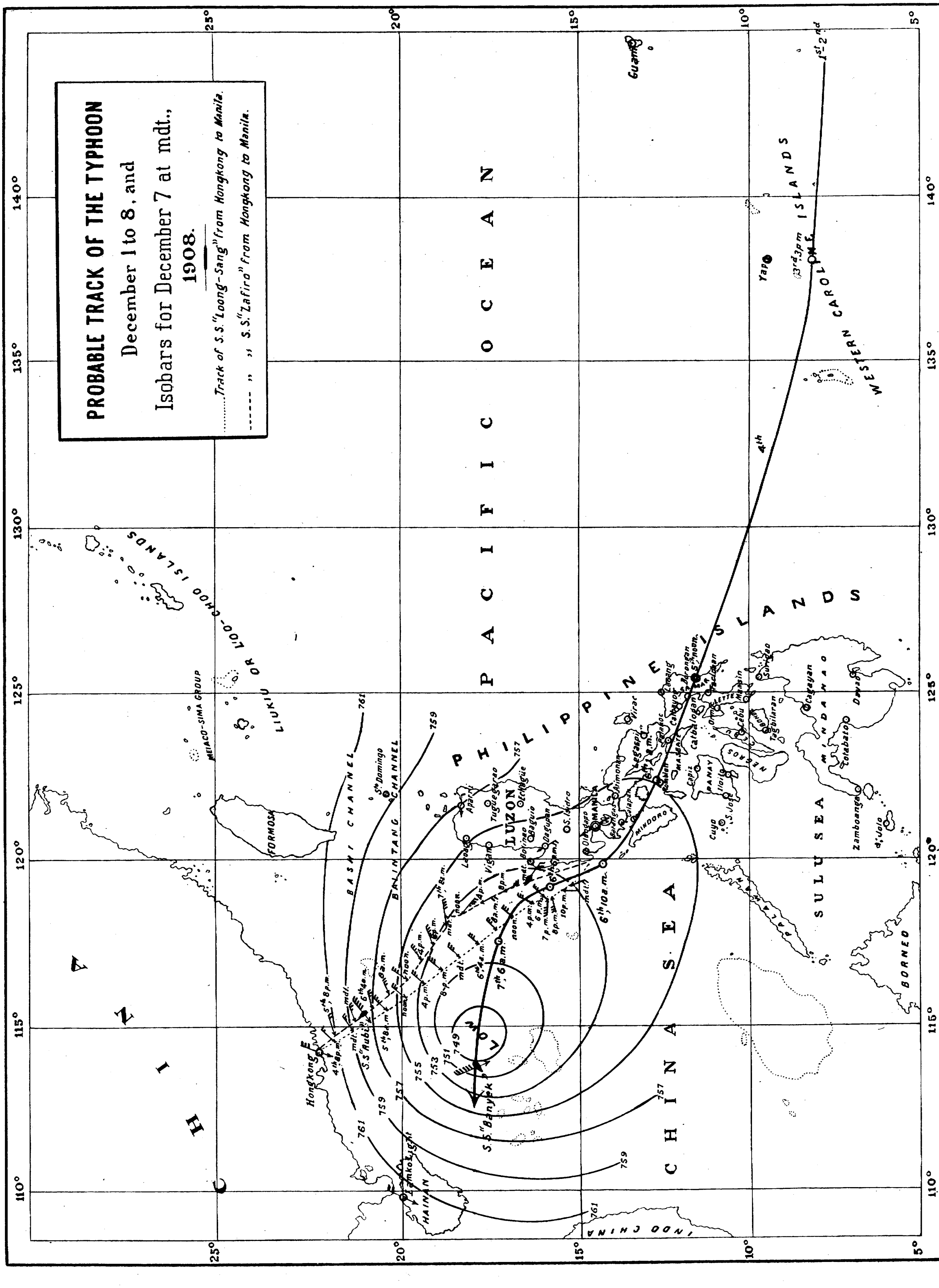
Date and hour.	Position.		True course.	Pressure.	Wind.		Clouds.		Remarks.
	Latitude N.	Longitude E.			Direction.	Force.	Form.	Direction.	
December 6:	° ′	° ′		mm.		0-12.			
8 a. m									Left Hongkong at 8.30 a. m.
10.03 a. m			SE	763	N	2	Cu.	NE	Heavy sea from SE.
4 p. m			SE	60.2	ENE	2	Cu.	NE	
9 p. m			S by E	60.6	ENE	4	Ci.	S	Very heavy sea from E.
December 7:									
3 a. m			S by W	57	NE	8	N.	NNE	
10 a. m			S by W	57.2	NNE	9	N.	N by E	
Noon	18 51	114 35							
4 p. m			SSW	53	N	10	Cu.-N.	N	State of the sea becoming more and more terrific.
9 p. m			SSW	52	N	11	Cu.-N.	N by W	
Midnight			SSW	51	N by W	12	Cu.-N.	NNW	Tremendous sea.
December 8:									
4 a. m			SSW	49	NNW, NW	12	Cu.-N.	NW	Storm tending to abate.
6 a. m			SSE	50	NW	8	Cu.-N.	NW	
9 a. m			SE	52	SE	2	N.	SE	The wind jumped from NW to SE after the passing of the vortex.
Noon	16 56	113 55	E by S	54	SE	4	N.	SE	
3 p. m			E by S	55	ESE	3	Cu.-N.	SE	
9.30 p. m			E by S	56.7	E	3	Cu.-N.	ESE	
December 9:									
4 a. m			E by S	56	E	2	N.	ESE	
Noon	16 34	117 17	E by S	59	ESE	1			
4 p. m			SE by E	58.8	ESE	2			Bank of clouds toward the NE and NW quadrants.
10 p. m			SE by E	60	SE	3	Ci.	NNW	Weather continues squally.
December 10:									
4 a. m			SE by E	59.6	E	2	Ci.	NNW	Rain ceases and weather clearing up.
10.30 a. m			SE	60.3	SE	2			This morning as well as yesterday the highest clouds were observed running from NNW.
3 p. m			SE, ESE	59.4	SE	2			

Plate XXXVIII.



N.B.-The barometric readings have been reduced to standard gravity.

Plate XXXIX.



N.B.-The barometric readings have been reduced to standard gravity.

According to these observations the vortex passed over the ship after 6 a. m. of the 8th while she was west of meridian 114° east of Greenwich. The wind jumped from northwest to southeast after the passing of the center.

Our position is further strengthened by the observations made on board the steamers *Rubi, Manila,* and *Zafiro,* which have enabled us to trace the isobars for 6 a. m. of the 7th (see Pl. XXXVIII), at which time the typhoon had already a westerly direction. The isobars for midnight of the same day (7th) are shown in Plate XXXIX.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "RUBI," DECEMBER 5 TO 8, 1908.

[Captain, Mr. R. Almond.]

Date and hour.	Pressure.	Wind.		Weather.	Remarks.
		Direction.	Force.		
December 5:	*mm.*		*0-12.*		
10 a. m	756. 14	Calm	------	---------	Left Manila.
2 p. m	54. 11	NNW	1	---------	
6 p. m	53. 34	N	3	c	Intense red sunset with a good deal of green around it.
8 p. m	52. 84	NW by N	4	c	
Midnight	51. 82	NW by N	3	c	
December 6:					
2 a. m	50. 30	NE	4	c	
6 a. m	49. 79	NE	6	o	Strong wind; heavy sea; overcast.
10 a. m	50. 30	ENE	8	---------	
Noon	50. 04	ENE	9	---------	Ship's position, 17° 36′ Lat. N, 118° 00′ Long. E.[1]
6 p. m	50. 30	ENE	10	---------	Hard gale and sea.
10 p. m	52. 07	NE by E	11	---------	Terrific gale with tremendous sea.
Midnight	52. 84	NE by E	12	---------	Do.
December 7:					
4 a. m	53. 09	NE by E	11	q	Fierce gale blowing with hurricane force and heavy rain.
8 a. m	54. 11	NE by E	11	---------	
Noon	54. 61	NE	11	---------	Ship's position, 20° 25′ Lat. N, 115° 45′ Long. E.[1]
2 p. m	54. 36	NE	12	q	Heavy gale with continuous rain and very heavy sea.
6 p. m	55. 38	NE	11	q	
8 p. m	56. 65	NE	11	---------	Hard gale; less sea and squally.
Midnight	57. 92	NE	10	q	
December 8:					
2 a. m	58. 93	NE	10	q	Heavy gale with mountainous sea; thick heavy rain.
6 a. m	59. 69	NE	10	q	
Noon	63. 76	NE	10	q	Ship's position, 21° 25′ Lat. N, 115° 05′ Long. E.[1] Hard gale; continuous rain.
4 p. m	64. 27	NE	9	c	Weather clearing up and getting fine. At 11.55 p. m. anchored in Kowloon Bay.
8 p. m	65. 54	N	8	c	
10 p. m	66. 81	N	7	c	

[1] By dead reckoning.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "MANILA," DECEMBER 5 TO 8, 1908.

[Captain, Mr. F. Minssen.]

Date and hour.	Position. Latitude N.	Position. Longitude E.	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Remarks.
December 5:	° ′	° ′	mm.		0-12.		
Noon	19 21	116 40	759.3	NE by E	6	o	Rough sea; high ENE swell.
4 p. m	18 51	117 05	57.2	NE by E	6	o	Do.
8 p. m	18 21	117 30	57.5	NE by E	6	o	Do.
Midnight	17 25	117 54	56	NE by E	7	o	Wind and sea increasing.
December 6:							
4 a. m	17 35	118 12	55	NE by N	8	o	Do.
8 a. m	17 09	118 36	53.8	NE by N	8	o	High sea and NE swell.
Noon	17 00	118 43	53	NE by N	8	o	Do.
1 p. m			53	NE	8	o, r	Overcast, heavy rain-squalls; high sea and high NE swell.
2 p. m			52.5	NE	8	o, r	Do.
3 p. m			51.2	NE	8	o, r	Do.
4 p. m			50	NE	8	o, r	Do.
5 p. m			50	NE	9	o, r, q	Very heavy squalls, heavy rain, high sea.
6 p. m	Ship heaving to.		50.8	NE	10	o, r, q	Do.
7 p. m			51	NE	9	o, r, q	Do.
8 p. m			50	NE	9	o, r, q	Do.
9 p. m			48.7	NE	10	o, r, q	Typhoon, wild sea, very heavy squalls with blinding rain. At 10.40 p. m. the barometric reading was 744.1 mm. and wind from NE. At 10.45 p. m. wind shifting to ENE and decreasing, off 11 p. m. shifting more and increasing again.
10 p. m			46.1	NE	11	o, r, q	
11 p. m			47	ENE	11	o, r, q	
Midnight			44.3	E by S	11	o, r, q	
December 7:							
1 a. m			45.5	SE	11	o, r, q	Full typhoon, wild crossed sea and swell from NE and SE. Wind shifting to SSE.
2 a. m			46	SE	11	o, r, q	
3 a. m			47	SSE	10	o, r, q	
4 a. m			48.5	SSE	9	o, r, q	Wind decreasing.
5 a. m	Ship heaving to.		49.3	SSE	9	o, q	Wind and sea decreasing; rain-squalls.
6 a. m			50.2	SSE	8	o, q	Do.
7 a. m			51	SSE	7	o, q	Do.
8 a. m			51	SSE	7	o, q	Do.
Noon	17 20	118 43	53.4	SSE	7	o, q, r	Heavy rain-squalls, off 11 a. m. decreasing wind.
4 p. m	17 02	118 52	54	S	5	c	High SE swell; wind decreasing.
8 p. m	16 39	119 05	55.4	S	4	o	High SSW swell; wind decreasing.
Midnight	16 00	119 39	55.6	S	2	o, l	Strong lightning in SW; SSE swell and decreasing wind.
December 8:							
4 a. m	15 20	119 44	55	SE	3	c	Fine weather.
8 a. m	Capones Island.		56.2	SE	3	c	Do.
Noon	Monja Island.		56.5	ESE	3	c	Do.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "ZAFIRO," DECEMBER 5 TO 7, 1908.

[Captain Mr. R. Rodger.]

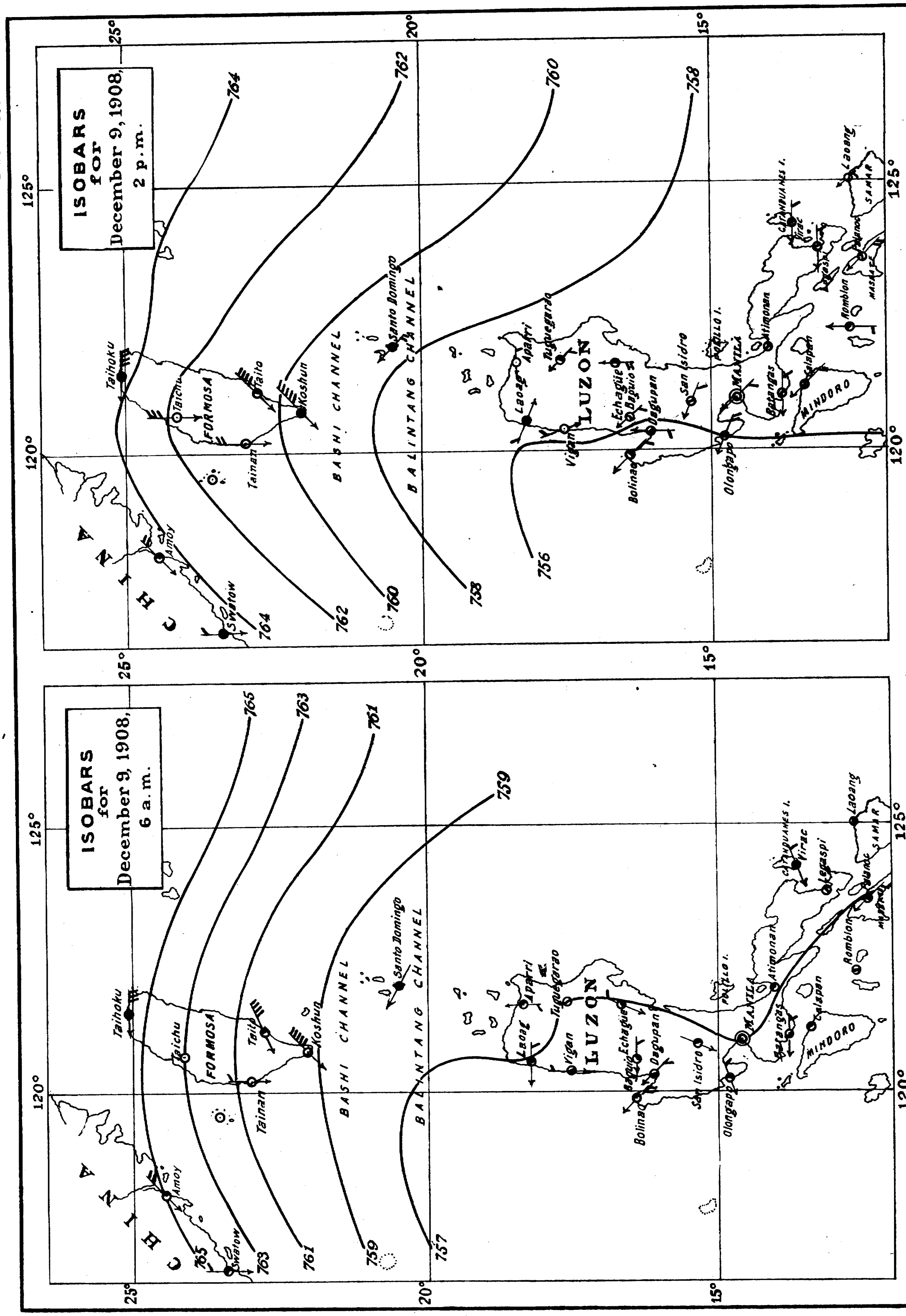
Date and hour.	Pressure.[1]	Difference in 24 hours.	Wind.		Weather.	Remarks.
			Direction.	Force.		
December 5:	mm.	mm.		0-12.		
3.40 p. m.	761.73				c	Light breeze, smooth sea, wind variable, sky almost covered with Ci. and Ci.-S. Sunset very glorious.
8 p. m.	60.97		ENE	4	b	Moderate breeze and sea; fine clear moonlight night.
Midnight	60.46		ENE	5	c	Fresh breeze, increasing sea, sky partly cloudy.
December 6:						
4 a. m.	58.68		ENE	5	c	Wind increasing, sky cloudy, sea increasing; altered course more easterly.
8 a. m.	58.68		NE by E	6	o	Strong breeze, high NE sea and high E to ENE swell, dull weather, overcast sky, drizzling rains.
Noon	56.91		NE by N	6	r	Ship's position, 19° 49′ Lat. N, 116° 27′ Long. E. Strong breeze, high confused seas, drizzling rainy weather; ship rolling heavily, altered course more easterly to assist vessel; wind inclined to haul right handed.
4 p. m.	52.84		NE by E	7	q	Very strong breeze, high confused sea, heavy and more frequent squalls of wind and rain.
8 p. m.			ENE	7	q	Strong gale with frequent squalls, wind inclined to back more, assumed typhoon to be recurving more easterly, very high seas, ship laboring heavily; at 9 p. m. wind NE by N, at 11 p. m. wind NE to ENE.
Midnight	52.33	—8.13	E by N	8	q	Tremendous confused seas, impossible to steam ahead with ship, hove to with ship's head ENE. Violent squalls of wind and rain.
December 7:						
2 a. m.	51.83		E by N	8	q	Terrific squalls, heavy continuous rain and tremendous confused sea. Barometer steadying.
4 a. m.	50.30	—8.38	E	8	q	
6 a. m.	50.56		E by S			Impossible to steam ship away from the tremendous easterly sea, heavy sea now coming from SW.
8 a. m.	51.83	—6.85	ESE		o	Wind abating, sky clearing, set course, high confused seas.
Noon	53.10	—3.81	SE by S		q	Ship's position, 18° 20′ Lat. N, 118° 21′ Long. E. Moderate gale, sea confused, but decreasing rain squalls.
4 p. m.	52.84	0	ESE	4	q	Fresh breeze, confused sea; frequent rain squalls with little force.
8 p. m.	55.13		SSE		c	Moderate breeze, considerable confused swell from east through south to west, clear fine weather.
Midnight	55.64	+3.31	SE	4	b	Decreasing wind and sea until arrival at Manila, with fine clear weather.

[1] These barometric readings seem to be 0.8 too low.

The second point of our statement—viz, that no big typhoon crossed the Bashi and Balintang Channels on the 9th—is sufficiently proven by the weather maps for 6 a. m. and 2 p. m. of that day, which we give in Plate XL. The observations of Santo Domingo as well as those of Formosa, have been utilized in tracing these maps.

We believe that the main reason which led astray Hongkong and Zikawei observatories as to the track of this typhoon, was a decided diminution of atmospheric pressure observed on the 10th on the Meiacosima group of islands, according to telegrams received from Ishigakijima. We must confess that we ourselves suspected this observation, as received here, to be erroneous or at least very doubtful, and consequently disregarded it entirely in tracing the isobars for the weather map of that day.

Plate XL.



N.B.-The barometric readings have been reduced to standard gravity.

But in the light of the observations of the steamer *Ban-Yek* we feel justified to say, that even if it were certain that on Meiacosima the barometer fell 4 millimeters within twenty-four hours, the fact could not be attributed to the typhoon which had been south of Hongkong on the 8th, but must be ascribed to some other cause, such as, perhaps, the small cyclonic center of Aparri, of which more anon.

In closing the discussion of the track of this typhoon we reiterate our assertion that beyond doubt the typhoon filled up in the China Sea on the 9th while to the south-southwest of Hongkong in parallel 18° north latitude.

Rate of progress.—In order to calculate the rate of progress of this typhoon, we have taken the positions of the cyclonic center at 12 noon of the 5th, 1 a. m., 10 a. m., and 6 p. m. of the 6th, and 12 midnight of the 7th. According to these positions, which are shown in Plate XXXIX, we have the distances of 196, 174, 99.5, 126, and 162 nautical miles covered, respectively, in thirteen, nine, eight, twelve, and eighteen hours: which gives us the successive mean velocities of 15.1, 19.3, 12.4, 10.5 and 9 miles per hour.

Small cyclonic center of Aparri.—During the afternoon and evening of the 8th, while the typhoon which we have just discussed was probably beginning to fill up in the China Sea, a phenomenon very rarely observed in the Philippines took place in northern Luzon; that is, near the limit of the eastern side of the cyclone. It consisted of a cyclonic center of very small extension, which passed first north of Tuguegarao and a few hours later south of Aparri, apparently in a north-northwest or northwest by north direction. In Plate XLI we reproduce the barographic curves[1] of both stations, while the subjoined table contains the extraordinary observations made on this occasion.

METEOROLOGICAL OBSERVATIONS FOR DECEMBER 8, 1908.

Hour.	Aparri.						Tuguegarao.					
	Pressure.	Wind.		Weather.	Rainfall (daily total).	Remarks.	Pressure.	Wind.		Weather.	Rainfall (daily total).	Remarks.
		Direction.	Force.					Direction.	Force.			
	mm.		0-12.		mm.		mm.		0-12.		mm.	
2 p. m	757.81	NE	1	o			756.40	N	1	o, p		Floods in neighboring barrios.
4 p. m	57.40	NE	2				55.64	NW	2	o, d		
6 p. m	57.58	NE	2	o, p			55.47	N	2	p		
7 p. m	57.73	NE	2	o			54.83	NW	3	q		
8 p. m	57.53	N	1	o			54.48	NW	3	q		
9 p. m	56.69	N	3	o			54.93	NW	3	q		At 9.26 p. m. the wind backed from NW to S.
10 p. m	55.79	NNE	4	o			57.47	SE	1	p		
11 p. m	53.66	NNE	4	o		The wind veered very rapidly to S.					51.6	
11.30 p. m	53.71	S	5	q	30.7							

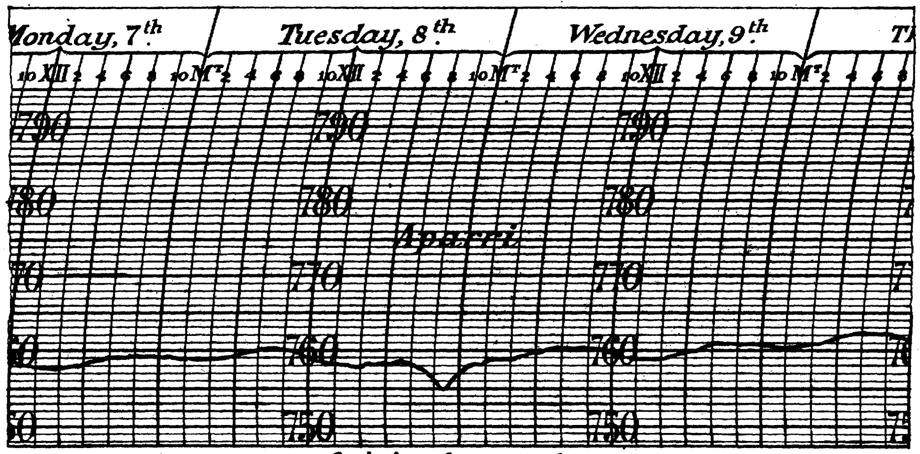
These data leave no room for doubting the existence of this secondary cyclonic center in northern Luzon. We call attention to the curve of Aparri, for we do not remember to have ever seen a similar one in the Philippines. It should be taken into account that the barometric fall, both in Tuguegarao and Aparri, took place during the hours when on normal days the barometer shows the rise of the nocturnal oscillation.

Up to the present we have found no other traces of this small cyclonic center, either in the observations of Formosa, or in those of Santo Domingo, Batanes Islands.

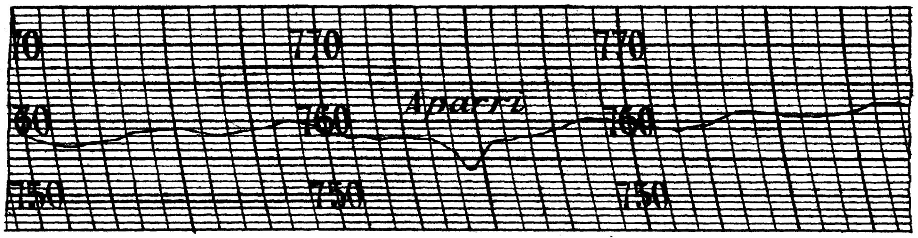
[1] In this plate we give, together with the original records of the barographs, the curves as they result from the direct observations of the mercurial barometers. This makes those curves of the two stations directly comparable with each other eliminating, as it does, the large errors of the barographs.

Plate XLI.

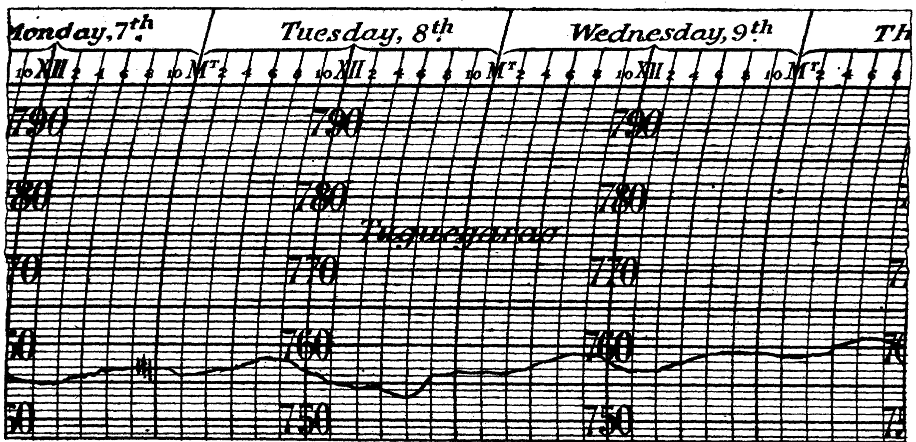
BAROGRAPHIC RECORDS, DECEMBER 1908.



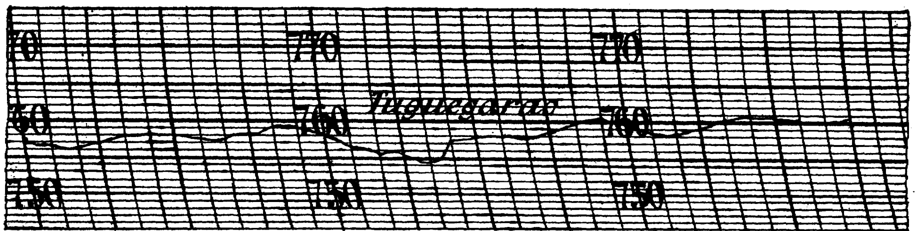
Original record.



Record corrected according to mercurial barom.



Original record.



Record corrected according to mercurial barom.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes, aunque inferior á la normal, es en general algo superior á la media mensual de Diciembre 1907 excepto en las estaciones situadas en el norte de Luzón. La de Manila difiere de la normal de Diciembre en —1.17 mm. Las máximas presiones se registraron el día 12 en la región meridional de Filipinas, y el 13 en la región septentrional. Las presiones más bajas tuvieron lugar durante el baguio que descutiremos luego: es decir, el día 5 en Mindanao, las Visayas y sudeste de Luzón, y el día 6 en Mindoro y centro y norte de Luzón.

La temperatura media mensual se diferencia muy poco, así de la normal de este mes como de la media mensual de Diciembre, 1907. La máxima y mínima absolutas observadas en el Observatorio de Manila ha sido 32.1° C. y 19.0° C.: la primera fué registrada los días 9 y 25 y la segunda el día 20.

Precipitación acuosa.—Según puede verse en el cuadro de lluvia que como de costumbre acompaña el texto inglés, asciende este mes á 26 el número de las estaciones en que se registró una cantidad de lluvia mayor que la de Diciembre del año próximo pasado, siendo solo 17 las que dan un total inferior á la misma.

La cantidad recogida en los pluviómetros de Manila difiere de la normal de este mes en +56.1 mm.

DEPRESIONES Y TIFONES.

En todo este mes de Diciembre no se ha observado más que un sólo baguio, cuya trayectoria procuraremos discutir con alguna detención por creerla de especial importancia para cuantos se interesan en el estudio de estas perturbaciones atmosféricas de Filipinas.

EL BAGUIO DE 2 Á 8 DE DICIEMBRE, 1908.

Este baguio fué verdaderamente notable no tanto por su intensidad cuanto por haber cruzado el Archipiélago tan cerca de la Isla de Luzón y haberse inclinado aún más al norte en el Mar de China, cosa que rarísimas veces se habrá observado en el mes de Diciembre. Basta decir que se hizo necesario izar señales de temporal en la vecina colonia de Hongkong, y que no sin razón se consideró allí como muy extraordinario el que se izasen señales en un mes en que se considera ya terminada la época de tifones.

Origen de este baguio.—El Observatorio de Manila envió á Japón, Formosa, costa de China é Indochina estos dos avisos de tifón los días 3 y 4 de Diciembre:

Día 3, 2.30 p. m.: Tifón al sur de las Carolinas Occidentales; dirección desconocida.
Día 4, 8.30 a. m.: Tifón al E de las Islas Palaos; moviéndose al WNW.

Fundábase el Observatorio al dar estos avisos en unos pocos telegramas recibidos de nuestras estaciones de Yap y Guam. El observador de Yap hizo observaciones horarias desde mediodía hasta 10 p. m. del 3: observaciones que nos fueron remitidas por correo y que pueden verse en una tabla que incluímos en el texto inglés.

De dichas observaciones se deduce que el tifón se hallaba ya formado el día 2 al SE de Yap y que la tarde del 3 pasaba por el Sur y á la menor distancia de aquella estación moviéndose al W. Confirman esta suposición las observaciones hechas á bordo del vapor aleman *Prinz Waldemar,* en viaje de Sydney á Yap. Se hallaba este barco el día 3 entre 5° y 7° Lat. N y 139° y 141° Long. E, cuando juntamente con un descenso regular de los barómetros se observaron vientos del WNW y W, fuerza 3 y 2 por la mañana y del SSW fuerza 1 y 2 por la tarde, con cielo nuboso y algunos chùbascos pasajeros. Probablemente el tifón no se hallaba aún bien formado; pero parece no poder dudarse que así como pasó por el sur de Yap la tarde del 3, había cruzado antes por el norte de la posición del *Prinz Waldemar.*

El baguio en Filipinas.—La primera estación de Filipinas en dar señales precursoras de este tifón fué como de costumbre la de Borongan. Situado este pueblo en la costa oriental de Sámar, se presta admirablemente para observar una de las señales más importantes y á las veces más avanzadas de los baguios, cual es el oleaje del huracán. Este oleaje se halla ya anotado en las observaciones de aquella estación la tarde del día 3 con estas palabras: "Marejada del SE." La misma observación se repite el día siguiente.

Otra de las señales precursoras de temporal suele ser la convergencia de Cirrus y ella se observó en esta ocasión en las siguientes estaciones: en Atimonan la madrugada del día 4, en Manila y en Romblón la tarde del mismo día. En los los tres puntos la convergencia era al SE hacia donde próximamente demoraba el vórtice del tifón.

Estas señales más la pendiente barométrica que ya empezaba á manifestarse hacia el Sudeste de Manila la tarde del 4, con vientos predominantes de la parte del Norte en Visayas y sur de Luzón, movieron al Observatorio á ordenar se izase la primera señal de temporal en las estaciones más orientales de las Islas Visayas. El día siguiente, á las 9 a. m., se telegrafió este aviso de tifón á Japón, Formosa, costas de China é Indochina y á todas las estaciones del Archipiélago.

Tifón al E de las Islas Visayas, moviéndose al WNW.

Á las 3.05 p. m. del mismo día 5 se envió á nuestras estaciones este otro aviso de tifón situando el vórtice dentro del Archipiélago:

Tifón cruzando las Visayas Orientales, moviéndose al WNW.

Examinemos ahora el curso del temporal á través de las Islas Visayas y mares interinsulares al Sur de Luzón. El vórtice, mejor dicho la región vortical de este baguio, pasó por encima de Borongan en donde pudo observarse perfectamente así la calma relativa y absoluta como los demás fenómenos que suelen acompañar el paso del vórtice. El role de vientos del N al ENE y SE, que se observó desde 11.45 a. m. hasta 12.30 p. m. prueba que el verdadero vórtice ó centro del tifón pasó un poco al sur de aquella estación meteorológica. Las observaciones hechas por el Observador Rev. P. Cesáreo Montes son tan interesantes que las hemos querido publicar íntegras en el texto inglés. Un fenómeno llama desde luego la atención en estas observaciones y son las manifestaciones eléctricas observadas en la parte anterior del tifón y en las cercanías del vórtice cuando el barómetro había bajado ya á 723 mm. Hecho es este raras veces observado en tifones típicos y bien formados.

Catbalogan, población situada en la costa occidental de Sámar, se halló también dentro de la región vortical de este baguio. La mínima barométrica, el role de vientos y demás fenómenos observados al paso del vórtice sobre Catbalogan son bastante parecidos á los de Borongan, aunque menos pronunciados. El vórtice cruzó tocando por el sur de aquella estación á eso de las dos de la tarde, unas dos horas después de haber pasado sobre Borongan. La calma vortical duró de 2 á 2.40 p. m. y los vientos rolaron rápidamente del NNE al E y S: el cielo se despejó sólo parcialmente.

En otro cuadro que damos en el texto inglés podrán ver nuestros lectores el estado de la atmósfera en Filipinas á 6 a. m., 2 p. m. y 10 p. m. de los días 5 y 6. Con ellas ofrecemos á nuestros lectores algunos de los principales datos que nos sirvieron para los avisos de tifón de aquellos días y para trazar la trayectoria que damos en la Lámina XXXIX.

Las observaciones de Palanoc, Masbate, sirven para precisar otro punto de la trayectoria de este baguio. Según ellas, el vórtice pasó muy cerca por el sur de dicha estación poco antes de 8 p. m., habiendo rolado los vientos con mucha rapidez del NW al N y SE y observándose calma relativa con vientos del SE. No hace constar el observador cuánto tiempo duró dicha calma; pero es probable durase bastante, pues á juzgar por la curva barográfica de aquella estación (véase la Lámina XXXVII), el barómetro se mantuvo próximamente en su mínima lectura cerca de una hora.

Las observaciones hechas á bordo del vapor *Lal-loc* fondeado á la sazón en el puerto de Romblón (véanse en el texto inglés) señalan perfectamente el paso del vórtice por el norte de aquella isla. Finalmente las observaciones de Batangas y Calapán las cuales incluímos en una tabla en el texto inglés nos han servido para precisar otro punto de la trayectoria en el norte de la Isla de Mindoro. El vórtice pasó por el S y muy cerca de Calapán poco antes de las 5 a. m. del día 6 y se halló á la menor distancia de aquella población cuando demoraba ya al SW á eso de 5.10 a. m., hora en que se observó calma relativa, según puede verse en las citadas observaciones.

El baguio en el Mar de China.—Este baguio fué cambiando notablemente de dirección desde las primeras horas del día 6; pues, habiéndose movido los días anteriores al WNW próximamente, se inclinó más y más al norte hasta el punto de que la tarde del 6 se movía al NNW. Conservó esta dirección hasta llegar próximamente á la altura de Bolinao. Para probar dicho cambio de dirección de un modo bien convincente basta fijarse en que el vórtice pasó por el sur de Calapán la madrugada del 6, y sin embargo vino á pasar entre 6 y 7 p. m. del mismo día por el este del vapor *Loongsang* cuando se hallaba éste en los alrededores del paralelo 16° N y del meridiano 118° 40′ E.

Véase en la Lámina XXXIX la ruta seguida por el *Loongsang* en su viaje de Hongkong á Manila y los vientos observados á bordo del mismo barco los cuales indican claramente el paso del vórtice por el E y N.

El Observatorio de Manila envió el día 6 estos avisos de tifón á Tokio, Zikawei, Taihoku, Hongkong y Phulien:

Día 6, 6 a. m.: Tifón en, ó cerca de, Mindoro, moviéndose al WNW.
Día 6, 11 a. m.: Tifón al SW de Manila, moviéndose al WNW ó NW.
Día 6, 5 p. m.: Tifón al W de Luzón, distancia mayor de 100 millas, moviéndose al NW.

Compárense estos avisos de tifón con la trayectoria que damos en la Lámina XXXIX y se verá que el tifón se inclinó aún más al N de lo que suponen dichos avisos y de ahí que el vórtice distase de Luzón á las cinco de la tarde menos de 100 millas.

Del Observatorio de Hongkong se recibió este telegrama la tarde del día 7:

Día 7 mediodía: Tifón al W. de Luzón moviéndose al NW.

El día 8 el Observatorio de Manila supuso que el tifón se deshacía al W del norte de Luzón y así lo avisó con el siguiente cablegrama:

Día 8, 11 a. m.: Tifón al W de la parte norte de Luzón; distancia mayor de 100 millas, deshaciéndose.

Del Observatorio de Hongkong se recibió no mucho después un cablegrama redactado en términos muy parecidos:

Día 8, mediodía: Tifón al NW de Luzón deshaciéndose.

Sin embargo, el mismo Observatorio de Hongkong lo mismo que el de Zikawei indicaron en las notas del tiempo de los días siguientes que el tifón había recurvado y pasado al Pacífico después de haber cruzado por entre Formosa y Luzón. Nosotros haremos ver aquí con bastante claridad (1) que el tifón después de haber llegado á la altura de Bolinao, en vez de continuar su recurva al N y NE se movió casi al W; de suerte que á media noche del 7 se hallaba el vórtice al sur de Hongkong no lejos de los 18° lat.; y (2) que las observaciones de Santo Domingo, Islas Batanes, no indican el paso de ningún tifón el día 9 contra lo supuesto por el Observatorio de Hongkong en la nota del tiempo del día 10 y en la trayectoria publicada en la Lámina I del report anual de dicho Observatorio titulado "Meteorological observations made at the Hongkong Observatory in the year 1908."

Para probar lo primero creo deben bastar las interesantísimas observaciones hechas á bordo del vapor *Ban-Yek* en viaje de Hongkong á Manila y que agradecemos á su Capitán D. Francisco Fábregas. El vórtice cruzó después de 6 a. m. del 8 casi por encima del barco, cuando demoraba éste al W del meridiano 114° E de Greenwich. Los vientos saltaron del NW al SE después del paso del vórtice. (Véanse las isobaras de 12 media noche del 7 en la Lámina XXXIX.)

Que el día 9 no hubo tifón de importancia que cruzase por los alrededores de los canales Bashi y Balintang lo prueban suficientemente los mapas del tiempo de 6 a. m. y 2 p. m. de dicho día que incluímos en la Lámina XL. Para trazar estos mapas nos han servido no sólo las observaciones de Formosa y Luzón sino también las de Santo Domingo.

No queremos pasar en silencio que el motivo, al menos principal, que á nuestro juicio dió origen á la trayectoria supuesta por los Observatorios de Hongkong y Zikawei fué una bajada notable del barómetro observada el día 10 en el grupo de Meiacosima, á juzgar por los servicios telegráficos recibidos de Ishigakijima. Nosotros, al trazar el mapa del tiempo de aquel día, tuvimos dicha observación barométrica por errónea, ó al menos por muy dudosa, y así prescindimos de ella por completo en el trazado de las isobaras. Ahora, á la luz de las observaciones hechas á bordo del *Ban-Yek* decimos que aun cuando fuese cierto que el barómetro hubiese bajado en Meiacosima 4 milímetros en el intervalo de 24 horas, todavía no lo atribuiríamos al tifón que el día 8 se hallaba al sur de Hongkong, sino á otra causa perturbatriz cualquiera, tal vez al pequeño centro ciclónico de Aparri de que hablaremos más abajo.

Terminamos lo que llevamos dicho sobre la trayectoria de este baguio haciendo constar que sin duda se deshizo éste en el Mar de China durante el día 9, hacia el SSW de Hongkong en el paralelo 18° lat. N.

Velocidad de traslación.—Para calcular la velocidad de traslación de este baguio hemos tomado las siguientes posiciones que tenemos por bastante bien averiguadas: 12 md. del 5, 1 a. m., 10 a. m. y 6 p. m. del 6, 6 a. m. y 12 media noche del 7. Según estas posiciones, todas las cuales pueden ver nuestros lectores en la Lámina XXXIX, tenemos las distancias de 196, 174, 99.5, 126 y 162 millas náuticas recorridas en 13, 9, 8, 12 y 18 horas respectivamente, lo cual nos da las velocidades medias sucesivas de 15.1, 19.3, 12.4, 10.5 y 9 millas por hora.

Pequeño centro ciclónico de Aparri.—Mientras el tifón que acabamos de estudiar empezaba tal vez á deshacerse en el mar de China la tarde del día 8, tuvo lugar en el norte de Luzón, ó sea, en el límite del lado derecho de dicho baguio, un fenómeno rarísimas veces observado en Filipinas. Era un centro ciclónico de muy reducidas dimensiones que pasó por el norte de Tuguegarao primero y por el sur de Aparri unas pocas horas después moviéndose aparentemente al NNW ó NW $\frac{1}{4}$ N. En la Lámina XLI reproducimos las curvas barográficas [1] de ambas estaciones las cuales juntamente con las observaciones extraordinarias hechas en las mismas y que incluímos en una tabla en el texto inglés, no dejan lugar á duda sobre la existencia de este centro ciclónico en el norte de la Isla de Luzón. Llamamos la atención sobre la curva de Aparri, pues no recordamos haberse obtenido otra parecida hasta el presente en Filipinas. Téngase en cuenta que la bajada tanto en Tuguegarao como en Aparri, tuvo lugar en horas en que el barómetro suele verificar en días normales el *ascenso* propio de la oscilación nocturna.

Hasta ahora no hemos hallado más rastros de este pequeño centro ciclónico ni en las observaciones de Formosa ni en las de Santo Domingo, Islas Batanes.

[1] En esta lámina damos, juntamente con los registros originales del barógrafo, las curvas que resultan de las observaciones directas del barómetro de mercurio. Esto hace estas curvas de las dos estaciones comparables entre sí, toda vez que se eliminan los errores notables de los respectivos barógrafos.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[ϕ=14° 34′ 41″ N; λ=120° 58′ 33″ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Temperature. Open air.[2] Mean.	Maximum.	Minimum.	Underground. 0.25 meter. 8 a. m.	0.25 meter. 2 p. m.	0.50 meter. 8 a. m.	0.50 meter. 2 p. m.	1.50 meters. 8 a. m.	2.50 meters. 8 a. m.	Relative humidity, mean.	Vapor pressure, mean.	Evaporation.[2] Free exposure, total.	Shelter, total.
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.		mm.
1	785.45	24	26.6	22.4	26.5	26.9	26.7	26.9	27.6	28	93.2	20.7	--------	0.6
2	58.03	25	30.3	21.5	26.2	27.1	26.9	26.9	27.7	28	81.1	18.8	--------	2.7
3	58.55	24.4	28.8	21.4	26.1	27	26.7	26.8	27.4	28	85.5	19.4	--------	1.4
4	58.17	24.8	29.9	20.7	25.9	27.1	26.7	26.9	27.4	28	81.1	18.7	--------	2.7
5	55.78	24.1	28.1	21.5	26	26.4	26.6	26.8	27.3	28	82.6	18.4	--------	2.2
6	51.95	24	27.2	22	25.4	25.8	26.6	26.4	27.4	28	93.1	20.6	--------	1
7	56.25	25.5	29.6	22.2	25.2	26.5	26.1	26.3	27.2	27.9	87.7	21.2	--------	1.6
8	57.27	25.7	28.7	22.9	26	27.2	26.4	26.6	27.4	28	88.5	21.6	--------	1.2
9	58.96	26.8	32.1	23.4	26.2	28	26.5	26.9	27.4	28	82.3	21.3	--------	2.3
10	60.37	26.3	30.8	22.8	27	28.2	27	27.2	27.4	28	84.9	21.5	--------	1.6
11	61.04	25.3	30.4	21.8	26.8	27.6	27	27.2	27.2	27.9	86.7	20.6	--------	1.3
12	61.94	25.5	31.9	21.8	26.7	28.2	27	27.5	27.3	27.9	77.8	18.4	--------	3.5
13	62.33	24.5	30.6	20	26.3	27.6	27.1	27.3	27.3	28	82.9	18.9	--------	1.8
14	61.03	25.4	31.4	21.1	26.4	27.7	27	27.2	27.4	28	75.4	17.8	--------	3.4
15	60.04	24.3	27.5	22	26.4	27	26.9	27	27.3	27.8	90.3	20.4	--------	.8
16	60.36	25.2	30.8	21.1	26.3	27.3	26.9	27	27.3	27.9	87	20.5	--------	1.5
17	60.64	25.1	30.5	21.3	26.2	27.6	26.9	27.1	27.3	27.9	84.6	19.9	--------	1.6
18	60.68	25.4	31.8	20.1	26	28	26.9	27.1	27.2	27.9	78.7	18.6	--------	3.1
19	60.61	25.1	31.2	20.4	26.5	28.3	26.9	27.2	27.2	27.9	74.3	17.1	--------	3.6
20	60.69	24.1	28.4	19	26.5	27	26.9	27	27.3	27.9	78.8	17.4	--------	2.1
21	59.30	24.9	29.3	20.6	26	27	26.8	27	27.1	27.8	86.9	20.3	--------	1
22	58.55	25.9	32	21.7	26.1	27.6	26.9	27	27.2	27.8	81.8	20	--------	2.5
23	59.21	25.3	30.3	21.4	26.5	27.6	27	27.3	27.2	27.9	79.8	18.9	--------	1.8
24	60.01	25	31.5	19.5	26	27.8	26.8	27.7	27.2	27.8	76.9	17.7	--------	2.7
25	59.62	25.3	32.1	20.5	26.3	27.6	27	27.2	27.4	27.9	81.6	19.4	--------	2.1
26	59.67	25	29.9	21.4	26.7	27.7	26.9	27.2	27.2	27.8	87.2	20.5	--------	1.2
27	59.51	25.2	31.7	20.5	26.3	27.7	27	27.4	27.2	27.9	81.6	19.2	--------	2.4
28	59.52	25.4	31.2	21	26.2	27.9	27	27	27.1	27.8	76.8	18.2	--------	3.2
29	60.12	24.7	30.5	20.7	26.3	27.9	26.9	27	27.2	27.9	76.6	17.5	--------	2.5
30	60.16	24	30.1	19.4	26	27.3	26.7	27	27.2	27.8	78.6	17.2	--------	2.7
31	60.11	24	29.8	19.3	25.7	26.8	26.7	26.7	27.3	27.7	81.7	18	--------	2.5
Mean	759.32	25	30.2	21.1	26.2	27.4	26.8	27	27.3	27.9	82.8	19.3	--------	2.1
Total	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	64.6
Departure from normal	—1.17	—0.2	+0.4	—0.2	--------	--------	--------	--------	--------	--------	+1.6	0.0	--------	--------

Date.	Wind. Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Clouds. Amount, mean.	Prevailing form and its direction. Upper.	Lower.	Sunshine.	Rainfall.	Miscellaneous.
		Km.	Km.		0–10.			h. m.	mm.	
1	NNE	126	12	NNE	9.8	Ci.-S.	N., Cu.-N. E	0 00	10.8	≡° ● a. ϖ p. d.
2	NE	180	22.5	NE by N	7.5	Ci.-S. S	Cu. E by N	6 40	.8	●° ≡° a. ϖ ω p.
3	N	171.5	16.5	NNE	10	Ci.-S.	S.-Cu. NE, E	0 00	--------	≡ a. d° p° p.
4	NNE	194.5	13	NNE	8.3	Ci.-S. SE	Cu. ENE	3 50	--------	≡ d° a.
5	NNE	429.5	34.5	N	9.3	Ci.-S.	Cu., Fr.-N. NE	0 00	2.5	d p.
6	SE	613.5	47	ESE	10	--------	N. SE, E by N	0 00	79.8	●^{2} ↙ a. ↙° ● p. d.
7	SE	206	17	SE	7.8	A.-Cu. S by W	Cu.	3 20	.3	≡° a. ●° d p.
8	ESE	111.5	12	ENE	9.2	Ci.-S. E by N	S.-Cu.	0 35	.2	●° d° ○ a.
9	ESE	165	18.5	E	7.1	A.-Cu., Ci. SW, S	Cu. SE	6 20	--------	≡° d° a.
10	NW quad.	115.5	14	NW by W	6.8	Ci.-S.	Cu. ESE	7 35	--------	
11	NW	79	9.5	WNW	9.5	Ci.-S. SE	Cu. ESE	0 15	--------	Ω° ≡° a.
12	E	158	21.5	E	4.2	Ci.-S. ESE	Cu. E	8 25	1.7	≡^{2} ● ⌒^{2} a.
13	NNE	135.5	14.5	NE	7.8	Ci.-S.	Cu. ENE	4 45	--------	≡° d° a.
14	NE	237	23	NE	8.2	Ci.-S. SE quad.	Cu. E	5 35	--------	≡° a.
15	N, WNW	93.5	10	WNW	9.7	Ci.-S.	Cu.-N. E	1 35	13	● d a. p.
16	Variable	114	16	W by N	7.5	Ci., Ci.-Cu. SE	Cu. E	6 05	4.6	● ≡^{2} a. ●° p.
17	Variable	124	15.5	NNW	6.7	Ci.-S.	Cu. E	5 20	.2	≡^{2} a. d ⊤ p.
18	E	175.5	21.5	E	3.5	Ci.-S.	Cu. E	7 10	--------	Ω^2 ≡ a.
19	E, NE	176	21.5	E	3.8	Ci.	Cu. E	9 10	--------	Ω ≡^{2} a.
20	NNE	177	17.5	N by E	7.6	Ci.	S.-Cu., N.-cf. ENE	4 00	--------	≡ a. d° p.
21	NE	104	11.5	W	8.8	Ci.-S.	Cu.-N. E	3 30	--------	Ω° ≡^{2} a. ●° ↯ p.
22	NE	145.5	16	NW	4.7	Ci. E by S	Cu. E quad.	8 15	--------	Ω^2 ≡^{2} a.
23	Variable	117	12	W	4	Ci.	Cu. E	7 25	--------	Ω° ≡° a.
24	NE quad.	129.5	16	E	6.6	Ci.	Cu. E	8 25	--------	Ω^2 ≡ a.
25	ENE	100.5	9.5	NE	5.2	A.-Cu.	Cu., Cu.-N. ENE	6 25	--------	≡° a.
26	Variable	86.5	10	ENE	7.8	A.-Cu. ENE	N.-cf., Cu. E	4 00	2.2	Ω° ≡° a. ● Γ↯ p.
27	E	92.5	13	E	4.4	--------	Cu. E	8 10	--------	Ω^2 ≡ a. ϖ° p.
28	E	156.5	24	E	7.2	Ci.-S. SE	Cu. NE quad.	5 45	--------	Ω^2 ≡ a.
29	E	120	12	SE	3.2	Ci.-S.	Cu. E	8 00	--------	≡ Ω^2 a.
30	E	145.5	23	E	6.5	Ci.-S.	S.-Cu. ENE	5 05	--------	≡ a.
31	NE	154	17.5	NE	6.9	A.-Cu. NNE	S.-Cu. ENE	4 20	--------	≡° a.
Mean	--------	165.6	17.5	--------	7.1	--------	--------	4 50	--------	
Total	--------	--------	--------	--------	--------	--------	--------	150 00	116.1	
Departure from normal	--------	+9	--------	--------	+1.1	--------	--------	-13 47	+56.1	

[1] All the mean values given in this table are deduced from hourly observations.
[2] These values are taken from instruments mounted in the Observatory park, 1.5 meters above ground.

METEOROLOGICAL DATA FOR FIRST AND SECOND CLASS STATIONS.[1]

TAGBILARAN.

[ϕ=9° 38′ N; λ=123° 51′ E; barometer above sea, 21.8 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	756	26	30.5	23.8	85.9	NNE, N	1.3	10	A.-S.	N. NE, E	23.1	●² ◡° p.
2	55.70	26	29.5	23.5	83.5	NNE	1.3	8.5	A.-Cu. E	S.-Cu.,N. E	9	●° a. p. ◡ p.
3	56.57	26	30.2	23.1	83.2	NNE	1.3	9.2	Ci.-S.	S.-Cu.		◡ p.
4	55.97	26.2	30	23.7	82.2	NNE	1.3	9.2	Ci.-S.	S.-Cu.	1.6	p a. ◡° p.
5	53.38	26.1	27.6	23.8	82.5	Variable	3.5	10	A.-S.	N. NW, SW	.8	d² a. d ↙° p.
6	55.27	27.2	30.6	24.5	81	Variable	1.8	5.8	Ci.-S.	Cu. SW	5.1	● a. ◡° p.
7	56.45	26.8	30.9	23.9	84.2	NNE, SE	1.3	7.8	Ci.-S.	Cu. E	14.3	● ◡ p.
8	57.34	26.8	29.5	23.2	81.5	Variable	1.5	5.8	A.-S., Ci.-S.	Cu. E	5.3	● a. ⊤ a. p.
9	58.27	26.4	31	23.7	86.9	Variable	1.5	7.5	Ci.-S.	Cu. E	1.1	●° ⌈ζ° ⌒ p.
10	58.91	26.1	31.3	23.6	85.5	NNE	1.2	9.5	Ci.-S.	Cu., N. E	33.8	●² a. p.
11	59.36	26	28.7	23.6	85.3	NNE	1	10	A.-S.	N. E	3.5	d° a. ● p.
12	59.87	26.2	30.5	23.3	80.2	NNE	1.7	9.2	A.-Ci. E	Cu.-N. E		↙° a.
13	59.86	26.8	31.7	23.8	79	NNE	1.7	9.2	Ci.-S.	N. ENE	.4	d a.
14	58.76	25.5	26.5	23.5	83.2	NNE	1.3	10	A.-S.	N. E	.9	d a. p.
15	58.06	25.8	29	22.9	83.8	Variable	1.3	9.5	A.-Cu. SSE	N. NE	12.3	●² a. ς p.
16	59.03	25.8	29.5	23.3	84.7	Variable	1	9.5	Ci.-S.	N. NE	1.3	d² ◡ a.
17	58.72	26.2	30.2	23	83	NNE	1.5	7.5	A.-Cu.	Cu.-N. ENE, E		d° a.
18	58.80	26.5	30	23.5	81.2	NNE	1.8	8.5	Ci.-S.	N. E	7	d° a. p p.
19	58.35	26	29.5	23	78.5	NNE	1.7	9.8	Ci.-S.	Cu.-N. NE	.3	d° a.
20	58.13	25.7	29.5	22.9	80.5	NNE	2.2	9.8	A.-S.	Cu.-N. NE		◡° a. d° p.
21	57.28	25.9	28.6	23.4	81.3	NNE	1.5	10	A.-S.	N. E		
22	56.78	25.9	29.9	22.8	85.3	NNE	1.8	7	Ci.-S.	Variable	3.3	↙ ●° a. ● p.
23	57.22	26.5	31.5	23.8	83.4	NNE	1.2	8.8	Ci.-S., A.-S.	Cu.-N. E	18.8	↙ ●² p.
24	58.26	26.4	30.7	23.1	84.5	NNE	1.2	7.8	Ci.-S. NE	S.-Cu.	12.2	● a. p.
25	58.11	26.1	30.2	22.5	79	NNE	2.3	3.8	Ci.-S.	Cu.-N. E, NE		p° a.
26	57.74	26.5	31	23	78.7	NNE	1.7	5.5		S.-Cu.		
27	57.66	26.1	30.3	22.7	82.7	E quad.	1.2	8	Ci.-S.	N. E	5.6	● ↙° a. p.
28	57.58	25.8	30.8	22.6	80	NNE	1.7	9	Ci.-S.	Cu., N. E	2.3	●° p.
29	57.85	26.4	29.8	23.5	81.5	NNE	1.7	10	A.-Cu.	Cu.-N. E, NE	3.9	●° a. p.
30	57.59	25.8	29.8	22.5	82.7	NNE	1.3	9.8	A.-S.	N. NE	1.1	●° p.
31	57.46	25.5	27.5	23.5	85.2	NNE	1.2	9.5	A.-S.	N. E	.8	●° a.
Mean	757.62	26.2	29.9	23.3	82.6		1.5	8.6				
Total											159.7	

SURIGAO.

[ϕ=9° 48′ N; λ=125° 29′ E; barometer above sea, 6 meters; gravity correction not applied, —1.86 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	756.27	25	26.9	22.9	93.2	Calm		10		Fr.-N. ESE	34.3	● a. p.
2	56.28	25.2	29.3	23.4	92	NE	0.5	10	Ci.-S. SE	Fr.-N. ENE	31.7	● a. p.
3	56.87	26	30.3	23.6	88.8	NE quad.	1	9.2	Ci. SE	Fr.-N. E	15	≡° d a. ● p.
4	55.99	26.4	29.6	22.8	85.3	N quad.	1.7	9.2	Ci.-S. NE	Fr.-N. NE	37.6	d a. ● ↙° p.
5	52.76	25	26.8	22.8	89.7	SW quad.	5.2	9.8	A.-Cu.	Fr.-N. W	49	↙ ● a. p.
6	55.91	26.3	31.3	22	87.5	E	.5	6	Ci.	Cu.-N. S		Ω² a. p.
7	56.78	26.4?	30.3	23.2	89 ?	ENE	.2	7.2	Ci.-S.	Cu.-N. NE		Ω² ≡ a. p.
8	57.87	27	30.9	23.6	87.2	ENE	.3	3.8	A.-Cu. SE	Cu.-N.		Ω² a. p. ≡° a.
9	58.90	26.7	30.1	23.7	87.7	E	1	7.5	Ci. SE	Variable	18.3	● a. ⌈ζ p.
10	59.62	25.4	29.8	23.2	91.6	E	.7	10	Ci.-S. NE	N.	58.9	●² a. p. ≡° a.
11	60.04	25	28.3	23.4	91.3	E quad.	.3	9.8	A.-Cu.	Fr.-N. E	5.6	●° a. p.
12	60.68	25.5	27.8	22.8	89.3	NE	1	8.5	Ci.-S. SE	Fr.-N. ESE	20.8	●² a. p. Ω° a.
13	60.30	26.1	29.8		86.5	ENE	1.5	9.2	Ci.-S. S	Fr.-N. E	2.8	●° a. d ↙° p.
14	59.20	25	26.5	23.1	91.3	E quad.	.8	10		Fr.-N. E	41.7	●² a. p.
15	58.68	24.6	26.9	22.8	91.8	NE	.7	10	Ci.-S.	Fr.-N. SE	43.9	●² a. ς p.
16	59.36	25.7	29.2	23.2	90.3	ENE	1	9	Ci.-S. SE	N.-cf. ENE	37.6	●² ⌈ζ a. ●° p.
17	59.20	26.2	29.5	23.7	88.2	NE	1.2	7	Ci.	N.-cf. E	18	●° a. ↙ ● p.
18	59.11	25	27.2	22.9	93	NE	.5	9.5	Ci.-S. SE	Fr.-N. E	84.3	●² a. p. ⌈ζ p.
19	58.78	26.4	29.1	22.6	84.5	ENE	.2	8.8	Ci.-S. NE	Fr.-N. ENE	16.3	● ≡° a.
20	58.43	26.7	28.2		84.3	NE	2.7	9.5	A.-Cu. E	N.-cf. NE	4.1	↙ ●° a. p.
21	57.81	25.4	26.8	23.9	90.3	E quad.	1.5	10		N.-cf. NE	9.4	●° a. p.
22	57.04	25.6	28.9	23.2	90.3	ENE	1	8.8	Ci. NE	Fr.-N. E	17.5	●² a. d p.
23	57.91	26	29		89.4	E	.8	7.5	A.-Cu. ESE	Cu.-N. E	3.3	d ≡° a. ●° p.
24	58.92	25.8	29.5	23	90.3	ENE, NNE	.3	8.5	A.-Cu.	Fr.-N. E, NE	7.1	Ω² d° a. ●² p.
25	58.56	26.4	29.8	23	85.7	E	1	5.2		Cu.-N. E	2	Ω ≡° ●° a. p.
26	58.18	27.1	29.8		83.7	E by N	1.3	3.8		Cu. ENE	2.5	Ω ≡° a. ●° a. p.
27	58.06	26.5	29.9	23.2	85.9	NE	2.2	7.5	Ci.-S.	Variable	15.2	● a. ↙° ∞ p.
28	57.71	25.7	28.3	23.6	89.8	NE	2.2	10	A.-Cu. E	N. NE	34.8	↙ ● a. p.
29	58.05	25.2	27.7	23.2	91.5	NE	.8	10	A.-Cu. NE	Fr.-N. E	45.5	● a. p.
30	58.04	24.5	27	22.8	95.2	E	1	10		N. NE	64.5	● a. p. ↙°
31	57.80	24.3	24.9	23	94.3	E	.8	10		N. ENE	61.2	● a. ◡ ϖ p.
Mean	758.04	25.7	28.7	23.1	89.3		1.2	8.6				
Total											782.9	

[1] All the mean values given in these tables are deduced from six daily observations.

METEOROLOGICAL DATA, ETC.—Continued.

CEBU.

[ϕ=10° 18′ N; λ=123° 54′ E; barometer above sea, 4.5 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction.			
									Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	756.62	25.4	28.1	23.5	87	NE	5.4	8.8	Ci.-S.	N. ENE	12.4	Ω² ≡° ● a. ☈ p.
2	56.47	25.9	28.3	23.4	85.8	NE	7.7	7.2	Ci.-S.	Variable	------	Ω ≡° a. ◯ p.
3	57.22	25.8	29	23.9	86.8	NE	7.3	7.2	Ci.-S.	N.-cf. ESE, E	1.8	p a. p. Ω ≡° a.
4	56.13	26.6	30.5	24	81.2	NNE	8.2	5.5	Ci.-S.	Fr.-Cu. NE	------	Ω ≡° a. ⊍ p. ◯
5	53.14	24.7	27.5	23.5	89.3	WSW	9	9.8	------	N. W quad.	16	Ω ≡ ↯ ●° ⊍
6	55.68	26.5	30.3	23.7	85.5	S	10.2	6.5	A.-Cu.	Cu.-N. SW	3.3	↯ ● a. ☈ ⊍ p.
7	56.97	26.4	31	23.4	83.2	E	4.2	5.8	Ci.	Cu. S, W	------	Ω² ≡° a. ☈ p.
8	57.81	26.4	31.1	23	83	S, ENE	5.3	4.8	Ci.	Cu. S	------	Ω ☈ a. p. ≡ a.
9	58.89	26.8	29.5	24	82.8	ENE	7.6	4.8	Ci.	Cu. E	------	Ω² ≡ a. ☈ Ω p.
10	59.88	26.8	30	24.3	83.2	NE	8.9	6	Ci.-S.	Cu. E	2	Ω ≡° a. ● p.
11	60.13	26.6	28.7	24.1	84.9	NE	8.6	7	A.-Cu. E	Cu. ENE	------	Ω ≡° d a.
12	60.74	26.6	28.5	23.9	82.2	NE	8.8	7.5	Ci.-S.	N.-cf. ENE	------	Ω ≡° a.
13	60.44	27.2	30.3	23.5	77.9	ENE	10.7	6.2	Ci.-S.	Cu. E	3	p a.
14	59.46	25.5	27.6	23.5	86.3	NE quad.	8.4	8.8	Ci.-S.	N.-cf. ENE	10.7	Ω ≡° a. ● p.
15	58.96	25.1	27.9	23.2	86.8	NE	8.1	9	------	N. ENE	3.8	≡° ●° a. ⚡ p.
16	59.54	25.6	28.7	22.9	85.8	NE	6.3	6.8	A.-Cu.	Cu. ENE	2.3	Ω ≡° d a. Ω p.
17	59.30	26.7	29.6	23.9	84.3	ENE	8	5.8	A.-Cu., Ci.-S.	Cu. E	1.3	d Ω ≡° a. ☈ p p.
18	59.32	25.9	29.1	23.5	84.2	NE quad.	7.8	6.2	Ci.-S.	N.-cf. ENE	.8	Ω² ≡° ☈ a. p p.
19	58.99	26.2	29	23.5	82.7	NE	9.9	5.8	Ci.-S.	N.-cf., Cu. ENE	3.6	Ω ≡° p a. p p.
20	58.74	26	29.9	23.6	83.3	ENE	7.9	6.8	Ci.-S. SE	S.-Cu. NE	------	Ω ≡° a. Ω p.
21	57.98	25.8	28.4	23.5	86.8	NE	7.6	8.5	Ci.-S.	Cu.-N. ENE	2.8	Ω ≡ a. p Ω p.
22	57.26	26.2	29.5	23.4	83.8	NE quad.	9.5	5	Ci.	Cu. ENE	.8	Ω² ≡° ⌒ a. d° p.
23	57.96	26.7	29.5	23.8	83.7	NE	8.5	4.5	Ci.	Cu. ENE	------	Ω ≡° a. ⚡ p.
24	58.83	26.5	29.5	23.1	82.8	NE quad.	9.4	4.2	Ci.	Cu. E, ENE	------	Ω ≡° a.
25	58.63	26.2	29.2	23.5	82.9	NE quad.	8.6	3.5	Ci.	Cu. ENE	.3	Ω² ≡° d a. Ω p.
26	58.46	26.8	30.3	23.9	80.5	ENE	9.9	3.5	Ci.	Cu. E, ENE	------	Ω ≡° a.
27	58.18	26.8	30	23.3	80.8	N	11.2	5	Ci.	Cu. ENE	.5	Ω ≡° p a.
28	57.97	26.5	30.1	23.4	80.6	N, NE	10.2	6.5	Ci.-S. E	Cu. NE	.5	≡° a. p p.
29	58.52	25.2	27.5	23.1	87.5	NE, NNE	9	8	A.-Cu. E	N.-cf. NE	8.1	Ω ≡° ● a.
30	58.18	25.7	29	23	84.3	NE	10	7.8	Ci.-S.	Cu.-N. NE	2.5	Ω ≡° a. ● p.
31	58.10	25	26.5	23.4	88.1	NE	7.1	9	------	Cu.-N. NE	12.4	● a. p. Ω p.
Mean	758.21	26.1	29.2	23.5	84.1	------	8.4	6.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	88.9	

ILOILO.

[ϕ=10° 42′ N; λ=122° 34′ E; barometer above sea, 6 meters; gravity correction not applied, —1.84 mm.]

Day.	Pressure (mean).	Temp. Mean.	Temp. Maximum.	Temp. Minimum.	Relative humidity (mean).	Wind: Prevailing direction.	Wind: Force (mean).	Clouds: Amount (mean).	Clouds: Upper.	Clouds: Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	756.87	25.3	27.2	24.2	92.8	N, NE	10.9	9.8	A.-S.	N.	14.7	● a. p.
2	56.34	26.2	29.5	24	82.2	NE quad.	16	9	Ci.-S.	Fr.-N. NE	.3	●° a. ∞ p.
3	57	26	30	23.8	84.1	NE	13.8	9.5	Ci.-S.	N. NE	5.8	● a. p.
4	56.76	26.4	29.7	23.6	80.3	NE quad.	15.2	9.2	Ci.-S.	S.-Cu. NE	------	⊍ ⊍ p.
5	53.94	24.7	26.1	23.6	91.8	N, W	10.3	10	A.-S.	N. NNE, NNW	28.2	● a. p.
6	55.05	25.6	28.4	21.9	91.3	SW	17.1	10	A.-S.	N. SW	27.7	● a. p. ↯° a.
7	56.87	26.2	31	23.5	86.8	SW	5.5	6.8	Ci.-S.	Cu.	4.8	● a. ⊍ p.
8	57.67	26.3	30.5	23.1	84.2	Variable	6	8.5	Ci.-S.	Cu.	------	Ω² ≡° a.
9	58.81	27.4	32.4	23.1	82	E, NE	5.7	5.8	A.-Cu. SE	Cu.	1	⊍ Ω a. ⚡ ● p.
10	59.49	27.2	31.7	24.1	82.5	N	10.8	9	Ci.-S.	Cu. NE	4.8	Ω a. ● p.
11	59.75	25.8	29.5	23.4	86	NE quad.	11.3	9.5	A.-S.	Fr.-N. NE	3.8	● ◯ ⊕ a. d p.
12	60.50	26.2	29.8	24.3	80	N, NE	15.8	8.8	A.-Cu.	S.-Cu. E	5.1	● a.
13	60.44	26.8	31	23 6	78.3	NE	16.2	8.5	Ci.-S.	S.-Cu. E	6.6	● a.
14	59.43	25.6	29	23.5	85.2	NNE, NE	16.5	9.5	A.-S.	N.	6.6	⊕ a. ● p.
15	58.69	25.7	28.9	23	83.6	NE	13.4	9.5	A.-S.	S.-Cu.	------	d° a.
16	59.48	26.1	30.1	23.5	82	NE	13.8	9.5	A.-Cu.	S.-Cu.	2.3	●° a. d° p.
17	59.26	26.2	30.5	23.5	82.5	N, NE	14.1	6.2	A.-Cu.	Cu.	------	d p.
18	59.55	25.4	30.5	23.6	87.9	N, NE	13.6	9	Ci.-S., A.-S.	N. NE	2.8	●° a. p.
19	59	26.2	30.4	23	80.1	N, NE	15.1	7.5	Ci.-S.	S.-cf. NE	.3	●° a.
20	58.84	25.9	30.1	23.2	81.1	NNE, NE	16.1	8.2	Ci.-S.	S.-Cu.	------	⊕ p.
21	57.72	26.1	29.5	23.5	82.1	NNE	16.3	9.2	Ci.-S.	S.-Cu.	------	⊕ p.
22	57.16	27	31.5	20.3	76.3	N, NE	13.3	5.2	A.-Cu.	S.-cf. NE	------	Ω a. ∞ p.
23	57.88	26.6	30.5	24.4	81.8	N, NE	12.7	8.2	Ci.-S.	Variable	.3	●° a. ⚡ p.
24	58.75	26.4	30.6	24	84.7	NE, N	13.3	5.2	Ci., Ci.-S.	S.-Cu.	------	Ω² a.
25	58.55	26.9	31	23.9	79.4	NE	13.1	6	Ci.	S.-Cu. E, NE	------	Ω a.
26	58.45	26.7	31	23.5	77.3	N, NE	13	2.8	Ci., Ci.-S.	S.-Cu. NE	------	Ω a.
27	58.10	26.2	30.5	23.4	81.8	N, NE	16.1	5	Ci.	Cu.	1	Ω ≡° ● ⌒² a.
28	58.04	26	30.5	23.4	77.8	NE	18.1	8.5	Ci.-S.	S.-cf. NE	------	
29	58.67	24.8	28.4	23	86.8	NE	17.5	9.5	A.-S.	N. NE	7.9	d a. ● p.
30	58.28	25	27.5	23	85.7	NE	18.7	9.2	Variable	Fr.-N. NE	1.5	● a. d p.
31	58.23	24.6	26.5	23	92.2	N, NE	13.6	10	A.-S.	N.	21.9	● a. p.
Mean	758.18	26	29.8	23.4	83.6	------	13.6	8.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	147.4	

METEOROLOGICAL DATA, ETC.—Continued.

ORMOC.

[ϕ=11° 00′ N; λ=124° 36′ E; barometer above sea, 5.6 meters; gravity correction not applied, —1.83 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	756.87	24.3	25.8	22.9	93.6	N quad.	4	10	Ci.-S.	Cu.-N. E, ESE	18.8	● a. p.
2	56.61	24.1	26.5	22	91.4	NE	3.3	10	Ci.-S.	Cu. ESE	6.9	●° a. p.
3	57.26	25	29.7	22.3	87.5	WSW	4.8	9.5	Ci.-S.	Cu. ENE	11.4	● a. p. ⌣
4	56.33	26.2	31.8	23.2	79	N	5	8.8	Ci.-S.	Cu. NE	------	● p.
5	51.68	24.3	27.5	23	95.3	Variable	29.8	10	------------	N. NW, W	86.1	↙ ● a. p. ↙² p.
6	56	26.7	30.5	23	81.2	SE	13.7	7	A.-Cu. S	Cu. S	------	
7	57.05	25	31.1	21.1	87.2	Variable	4	8	Ci. E	Cu.	------	Ω a. ⊤ p° ζ p.
8	57.85	25.2	30.2	21.9	87	Variable	4.4	4.2	Ci. E	Cu.	------	Ω a. ⊤ d p.
9	58.98	25.5	31.3	21.9	85.7	Variable	7.4	7.5	Ci. SE	Cu. ESE, E	1.3	● a. d ⌒ ζ p.
10	59.78	24.7	28.8	22	91.3	SW, NE	4	8.5	A.-Cu. E	Cu. E	23.9	Ω ● a. ⌈ζ ● p.
11	60.14	25.2	30	23.4	87.2	Variable	3.9	8	Ci.-S.	Cu. E	1.8	● a. d p.
12	60.86	25.5	29.7	20.8	77.9	Variable	5.5	7.5	Ci. ESE	Cu. E	------	Ω d ⊕ a.
13	60.54	27	32.7	23.5	71.6	NE	7.4	8	Ci. ENE	Cu.	------	d p.
14	59.66	25.1	28	22.7	81.5	NE quad.	5.5	10	Ci.-S.	Cu. ESE	51.1	●² p.
15	59.07	24.5	27.7	22.7	87.2	N	4.8	10	Ci.-S.	Cu.	13.7	⊤ ● a. d p.
16	59.60	25.9	30.9	21.7	77	Variable	5.7	6.2	Ci.-S.	Cu. E	3.6	● a. p.
17	59.53	25.6	31.7	22.5	80.8	Variable	6.1	7.2	Ci. ENE	Cu. E, ESE	------	d ⌒ a. d ⌈ζ p.
18	59.48	25.2	30.2	22.7	86	Variable	5.7	8.2	Ci. ESE	Cu. ENE	1.5	d a. ●° p.
19	59.12	26.2	30.6	21.3	71.6	NE	6.2	7.5	Ci. SE	Cu.	------	Ω a.
20	58.83	26.4	31.8	22.2	71.5	NE quad.	7.1	7.5	Ci. SE	Cu. ENE	------	Ω a.
21	58.05	25.1	28.2	23.1	84.4	Variable	5.8	10	Ci.-S.	Cu. E	19.8	● a. p. ⊤ p.
22	57.32	26.3	31	24.1	78	Variable	6.7	7.8	A.-Cu. E	Cu. E	2.5	● ⊤ p.
23	58.11	25.7	30.2	22.8	83.6	Variable	5.3	7.2	Ci.	Cu.	16.5	● a. p. ζ p.
24	58.96	24.6	29.4	22.7	90.5	N, SE	4.6	6.8	Ci.	Cu.	3.6	● a. p. ⌈ζ p.
25	58.76	25.1	30.9	20.8	83.7	Variable	5.5	5.5	Ci.	Cu. E	1.3	Ω ● a.
26	58.59	25.3	32.2	19.9	78.6	Variable	6.9	2.8	Ci.	Cu. E	------	Ω a. d ζ p.
27	58.32	26.5	32.1	22	72.5	NE	8.8	4.8	Ci.	Cu. E	------	d a. p. ⌒ p.
28	58.22	24.7	29.3	21.5	83.5	NE, N	3.7	7.5	Ci.	Cu. ENE, E	5.6	● ≡° p.
29	58.78	24.3	27.5	22.8	88.8	Variable	4.3	9.5	Ci.-S.	N.	39.6	● a. d p.
30	58.40	25.4	30.5	22.2	82.4	NNE	5.8	9	Ci.-S.	Cu. ENE	1	⌒ a. ●° p.
31	58.34	24	25.2	22.3	92.2	Variable	3.6	10	Ci.-S.	Cu. ESE	34	● a. d ≡° p.
Mean	758.29	25.3	29.8	22.3	83.5	------------	6.4	7.9	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	344	

TACLOBAN.

[ϕ=11° 15′ N; λ=125° 00′ E; barometer above sea, 5.5 meters; gravity correction not applied, —1.82 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	756.99	25.6	28.2	24	91.3	WNW	1	10	Ci.	N. E	82.3	● a. p. ϖ² p.
2	56.98	25.8	29.8	23.9	85.3	WNW, E	1.3	8.2	Ci.-S., Ci.	Cu.-N. ENE, NE	8.2	● a. p. ◯² ⌣²
3	57.61	26	31.2	23.4	85.9	Variable	.8	8.8	Ci. W	Cu.-N. ENE	16	● ↙° a. p. ⌒ p.
4	56.69	26.1	31.8	24	81.3	NW quad.	1.2	8	Ci.-S. SSW, SW	N.	18.3	● ↙° p.
5	49.90	------	------	------	------	WNW, S	5.7	10	------------	N. Variable	67.1	● ↙² a. p.
6	56.20	------	------	------	------	S	.8	7	Ci.	Cu.-N. S	1.5	● p.
7	57.34	26.4	31.8	23.5	87.7	NW, ESE	1	7	Ci.-S.	Variable	------	
8	58.32	26.6	32	23.8	84.9	S	.5	6.2	Ci.-S. NNW	Variable	------	
9	59.46	26.2	32.2	24.2	88.5	NW, S	.7	6.2	Ci.-S. S	S.-Cu. NE, E	4	● a. p.
10	60.03	26.6	31.2	24	85.8	SE	.5	8	Ci.-Cu. WSW	Cu. E	14	● a. p. ⌒² p.
11	60.75	26.1	30.9	23.5	85.5	ESE	.8	6.5	A.-Cu. E	Variable	7.6	● a. p. ϖ² p.
12	61.54	26.4	30.5	23.3	83.3	Variable	.8	6.5	Ci.-S. W	Cu.-N. E	------	ϖ² a.
13	61.05	27.3	31.5	24.3	77.4	E	1	7.8	Ci.-S. WSW	Variable	------	ϖ² a.
14	60.19	25	29	23.2	89.5	Variable	.8	9.5	------------	N. SE	41.9	ϖ² a. ● a. p.
15	59.49	25.1	28.2	23.3	88.2	WNW	.5	8.8	Ci.	N. E, SE	30.5	● a. p.
16	60.02	26.8	32.2	23	78.7	WNW, ESE	1	6.5	Ci. WSW	Variable	13.2	● a. p.
17	59.98	26.2	32.2	23.3	84.2	ESE	.5	6	Ci.-S. W	Cu. E, ESE	4.1	● a. p.
18	59.95	26.2	31.2	23.3	82.9	Variable	.8	9	Ci. WNW	Cu.-N. E	10.4	ϖ² ⌣² ● a. d p.
19	59.68	26.4	31.2	23	80.5	ESE	.7	7.8	Ci.-S., Ci.	S.-Cu. ENE	.8	●° a.
20	59.34	26.8	32	23.3	78.7	Variable	.7	6	Ci.-S. SSW	Cu. E, ENE	2	Ω² ● ⌒² a.
21	58.78	25.1	30.8	23.4	90.5	NW, ESE	.8	9.2	Ci.-S. W	N. ESE	24.4	● a. ↙ ● p.
22	57.72	25.1	29.8	23.4	90.8	ESE	.8	8.8	Ci.-Cu. S	N. E	7.1	d a. ● p.
23	58.52	26.2	32	23	85.6	SE quad.	.7	8	Ci.-S. SSW	N. ESE	39.1	● ⊙° a. d p.
24	59.40	25.8	30.2	23.6	89.3	NNW	.5	8	Ci.-Cu. W	Cu.-N. ENE, E	15.4	● a. p.
25	59.23	26	31	23	88.5	Variable	1	6	------------	Cu., Cu.-N. E	3	● a.
26	58.97	26.2	31.8	22.7	83.8	NW	1	5.5	Ci.-S.	Cu. E	1.5	Ω² a. ● p.
27	58.94	26.8	32	23.3	79.4	E quad.	1	6.2	Ci.-Cu. E	Cu. E	3.3	● a. ⌣² p.
28	58.59	26	31	23.6	84	NW	1	7.5	Ci.-S. SW	Cu. NE	6.1	● p.
29	59.08	24.4	28	23	92.5	NW	.8	9.8	------------	N., Cu.-N. NE	52.8	● a. p.
30	58.96	25.5	29.2	23.4	85.8	Variable	1	9.2	------------	Cu.-N., N. NE	16.5	● p.
31	59.08	24.3	26.2	23	92.2	NW, SE	.8	10	------------	N. E, ESE	83.5	● ↙° a. ● p.
Mean	758.67	26	30.7	23.4	85.6	------------	.1	7.8	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	574.6	

METEOROLOGICAL DATA, ETC.—Continued.

CAPIZ.

[ϕ=11° 35′ N; λ=122° 45′ E; barometer above sea, 6 meters; gravity correction not applied, —1.81 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	757.22	26.7	27.8	23.5	87.2	NE	1.2	9.8	Ci.-S.	N. NE, E	4.8	d a. ● ◡² ⊽² p.
2	57.04	27	29.5	22.9	82.2	NE	1	9	Ci.-S.	N. NE	------	
3	57.69	26.9	29	22.9	84.2	NE	1	8.8	Ci.-S.	N. NE	16.8	● p.
4	57.41	26.7	28.8	22.6	83	NNE	1.2	7.8	Ci.-S.	Cu.-N. NE, E	------	d° p.
5	53.41	24.5	26.8	21	95.5	NW, WSW	2	10	------	N. N, W	59.4	● a. p.
6	54.47	25.7	29.2	21.2	90.3	SW	1	9.5	Ci.-S.	Cu.-N. variable	50.5	● ⌒° a.
7	56.98	25.7	30.2	21.5	90.3	S, SSE	.3	7.5	Ci.-S.	Cu.-N. SE, S	3.3	⊤ ● ⊽² p.
8	57.54	25.6	30.2	20	91.5	SSE, NE	.3	7.5	Ci.-S.	Cu.-N. SE	1.8	⊤ ● ⊽² p.
9	58.98	26.6	29.7	21	89.2	E	.3	5.2	Ci.	Cu. E	------	Ω° a. d° p.
10	59.90	27	29.8	22.4	88.7	E, ENE	.8	5.8	Ci.-S.	S.-Cu. E	------	d° p.
11	60.39	26.7	28.1	23.3	89.7	E	.8	8.8	Ci.-S.	N. E	1.5	● p.
12	61.31	------	------	------	------	------	------	------	------	------	------	
13	61.36	[1]26.7	28.1	23	[1]86.9	NE	[1]1	9	Ci.-S.	Cu.-N. NE, N	2.3	● p.
14	60.25	26.5	28.8	22.2	88	NE	1.2	9.5	Ci.-S.	Cu.-N. NE	2	● a. d° p.
15	59.35	25.6	27.8	21.5	92	NNE	.5	10	Ci.-S.	N. NE	15.5	● a.
16	60.08	25.9	29.1	22.1	90.2	NE	.3	6.8	Ci.	S.-Cu. NE	------	d° a.
17	59.91	26.6	29.2	22.2	86.7	NE	.7	7.5	Ci.-S.	N. NE	------	d° a. p.
18	60.18	26.2	27.9	22.2	88	NE	1	8	Ci.-S.	N. NE	3.6	●° a.
19	59.75	26.2	29	22.3	86.8	NE	1	6.2	Ci.	S.-Cu. NE	------	
20	59.76	25.6	28.8	22.1	90.2	NE quad.	1.2	8.2	Ci.-S.	Cu.-N. NE	1.5	d a.
21	58.66	26.4	28.5	23	88.2	NE quad.	1	9.5	Ci.-S.	Cu.-N. NE	------	d° p.
22	57.97	26.5	29.5	22.5	87	NE	.7	5.2	Ci.-S.	Cu.-N. E, NE	2.8	⊤ ● p.
23	58.50	26.4	29.1	22.5	89.3	NE	1	7.8	Ci.-S.	Cu.-N. NE	5.6	d° a. ● p.
24	59.38	26.2	28.5	23	89.2	NE quad.	1	8.5	Ci.-S.	Cu.-N. NE	------	d° p.
25	59.16	26.3	28.9	22.5	88.8	ENE, NE	.7	4.8	Ci.	Cu.-N. NE	4.3	● p.
26	58.99	25.9	28.3	21.2	88.9	NE	.3	6	Ci.	Cu.-N. NE	21.1	⌈ζ² ● p.
27	58.94	26.5	28.8	21.8	86.2	ENE	1	6.2	Ci.	Cu.-N. NE	------	⊽² p.
28	59.04?	26.8	29.8	22.5	81	NE quad.	1.3	7.8	Ci.-S.	N. NE	------	
29	59.36	26.1	27.9	21.5	82	NE quad.	1.3	10	Ci.-S.	N. NE	23.6	d° a. ● ⊤ p.
30	59.39	25.5	27.7	21.6	86.8	NE	1.7	9.5	Ci.-S.	N. NE	4.8	● p.
31	59.02	24.7	25.5	21.4	94.2	NE quad.	1.5	10	------	N. N, NE	33.7	● a.
Mean	758.75	26.2	28.7	22.1	88.1	------	.9	8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	258.9	

[1] From five observations.

CALBAYOG.

[ϕ=12° 04′ N; λ=124° 36′ E; barometer above sea, 4.1 meters; gravity correction not applied, —1.80 mm.]

Day.	Pressure (mean).	Temp. Mean.	Temp. Maximum.	Temp. Minimum.	Relative humidity (mean).	Wind, prevailing direction.	Wind force (mean).	Clouds, amount (mean).	Clouds, upper.	Clouds, lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	757.38	24.7	26	23	94.2	N	1	8.8	Ci.-S.	Cu.-N. E	35.1	● a. p. ◡ ζ p.
2	57.29	25.6	29.5	22	82.5	N	1	7	Ci. SE	S.-Cu. E	------	ζ p.
3	57.72	26	30.2	22	83.8	N, NE	1	7	Ci.-S.	S.-Cu. E	4.8	d ⌒² a. ◡² ●° p.
4	57.01	25.6	30.4	23.4	84.2	N	1.2	7.2	Ci.-S.	S.-Cu. E	32.8	● ζ p.
5	49.04	24.1	25.3	23	95.8	N	3.8	9.8	Ci.-S.	Cu.-N. N	72.6	↙ ● a. p.
6	55.93	26.4	31	23.5	86.8	S	1.2	7.5	Ci.-Cu.	S.-Cu. SW	------	
7	57.32	24.9	------	22	90.5	N	1	7	Ci., Ci.-S.	S.-Cu. SE	21.1	● ⌒ ◡ ⊽ ζ p.
8	58.10	25.2	30.8	22.5	89.3	N	1	7	Ci. NE	S.-Cu.	------	◯² a. ⌈ζ ζ p.
9	59.63	------	------	22.4	------	N	1	6.8	Ci. E	S.-Cu. SE	.3	p p.
10	60.33	25.7	31.5	22.5	89.8	N	1	7	A.-Cu. E	S.-Cu., Cu.-N. E	19.6	↙ ● ζ p.
11	60.81	26	30.2	22.8	86	N	1	7.2	A.-Cu. SE	S.-Cu. E	6.1	●° a. p. ζ p.
12	61.76	26	31	22	78.5	N, NE	1	6.5	Ci. S	S.-Cu. E	------	ζ p.
13	61.40	26.1	30.8	23.4	85	N, E	1	7.2	Variable	Cu.-N. E	11.4	●° a. p. ζ p.
14	60.42	24.5	29	22	89.8	N	1.2	7.8	Ci. S, SE	Cu.-N. E	23.6	↙ ● a. p. ζ p.
15	59.44	24.8	27.8	22	90.7	N	1	8.2	Ci.-S. SE	S.-Cu. E	9.9	● a. ζ p.
16	60.05	------	------	23	------	N	1	6.8	Ci. SE	S.-Cu. E	------	ζ p.
17	60.01	25.6	30.4	23.3	86.7	N	1	6.8	A.-Cu. SE	S.-Cu. E	6.4	↙ ●° a. p. ζ p.
18	60.12	25	30	23	90.3	N	1	7.8	Ci. SE	Cu.-N. E	14.7	● a. ↙ ● ζ p.
19	59.84	25.3	29.4	22.6	83.8	N	1	7.8	Variable	S.-Cu. E	3.3	p a. ●° ζ p.
20	59.57	25.1	29.8	22.5	87.2	N	1.2	7.2	Ci. SE	S.-Cu. E	1.8	● ⌒ a. ζ d.
21	58.85	25.2	31.2	22.6	88	N	1.2	8	Ci.-S.	S.-Cu. E	12.2	p a. ↙ ● ζ p.
22	57.78	25.5	31.2	22.6	87.2	N	1	7.2	Ci. SE	Cu.-N. E	2.5	p a. ●° ζ p.
23	58.77	25	30	22.5	91.2	N	1	7.5	Ci. SE	S.-Cu., Cu.-N. E	22.1	● ζ p.
24	59.62	24.3	28.5	23.3	93.7	N	1	8.8	Ci.-S.	Cu.-N. E	28.4	● a. p. ζ p.
25	59.22	25.4	31.4	21.6	88.3	N	1	6.2	Variable	S.-Cu. E	2.5	p ζ p.
26	59.20	25.5	31.4	22	87.5	N	1	6.8	A.-Cu. SE	S.-Cu. E	1.8	d ⌒° a. p. ζ p.
27	59.37	25	30.3	22	86.8	N	1	6	Ci.	S.-Cu. E, ENE	4.8	p² p.
28	58.84	25.7	29.7	23	79.8	N	1.3	7.5	Ci.-S.	Cu.-N. E	1.3	●° ↙° a. ζ p.
29	59.34	24.7	27.5	22.7	86.2	N	1.2	7.8	Ci.-S.	Cu.-N. E	23.1	● a. ζ p.
30	59.44	24.4	28	22.2	88.8	N	1.2	8	Ci.-S.	Cu.-N. E	10.2	●° ↙° a. p. ζ p.
31	59.09	23.6	25.4	22.4	95.5	N	1	8.8	Ci.-S.	Cu.-N. E	38.1	● a. p.
Mean	758.80	25.2	29.6	22.6	87.9	------	1.1	7.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	410.5	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

[ϕ=13° 09′ N; λ=123° 45′ E; barometer above sea, 4.2 meters; gravity correction not applied, —1.77 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	757.67	26.6	28.6	24.5	83.7	NE quad.	16.2	9.2	Ci.-S.	Cu.-N. ENE	15.5	● a. p.
2	57.60	26.6	29.1	24.5	81.3	NE, ENE	14.2	7.2	Ci.-S.	Cu.-N. NE	1.5	◕° a. p p.
3	58.21	26.3	27.5	24.3	83.2	NE	14.4	8.8	Ci.-S., Ci.	Cu.-N. ENE	7.9	● a. p.
4	57.57	25.8	29.9	24	84.9	NE	14.1	6.8	Variable	Cu.-N. NE	13.5	● a. p.
5	51.97	24.9	25.9	23.6	93.8	NE	21.3	10	Ci.-S.	Fr.-N. NE	48.5	● a. p. ↙ p.
6	55.16	25.7	28.5	23.1	88.7	SE, NE	3.7	10	Ci.-S.	N. S	36.1	● a. p.
7	57.40	26.4	30	22.7	87.2	E	6.2	3.5	Ci. SE	Cu. SE	------	≡° a.
8	57.79	26.7	30.9	23.5	84.8	E	4.8	7	Ci.-S.	Cu. SSE	------	○ d ∪ p.
9	59.52	27.1	30.5	24.3	84.3	E	12.2	3.2	Ci. SW	Cu. ESE	24.9	≡° a. ● p.
10	60.57	27.1	29.9	24.4	84.3	ENE, E	10.6	3.8	Ci.	Cu.-N. E, NE	16.5	● a. < p.
11	61.06	26.7	29	23.6	83.5	E, ENE	11	8	Ci.-S. SSE	Fr.-N., Cu. NE, E	2.3	p² a. p° p.
12	61.81	27.6	30.1	25.4	75.7	E	13.4	2.5	Ci.	Cu. E, ENE	.5	
13	61.47	26.6	28.6	24.2	83.3	NE quad.	16.2	4.2	Ci.-S.	Cu.-N.	16	● a. p.
14	60.79	25.8	28.3	23	87	NE quad.	16.1	9.2	Ci. SSE	N. NE	58.7	● a. p.
15	59.82	25.3	26.5	22.4	87.2	NE, ENE	15.6	10	Ci.-S.	Fr.-N. NE	46	● a. p.
16	60.34	26.7	29.5	22.5	83.8	E, NE	12.8	6	Ci.	Cu. E	.8	p p.
17	60.39	26.8	29.5	23.4	82.7	ENE	14.3	4.5	Ci.	Cu.-N.	7.4	●° a. p.
18	60.52	26.3	28.5	23.5	82.2	NE quad.	12.8	8.8	Ci.	N., Cu. NE, ENE	10.4	● a. p.
19	60.30	25.7	28.2	22.5	86	NE	14.7	7.5	Ci.	Cu.-N. ENE	30.7	● a. p.
20	59.90	26.3	28.9	23.6	83	NE quad.	13.8	3	Ci.	Cu. NE, ENE	7.4	p a. ● p.
21	58.97	25.2	28	21.2	91.8	E, ENE	14.1	10	Ci.-S.	N. NE, ENE	33.3	● a. p.
22	58.42	26.7	29.9	23	83.2	E, NE	14	5.2	Ci.	Cu. ENE	13.5	d a. ● p.
23	58.93	26.2	29.5	23.9	84.7	NE quad.	12.5	7	------	N. ENE	7.6	● a. p.
24	59.76	25.3	26	22.9	88	NE	12	9.5	A.-Cu.	Fr.-N. NE, ENE	56.6	● a. p.
25	59.37	26.2	29.1	23.1	82.8	E	11	5	------	N. E	16.8	● a. p.
26	59.38	26.7	29.9	24	84.3	NE quad.	10.2	4.8	A.-Cu. NE	N., Cu. E	22.4	● a. d° p.
27	59.40	26.7	29.9	23.9	80.2	NE	15.2	1.2	------	Cu. E, ENE	.3	p p.
28	59.35	26.7	29.3	24.9	76.3	ENE	16.1	6.5	Ci.	Cu. NE, ENE	------	≡° a.
29	59.75	25.7	30	22.2	80.9	NE	14.4	6.5	A.-Cu. NE	Cu. NE	23.1	● p.
30	59.68	25.	28.8	23	82.4	NE	16.7	6.5	A.-Cu. SE, ESE	Cu.-N., Cu.	15	● p.
31	59.61	24	26	22.7	92.8	NE quad.	15.5	10	Ci.-S.	N.	113.3	● a. p.
Mean	759.11	26.2	28.8	23.5	84.5	------	13.2	6.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	646.5	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 7.8 meters; gravity correction not applied, —1.74 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.16	25.7	26.9	24.5	91	ENE	1.8	9.2	Ci.-S.	Fr.-N. ENE	21.3	●° a. p. ↙ p.
2	58.16	25.1	26.9	23.6	92.3	NE	4	10	Ci.-S.	Fr.-N. NE	40.9	↙ ● a. p.
3	58.93	24.8	25.6	23	92.8	ENE	3	10	Ci.-S., Ci.	N., S.-Cu. NE	47.8	↙ ● a. p.
4	58.38	25.6	28.5	23.2	88.8	ENE	3.8	6.5	Ci. SE, ESE	S.-Cu. NE	14.2	↙ ●° a. p.
5	55.16	24.6	25.4	23.4	94.2	NNE	4.7	10	Ci.-S.	N. NE	106.5	↙ ● a. p.
6	52.40	25.3	27.3	23.5	90.3	Variable	4	10	Ci.-S.	S.-Cu. SE, S	33.3	↙ ●² a. ↙ ●° p.
7	56.75	26	30.9	23.5	90	E	.2	8.8	Ci.	S.-Cu. S	------	∩ ω ϖ ≡° p.
8	57.48	25.1	27.5	22.6	93.3	Calm	------	8.5	Ci.-S.	S.-Cu. SSE	------	Ω a. d p. ϖ
9	59.18	25.4	28.9	23.1	94.3	Calm	------	7.8	Ci.	S.-Cu. SE	4.5	Ω ϖ d a. ●° < p.
10	60.40	26.6	31.9	23	90.4	NE	.7	5.8	Ci.	S.-Cu. SE, NE	1.8	d Ω a. < p. ϖ
11	61.08	27.2?	31.5	24.9	87.8?	NE	.7	9.2	Ci.-S.	S.-Cu. NE	------	ω ϖ Ω a. d p.
12	62.12	27.4	32.5	24.7	84.8	NE	1.8	2.5	Ci.	Cu. ENE	------	Ω a. ϖ
13	62.25	27.6	31	25.5	83.7	NE	3.2	7.5	Ci.	Cu. ENE	------	d ↙° a. p. ϖ
14	61.63	25.4	27.4	24	92	NE	3.2	10	Ci.-S.	N. NE	49	↙ ● a. p.
15	60.21	26.4	29	24	88.2	NE	2.5	9.2	Ci.-S.	S.-Cu. E, NE	5.6	↙ ●° a. p.
16	60.50	26.2	29.2	23.5	89.9	NE	.7	7.8	Ci. E	S.-Cu. ENE	8.4	Ω ω ϖ a. ●° p.
17	60.68	27.1	31	24.5	85.4	NE	1	7	Ci. E	S.-Cu. E by N	------	ϖ a. d < p.
18	60.88	26.9	30.7	24.9	86.3	NE	1.7	8.5	Ci.	S.-Cu. ENE	------	d° a. p.
19	60.74	27	31.5	24.6	83	NE	2.7	7	Ci. SE	S.-Cu. NE	------	↙° a. d p.
20	60.72	25	26.6	22.3	89.8	NE	2	9.8	Ci. ESE	S.-Cu. NE	18.8	↙ ●° a. p.
21	59.25	25.5	27.3	23.6	91.1	NE	1	9.8	Ci.-S.	S.-Cu. NE	25.4	● a. p.
22	58.60	26.4	30	23.6	88.8	NE	.8	7.8	Ci.	S.-Cu. NE	5.3	● < p.
23	59.17	26.8	31.3	24.5	86.9	NE	1.2	5.5	Ci.	S.-Cu. NE	4.3	● a.
24	60.14	26.8	31.6	24.4	85.3	NE	1.8	5.5	Ci.	S.-Cu. NE	8.1	● p.
25	59.70	25.6	27.8	23.5	92.5	NE	..3	9.5	Ci.-S., Ci.	S.-Cu. NE	32.3	d a. ● p.
26	59.56	25.2	28.5	22	90.8	NE, NNE	.3	8.2	Ci.	S.-Cu. NE	7.6	Ω d° a. ● p.
27	59.65	26.9	31.6	24	84.7	NE	1	2.5	A.-Cu. E	Cu. NE	------	
28	59.69	26.2	29.7	24.4	81 4	NE	1.7	6	Ci. E	S.-Cu. NE	3	●° ↙° a. d ↙° p.
29	60.18	26.6	31.2	23.5	78.7	NE	2.3	6.8	Ci.	S.-Cu. NE	1.8	d ↙° a. p.
30	60.42	26.4	30	24.5	76.6	NE	3.5	6	Ci. E	S.-Cu., Cu. NE	------	d ↙ a. p. ϖ
31	60.23	25.8	29.8	22.6	81.7	NE	2	9.2	Ci.	S.-Cu. NE	22.8	●° a. p. ϖ
Mean	759.43	26.1	29.3	23.8	88	------	1.9	7.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	462.7	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

[ϕ=14° 49′ N; λ=120° 16′ E; barometer above sea, 3.5 meters; gravity correction not applied, —1.71 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.12	25.2	28.3	22.5	87.2	ENE	1.3	9.5	Ci.-S.	Cu.-N. E	0.3	d a. p.
2	57.53	26	31.4	22.5	78.8	ENE	2.2	7.2	A.-Cu. ESE	Cu. E		≡° a. p.
3	58.31	25.7	28.8	23.6	79.5	ENE	1.4	9.8	Ci.-S.	Cu.-N. E		≡° ◯° a. d ∞ p.
4	57.90	25.6	30.6	22.4	79.5	ENE	1.8	7.2	Ci.-S.	Cu. E		≡° a. ∞ p.
5	56.08	25.3	31.5	20.5	81	NNE	.9	8.2	Ci.-S. ESE	Cu., Cu.-N. NE		≡° a. ∞ d p.
6	51.20	24.8	26.6	22.6	92	Variable	3.8	10	Ci.-S.	N. NE	89.9	↗ ●² a. p.
7	55.60	26.2	30.2	23.4	89.2	E	1.6	6.5	A.-Cu. S	Cu. SSW		≡° a. ∞ ⟨ p.
8	56.82	26.6	30.6	24.4	88.4	ENE	1.8	8.2	Ci.-S. ESE, ENE	Cu. E	.1	≡ a. ◯² ∞ ⊽ p.
9	58.61	27.1	31.2	24.6	87.2	ENE, N	1.7	7.8	A.-Cu. WSW, SSE	Cu.-N. SSE, SE		≡ ⨅ a. ∞ ⟨ p.
10	60.15	27	32.2	23.6	86.2	ENE	1.5	7.5	Ci.-S. ENE	Cu. E	.2	≡ ⌣° ∞ ⌒² ⨅
11	60.88	26	31	22.6	87.5	NNE	1	9	Ci.-S.	Cu. E		⌣² ⊽ ≡° ◯° ∞
12	61.54	26.3	31.4	23.1	79.9	ENE	1.9	5.8	Ci.-S.	Cu.-N., Cu. E		≡° d a. ∞ p.
13	61.96	27.1	31.2	24.5	72.7	NE quad.	1.5	5.2	Ci.-S.	Cu. E		≡° d° a. ∞ ⟨ p.
14	60.72	27.1	31.6	23.3	70.8	ENE	2.4	8.2	Ci.-S.	Cu. E		≡° a. ∞ p.
15	59.62	25.4	27.9	23.9	80.7	ENE	1.8	9.5	A.-Cu. SE	Cu.-N. ENE	.9	d a. p.
16	59.88	26.9	31.6	23.4	79.8	ESE, ENE	1.7	8.5	A.-Cu. ESE	Cu. E, ENE		≡° a. ◯° d ⌒ p.
17	60.41	26	30.9	23.5	87.2	ENE, NNE	1.5	9.2	Ci.-S. NE	Cu.-N. ENE, ESE	1.1	●° ⟨ p.
18	60.28	26.4	32	21.3	79	NE	1.6	4	Ci.-S.	Cu. ENE		Ω² ≡° a. ∞ p.
19	60.10	26.5	31.1	23.5	72.3	NE	1.8	3.5	Ci.-S.	Cu. ENE		≡ a. ∞² p.
20	60.48	25.3	31.4	19.2	78.6	NE quad.	1.3	4	Ci.-S.	Cu. ENE		≡ a. ∞² p.
21	59.04	25.4	30.1	21.6	87.2	E, NNE	1.3	7.2	Ci.-S.	Cu.-N. E	.5	≡° ∞ d² ⨅
22	58.28	26.9	32.5	23.4	82	NE	1.3	5.8	Ci.-S.	Cu. E		∞ ⟨ p.
23	58.90	26.3	32.4	21.4	74.5	NNE	1.4	4.8	Ci.-S.	Cu.		≡° a. ∞ p.
24	59.72	26	32	21	72.3	N, ENE	1.2	6.8	Ci.-S.	Cu.		Ω ≡° ◯° a. ∞ p.
25	59.46	26.8	32.8	20.5	72.2	NE quad.	1.5	5	Ci.-S.	Cu.		≡° a. ∞° p.
26	59.34	26.2	31.4	22.4	78.7	NE quad.	1.2	5.8	Ci.-S., A.-Cu	Cu., Cu.-N., ENE		≡° d
27	59.24	26.6	31.6	22.1	73.3	NNE	1	4.2	Ci.-S.	Cu.		Ω ≡° a. ∞° p.
28	59.32	25.9	31.4	22.2	75.7	NNE	1.3	6.8	Ci.-S.	Cu.		≡° a. ∞ p.
29	59.72	25.5	31.1	21.1	74	NE quad.	1.5	4	Ci.-S.	Cu.		Ω ≡° a. ∞² p.
30	59.62	25.3	30.1	20.9	72.3	ENE	1.8	5	Ci.-S.	Cu.		Ω ≡ a. ∞² p.
31	59.81	26.2	31.4	22.1	68.8	NE quad.	1.4	5.8	Ci.-S., A.-Cu.	Cu.		≡ a. ∞² p.
Mean	758.99	26.1	30.9	22.5	79.6		1.6	6.8				
Total											93	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 20 meters; gravity correction not applied, —1.69 mm.]

	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.27	24.7	29.2	22.5	86.2	NE quad.	0.6	9.2	Ci.-S. SE	Cu.-N. E	1.3	d a.
2	58.01	25.3	29.7	22.3	76.3	NNE, ENE	.8	5.2	Ci. S	Cu. E		Ω a.
3	58.54	24.9	27.5	22.9	78.5	NE quad.	.7	10	Ci.-S.	N. E		Ω a.
4	58.37	24.8	28.9	21.8	76.2	NNE, ESE	.9	7.8	Ci. SE	S.-Cu. E, NE		⌣° p.
5	56.40	24.3	29	21.5	77.7	NNE	1.2	9.2	Ci.-S. SE	Variable	15	Ω ◯° a. ● p.
6	52.42	24	27.5	20.6	91.5	N, SE	4.4	10	Ci.-S. W	N. NE, SE	17	d ↗ a. ●² p.
7	56.08	25.2	29.9	22	88.4	Variable	.5	7.8	Ci. SE	N. S, SE	1.3	d ⊽² p.
8	57.07	25.4	28.9	23.1	88.4	Variable	.6	8.8	Ci.-S. SE	Variable		Ω ◯² a.
9	58.87	26.1	32	22.5	84.7	NE	.4	7	A.-Cu. W	Cu.-N. SE	2.5	Ω a. ● ⌒ p.
10	60.34	25.8	29.5	23.4	84.7	NW, ESE	.6	7	A.-Cu. SE	S.-Cu. E		
11	61.14	25.4	29.2	22.7	81	E	.9	8.2	Ci.-S. SE	Cu. E		Ω a. ◯² p.
12	62.04	25.5	30	22.5	76.3	ENE, ESE	1.3	4.8	Ci.	Cu. E		Ω a. ↗° p.
13	62.31	25.5	31	21.5	74.9	Variable	.6	4.8	Ci. SE	Cu. ENE		Ω² a. ↗° p.
14	61.28	25.6	31	21.4	70.8	NW, E	.9	5.2	Ci. SE	Cu. ENE		Ω a.
15	59.88	25.4	29.5	22.4	74.8	NNE, NW	.6	8	Ci.-S. SE	N. E		Ω a.
16	60.32	25.2	29.6	22	81.7	NNW	.5	7.5	A.-Cu. SE	Cu.-N. E		
17	60.59	25.7	29.9	22	76.2	NNW	1	5.2	Ci. SE	Cu.-N. E		Ω a. ⟨ p.
18	60.64	25	30	20.4	76	ESE	1.2	3.2	Ci. SE	S.-Cu. E		Ω² a. ⌒ p.
19	60.62	24.8	29.5	21.6	73.3	NE	1.1	6.2	Ci. SE	Cu. E		Ω a. ∞ p.
20	60.69	24.3	29.9	18.4	75.6	Variable	.6	6	A.-Cu. SE	Cu.-N. E		Ω² ≡ a. ◯ p.
21	59.42	24.8	30.1	21.1	80.7	NNE	1	6	Ci. SE	Variable		Ω a. d° ⌒° p.
22	58.78	25.2	29.2	21.8	81.5	Variable	1.1	5.5	Ci. SE	S.-Cu. E		Ω ◯° a.
23	59.14	24.9	30.2	20.5	77	NNW, ESE	1.2	2.5	Ci.	S.-Cu.		Ω a.
24	60.04	24.4	30.2	19.5	77.4	NNE, ESE	1.2	5.8	Ci. SE	Fr.-Cu. E		Ω ≡° a. ↗° p.
25	59.78	25	31.2	19	76	Variable	.8	4	Ci.	S.-Cu. E		Ω² ≡° a.
26	59.54	25.8	30.1	22.1	79.1	Variable	.8	6	A.-Cu.	Variable	1.3	d ≡ a.
27	59.42	25.1	30.5	20.6	77.8	Variable	1.2	4.5	Ci.	S.-Cu. E		Ω a.
28	59.60	25	29.8	21.1	74.3	NW, ESE	1.2	5.5	Ci. SE	S.-Cu. E		
29	59.93	24.4	29.6	19.9	74.7	NW, ESE	1.2	4.2	Ci. SE	Cu.		Ω ≡° a. ↗° ⊕° p.
30	60.09	24.2	28.7	19.5	77	NW, ESE	1.2	4.8	A.-Cu. E, NE	Cu.-N. E	.8	Ω a. d p.
31	60.08	24.7	30	19.5	72.5	Variable	.8	5.8	Ci. SE	Cu.-N. E		Ω ⊕² a.
Mean	759.35	25	29.7	21.4	78.7		1	6.3				
Total											39.2	

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[ϕ=16° 03′ N; λ=120° 20′ E; barometer above sea, 2.7 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	758.26	26.3	33	21.5	78.8	Variable	5.8	9.2	A.-Cu.	S.-Cu.	------	ϖ p.
2	57.74	26.1	33.2	21.2	75	SE	10.5	3.5	Ci., A.-Cu.	S.-Cu.	------	ϖ ⌣ p.
3	58.33	25.8	30.6	22.7	76	S	8	10	A.-Cu.	S.-Cu.	------	ϖ p.
4	58.07	25.3	32.8	21	77.8	S	8.2	4.2	Ci.	Cu.	------	d° p.
5	56.51	24.6	30.4	20.3	83.7	SE, N	4.8	8	Ci., Ci.-S.	S.-Cu. ENE	------	
6	52.34	24.1	25.7	22.9	95.8	SE	15	10	------	N.	29.2	d² a. ↙ ● p.
7	55.43	26.1	31.3	22.7	84	SE	19.6	6.5	Ci.	S.-Cu. SE	10.2	● ↙ a. p ⌒ ⋦ p.
8	56.64	26.7	33.1	23.8	81.8	SE	11.1	8	Ci.-S.	S.-Cu. SSE	------	↙° a. d° ⋦ ϖ p.
9	58.59	27.1	33.4	24	80.3	SE	10.6	8.8	A.-Cu.	S.-Cu. SSE	2.3	ϖ a. p ⋦ p.
10	60.43	26.2	31.2	23.2	88	Variable	7.7	9	A.-Cu.	S.-Cu.	------	
11	61.01	26.5	32.4	22.4	83.6	S	7.6	8.5	Ci.-S.	Cu., S.-Cu.	------	ϖ a.
12	61.88	25.7	32.3	21.8	83.5	Variable	5.7	3.5	Ci.	S.-Cu.	------	
13	62.28	26.1	32.2	21	75.9	S, NW	9.3	1.5	Variable	Cu.	------	
14	61.12	25.2	33.3	21	80.2	E	7.4	6.2	Ci.-S.	Cu.	------	
15	59.91	25.8	32.6	20.9	76	SE	7.5	8.2	Ci.-S., A.-Cu.	S.-Cu., Cu.	------	ϖ ⌣ a. d° p.
16	59.80	26.8	32.9	23.3	70	S	13.4	4.7	A.-Cu.	S.-Cu., Cu.	------	↙° a.
17	60.51	25.8	31	21.5	76.5	Variable	7.2	4.5	Ci.	S.-Cu.	------	
18	60.50	26.3	34.8	20.5	72.9	S	8.8	3	Ci.	Cu.	------	
19	60.22	26.2	34	21	69.2	SE, S	12.7	1.7	Ci.	Cu.	------	
20	60.68	24.5	31.2	18.9	76.8	Variable	8.3	3.2	Ci.	Cu.	------	
21	59.29	25.4	32.4	20.5	80.5	NW	5.9	3.2	Ci.	Cu.	------	
22	58.53	26.4	32.1	22.2	80.7	Variable	10.2	6.2	Ci.-S.	S.-Cu., Cu.	------	⋦ p.
23	59.04	26	31.9	21.2	77.5	SE	7.2	1.5	Ci.	Cu.	------	
24	59.77	26.2	33	21.3	76.4	SE	7.7	3.2	Ci.	S.-Cu., Cu.	------	
25	59.72	26	31.7	21.4	75.2	SE	9.1	.7	------	S.-Cu.	------	
26	59.50	26.4	31.8	23	83.2	Variable	7.5	4.2	------	S.-Cu.	4.6	p p.
27	59.31	26.6	34.7	22.2	79.2	Variable	6.2	2.5	------	S.-Cu., Cu.	------	d° ϖ p.
28	59.49	26.3	32.6	23.5	75.3	N, S	9	1.5	Ci.-S.	S.-Cu.	------	d° p.
29	59.83	26.4	33.1	22	70.5	S	10.3	5.2	Ci.	S.-Cu., Cu.	------	ϖ p.
30	59.86	25	31.4	20.2	73	SE	11	2.5	Ci.	Cu.	------	
31	60.09	24.8	32.4	19.4	71.2	N, S	9.6	1	Ci.	Cu.	------	ϖ p.
Mean	759.18	25.9	32.2	21.7	78.3	------	9.1	5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	46.3	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 8.5 meters; gravity correction not applied, —1.67 mm.]

Day.	Pressure (mean).	Mean.	Maximum.	Minimum.	Relative humidity (mean).	Prevailing direction.	Force (mean).	Amount (mean).	Upper.	Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.[1]	0-10.			mm.	
1	757.99	26.5	30.4	23	85.1	SE quad.	1	9.2	A.-Cu.	Cu.	------	Ω ≡° a.
2	57.26	27	32	22.9	80.5	SE quad.	1.5	7	Ci.-S.	Cu.	------	Ω ≡° a.
3	57.91	25.8	30.2	22.9	81.7	SE quad.	1.5	10	A.-Cu.	S.-Cu., Cu.	------	Ω ≡° a.
4	57.78	26.1	30.7	22.4	82.5	Variable	1.8	9.8	Ci.-S.	S.-Cu.	------	Ω ≡° a. ○° ⌣ ϖ p.
5	56.28	26.1	30	22	83	NNW	1.2	9.2	Ci.-S.	S.-Cu.	------	Ω² ≡° a.
6	51.85	26.2	27.2	------	88	Variable	4	10	------	N.	7.9	●° a. p. ↙
7	54.66	26.8	30	24	36.3	SE, SSE	4	8.8	Ci.-S.	Cu.	------	↙° a. p.
8	56.19	27.6	30.9	24.4	82	E quad.	2.2	9.2	Ci.-S.	Cu. SE	------	Ω ≡° a.
9	58.03	27.6	31.1	24.9	84	SE	2.5	9.8	A.-Cu. NW	Cu. S	3.8	Ω ≡° ↙ ⊤ d ⌈☒
10	59.78	27.2	30.2	24.6	86.8	ESE	2.2	8.8	A.-Cu.	Cu. N, NE	------	
11	60.27	27.2	31.4	24.1	85.8	Variable	1.2	10	Ci.-S.	Cu.	3	● a.
12	61.34	26.6	30.2	22.9	85	NNW	1.8	5.8	A.-Cu.	Cu.	------	Ω° ≡° a.
13	61.95	25.8	30.4	21.4	84	Variable	1.2	2	A.-Cu.	Cu.	------	Ω° ≡° a.
14	60.86	25.6	30	20.5	84.5	SE, N	1.8	2	A.-Cu.	Cu.	------	Ω² ≡° a.
15	59.56	26	30.2	21.6	84.5	NNW	1.5	10	A.-Cu.	S.-Cu.	------	Ω² ≡° a.
16	59.38	26.4	30.8	22	80.8	E quad.	2.2	6.2	A.-Cu.	S.-Cu., Cu.	------	Ω² ≡ ↙° a.
17	60.03	26.3	30	22.8	83.5	Variable	1.5	6.5	A.-Cu.	S.-Cu.	------	Ω ≡° a.
18	60·13	26.4	30.9	22.4	82.8	SE	2.2	4.2	Ci.	Cu., S.-Cu.	------	Ω² ≡ a.
19	59.84	25.9	30.5	22	82.8	SE	2	4.5	Ci.-S.	S.-Cu.	------	Ω² ≡° ↙° a.
20	60.17	26	32	21	81.6	Variable	2.2	1.8	Ci.	Cu.	------	Ω² ≡° a.
21	59.02	25.9	30.7	21	84.5	N	1.5	6	Ci.	Cu.	------	Ω ≡° a.
22	58.12	27.2	31.4	23.1	85.1	ESE	2.2	8.8	Ci.-S.	S.-Cu.	------	Ω ≡° a.
23	58.50	26.9	32	23	83.8	NNW	.8	7.2	Ci.	Cu.	------	Ω ≡° a.
24	59.24	26.4	30.8	22.2	84.5	NW	1.2	8.5	Ci.-S.	Cu.	------	Ω° ≡° a.
25	59.34	26.6	31	------	82.5	Variable	1.5	4.8	Ci.	Cu. NNW	------	Ω ≡° a.
26	59.12	27.1	31.2	24	86.5	NNW	2	9.8	A.-Cu.	Cu. NNE, N	------	d° a.
27	59.10	27.5	31	24.5	85.7	ESE, N	.5	6.5	------	Cu. NNE	------	d° a.
28	59.14	26.5	30.5	24.1	86.3	Variable	1.2	10	A.-Cu., Ci.-S.	Cu. E	.8	●° a.
29	59.16	26.7	30.5	23.5	80.2	Variable	1.8	8.2	A.-Cu.	Cu. ENE, NNW	------	Ω° ≡° a.
30	59.26	25.6	30.5	21	84	ESE	1	6	Ci.	Cu.	------	Ω² ≡° a.
31	59.79	25.7	30.2	21.5	79.6	ESE	1.8	4.5	Ci.-S., Ci.	S.-Cu., Cu.	------	Ω ≡° a. ⌣ ϖ p.
Mean	758.74	26.5	30.6	22.8	83.8	------	1.8	7.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	15.5	

[1] From 4 observations only.

METEOROLOGICAL DATA, ETC.—Continued.

VIGAN.

[ϕ=17° 34′ N; λ=120° 23′ E; barometer above sea, 20 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.42	25.8	30.4	21.4	84.7	E	1.2	3.2	A.-Cu. S by E	Cu.	------	Ω² ≡° a. ϖ p.
2	57.82	27.9	33	23.4	------	NE quad.	2.3	.8	A.-Cu. SSE	Cu.	------	Ω ≡° a.
3	58.22	28	32.9	25.9	------	NE quad.	2	3	A.-Cu. S	Cu.	------	ϖ p.
4	58.13	------	32.6	23.9	------	NE quad.	2.5	2.8	Ci.-S.	Cu.	------	◯° a. ↙° ⩊° p.
5	56.79	------	31.9	25.5	------	NE	4.2	2.2	Ci.-S. S by E	Cu.	------	↙° a. p. ◯ ⩊
6	52.35	26.8	31	23.8	75.4	NNE	3	10	Ci.-S.	S.-Cu. ESE	8.9	↙° d a. ↙ ● p.
7	55.33	26.6	31	24	87	Variable	1	5.5	Ci.-S.	Cu.	6.1	● ϖ p.
8	56.71	26.5	30.1	23.4	87	Variable	1.3	5.5	A.-Cu.	Cu. N by W	.3	≡° a. d p.
9	58.96	26.8	31.1	23.5	81.8	N	1	5	A.-Cu.	Cu. W by S	------	d̄ ⦩ p.
10	60.60	26.7	29.6	24.7	85	NNE	1.3	10	A.-Cu.	N.	2	●° ⌒ d d² p.
11	61.22	26.5	30.6	23.9	81.5	SE, E	1	1.2	Ci.-S.	Cu. SSW	------	∞° p.
12	62.06	26.5	30.6	23.5	83.2	Variable	1.3	2.8	Ci. E	Cu. NNE	------	⩊ Ω² a. Ω p.
13	62.33	26	33	22.2	85.2	Variable	1.2	0	Ci.	Cu.	------	Ω² ≡° a.
14	61	26.6	33	23.5	75.8	Variable	1.2	.2	Ci., Ci.-S.	Cu.	------	Ω a.
15	59.92	27	32.1	23.3	74.3	Variable	1.2	.2	Ci.-S.	Cu.	------	≡° a.
16	60.05	26.7	32.7	23.4	76.6	SE	.8	3.8	Ci.-S.	Cu. S	------	⊕ a.
17	60.59	26.3	30.5	22.1	77.4	Variable	1.2	.5	Ci.-S.	Cu.	------	Ω° a.
18	60.73	26.5	30.2	23	78.8	Variable	1	2	Ci.	Cu.	------	⊕ a.
19	60.32	------	30	23.4	------	Variable	1.3	0	Ci.	Cu.	------	
20	60.70	25.4	29.4	22.2	74.8	Variable	1.3	0	Ci.-S.	Cu.	------	
21	59.17	25.8	31.1	21.7	[1]76.4	SE, S	1	2	Ci.	Cu.	------	Ω° a.
22	58.78	26.3	30.1	22.6	79.4	Variable	1.3	.2	Ci.	Cu.	------	
23	59.16	26.6	31.2	22.7	79.3	NE	1.2	0	Ci.-S.	Cu.	------	
24	59.73	26.4	32.3	22.5	79.2	Variable	1	0	Ci.	Cu.	------	Ω ≡° a.
25	59.79	26.6	30.4	23.8	77.7	Variable	1.3	2	Ci.-S.	Cu.	------	
26	59.77	25.8	29.7	23.3	83.5	N	3	1.8	A.-Cu.	Cu. NNW	------	↙° p.
27	59.43	26.4	30.6	23.1	80.3	NNE	1	.2	Ci.-S.	Cu.	------	
28	59.46	27.3	31.3	24.9	67.8	N quad.	1.2	8.8	Ci.-S., A.-Cu.	Cu.	------	
29	59.86	26.2	29.5	23.7	72.4	Variable	1.2	0	Ci.	Cu.	------	
30	59.89	26.2	32	21.5	------	NE	1.7	0	Ci.	Cu.	------	Ω ≡° a.
31	60.29	26	29.9	22.5	------	Variable	1	0	Ci.	Cu.	------	≡° a. ∞ p.
Mean	759.28	26.5	31.1	23.3	79.4	------	1.5	2.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	17.3	

[1] From five observations.

TUGUEGARAO.

[ϕ=17° 36′ N; λ=121° 40′ E; barometer above sea, 23 meters; gravity correction not applied, —1.61 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rainfall.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	759.83	24.2	28.7	20.3	89	Variable	0.5	6	Ci.	Cu.-N. SE	------	Ω² a.
2	60.26	24.9	29.3	21.6	86.6	N	.7	7.8	------	Cu.-N. NE, SE	------	Ω a. d² p.
3	60.60	24.9	28.6	21.4	88.5	N	.7	6	------	Variable	------	Ω² a. d p.
4	60.44	24.7	29	21.6	85.3	NE, N	1	7.2	Ci.-S.	S.-Cu.	------	d a.
5	58.75	24.4	27.1	21.1	85.5	N	1.3	6.8	------	Cu.-N. NE	2.8	Ω a. ● p.
6	55.41	24.1	24.9	22.2	95.7	NE, NW	.3	10	------	N.	53.2	● a. p.
7	57.08	24.5	26.1	22.6	94.7	Calm	------	9.8	------	Cu.-N. N	57.6	●² a. p.
8	57.40	23.7	24.9	22.3	96.7	N	.8	9.5	------	N. NE	51.6	● ≡ a. ●² p.
9	59.23	25.1	28.8	22.3	90.3	SE	.2	7.2	Ci.	Variable	16.8	● a. p.
10	60.74	26.5	32	22.9	83.7	SE	.3	5.2	Ci.	Cu. S	------	Ω a.
11	61.62	26.8	31.8	22.2	83	S, SE	.3	7	Ci. SE	Cu.	------	Ω ≡ a.
12	63.37	25.5	30.9	21.5	83.7	SE, NE	.3	6.8	Ci.	Cu. ESE	1	Ω² ●° a. p.
13	64.28	25.5	30.3	20.5	84.7	Calm	------	4	------	Cu. NW	------	Ω² ≡ a.
14	63.34	25.9	30.9	21.5	83.5	SW, S	.3	6	Ci.	Cu. WNW, SE	------	Ω² ≡° a.
15	62.13	25	30.1	20.5	88.3	N	.5	7.5	Ci.	Cu.-N. ENE, NE	6.6	Ω² ≡° a. ● p.
16	62.17	24.4	27.5	22	90.9	SE, NW	.3	7.5	------	Cu.-N. E, SE	18.3	● a.
17	61.84	25.3	29.8	22.2	88.5	Calm	------	7	------	Cu.-N. E,SE	------	d ⌒ a. p.
18	61.93	25.1	30	22.5	87.4	NE	.2	5.5	A.-Cu. S	Variable	------	d. a.
19	62.13	24.4	29.4	20.5	85.8	N	.2	8.2	------	S.-Cu., Cu.-N.	------	Ω² a.
20	62.10	24.4	29.6	19.8	82.7	Calm	------	7.2	------	Cu. NE, SSW	------	Ω² a. p.
21	60.87	24.2	28.8	21	89	S	.2	8.2	------	N.	4.6	● a.
22	59.42	26.1	32.2	21.9	84.5	S	.8	6.2	Ci. SE	Cu. S	3.3	● a.
23	60.16	25.2	31.3	21.9	87.4	NW	.8	7	------	S.-Cu. S	------	Ω ≡ a.
24	61.14	25.2	30.5	21.5	91	NW	.5	8.2	A.-Cu. E	Cu. S, NW	------	d p.
25	60.53	25.8	31.4	21	84.2	Variable	.7	5.8	------	Cu. S	------	⌒ d p.
26	59.97	27	32.4	22.6	82.3	SW	.5	5.2	Ci.-Cu. SE	S.-Cu., Cu.	------	Ω a.
27	60.64	25	31.7	21.5	89.8	NW	.7	6.8	------	S.-Cu.	------	Ω² ≡ a. d p.
28	61.18	23.6	26.3	21.6	92.2	N, NW	.8	9	------	Cu.-N. NNE	3.3	● a.
29	61.38	23.6	28.9	20.4	85.8	NW	.5	7.5	A.-S.	Variable	------	Ω a. d p.
30	62.20	23	27.4	20.2	87.8	NW	.5	7.8	------	Variable	------	Ω d a.
31	62.17	23.2	28.7	19 1	82.6	NW	.3	5.8	Ci.	Cu. SE	1	●° ≡ a.
Mean	760.78	24.9	29.3	21.4	87.5	------	.5	7.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	220.1	

METEOROLOGICAL DATA, ETC.—Continued.

APARRI.

[ϕ=18° 22′ N; λ=121° 38′ E; barometer above sea, 5 meters; gravity correction not applied, —1.57 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rainfall.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Prevailing form and its direction. Upper.	Prevailing form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	760.40					SE	9.9	8		S.-Cu. SE		
2	61.11					NE	21.1	5.5	Ci.-Cu. E	S.-Cu. E	1	●° a. ↙°
3	61.47					NE	18.8	10		Cu.-N. E	6.9	●° ↙° a. p.
4	61.27					ENE, NE	20.4	7.8		S.-Cu. E	1.5	●° ↙° a. p.
5	59.97					NE, ENE	21.4	7.8		S.-Cu. E	9.4	● ↙° p.
6	56.34					ENE	24	10		N. ENE	91.4	● ↙° a. p.
7	57.49					E	9.3	10		N E	33.5	● a. p.
8	58.02					E	13.3	7		S.-Cu. ENE	30.7	● a. p. ↙° p.
9	59.36					E	16.4	6.2	A.-Cu. SW	S.-Cu.	8.4	● ↙ a.
10	61.15					E	5.3	1.8	A.-Cu. SW	S.-Cu.		∞
11	61.79					NE, SE	8	4	Ci. SW	S.-Cu.		∞
12	63.57					E, SE	7.8	4.5	A.-Cu. E	S.-Cu. E		∞
13	64.52					E	10.6	.2		Cu.-N. E		⌓ ∞
14	63.82					E	11.2	2.5		Cu.-N. E	.3	●° p.
15	62.79					S	9.1	6.2	Ci. SW	Cu.-N. E	6.4	● p.
16	62.45					S, SE	6	9.5	Ci.-S.	S.-Cu. E	11.9	d a. ● p.
17	62.27					E	5.7	7.8		S.-Cu. E	6.6	● a.
18	62.38					SE, E	10.3	5.8	A.-Cu. S	S.-Cu. E	2.8	● a.
19	62.60					SE, E	7.6?	9.5		S.-Cu. E		∞
20	62.59					Variable	5.4	5.2		S.-Cu. E		∞
21	61.17					SE, NE	5.6	7.5	A.-Cu. SE	Cu.-N. NE	3.6	● a.
22	59.66					SE, NE	9.7	2.2	A.-Cu. SE	S.-Cu. SE		∞
23	60.86					NE	18.5	6		Cu.-N. NE	12.7	↙° ● p.
24	61.68					NE quad.	15.6	8.8		Cu.-N. E	1	↙° ●° a.
25	60.78					SE	7.3	3.5	Ci.-Cu. SE	S.-Cu. E		∞
26	60.41					Variable	10.7	.5		S.-Cu., Cu.-N.		⌓ ≡° a.
27	61.37					NE	17.6	5.2		Cu.-N. NE	2.3	⌓ ≡° a. ↙ ● p.
28	61.96					NE	24.2	10		S.-Cu. E	.8	↙ ●° a.
29	62.24					NE	14.2	8.5		Cu.-N. NE	3	● a.
30	62.72					E	13	6.5	A.-Cu. E	S.-Cu. ENE		
31	62.75					Variable	14.1	5.2		S.-Cu. E		
Mean	761.32						12.6	6.2				
Total											234.2	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[$\phi=6°\ 03'$ N; $\lambda=121°\ 00'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	22.4	97	93	8	10	49.5	●² p.
2	29.2	22.1	98	88	10	10	6.4	● a. d a. p.
3	31	22.5	98	77	10	9	1.3	≡° ● a. d p.
4	30.5	21.8	96	79	10	8	------	≡° a. d p.
5	31.1	22.6	97	81	8	9	------	Ω° ≡° a. ↙° p.
6	29.5	22.5	88	76	8	9	1.5	⊖ Ω° ≡° ↙° ● ↯ ⊍
7	32.5	22.6	93	69	8	8	1.8	●° ≡° a.
8	32.3	23.9	92	73	7	7	------	≡ a.
9	31	21.7	96	84	5	9	3.6	Ω ≡ ● a. d ⊤ p.
10	29.7	22.6	97	81	9	8	10.7	≡ a. ● p.
11	29.5	22.4	92	86	10	10	78	●² a. d p.
12	32	21.7	95	83	8	8	2.8	Ω ≡ a. ●° ↯ p.
13	30.7	21.4	96	76	10	9	8.4	● d a. ↯ ● p.
14	31.7	22.7	98	67	8	9	7.1	≡ a. ● p.
15	30.8	23.3	91	79	10	10	------	≡ a. d p.
16	29.7	21.7	97	91	8	10	2.5	Ω ≡ ● a. ⊤ d ↯
17	30	21.2	97	78	8	8	6.4	≡ ● a. ↯ p.
18	30.6	21.2	98	80	9	9	2	Ω ≡ ● a.
19	31	22.8	94	67	8	8	1	Ω ≡ a. ●° p.
20	29.3	22.6	97	92	9	10	17.3?	Ω ≡ ● a. ●² p.
21	30	22.7	93	74	10	9	19	d ● a.
22	30.1	23	83	68	9	7	2.3	Ω ≡ ●° a. ↙° ↯
23	30.8	21.5	96	79	9	10	3.6	Ω ≡ a. d ● p.
24	31.1	21.3	94	84	7	8	1.3	Ω ≡ ⌒ a. ●° p.
25	31.5	21.6	98	76	8	7	------	Ω ≡ a.
26	29.7	21.2	97	84	6	8	8.1	Ω ≡ a. ● a. p.
27	31.7	21.6	98	72	6	7	------	Ω ≡ a.
28	31.8	21.7	97	69	8	9	------	Ω ≡ a.
29	31.9	24.6	86?	74	10	9	------	Ω° ≡ a.
30	32	22.6	97	79	10	9	2.3	● a.
31	28.5	23.6	98	92	10	10	23.9	● d p.
Mean	30.7	22.3	95	79.1	8.5	8.7	------	
Total	------	------	------	------	------	------	260.8	

ISABELA, BASILAN.

[$\phi=6°\ 42'$ N; $\lambda=121°\ 58'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.8	23.4	97	98	------	------	68.6	d ⌒ a. ● p° p.
2	31.3	22.5	98	97	------	------	37.1	Ω p° a. ● ⊤ p.
3	31.8	22.8	96	81	------	------	------	↙° a.
4	29.3	22.4	100?	85	------	------	------	Ω a. ↙ p° ⊍ p.
5	28.7	22.6	95	83	------	------	2	Ω a. p ↙ d p.
6	31.3	22.5	93	84	------	------	------	Ω a. ↯ p.
7	31.8	22.5	96	79	------	------	------	Ω a.
8	30.9	22.4	96	85	------	------	------	Ω a. p° ⊤ p.
9	32.3	21.5	93	95	------	------	34	Ω ≡° a. ● d p.
10	30.3	23	91	85	------	------	2	p ≡ a. ↙ p.
11	30.1	23.5	95	86	------	------	2.3	p a. p.
12	32.3	23	93	79?	------	------	------	Ω a.
13	29.8	22	100	84	------	------	2	● a.
14	32.8	22.7	97	79	------	------	------	Ω a.
15	27.9	23	93	88	------	------	29	d ● a. p p.
16	31.5	21.8	98	86	------	------	3.6	d a. [↯ p p.
17	31.8	21.4	96	92	------	------	22.9?	Ω a. p° ● p.
18	29.3	22	96	83	------	------	33.8?	● a. d p.
19	31.8	22.7	96	81	------	------	------	Ω a.
20	29.3	22.6	91	92	------	------	20.3	Ω a. p° ● p.
21	30.3	22	96	98	------	------	5.1	d a. p.
22	31.8	22.5	96	97	------	------	12.2	Ω a. d ● p.
23	30.3	22.2	98	91	------	------	.8	Ω a. d p.
24	29.9	22	96	75	------	------	------	Ω a.
25	29.8	23	96	70	------	------	------	Ω a.
26	32.8	22.4	96	69	------	------	------	Ω a.
27	32.1	22	96	80	------	------	------	Ω a.
28	31.5?	21.4	96	78?	------	------	------	Ω a.
29	31.5	23.3	93	66	------	------	------	Ω a.
30	30.3	22.5	96	71	------	------	2	Ω ≡° a. p p.
31	31.3	23	96	80	------	------	1.5	Ω a. p p.
Mean	30.8	22.5	95.6	83.8	------	------	------	
Total	------	------	------	------	------	------	279.2	

ZAMBOANGA.

[$\phi=6°\ 54'$ N; $\lambda=122°\ 05'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	23.8	------	------	9	10	3.8	●° a.
2	28.7	22.6	------	------	10	10	12.2	≡° a. ↙ ● p.
3	30.2	22.7	------	------	10	7	------	
4	29.2	23.6	------	------	10	5	------	Ω ≡° a. ↙° p.
5	28.6	21.9	------	------	5	5	------	Ω ≡° a. ↙° p.
6	30.3	25.8	------	------	3	9	------	Ω ≡° a. ↙° p.
7	31.7	23.4	------	------	5	4	------	Ω ≡° a. ↙° p.
8	31.3	23.2	------	------	3	2	------	Ω ≡° a. ↙° p.
9	31	23	------	------	2	3	------	Ω ≡° a. ↙° p.
10	29.6	23.5	------	------	10	3	4.1	● ≡° a. ↙° ⌒ ⊍ p.
11	29	24	------	------	10	9	.8	⌒ ≡° a. ●° p.
12	31.9	24	------	------	8	7	------	Ω d° a. ↙° ↯ p.
13	30.6	22.7	------	------	10	9	16.8	● ≡° a. ↙° ↯ p.
14	32	23	------	------	10	8	------	Ω ≡° a.
15	28.6	22	------	------	10	10	46.7	●° a. ● p.
16	30.4	22.8	------	------	8	7	------	d° a. [↯ p.
17	30.6	23.3	------	------	9	8	------	Ω ≡° a. ○ ⊤ p.
18	29.6	23.3	------	------	5	3	3.8	Ω ≡° a. ↙° ⊤ d p.
19	31.4	22.9	------	------	10	9	------	Ω a.
20	28.4	22.7	------	------	10	10	40.1	Ω ≡° a. d ↙ ● p.
21	28.2	22.6	------	------	10	10	6.4	≡° a. ●° p ↙ p.
22	29.9	22.4	------	------	4	5	------	≡° a. ⌒ d p.
23	30.2	23.2	------	------	3	4	3	Ω ≡° a. ○ ● p.
24	31.3	22.6	------	------	3	4	2.5	≡° a. ↙° d [↯ p.
25	30.7	22.7	------	------	3	2	------	≡° a. ↙° ∞ p.
26	31.7	22.4	------	------	10	2	------	d° a. ↙° p.
27	32	21.7	------	------	2	3	------	Ω ≡ a. ↙° p.
28	31	22.3	------	------	3	5	------	Ω ≡ a. ↙° p.
29	32.1	22.9	------	------	9	9	------	Ω ≡° a.
30	31.4	23.4	------	------	2	9	------	Ω ≡° a. ↙° ○ p.
31	28.9	22.8	------	------	10	9	7.1	Ω ≡° a. ⊍ ● p.
Mean	30.3	23	------	------	7	6.5	------	
Total	------	------	------	------	------	------	147.3	

DAVAO.

[$\phi=7°\ 01'$ N; $\lambda=125°\ 35'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.3	22.1	94	72	9	9	------	⊖ p.
2	31.5	22	94	71	8	7	42.4	●² p.
3	31.5	22.3	96	63	8	7	------	⊖ p.
4	31.1	22	96	72	6	8	17.3	● p.
5	31.5	22	96	66	6	7	------	
6	31.7	21.8	96	71	5	7	------	
7	33.6	22	97	75	6	5	------	↯ p.
8	33.2	21.9	96	69	6	7	------	
9	32.3	22.3	97	68	6	7	34.5	●² [↯ p.
10	31.7	23	96	83	7	9	------	d° p.
11	30.7	22.9	96	74	9	8	9.7	d° a. ● ↯ p.
12	30	22.8	96	74	8	8	------	
13	32.7	22	95	74	7	8	36.6	d ●² p.
14	28.7	21.5	94	77	9	8	18.5	● p.
15	30.6	21.9	96	73	9	8	------	
16	31.1	22	98	78	6	8	18	● p.
17	31.1	21	96	65	7	7	21.1	● p.
18	30	22	97	88	6	9	38.9	●² p.
19	28.9	22.1	96	84	10	8	38.4	● a. p.
20	29.2	22.4	96	96	8	10	80	●² a. ● p.
21	30.5	21.8	99	84	9	7	43.9	● a. p.
22	31.1	21.9	98	68	6	6	------	
23	31.2	22	99	70	5	5	------	↯ p.
24	31.9	21.9	96	70	5	7	13.5	● p.
25	32.6	21.3	97	68	6	5	------	
26	31.3	22.1	96	68	6	5	------	d p.
27	31.6	20.9	95	69	7	6	9.4	● ⊤ p.
28	31.7	21.9	98	67	5	6	------	
29	27.1	22.4	96	89	8	9	4.6	d° a. ● p.
30	26.7	21.6	96	92	9	8	41.1	● a. p.
31	28.4	22.1	97	88	5	8	26.4	● p.
Mean	30.8	22	96.3	75	7	7.3	------	
Total	------	------	------	------	------	------	494.3	

METEOROLOGICAL DATA, ETC.—Continued.

COTABATO.
[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30	23	92	84	10	9	21.6	d ↯ ● a. ●° p.
2	32	23.4	92	64	10	7	35.6	↯ a. ↯ ● p.
3	32.2	23	93	68	10	7	------	d a. ↯° ᴗ p.
4	30.4	23.3	96	78	8	10	------	≡²◯d ⛈° ↯° ᴗ²
5	30.2	23	95	75	10	10	8.9	≡ ⛈ ↯ ● d
6	32	23	96	71	10	4	------	↯ < p.
7	32.4	23.1	94	72	3	4	------	Ω ≡² a. ↯° ⊽ ᴗ
8	33.1	23	91	58	3	3	------	↯° ≡ a. ᴗ p.
9	33	23.5	95	68	3	5	12.7	⛈ ● p.
10	30.2	23	95	75	8	8	10.2	≡² a. ⛈ ↯ ● p.
11	30.2	23.6	95	75	10	8	2	↯° a. ● p.
12	32	23.4	92	59	9	6	------	≡ ↯° a. ↯ < p.
13	32	23.2	96	75	6	6	19.8	p a. ⛈ ↯ ● d°
14	30	24.1	82?	73	10	9	1.5	↯° a. ●° p.
15	30.4	23.2	87	79	10	10	33	◯² ↯° d ⛈² ● p.
16	31.4	23.2	98	75	7	8	24.1	≡ a. ⛈² ↯ ● p.
17	32	22.1	96	73	9	8	6.4	↯° ≡ a. ⛈° ⌒ ●
18	32.1	23	91	65	6	8	27.9	≡ ↯° a. ↯ ●² ⛈
19	30.3	22.7	92	81	10	9	?	●° a. d < p.
20	29.1	22.9?	96	85	10	10	38.4	● d a. ●² ●° p.
21	32.1	22.9	92	74	10	6	------	↯° a. ↯ < p.
22	33.3	23.1	91	60	2	4	8.4	↯° a. < ● p.
23	32.6	23.8	96	65	9	3	7.6	↯° d ⛈ ● p.
24	32.4	23	94	67	2	3	1	≡² a. ↯° ● < p.
25	33.2	22.7	94	58	2	2	------	↯° a. p. < p.
26	32.8	23.2	90	58	5	3	2.3	↯° a. p. ● p.
27	33.1	22.4	86	58	3	2	------	Ω a. ↯ ⛈° p.
28	31.7	23.3	89	63	2	6	------	Ω a. ↯° d p.
29	28.5	23.8	88	82	10	10	------	d ↯° a. p.
30	------	23.4	89	81	10	10	------	∞ a. ᴗ² p.
31	------	23.2	91	72	10	10	1	◯² a. ●° ᴗ² p.
Mean	31.5	23.1	92.4	70.7	7.3	6.7	------	
Total	------	------	------	------	------	------	262.4[1]	

CAGAYAN, MISAMIS.
[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.9	21.2	96	89	10	10	0.6	d a. p.
2	30.5	22.3	97	73	10	6	------	↯° ⊤° p.
3	30.9	21.3	96	76	9	10	.3	Ω° ≡ a. d ⊤° p.
4	29.8	21	94	80	10	10	3.3	Ω° a. ↯° ᴗ° ●° p.
5	28.7	21.2	97	80	10	10	1.8	d ● a. ᴗ° p.
6	33	21	95	64	2	6	.1	Ω² ≡° a. ↯° ᴗ² d
7	32	21.7	95	73	3	8	------	↯° ᴗ° p.
8	32.4	20.9	93	67	7	5	------	↯° p.
9	31.8	21.4	92	71	4	7	------	↯° <² ⊤° p.
10	31.1	21.9	95	87	9	10	3	Ω° a. d p.
11	29.1	22.7	96	82	10	10	1.3	d p.
12	30.7	22.6	97	72	10	8	.3	d a. d° p.
13	32	21.3	92	76	7	9	1	Ω° ⛈ a. d ↯° p.
14	27.2	22.4	97	78	10	10	1.5	d a.
15	30.5	21.7	97	70	10	9	5.6	d ● a. <° d p.
16	28.7	22.2	97	79	9	10	.1	d a. p.
17	31.5	20.4	95	68	8	8	------	⛈ p.
18	29	21.8	94	85	8	10	.6	Ω° a. d a. p.
19	30	21.8	100	77	10	9	.3	Ω° a. d a. p.
20	29.3	21.2	92	74	10	10	3	d° a. p. ●.p.
21	30.4	21.3	96	73	10	9	------	d° p.
22	31.1	21.2	95	73	6	9	39.4	Ω² a. ↯ ●² p.
23	30.9	22.2	97	76	10	8	3.8	⛈ ● d p.
24	30.5	21.5	96	74	6	6	------	≡° a. ●° <° p.
25	31.5	20.1	93	67	3	3	------	↯° ⛈ p.
26	31.6	19.9	78?	65	9	6	------	
27	31.7	19.1	90	68	6	4	------	↯° ≡ p.
28	30.5	------	93	------	4	------	9.7	Ω ≡ a. d p.
29	30.5	22.6	95	79	10	9	.8	d a. d° ᴗ p.
30	26.6	21.2	95	89	10	10	1.1	d° a. p. d p.
31	27.7	21.7	96	84	10	10	.3	●° p.
Mean	30.3	21.4	94.5	75.6	8.1	8.3	------	
Total	------	------	------	------	------	------	77.9	

DAPITAN.
[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P.ct.	P. ct.	0-10.	0-10.	mm.	
1	28.4	25.2	96	85	10	10	8.6	d° a. ● a. p.
2	30.4	23.4	96	78	10	9	9.9	● a. < p.
3	31.6	22.4	97	70	10	7	20.8	● a. p. ᴗ < p.
4	30	24	95	90	10	10	3	● a. ᴗ d p.
5	28.9	22.2	97	81	10	10	------	↯ a. ●° ◯ p.
6	24.3	22.5	92	64?	4	5	------	⊽ < p.
7	33.7	22.8	89	64	4	4	------	Ω a. ⊤ p.
8	33.5	23	89	53	6	9	------	Ω a. ⊤ p.
9	33.8	22.9	95	67	8	7	31.5	Ω ≡ a. ● ⛈ p.
10	31.5	22.2	97	67	5	8	2.3	≡ a. ● < p.
11	28.2	22.6	93	83	10	10	13.2	d a. ● a. p.
12	30.6	24.1	94	77	10	8	------	
13	31.2	24.5	88	78	10	6	------	
14	28.4	25.2	92	75	10	10	4.3	● < p.
15	31.8	24.1	93	73	10	8	------	d° a. p. ⛈ p.
16	27.9	22.3	93	86	10	10	38.4	● a. p.
17	31.1	25	88	67	10	7	.8	●° ⌒ a. < p.
18	29.2	23.3	91	82	9	10	2.3	● a. ◯ p.
19	28	24.4	82	80	9	10	------	↯ p.
20	27.3	23.8	------	88	10	10	5.1	● a. p.
21	28.1	23.4	89	77	10	9	1	● a.
22	31.2	24.3	90	75	8	8	4.3	● a. p. ⛈ p.
23	31.3	24.1	92	77	8	10	44.7	● a. p.
24	30.6	22.8	96	75	7	8	12.4	● a. < p.
25	31.1	25	88	73	7	5	2.5	●° a. < p.
26	31.7	25	90	66	8	8	------	d° a.
27	29.8	24.7	89	80	7	10	7.4	● p.
28	30.3	24.6	88	77	8	10	?	↯ ● a. ↯ ⛈ p.
29	30.3	23.9	86	83	9	7	------	⌒ a.
30	29.6	24.1	88	92	10	10	4.3	●° p.
31	27.3	24.1	90	85	10	10	2	●° a.
Mean	30	23.7	91.4	76.4	8.6	8.5	------	
Total	------	------	------	------	------	------	218.8[1]	

BUTUAN.
[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	24.5	21.9	96	96	10	10	4.6	∞ a. ● a. p.
2	28.4	22.3	97	77	10	7	.3	Ω a. p p.
3	29.2	22.5	96	75	8	10	4.6	Ω a. ● a. p.
4	28.3	22.6	97	77	10	9	------	Ω d° a. ↯ p° p.
5	28.1	23.3	99	84	10	8	140.2	↯ ●² d° a. ᴗ p.
6	29.8	23.1	96	59	3	7	------	↯° ⌒ < d° p.
7	29.4	23.2	95	67	7	7	.8	d a. ⌒ p° p.
8	31.7	23.5	96	71	5	8	.5	Ω a. ⛈ d p p.
9	29.7	23.7	96	88	3	6	19	Ω a. ↯ ● p.
10	28.7	23.3	97	88	9	10	32.8	● a. p.
11	25.5	23	97	96	10	10	------	● d a.
12	28.9	22.6	94	76	9	7	------	p° a.
13	28.5	22.5	98	69	7	10	1.5	Ω a. ● p.
14	25.6	22.3	93	92	10	10	16.5	● d a. d° p.
15	28.2	22.4	97	80	10	8	24.4	● a. p.
16	25.1	22.1	97	98	9	10	11.2	● a.
17	29.6	22.2	98	75	8	7	6.4	● p.
18	28.3	22.5	97	91	8	8	20.6	d° a. ● a. p.
19	28.3	22.3	95	71	9	8	------	
20	26.3	21.6	98	84	10	9	8.6	● a. p.
21	28.2	21.6	99	76	10	10	16.5	Ω ∞ a. ↯ ● ⊤
22	27.8	22.9	97	85	7	10	9.9	d° a. ⊤ ↯ ● p.
23	30	22.2	97	80	9	7	3.3	∞ a. ↯ ● p.
24	28.2	22.1	96	82	3	8	3.3	Ω a. ● p.
25	29.7	22.7	96	74	7	4	.3	p° a. p.
26	30.3	22.4	96	86	9	4	------	Ω a.
27	29.1	21.4	90	80	9	7	5.8	Ω a. ● p.
28	26	21.6	96	97	4	10	52.6	Ω ∞ d a. ●² p.
29	27	21.7	97	91	10	10	25.7?	● a. p.
30	24.3	22.5	98	96	10	10	44.4?	● a. p.
31	25.2	23.1	93	92	10	10	17.5?	● d a.
Mean	28	22.5	96.5	82.4	8.2	8.3	------	
Total	------	------	------	------	------	------	470.8	

[1] 30 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	23.1	96	92	10	10	49	p d ≡ a. ● a. p.
2	28.4	23.2	96	88	10	10	19	● d a.
3	28.5	23.1	92	78	10	10	7.1	p ≡ a. d a. p.
4	28.4	23.1	96	69	10	9	33.5	d a. ⊍ ⊕ ⚡ p.
5	29.5	23.1	95	89	10	10	64.3	● a. d ⚡ ↙ ●² p.
6	28.8	24.4	92	85	8	8	------	d ⌒ a. ⊕ ⊍ ⚡ d
7	29.6	22.9	91	80	10	5	------	⊤ d ⊕ p.
8	30.1	23.8	92	80	4	3	------	d a. ⊍ ⊕ p.
9	30	24	95	71	10	7	------	↙° a. ⊕ ⚡ d p.
10	29.3	24	94	79	8	8	------	⚡ ●° p.
11	29.5	24.2	93	72	10	6	3.8	p ↙° a. ⊍ ⚡ p.
12	29	25.3	84	73	8	8	------	d p.
13	29.1	23.5	88	65	10	9	17.3	d a. ↙° p.
14	30.5	23.4	84	84	10	10	30.5	↙ ●² a. ⚡ ● p.
15	27	23.2	95	76	10	10	19.8	● ↙° ≡² a. ● ⛈
16	29	22.8	96	71	10	10	------	↙° a.
17	29.6	22.6	96	75	9	7	35.3	↙° a. ↙ ● ⚡ p.
18	30.1	22.7	91	84	10	10	------	d p a. ⚡ p.
19	29.6	22.5	89	66	8	7	6.6	↙° a.
20	29.9	21.7	90	68	10	10	30	d a. p. ● ⚡ p.
21	30	22.6	93	95	10	10	32.8	● a. ●° ↙ ⚡ p.
22	28.1	24	92	90	10	10	19.8	⌒ ● a. d ● p.
23	29.2	23.5	96	72	10	8	------	d a. p.
24	30.2	23.2	90	81	10	10	------	d a. ⚡ p.
25	29	22.6	95	72	10	7	------	
26	29.8	23.2	91	79	4	10	3.3	↙ ● a. d ↙° p.
27	30.5	22.6	90	67	8	4	4.1	
28	30.6	22.5	88	73	10	10	21.6	↙ ● a. ↙ d ⚡ p.
29	29.2	23.1	97	73	10	10	25.1	d ↙ ●° ⌒ ⊍ ⊕
30	29.4	22.5	91	88	10	10	31.5?	d ≡² a. p. ⚡ ⊕
31	28	23.3	95	85	10	10	31.5?	● a. ↙° d² ⊍ ⊕
Mean	29.4	23.2	92.4	78.1	9.3	8.6	------	
Total	------	------	------	------	------	------	485.9	

BACOLOD.

[ϕ=10° 41′ N; λ=122° 56′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.8	24.7	93	87	8	9	2.5	↙° ●° p.
2	28.3	23.4	93	78	8	9	3	●° a. ↙° ⊍ p.
3	29.1	23.2	91	87	10	10	8.1	↙° ●° a. p. ⊕ p.
4	29.4	24	91	73	10	7	------	⌒ a. ↙ a. p.
5	25.6	24	93	93	10	10	16.3	d a. p. ↙ ● p.
6	27.6	22.9	96	83	10	8	19.1	↙ ● a. p.
7	29	22.2	95	84	6	7	------	⊤° ↙° p.
8	30	22.3	96	82	6	8	37.6	d ●² ⛈ p.
9	30.1	21.9	96	79	6	8	------	d ⊕ p.
10	29.9	23.3	96	79	7	8	------	↙° ⛈ p.
11	29	23.8	91	80	9	9	2.3	d a. ↙° p.
12	30	22.6	95	81	8	7	------	≡ a. p.
13	29.9	24.2	88	79	7	6	------	↙° ≡° a. ↙ p.
14	28.4	24.6	89	84	10	10	2	d ↙ a. p.
15	28.2	23.6	88	82	10	10	------	↙° a. ↙ p.
16	30.2	23.4	96	79	10	7	3.8	●° a. ↙° p.
17	30.5	23.6	91	83	8	8	1	↙ d p.
18	28.9	23.4	93	96	7	10	24.1	≡ ⌒ a. ↙ ●² ⊤ p.
19	30.7	23.4	94	68	3	8	------	↙° a. p.
20	28.7	24	93	82	8	7	------	⌒ a. ↙ p.
21	28.5	24.2	91	83	8	10	------	↙ p.
22	30.5	23.6	92	79	6	4	------	↙ ⚡ p.
23	29.5	24	93	81	7	8	------	↙ ⚡ d p.
24	29.7	22.8	93	80	6	7	------	≡ a. ↙° ⚡ p.
25	29.4	23.4	93	83	4	6	------	↙ p.
26	30.4	22.1	96	83	1	4	------	⚡ p.
27	30.6	22.9	87?	78	6	1	3	↙ ●° p.
28	29	23.7	92	80	7	8	------	↙ ≡° p.
29	26.9	24.1	95	93	8	10	14.7	↙° a. ●° a. p.
30	28.4	23.2	92	76	9	10	7.9	●° a. ↙ d° p.
31	26.6	23.9	95	90	10	10	5.3	↙° ●° a. d° p.
Mean	29.1	23.4	92.8	82.1	7.5	7.9	------	
Total	------	------	------	------	------	------	150.7	

SAN JOSE BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.5	22.8	91	86	5	10	3.3	● a.
2	31.5	22.5	96	56	3	10	------	⚡ p.
3	32.4	22.6	88	75	10	10	------	d p.
4	30.9	22.5	90	69	10	10	------	⊍ p.
5	27.6	22.3	90	90	10	10	16.5	d a. p. ↙° ● p.
6	28.8	23.8	90	85	10	10	1.8	↙ ●° a. p.
7	33	23.3	93	72	10	3	1.8	● a.
8	30.9	22.3	91	90	4	10	------	↙° a. p. ●° p.
9	31	22.1	91	78	4	8	2.8	● a. ⛈ ●° p.
10	32	23.5	93	81	5	10	8.6	d ● ⊤ p.
11	30	23.4	96	74	10	10	4.3	● a.
12	29.8	22.4	85	73	10	10	------	⚡ p.
13	33.4	22.3	87	72	10	8	------	
14	30.5	22.9	90	66	10	10	.8	d a. ●° p.
15	31	24	88	74	10	10	------	⚡ p.
16	32	22.4	87	67	10	10	------	d° d a.
17	32.6	21.9	92	70	3	10	------	●° d° p.
18	31	21.3	93	67	10	10	------	d p.
19	32.5	20	92	72	8	10	------	
20	31.4	20.1	90	68	10	10	------	
21	31.9	20.5	91	66	10	10	------	
22	32.8	22.1	90	68	7	2	------	
23	32	22.2	91	70	7	10	.5	d ● ⛈° p.
24	32	22.9	91	68	3	7	------	d p.
25	31.5	21.8	96	71	10	7	------	
26	31.9	20.9	93	63	0	2	------	
27	32.4	21.9	82	62	0	3	------	
28	33	19	87	48	3	10	------	d p.
29	32.2	22.5	80	69	7	10	9.7	d° ● p.
30	31	22	86	66	6	10	------	⊍ ⊕ p.
31	30.1	22.8	91	89	10	10	3.6	d a. ● p.
Mean	31.3	22.2	90	71.8	7.3	8.7	------	
Total	------	------	------	------	------	------	53.7	

TUBURAN.

[ϕ=10° 45′ N; λ=123° 50′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.7	23.3	96	92	10	10	10.7	d ●² a. ● ⊍² ⊕²
2	27.1	23.4	97	91	10	10	2	●° a. ⊍² p.
3	29.6	22.8	98	81	10	10	------	◯° ⊍² p.
4	30.7	23.9	93	73	10	8	------	◯° ⊍° p.
5	25.9	23.8	93	93	10	10	58.9	↙ ●² a. p.
6	30.3	23.3	91	79	10	9	32.5	⊤² d ●² ⌒² p.
7	30.4	22.2	98?	79	8	8	5.1	⊤² ●° p.
8	29 6	22.5	97	78	9	8	1.3	●° a. ⊤ p.
9	31.5	22.6	95	75	9	7	------	
10	31.1	23	97	81	9	9	------	d a. p. ⚡² p.
11	30.5	24	97	72	10	8	------	d a.
12	30.2	22.7	95	75	8	10	------	◯° a. d p.
13	32.1	23.2	96	77	10	9	2.3	●° a. ◯² p.
14	27.5	23.2	96	93	10	10	10.2	d ●² p.
15	26.9	22.7	97	86	10	10	1	●° a. d ⚡² p.
16	29.8	22.6	98	74	10	10	56.9	●² a.
17	30.3	22.5	97	76	8	9	------	⚡² d p.
18	29.7	22.4	96	88	9	10	4.6	d a. ●° p.
19	29.2	21.5	96	79	8	10	------	
20	31	21.6	96	78	8	9	------	◯° p.
21	28.4	22.1	97	85	10	10	4.6	●° d p.
22	30	22.8	97	74	10	9	------	◯° d p.
23	30.2	23.9	96	82	10	8	------	d a. ⚡² p.
24	29.8	22.6	96	86	4	6	8.1	●° ⚡² p.
25	31.5	22	96	67	10	6	------	Ω a.
26	31.3	21.6	96	59	1	4	------	Ω² ≡² a. ∞² p.
27	31.8	21.9	94	61	9	6	------	⌒ d p.
28	30.3	22.1	95	78	9	9	3	Ω ≡² a. ●° p.
29	27.6	23.9	94	92	10	10	10.7	●² a. d a. p.
30	28.7	22.9	92	84	10	10	8.4	⌒ a. ●° d p.
31	26.6	23.3	96	94	10	10	3.3	d ● a. ⊕² ⊍° d
Mean	29.6	22.8	95.7	80.1	9	8.8	------	
Total	------	------	------	------	------	------	223.6	

METEOROLOGICAL DATA, ETC.—Continued.

CUYO.

[ϕ=10° 51′ N; λ=121° 01′ E].

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.8	24.2	86	84	4	8	------	
2	30.5	24.7	85	68	3	7	------	
3	31.3	25	83	76	7	6	------	
4	31.4	24.8	79	67	8	6	------	
5	28.1	24.5	84	81	8	9	19.3	● p.
6	30.2	22.8	90?	79	8	7	9.4	p a. ● a. p.
7	31.3	23.5	89	75	6	4	2.8	d p.
8	30.5	23	92	85	8	9	------	
9	33.2	23.5	88	67	4	3	------	
10	31.6	23.5	90	77	5	4	------	
11	31.6	24.2	89	77	9	7	------	
12	31.4	24.8	86	71	6	4	------	
13	31.2	24.6	84	73	7	4	------	
14	30.5	24.2	84	79	7	6	------	
15	31.2	24.4	85	74	5	3	------	
16	32.7	24.3	86	63	8	3	------	
17	32.7	23.8	88	80	2	6	------	
18	30.3	24.2	90	81	4	6	------	
19	31	24	88	75	3	2	------	
20	31.2	24.2	82	70	5	4	------	
21	31.6	24.3	86	76	9	6	------	
22	32.6	23.7	92	69	3	3	------	
23	31.8	24.5	88	71	4	5	------	
24	31.4	23.6	86	74	4	4	------	
25	31.8	24.4	85	72	2	1	------	
26	32.5	23.3	90	67	0	1	------	
27	31.8	24	88	66	1	1	------	
28	31.5	24.6	80	65	3	3	------	
29	30.8	24.5	81	75	4	4	------	
30	31.2	24.1	81	72	3	4	------	
31	28.7	23.8	81	90	8	10	3.8	d a. ●$^{\circ}$ p.
Mean	31.2	24.1	86	74.2	5.1	4.8	------	
Total	------	------	------	------	------	------	35.3	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.4	23.7	95	82	10	9	39.4	↙ ●^{2} a. ↙ ● p.
2	29.2	24.9	86?	76	10	10	11.7	↙ ● a. p.
3	28.9	22.9	89	92	10	10	41.4	≡ ● a. ↙ ● ↯ p.
4	29.7	23.3	85?	87	10	10	2	≡ ↙ a. ●$^{\circ}$ p.
5	------	------	97	------	10	10	142.7	↙^{2} ●^{2} a. p. ⌈↯ p.
6	28	23.7	97	81	8	6	8.6	≡ a. ● a. p.
7	29.2	24.1	96	81	9	8	4.6	≡ a. ● ⌈↯ p.
8	29.4	23.5	97	73	6	8	------	≡ a.
9	29.5	24.3	97	77	5	7	2.8	Ω ≡ a. ● ↯ p.
10	28.3	23.8	96	83	6	9	8.1	≡ a. ● p.
11	29.5	22.6	96	74	10	8	52.6	●^{2} a. ● ↯ p.
12	30.1	23	95	72	7	9	4.1	≡ ●$^{\circ}$ a. ↙ ● p.
13	29	23.5	95	80	10	7	21.1	● a. p. ↙ p.
14	27.3	23.2	96	94	8	10	1.8	≡ ↙ a. ● ⌈↯ p.
15	28.2	23.4	97	87	10	9	51.3	●^{2} a. ● ⊤ p.
16	29.7	23.3	95	79	8	7	5.6	≡ ●$^{\circ}$ a. ● p.
17	28.1	24	97	86	9	8	23.4	● a. p. ↙ p.
18	29.5	22.9	94	80	10	8	26.7	● a. p. ↙ ↯ p.
19	30	23	93	72	7	9	15.2	≡ ↙ a. ● a. p.
20	29.6	23.2	94	71	6	8	16.5	↙ ● a. p.
21	27.4	23.8	95	88	8	9	13	≡ ●$^{\circ}$ a. ↙ ● p.
22	27.2	22.5	95	88	8	6	50	● a. ↙ ●^{2} p.
23	29.5	22.7	97	74	9	8	64.8	●^{2} a. ↙ a. p.
24	30	23.5	97	71	10	8	14.5	● a. ↙ ●$^{\circ}$ p.
25	29.7	23	96	85	9	7	2.3	●$^{\circ}$ a. ↙ p.
26	29.8	22	89	70	8	6	------	Ω ≡ a. ↙ p.
27	------	23.5	85	71	7	8	1.8	Ω ≡ a. ↙ ● p.
28	------	22.9	79	86	6	10	38.9	≡ ↙^{2} ●^{2} a. ↙ ●
29	------	23.9	91	89	10	10	67.3	↙ ●^{2} a. p.
30	------	23.2	87	91	8	9	------	≡ a. ↙ a. p.
31	------	23	91	91	10	8	179.8	●^{2} a. p. ↙^{2} p.
Mean	29	23.3	93.2	81	8.5	8.4	------	
Total	------	------	------	------	------	------	912	

PALANOC.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.8	24.8	93	96	8	10	32.5	
2	29.8	23.6	90	78	8	9	------	
3	29.6	------	------	79	------	9	5.6	
4	30	24.4	85	75	7	8	25.1	
5	25.2	24.2	97	97	10	10	47	
6	29.6	------	------	78	10	9	.5	
7	30	23.5	97	77	8	8	------	
8	29	24	97	95	8	10	20.3	⊤ p.
9	31.6	24.2	94	69	8	7	.8	
10	31.4	24.6	95	77	8	8	------	
11	30.5	24.5	92	70	9	7	------	
12	31	24.6	93	71	6	8	------	
13	30	24.8	84	76	8	9	48.8	
14	------	22.8	95	------	9	------	38.6	
15	26.4	22.8	98	89	10	9	12.7	⊤ p.
16	30.2	22.8	96	78	9	8	1.8	
17	30.8	25.2	95	80	7	9	28.4	
18	------	23.2	99	------	10	------	10.7	
19	29.8	23	96	76	10	7	7.9	
20	30.8	22	92	73	9	9	2.3	
21	30	24	93	80	10	10	10.2	
22	30.4	24	93	97	9	9	6.1	
23	30.6	23.6	97	70	10	8	13	
24	25.5	23.8	95	97	10	10	27.2	
25	30	23.4	98	75	9	6	1.5	
26	31.4	23.4	95	74	8	6	1	
27	30.2	24	94	74	8	4	------	
28	30.5	23.6	88	70	8	8	------	
29	29.5	25	83	76	9	9	6.1	
30	27.6	23.5	89	92	8	10	31.2	
31	24.2	23.2	93?	99	10	10	66	
Mean	29.4	23.8	93.2	80.6	8.7	8.4	------	
Total	------	------	------	------	------	------	445.3	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.5	24.7	95	92	10	9	11.4	● a. p. ↙ p.
2	28.8	24.9	91	79	7	9	?	↙$^{\circ}$ a. p. ● p.
3	27.2	24.4	91	89	8	10	33	↙$^{\circ}$ ● a. p.
4	29	24.3	89	80	7	7	2.3	↙$^{\circ}$ ●$^{\circ}$ a. p.
5	26	24.7	91	88	10	10	28.7?	↙ ● a. ↙^{2} ● ⌈↯
6	26	24	91	88	10	10	187.4?	⌈↯ ↙^{2} ● a. ↙$^{\circ}$ ●
7	30.1	23.8	97	74	7	5	------	↙$^{\circ}$ ⊕ p.
8	30.4	23.8	97	75	9	6	2.8	⊤ ●$^{\circ}$ a. ⌈↯ p.
9	29.8	24.1	95	83	5	8	.5	● a. ↯ p p.
10	29.4	24.7	98	80	6	6	------	↙$^{\circ}$ a. p. ↯ d$^{\circ}$ p.
11	28.2	24.7	97	78	8	9	1 ?	↙ ● a. ↙ d$^{\circ}$ p.
12	29.7	24.7	96	71	5	5	------	↙$^{\circ}$ a. ↙ d$^{\circ}$ p.
13	29.9	24.7	87	84	10	10	48	↙$^{\circ}$ a. p ↙ ● p.
14	28.6	24.5	93	84	10	10	33.8	↙$^{\circ}$ ● a. ↙ ● ↯ p.
15	26.2	23.8	96	85	10	10	15.2	↙$^{\circ}$ ● a. p.
16	29.1	23.5	88	78	4	10	------	↙$^{\circ}$ a. p.
17	29.1	24.8	95	77	10	10	15	p ↙$^{\circ}$ a. ↙ ● ⌈↯
18	27.8	24.1	91	82	10	10	15.2	● a. p.
19	28.5	24.7	87	76	10	8	4.3	↙ ● a. p.
20	27.7	23.8	91	78	7	9	16.3	↙$^{\circ}$ p a. ↙$^{\circ}$ ⊤ ●
21	27.1	23.4	91	85	10	10	4.6	● a. ↙$^{\circ}$ a. p.
22	29.5	24.8	91	76	10	7	------	p a. p. ↙$^{\circ}$ ↯ p.
23	29	24.7	96	75	10	7	12.4	p ↙$^{\circ}$ a. ↙$^{\circ}$ ● ↯
24	26	24.4	92	88	10	10	16.5	↙$^{\circ}$ ●$^{\circ}$ a. p.
25	29	24.5	90	78	10	6	.3	↙$^{\circ}$ p a. ↙ p.
26	28.8	24.5	92	78	9	5	.8	d$^{\circ}$ a. ↙$^{\circ}$ p ↯ p.
27	29.8?	24.4	92	71	9	3	------	↙$^{\circ}$ a. p.
28	29.2	24.7	87	73	7	9	------	↙$^{\circ}$ p.
29	29.1	24.5	82	74	4	7	14	↙$^{\circ}$ a ↙ ● p.
30	29.3	23.4	87	73	10	7	7.9	● a. p. ↙ p.
31	25.5	23.8	89	96	10	10	22.6	↙$^{\circ}$ ● a. p.
Mean	28.4	24.3	91.8	80.3	8.5	8.1	------	
Total	------	------	------	------	------	------	494 [1]	

[1] 30 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.9	24.6	94	84	10	10	14.7	
2	28.9	25	83	72	6	7	2.8?	
3	28.4	23.4	91	79	8	10	5.8	
4	28.7	24.4	81	79	7	10	18.5	
5	26.4	23.9	97	100	10	10	47	
6	25.6	24.1	90	88	10	7	1.3	
7	29.1	22.6	97	82	8	7	------	
8	30.9	23.4	94	75	5	8	14.7	
9	30.1	23.2	97	74	7	5	1.3	
10	30	24.1	96	78	7	6	18	
11	28.9	23	96	81	7	6	------	
12	29.6	23.1	91	72	4	6	1.3	
13	29.6	24.6	92	79	8	7	29.2	
14	28.9	24.9	88	87	9	10	78.2	
15	25.8	21.9	97	96	10	10	41.4	
16	30.2	23.6	92	74	5	4	1.3	
17	30	23.5	94	82	7	8	25.4	
18	30	23.4	93	80	8	8	13.2	
19	29.1	23.1	91	72	7	8	3	
20	29.2	23.3	88?	76	8	5	17.8	
21	28.7	24.3	94	86	9	9	10.7	
22	28.7	23.1	92	80	6	5	7.6	
23	28.6	23.4	95	81	7	6	48.3	
24	28.4	23.4	97	83	10	6	25.4	
25	28.9	23.2	97	79	5	7	24.9	
26	30.4	22.6	96	76	3	7	27.9	
27	30.9	22.7	92	77	7	6	1.3	
28	29	22.7	79	75.	5	9	------	
29	27.6	22.8	92	83	10	?	61	
30	27.1	22.6	90	89	10	10	58.4	
31	25.8	23	96	96	10	10	101.6	
Mean	28.8	23.4	92.3	81.1	7.5	7.6	------	
Total	------	------	------	------	------	------	702	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	23.8	92	88	10	10	16	↙ ● a. p.
2	30	23.1	81	79	8	10	14 ?	↙ ●² a. ↙° ● p.
3	30.8	23	92	85	10	10	49.8	↙ ●² a. p.
4	29.7	23	79	76	8	10	47.8	⌈ϟ ↙ ● a. p. ⌣ p.
5	27.9	22.6	96	91	10	10	63.5	↙² ●² a. p.
6	29.1	24	88	88	10	10	------	
7	32	23.8	95	76	8	5	------	
8	31	24	95	76	10	8	28.4	●² a. ⌣ p.
9	31	24.1	93	76	5	6	20.3	●² p.
10	30.4	25	92	77	8	8	22.4	● a. p.
11	29.5	24.8	88	84	10	8	22.9	↙ ●² a. ● p.
12	29.5	24	85	79	6	6	------	
13	29.8	25	88	89	10	10	45.7	↙ ● a. p.
14	29	24.5	92	84	10	10	26.7	⌈ϟ ↙ ● a. p.
15	29	23.5	86	92	10	10	30.5	↙ ● a. p.
16	29.9	24	89	78	6	8	------	d ⌒ p.
17	29.8	24.1	88	84	10	10	16.5	d ⌒ ↙ ● a.
18	29.6	23.8	92	84	10	10	47.2	● a. ↙ ●² p.
19	30.4	22.8	96	82	10	10	16.8	● a. ↙ ● p.
20	28.8	23.8	86	85	10	8	20.6	● a. ↙ ●² p.
21	29.2	24.6	90	78	10	10	26.2	↙ a. ●² a. p.
22	30.4	24	87	91	10	10	38.1	●² a. p.
23	29.7	24.1	90	81	6	6	21.6	● a. p.
24	30.4	24	91	88	10	10	48.3	●² a. ⌈ϟ ↙ ● a. p.
25	30.5	24	91	82	8	10	15	● a. p. d p.
26	31.8	24	92	78	10	5	35.6	● a.
27	31	24.2	86	78	6	5	------	
28	29.9	23.3	81	76	8	8	------	
29	29.7	23.8	83	78	10	10	25.9	↙ ● p.
30	28.5	23.4	83	84	10	10	48.3	↙ ● a. p.
31	28.5	23	84	94	10	10	61	↙ ● a. p.
Mean	29.9	23.8	88.7	82.6	8.9	8.7	------	
Total	------	------	------	------	------	------	809.1	

SUMAY, GUAM (Ladrones Islands).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.4	25.2	90	69	5	5	1.8	
2	28.4	25	79	74	10	10	2.3	
3	28.6	24.4	87	98	7	10	31.7	
4	29	26	76	70	10	7	------	
5	29	25	83	73	2	4	2.5	
6	28.8	24.8	81	72	6	4	2.5	
7	29	25	84	73	4	6	4.3	
8	29.2	24.6	84	71	2	4	2.5	
9	29.4	25.2	84	69	2	3	2.5	
10	29.2	25.2	80	68	2	3	------	
11	28.6	24	77	68	7	2	------	
12	29.4	25.8	75	67	6	6	3.8	
13	29	25.2	88	72	9	8	4.8	
14	28.8	25.6	84	69	3	2	10.2	
15	28.4	23.4	87	70	10	2	1.8	
16	28.8	25	78	70	7	2	.5	
17	28.2	23.8	87	73	10	6	------	
18	28.8	25.2	84	69	3	6	3.8	
19	28.8	24.8	90	73	10	10	------	
20	28.8	26.2	81	71	9	9	------	
21	28.2	25.2	87	74	10	10	2.5	
22	29.2	24.4	88	68	7	3	1.5	
23	29	23.8	88	71	1	4	5.1	
24	28.8	25	84	69	2	3	------	
25	29	25	84	68	2	5	------	
26	28.6	24.8	84	70	8	5	1.3	
27	28.8	25	84	69	2	5	2.5	
28	29	25.2	88	77	8	9	------	
29	29.2	25	87	70	10	8	------	
30	28.2	23	87	73	7	4	------	
31	28.8	25	87	77	3	3	2.5	
Mean	28.9	24.9	84.1	71.8	5.9	5.4	------	
Total	------	------	------	------	------	------	90.4	

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.2	24.6	91	86	3	10	------	●° a. ↙° ● ⊤° p.
2	28.8	23.1	93	81	10	8	------	↙° a. ↙ ●² ⊤° p.
3	27.3	23.1	90	84	8	10	------	↙° p a. ↙ ● p.
4	29.5	23.8	91	82	7	8	------	ϟ° ●° a. ↙² ●² ⊤°
5	24.7	23.5	91	94	10	10	------	●° a. p. ↙ ●² p.
6	27.7	20	100	92	10	10	------	↙² ● a. ●² p.
7	28.9	21.5	97	92	10	10	------	d a. ●² ⌽ p.
8	28.6	21.9	97	86	7	9	------	⊤ p.
9	28.9	21.5	92	82	8	5	------	⊤ a. ● p.
10	29.3	23.7	97	78	10	3	------	
11	29.6	24.8	92	72	10	8	------	⌒° a. p p.
12	30	25.3	89	66	7	2	------	∞ ●° p.
13	30.2	24.7	85	76	5	9	------	
14	27.7	24.2	82?	87	10	10	------	Ω ≡ ↙° a. ●° ↙
15	28.4	24.6	84	83	10	10	------	d ↙ a. ●² ↙ p.
16	29.8	23.2	90	78	10	7	------	⌣ ●° a. ∞² p.
17	30.2	23.8	92	68	10	3	------	∞² ● ⌒² p.
18	29.3	22.9	97	76	10	8	------	⌈ϟ² ⌒° a. d² p.
19	27.8	25.1	84	68	10	9	------	↙ a. ●° p.
20	27.4	22.1	92	78	10	10	------	↙ ●² a. p p.
21	29.4	23.4	96	76	10	10	------	●° p.
22	30	24.6	91	70	10	8	------	ϟ ●° p.
23	29.4	24.6	94	76	10	6	------	●° a. ∞ p.
24	29.5	24.5	88	69	10	9	------	p a. ∞² p.
25	30.2	23.6	94	68	10	9	------	● a. p.
26	29.4	23.2	93	73	9	3	------	⊤° ● p.
27	30.2	23.5	87	70	10	3	------	d° a. d p.
28	30.3	22.9	91	77	10	9	------	↙ ●² p.
29	28.9	22.9	91	82	10	4	------	p a.
30	29.8	23.5	90	77	4	9	------	d² a. ↙° d° p.
31	27.6	23.2	82	77	10	10	------	↙° ●° a. ● p.
Mean	28.9	23.5	91.1	78.2	9	7.7	------	
Total	------	------	------	------	------	------	------	

METEOROLOGICAL DATA, ETC.—Continued.

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	24.8	89	93	8	8	5.8	d ⌒² ↙ ● ⊕°
2	31.3	23.4	86	69	9	8	12.7	●° ○ a. ● ⊕° ⋓
3	30.7	23.9	87	72	9	8	4.8	●° a. p. ⊕° p.
4	32.2	24.5	82	65	7	7	------	d a. ⌒ d° p.
5	27.5	24.5	89	88	10	10	66	↙ ● a. ↙² ● p.
6	30.6	24.6	90	87	10	10	13.2	↙ d° a. ⊕° p.
7	31.8	24.4	94	75	10	6	13	● d° ⌒ a. d ●
8	31.8	23.8	96	81	10	8	.8	● a. d a. p.
9	32.7	25.5	91	83	9	8	.5	d a. ● p.
10	32.6	25.6	90	71	3	7	2	● d a. ϟ p.
11	32.4	25.2	88	73	9	8	3.3	↙ ● a. ●° ⌒ p.
12	32.5	25	86	67	4	5	------	
13	32.7	25.7	84	70	6	9	.8	●° a. ⌒ d p.
14	32	25.2	89	71	10	8	7.9	↙ a. ● a. p.
15	29.5	23.4	83	94	9	10	105.2	↙ ● a. ●² ⊤ p.
16	31.4	22.5	92	82	9	8	5.3	d a. ●° p.
17	31.5	25	92	75	3	7	2.5	↙ ● ⌒ a. ●° ⌒
18	31.7	24.4	84	68	9	8	1.5	●° a. ⌒ ● d° p.
19	31.6	24.5	84	78	10	10	2.3	d ● ⌒ a. ● p.
20	32.1	22	96	69	9	8	7.4	● a. ●° ⌒² p.
21	31.2	24.9	91	84	9	9	24.1	●° a. ↙ ● p.
22	31	24.6	89	72	7	8	6.9	●° ⌒ a. ⌒ ↙ ●
23	31.7	23	92	78	8	6	.3	●° p.
24	31.5	24	91	75	10	8	22.1	●° a. d ● ⌒ p.
25	31.5	23.1	92	85	10	2?	7.1	● a. p. ⌒ p.
26	31.8	24	93	75	10	3	8.6	●° a. ϟ p.
27	32.5	21.4	96	70	4	4	4.3	d ⌒² ●° p.
28	32	24.4	88	71	9	8	.8	d ↙ ● a. ●° p.
29	32.8	22.2	80?	67	9	8	6.9	d a. ●° p.
30	32.1	22.4	87	77	8	9	1	d a. p. ↙ ● p.
31	32.7	23.6	80	84	9	10	56.1	●° a. d ● p.
Mean	31.6	24	88.7	76.4	8.3	7.6	------	
Total	------	------	------	------	------	------	393.2	

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.3	21.9	97	93	6	10	13	● a. p. ↙° p.
2	29.7	21.4	99	89	9	8	3.6	↙° p.
3	27.9	21.3	97	80	9	8	.5	↙° p.
4	29.5	20.7	95	68	6	7	.8	↙° p.
5	27.7	21.4	95	96	9	10	26.2	d a. ● p.
6	26	20.4?	97	97	10	10	123.2	↙² ●² a. ● p.
7	29.3	21.2	98	77	8	6	------	
8	31	21.9	97	80	7	8	19.3	● ⊤ p.
9	29.2	23.3	97	77	8	7	3	● ⊤ a.
10	33.6	22.4	97	62	6	6	------	● a.
11	33.1	21.5	97	58	6	6	------	
12	32.3	21.1	97	59	4	5	------	↙° p.
13	31.8	20.2	96	59	4	5	4.6	● a. ↙° p.
14	30.4	21	91	74	7	7	3	d p.
15	29.2	21.5	95	72	10	8	4.6	● a. p. ↙ p.
16	31.4	22	96	61	6	7	.3	●° p.
17	32.5	21.6	97	58	5	5	.3	●° p.
18	31	20.5	97	63	3	6	------	
19	31.6	20.6	90	52	6	7	------	
20	30.5	20.7	92	67	7	6	.3	d° p.
21	30.2	20	96	85	6	7	2	● p.
22	31.4	21.6	91	65	6	7	.3	d a.
23	32.3	20.6	90	55	6	4	------	d° a. ϟ° p.
24	32.2	20.9	95	58	4	6	------	
25	31.9	20.8	97	74	6	7	6.9	p° ● p.
26	31.2	20.5	98	67	2	7	.3	
27	32.1	20	96	60	2	4	------	
28	30.8	19.7	98	66	3	6	------	Ω a.
29	31.5	20.3	96	63	6	4	.5	● a.
30	30.9	18.7	94	58	3	6	------	
31	30.2	19.3	93	77	6	9	.5	
Mean	30.7	20.9	95.5	70	6	6.7	------	
Total	------	------	------	------	------	------	213.2	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.8	21	98	71	10	10	29.2	● a. p.
2	26.6	20.9	98	73	9	8	12.2	●° a. d ↙ p.
3	27.6	20.5	98	72	7	8	------	d a. p. ↙° p.
4	26.1	21	98	74	9	6	4.1	↙° d a. ↙° ● p.
5	26.6	20	97	75	9	9	------	Ω a. d p. ○
6	25.6	19	98	77	10	8	70.4	↙ ● a. p.
7	26.3	21.5	97	74	8	7	------	Ω ≡ a. ↙° p.
8	28.1	22	98	71	10	8	------	d p.
9	28	22	97	74	9	7	------	d a. ↙° ϟ p.
10	27.8	20.5	97	73	3	7	11.2	● ⌒ p.
11	29.2	21.5	97	70	8	8	------	d a.
12	28.3	22	97	70	8	2	4.6	● d a. ↙° p.
13	29	20.5	96	69	2	7	------	≡ a. d p.
14	28.2	20.4	98	71	5	7	------	≡ a. ↙° p.
15	27.3	21.6	98	75	8	8	39.6	● a. p.
16	28.8	20	98	69	7	6	------	≡ a. ↙° p.
17	27.5	21.4	97	75	8	7	2.3	p p.
18	28	21	98	71	8	7	3	● a. d p.
19	28.9	19.5	95	70	2	7	------	↙° a. p.
20	27.5	19.2	97	71	7	8	------	Ω a. d p.
21	26.8	20.5	96	74	5	8	7.6	≡ ● a.
22	29.5	22	96	66	10	6	------	Ω a. ↙° p.
23	29.5	21	97	68	8	7	------	d a. ↙° p.
24	29	19.8	97	68	8	8	------	Ω ≡ a. ↙° p.
25	29	20.5	97	68	9	7	------	d a. ↙° p.
26	28.9	20	98	68	4	6	------	↙° a. d p.
27	28.2	21	98	73	7	7	1.5	↙° a. ● p.
28	28.9	20.8	97	71	7	7	2.5	● a. ↙° p.
29	28.1	19.1	98	71	5	5	------	≡ a. ↙° p.
30	28.1	20.2	97	72	3	6	------	≡ a. ↙° p.
31	27.9	20.3	98	73	6	7	27.7	Ω a. ↙° ● p.
Mean	28	20.7	97.3	71.5	7.1	7.1	------	
Total	------	------	------	------	------	------	215.9	

SAN ANTONIO.

[ϕ=14° 22′ N; λ=121° 32′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	24.8	19.5	93	90	8	10	53.8	
2	25.5	21	92	93	9	8	38.1	
3	23	20.4	90	93	8	10	18.3	
4	25.5	20	95	86	10	7	10.2	
5	30.3	20.2	93	95	7	10	52.3	
6	23.6	19	89?	97	10	10	59.7	
7	28.8	20.3	96	85	10	10	15	
8	26.6	21.4	95	85	8	10	1.3	
9	27.6	21.6	95	88	5	10	------	
10	28.7	22	96	85	3	6	------	
11	26.5	21.2	96	89	5	10	39.6	
12	27.3	21.6	96	85	7	2	11.4	
13	26.9	21.4	87	87	4	6	13.7	
14	26.8	22	91	94	3	8	31.7	
15	25.4	21.5	96	96	10	10	36.8	
16	26	21	96	88	7	7	22.6	
17	26	21.5	96	88	6	7	------	
18	27.5	21.5	94	82	5	9	5.8	
19	26.4	21.4	89	98	1	6	1.8	
20	24.8	21.4	86	92	6	8	8.9	
21	24.3	21	96	94	7	10	44.4	
22	27.5	21.5	93	82	10	5	5.8	
23	27.6	21.3	95	83	3	3	2.3	
24	27.6	21.5	89	76	4	10	4.8	
25	27.2	21.4	90	77	10	9	7.6	
26	25.6	21.1	98	84	10	10	13.7	
27	27.6	21.4	92	74	2	4	6.9	
28	26.3	20.9	92	78	6	10	10.9	
29	27.1	19.9	88	77	4	5	------	
30	26.5	20.9	95	74	10	3	------	
31	25	20.6	84	91	10	10	15.2	
Mean	26.5	21	92.7	86.6	6.7	7.8	------	
Total	------	------	------	------	------	------	532.6	

METEOROLOGICAL DATA, ETC.—Continued.

CORREGIDOR.

[ϕ=14° 23′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	26.1	21.5	93	96	10	10	15.2	● a.
2	29	22.5	88	75	2	8	------	
3	27.5	------	89	81	10	10	------	
4	29	------	------	74	10	10	------	
5	27	------	------	77	10	10	------	
6	26.3	21	91	92	10	10	18.8	↙ a. ● a. p.
7	29	21.5	92	78	10	10	------	
8	28.5	23.5	------	78	10	10	------	
9	29.7	23.5	------	79	10	10	------	
10	29	23.4	92	74	10	10	------	
11	29	23.5	85	74	10	10	----	
12	28.7	23.5	84	76	10	2	------	
13	28.5	25	------	75	2	2	------	
14	28.6	23	------	68	10	10	------	
15	26.6	23.5	80	80	10	10	------	
16	28.8	23	87	77	10	10	------	
17	28.7	23.5	88	81	10	4	------	
18	29.1	------	83	72	2	2	------	
19	28.7	------	80	68	2	2	------	
20	28.7	22.7	70	70	2	10	------	
21	28.5	------	81	79	2	10	15.2	● d ⊤ p.
22	29.7	------	86	73	10	8	------	
23	29.5	23.1	80	66	10	8	------	
24	29.5	23	83	69	10	10	------	
25	29.5	22.7	85	69	10	10	------	
26	28.7	23.5	85	68	10	10	10.2	● p.
27	29.5	22.8	82	76	10	2	------	
28	29	22.5	87	67	10	10	------	
29	28.5	21.9	88	68	10	2	------	
30	28.3	21.5	92	73	10	10	------	
31	28.5	20.9	77	74	8	10	------	
Mean	28.6	22.8	85.1	75.1	8.4	8.1	------	
Total	------	------	------	------	------	------	59.4	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.6	21.7	94	72	10	9	0.8	d a. ↙° p.
2	30.2	20.5	91	58	3	2	------	Ω ↙° a. ↙ ⊥² ⏀
3	28.5	21.1	84	70	10	10	------	d° a. p.
4	30.2	20.4	82	58	2	5	------	Ω ↙° a. ↙ p.
5	30.5	19.5	94	63	5	10	.5	Ω ◯² a. d° d² p.
6	25.5	22.2	96	92	10	10	71.4	● d a. p. ↙ p.
7	30.4	22.3	98	74	1	7	------	⏀ a. d° ↙ ⌒² ⏀ ∪
8	31.3	22.6	97	71	10	9	------	Ω ≡° a. ⏀ ∪ p.
9	32.2	22.8	96	67	10	6	------	Ω² a.
10	31.5	23.4	96	80	10	6	8.9	Ω a. ●° ⌒ p.
11	30.7	22	96	64	7	10	------	
12	31.3	21	95	57	6	5	------	Ω ≡° a.
13	32.1	19.5	94	54	0	3	------	Ω² ≡ ↙° a. ⊕ p.
14	31.8	19.9	92	58	4	5	------	Ω² ≡ a.
15	31.5	20	94	64	7	9	------	Ω ≡° ↙° a.
16	31.7	21.5	89	61	7	5	------	
17	31.7	21	93	61	4	8	------	Ω ≡ a. ↙ᶜ p.
18	31.5	19.4	94	59	0	5	------	Ω ≡ ⊕ a.
19	31	19.7	93	54	2	2	------	Ω ≡ ↙° a. ∞ ⊕ p.
20	31.6	17.4	95	54	1	10	------	Ω² a.
21	31.5	20	94	60	0	4	------	Ω² ≡ ⊕ a. ↙° p.
22	32.4	21.3	95	58	2	7	------	Ω² ⊕ a. ∞ p.
23	32	20	95	56	1	4	------	Ω² ≡² a. ∞ p.
24	31.8	19.5	94	48	2	4	------	Ω² ≡° ◯ ↙° a.
25	32.1	18.5	95	48	0	3	------	Ω² ≡ ⊕ a.
26	32.4	22	95	58	3	6	------	Ω a.
27	32	20.7	95	54	1	7	------	Ω² a.
28	31.6	20.8	94	54	3	7	------	Ω a.
29	31.5	19.4	94	55	2	5	------	Ω ↙° a.
30	30.8	19.1	95	57	1	7	------	Ω ≡° a. ↙° p.
31	31.1	19.4	94	51	0	2	------	Ω ≡° a. ⏀² p.
Mean	31.1	20.6	93.6	61	4	6.2	------	
Total	------	------	------	------	------	------	81.6	

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	23	11.9	75	61	7	6	------	
2	22.3	10.5	90	63	3	2	------	
3	21.5	11	76	63	8	7	------	
4	22.3	11.5	90	77	2	5	------	
5	22.8	10	82	65	4	10	------	≡ p.
6	18.6	15	85	98	10	10	55.9	● p.
7	20.1	15	89	96	10	10	4.6	d p.
8	22.3	15.9	88	92	7	8	2.3	≡ d p.
9	22.5	15.2	92	96	9	7	11.4	d ⌒ p.
10	22.5	15.2	96	96	9	6	5.8	⌒ a. d p.
11	20.5	13	91	69	5	6	------	
12	22.5	12.4	86	52	4	4	------	
13	22	15	52?	53	2	4	------	
14	23.2	10	68	44	4	4	------	
15	23.2	12	78	91?	7	4	------	
16	22.8	15	92	51	2	4	------	
17	23.6	14	79	65	3	7	------	
18	23.4	11	89	55	2	2	------	
19	22.5	10	82	70	4	4	------	
20	23	10	70?	78	3	4	------	
21	23.1	10.4	92	65	2	4	------	
22	24	12.9	94	85	4	7	------	≡ p.
23	23.2	12.1	94	74	2	5	------	
24	23	11	77	77	2	7	------	≡ p.
25	23.2	10.4	74	76	2	5	------	≡ p.
26	23.8	15	95	93	9	9	------	≡ p.
27	24	13	90	87	2	7	------	≡ a.
28	20.1	14	96	93	10	10	.8	≡ d a. p.
29	21.7	13	95	80	5	6	------	≡ d p.
30	21.3	10.6	95	82	2	7	------	≡ p.
31	23	10.3	77?	79	3	4	------	
Mean	22.4	12.5	84.8	75	4.8	6	------	
Total	------	------	------	------	------	------	80.8	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.6	21	89	68	8	6	------	Ω ≡ a.
2	31.5	19.6	93	59	4	3	------	Ω ≡ a.
3	31.5	21.2	92	69	6	6	------	Ω ≡ a. ⏀ p.
4	31.6	21	93	70	6	6	------	Ω ≡ a. ⏀ p.
5	30.8	20	91	79	6	8	------	Ω a. ⏀ p.
6	31.8	20.4	93	92	8	10	4.1	Ω ≡ a. ↙² d° ●°
7	31.8	20.2	88	76	8	10	------	Ω a.
8	30.6	20	91	72	3	10	1.5	Ω ≡ a. d p.
9	30.4	20	95	74	10	10	3	Ω ≡ a. ⌐ ●° p.
10	30.6	19.8	93	79	8	8	------	Ω a. ⌒ d° p.
11	30.8	19.6	97	70	8	8	------	Ω a.
12	31	20.2	96	66	8	4	------	Ω a.
13	31	20.4	96	69	3	2	------	Ω ≡ a.
14	29	19.8	98	69	3	3	------	Ω ≡ a.
15	31	19.6	94	69	3	3	------	Ω ≡ a.
16	31.4	19.2	94	65	2	2	------	Ω ≡ a.
17	31.7	19.6	94	68	2	2	------	Ω ≡ a.
18	31.5	19.6	96	58	3	2	------	Ω ≡ a.
19	30.8	19.8	95	59	6	4	------	Ω ≡ a.
20	31.6	19.4	93	67	2	2	------	Ω ≡ a.
21	31.6	19	94	65	3	2	------	Ω a.
22	31.2	19.2	94	67	4	4	------	Ω a.
23	31.2	19.5	95	68	3	3	------	Ω ≡ a.
24	31.2	19.6	95	68	6	3	------	Ω ≡ a.
25	31	20	88	69	2	3	------	Ω ≡ a.
26	30.5	21.4	85	73	10	6	------	Ω a.
27	31.6	21.4	93	67	2	2	------	Ω ≡ a. d° p.
28	31.2	21.2	93	72	8	10	------	Ω ≡ d° a.
29	31	21.6	85	63	10	6	------	Ω ≡ a.
30	31.8	21.2	93	71	4	4	------	Ω a.
31	30.5	19.2	94	59	2	2	------	Ω a.
Mean	31.1	20.1	92.9	69	5.2	5	------	
Total	------	------	------	------	------	------	8.6	

METEOROLOGICAL DATA, ETC.—Continued.

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.3	19.3	98	73	9	9	------	Ω² ◯ ☈ d° ↙° ϖ°
2	29	19.2	98	80	10	7	2 ?	d° ●² ↙° ☈ d²
3	29.7	19.1	97	64	10	8	------	d° a. ☈ ↙° a. p.
4	29.2	19.4	97	73	10	8	3.3	↙ ● a. ☈ ⌒° d²
5	25.5	18.8	97	91	10	10	7.1	d² ☈ ↙ a. p.
6	26.3	19.7	98	90	10	10	77.7	↙² ●² ☈ a. d° ●°
7	26.5	20.9	100	97	10	10	13	●° d° a. ☈ ϖ² p.
8	24.8	20.3	100	96	10	10	12.4	●° ≡² d° a. ☈ d²
9	30.7	20.1	100	71	10	9	------	≡° ⌒° ☈ ↙ p ϖ²
10	31.9	19.7	99	58	8	4	------	Ω° ≡² ⊕ ☈ ⌒° ϖ²
11	32.2	19.9	96	63	7	9	------	Ω² ◯ ☈ d° ϖ°
12	32.8	18.9	97	60	7	6	------	Ω² p a. ◯° ☈ ϖ°
13	30.5	17.3	97	68	7	5	.8	Ω² d² ↙ p a. ☈
14	29.8	18.3	97	71	10	9	.5	Ω² ☈ d° ⊕° ϖ² ◡²
15	31.2	18.4	97	60	10	9	.8	Ω² d° a. ☈ ●° ↙
16	30.2	18.5	99	72	10	8	17	●° a. ☈ ⊕² p.
17	30.6	19	98	83	10	9	------	≡° d° a. p ↙° p.
18	31	18.8	97	72	9	6	------	Ω² ≡° ☈ ↙ a. ⌒°
19	30.1	17.7	97	70	9	10	------	Ω² ↙° a. ☈ ↙° p.
20	29.3	16.7	97	66	10	10	.3	Ω² d° a. d° ⌒² ↙
21	28.5	19.3	98	76	10	9	.5	≡ d° a. ☈ ⌒° ↙
22	31.7	19.7	98	58	10	9	------	≡ a. ☈ d° p.
23	31.9	17.7	98	56	1	1	------	↙° a. p.
24	31.8	20	97	56	10	8	------	Ω² ≡ a. ☈ p. ↙°
25	31.2	18.3	96	59	10	8	2	Ω² ≡ a. ↙° d² p.
26	31.6	20	98	64	9	9	------	Ω² ≡² a. ⊕° d° ⌒
27	31.7	18	97	63	4	6	6.1	Ω² ≡ d° ☈ ↙°
28	26.2	19.7	98	92	10	10	14.5	d° ●° a. p. ☈ ϖ°
29	28.1	17.8	98	70	10	6	2.8	≡ ☈ ↙ d° d²
30	27.4	18.3	97	79	9	10	.3	☈ ↙ d° a. p. ϖ²
31	29	16.4	98	69	10	9	1.3	≡ ↙ ☈ a. ↙ d²
Mean	29.7	18.9	97.7	71.6	9	8.1	------	
Total	------	------	------	------	------	------	162.4	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.8	21.8	84	63	7	6	------	Ω² ≡² a.
2	29.4	22.6	83	70	7	4	------	Ω² ≡² a.
3	29.4	22	83	68	5	7	------	Ω° ≡° a. d p.
4	29.2	22.6	84	77	4	7	------	Ω² ≡ a.
5	29.5	22.5	69	58	4	9	------	Ω° ≡° a.
6	28.2	24.7	72?	70	10	10	14	●° p.
7	28.6	23.9	87	78	5	8	30.2	●² ⌒° p.
8	28.6	23.9	89	78	4	9	6.4	●° p.
9	29	24.1	88	73	8	6	------	⌒° a. ☈° p.
10	29.5	24.9	88	78	10	8	2	●° ⌒° a. p.
11	29.1	23.2	88	75	1	7	------	≡ a.
12	29.2	22.8	86	75	4	2	------	Ω² ≡² a.
13	29.8	20.7	82	70	3	4	------	Ω² ≡² a.
14	28.7	20.7	82	72	3	7	------	Ω² ≡² a.
15	29.4	20.8	84	70	4	5	------	Ω² ≡² a.
16	29.4	20.6	90	71	4	8	------	Ω² ≡² a.
17	29.7	22	87	64?	1	0	------	Ω² ≡² a.
18	29	22.2	81	65	0	1	------	Ω² ≡² a.
19	29.1	21.7	83	68	2	1	------	Ω² ≡² a.
20	28.5	21	85	67	2	0	------	Ω² ≡² a.
21	28.6	21	86	71	3	7	------	Ω² ≡² d a.
22	29.6	21.6	86	68	2	3	------	Ω² ≡² a.
23	30.4	22.6	84?	68	0	0	------	Ω² ≡² a.
24	29.6	22.2	85	71	4	2	------	Ω² ≡² a.
25	29.2	22	83	71	0	2	------	Ω² ≡² a.
26	29.4	23.8	83	76	4	4	------	Ω² ≡² a. ↙ p.
27	29.9	23.8	84	71	0	3	------	Ω² ≡² a.
28	28.4	24.8	83	77	10	9	------	d a. p.
29	28.9	22.9	82	66	4	5	------	Ω° ≡° a.
30	30	22.2	81	65	0	1	------	Ω² ≡² a.
31	28.7	21	73	60	1	1	------	Ω° ≡° a.
Mean	29.2	22.5	83.5	70.1	3.7	4.7	------	
Total	------	------	------	------	------	------	52.6	

LAOAG.

[ϕ=18° 12′ N; λ=120° 35′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.7	19.9	95	52	1	3	------	Ω² ≡° a.
2	33.2	20.9	92	49	6	0	------	≡² a.
3	32	20	89	63	0	6	------	≡ a.
4	32.1	20.4	91	53	4	7	------	≡ ↙ a. ↙ ◡ p.
5	31.6	21	82	60	2	8	------	≡ a. ↙ ⌒ ◡ d p.
6	28.2	23.5	92	80	10	10	9.7	● a. p. ↙ p.
7	31.4	23.3	92	72	10	7	2.5	● p.
8	33.8	22.2	99	60	6	8	29.2	≡ a. ↙° ●² p.
9	31	23.4	98	80	8	8	1.5	● p.
10	30.8	23.5	97	88	9	8	2.3	T ● p.
11	30.9	21.7	98	75	0	6	------	≡ a.
12	31.8	22.3	99	77	1	5	------	Ω² ≡ a.
13	33.6	19.5	99	64	0	1	------	Ω² ≡ a. ↙° p.
14	33.4	22	89	68	1	2	------	≡ a. ↙ p.
15	33.1	22.3	79	70	0	8	------	↙ p.
16	31.9	20.9	92	71	1	9	------	≡ a.
17	32.1	21	99	76	0	1	------	Ω² ≡ a.
18	32.2	21.2	98	75	0	1	------	Ω ≡ a.
19	32.8	20	98	51	0	0	------	Ω² ≡ a.
20	31.4	19	97	69	0	0	------	Ω ≡² a.
21	33	18.8	97	71	0	2	------	Ω ≡² a.
22	31.8	21	96	72	0	1	------	Ω² ≡° a.
23	32	22.2	97	76	0	1	------	Ω² ≡° a. ↙ a. p.
24	32	20.6	94	69	1	1	------	Ω ≡ a.
25	31.5	21	95	75	0	1	------	Ω ≡ a.
26	29.7	21.4	96	82	3	1	------	Ω ≡ a. ↙ p.
27	33.8	20.3	97	60	0	0	------	Ω² ≡ a. ↙ p.
28	32.3	24	86	78	8	8	------	
29	31.9	20	95	57	0	1	------	Ω ≡² a. ↙° p.
30	32	18.5	94	47	0	0	------	Ω ≡² a.
31	31.9	16.8	90	68	0	1	------	Ω ≡² a.
Mean	32	21.1	93.9	68	2.3	3.7	------	
Total	------	------	------	------	------	------	45.2	

SANTO DOMINGO.

[ϕ=20° 28′ N; λ=121° 59′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rainfall.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	24.2	22.2	96	91	10	10	57	●° a. ● p.
2	26.1	21.7	76	73	10	9	7.6	d a. p. ↙° p.
3	24.9	21.1	72	78	9	10	1	d a. ↙° a. p.
4	26	22.6	67	65	6	4	------	↙ a. p. ≡ p.
5	26	23.1	76	73	5	6	------	p° ↙ a. ≡ ↙ p.
6	26.3	23	87	79	10	10	5.1	↙ d a. p.
7	25.7	24.2	90	84	10	10	19	d ↙ a. ↙ ● p.
8	26.9	22.5	87	76	10	10	21.8	↙ d a. ↙ ● p.
9	25.8	23.1	95	92	10	10	144.3	↙ ●² a. ↙ ● p.
10	26.8	22.6	93	90	10	8	105.7	●² a. d p.
11	27.8	23.3	95	85	10	5	12.1	●° ↙° ⌒ a.
12	28.2	25.1	90	83	1	2	------	d° a. ≡ ↙ p.
13	27.8	24.5	88	80	10	9	1.5	●° a.
14	28.4	23.2	82	79	2	8	1	p° d° a.
15	27.7	23.8	80	72	10	5	------	p° a. ≡° ↙° p.
16	27.7	23.7	77	70	2	10	------	↙° a. ↙ p.
17	27.6	24	79	79	9	10	------	p° p.
18	28.3	23.7	82	76	10	5	------	d° a. ≡ p.
19	27.8	23.4	76	68	2	2	------	p° v a. ↙° ≡ p.
20	28	23.1	79	68	2	2	1.3	●° a. ≡ d ↙° p.
21	26.2	22.7	84	90	10	10	5.6	d ↙ a. p.
22	28.1	22.5	90	83	6	7	12.2	● a. ↙ a. p.
23	22.3	21	89	84	10	10	31.7	↙ ● d a. ●° p.
24	24.8	20	88	88	10	10	33.2	↙° d a. p. ● p.
25	25.8	22.2	91	87	10	10	30.6	●° ↙ d° a. d² p.
26	28.1	23.4	86	80	8	8	26.7	⌒ a. ↙° ● a. p.
27	24.3	22.8	80	74	10	10	.9	d° ↙° a. ↙ p.
28	25	20.9	65	68	3	6	------	↙° a. p.
29	25.4	20.1	73	65	10	0	.4	p° a. ≡ Ω p.
30	23	20.3	82	82	10	10	31.6	●° a. ↙ d p.
31	24.8	20.1	77	69	10	10	2	d ↙ a. ↙° p.
Mean	26.3	22.6	82.7	78.4	7.9	7.6	------	
Total	------	------	------	------	------	------	552.3	

SEISMOLOGICAL BULLETIN FOR DECEMBER, 1908.

By Rev. Miguel Saderra Masó, S. J.,
Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, 5^h 35^m 37^s.* **NE Luzon and Batanes Islands.** Earthquake of intensity III. The origin seems to have been in the Pacific east of the Babuyanes group of islands and about 900 kilometers northeast of Manila. This earthquake was registered by the microseismographs of Manila, Zikawei, and British India and undoubtedly also by those of Japan.

1, 21^h 33^m 23^s.* **Leyte and northeastern Mindanao.** Earthquake of intensity III. In the northeastern part of Mindanao, the earthquake was accompanied by subterranean rumbling: the center apparently was situated near the island of Dinagat.

2, 4^h 54^m. **Tacloban** (northeastern Leyte). Oscillatory earthquake of intensity III; direction E–W.

2, 23^h 03^m 21^s.* **Jolo and western Mindanao.** Earthquake of intensity IV. The directions of the waves observed in Jolo, Zamboanga, and Cotabato locate the origin in Illana Bay at a considerable distance from the coasts of Mindanao.

7, 2^h 50^m. **Ormoc** (western Leyte). Earthquake of intensity II.

8, 18^h 45^m. **Cotabato** (Mindanao). Oscillatory earthquake of intensity III. The direction (ESE–WNW) of the seismic waves was well observed. The origin of this earthquake was situated to the west of Apo and Matutum volcanoes.

9, 19^h 04^m. **Butuan** (northern Mindanao). Earthquake of intensity III.

18, 3^h 21^m 40^s.* **Northeastern Mindanao.** Oscillatory earthquake of intensity IV. Various directions of the seismic waves were observed in Surigao as well as in Butuan; in both stations the duration was more than 30^s. The epicenter of this earthquake was found to be in the eastern part of Butuan Bay.

19, 20^h 31^m. **Tacloban** (northeastern Leyte). Earthquake of intensity II.

23, 16^h 20^m. **Butuan** (northern Mindanao). Oscillatory earthquake of intensity III; direction S–N.

27, 3^h 44^m 00^s.* **Aparri** (northeastern Luzon). Horizontal and vertical earthquake shocks; intensity III; duration 20^s.

[1] The intensity of earthquakes is given in the notation known as the scale of De Rossi-Forel. The time is stated as indicated by the seismographs at the Central Observatory whenever the disturbance has been registered by them. This fact is denoted by an asterisk (*). Otherwise the time is that noted by the observers who sent the notice. All time indications are in the official time of the Archipelago, which is that of the one hundred and twentieth meridian east of Greenwich.

RECORDS OF THE MICROSEISMOGRAPHS.

[Time of the one hundred and twentieth meridian east of Greenwich. Midnight=0h.]

No.	Date.	Component.	Beginning.			Maximum range of motion.			End.	Instrument.	Remarks.
			First preliminary tremors.	Second preliminary tremors.	Principal portion.	Hour.	Amplitude (2a).	Period.			
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
272	1	NNW-SSE	5 35 37	----------	5 37 18	5 39 31	1.14	2.4	6 00	V. M.	Vertical C. 0.06 mm. Earthquake, III, in Batanes Islands and in N Luzon.
		WSW-ENE	5 35 37	----------	5 37 22	5 37 43	.89	2.4	6	V. M.	
		WSW-ENE	5 35 42	----------	5 37 21	5 38 51	.83	7.8	6	H. P.	
273	1	NNW-SSE	21 33 23	----------	----------	----------	------	------	21 39	V. M.	Earthquake, III, in Leyte and NE Mindanao.
		WSW-ENE	21 33 21	----------	----------	----------	------	------	21 40	V. M.	
		WSW-ENE	21 33 42	----------	----------	----------	------	------	21 39	H. P.	
274	2	NNW-SSE	23 03 21	----------	----------	----------	------	------	23 16	V. M.	Earthquake, IV, in Jolo and W Mindanao.
		WSW-ENE	23 03 15	----------	----------	----------	------	------	23 16	V. M.	
275	3	NNW-SSE	22 57 29	----------	22 57 56	22 58 25	.06	2.4	23 04	V. M.	V. C. 0.03 mm.
		WSW-ENE	22 57 31	----------	22 57 57	22 58 13	.06	2.4	23 06	V. M.	
276	4	NNW-SSE	12 19 44	----------	12 20 04	12 20 22	.76	2.4	12 27	V. M.	V. C 0.12 mm.
		WSW-ENE	12 19 46	----------	12 20 05	12 20 14	.61	2.4	12 27	H. P.	
		WSW-ENE	12 19 47	----------	12 20 05	12 20 10	.16	1	12 25	V. M.	
277	5	NNW-SSE	9 03 48	----------	9 04 09	9 04 52	.23	2.4	9 09	V. M.	V. C. 0.09 mm.
		WSW-ENE	9 03 48	----------	9 04 09	9 04 12	.34	2.4	9 09	V. M.	
278	11	NNW-SSE	5 02 06	----------	5 02 20	5 02 26	.10	2.2	5 09	V. M.	V. C. 0.08 mm.
		WSW-ENE	5 02 08	----------	5 02 21	5 02 29	.09	2.4	5 09	V. M.	
279	11	NNW-SSE	5 51 49	----------	5 52 18	5 52 46	.06	2.6	5 56	V. M.	V. C. 0.03 mm.
		WSW-ENE	5 51 49	----------	5 52 17	5 52 25	.05	2.4	5 56	V. M.	
280	12	NNW-SSE	21 00 30	21 05 28	21 10 19	21 13 08	.08	10	22 03	V. M.	
		WSW-ENE	21 00 30	21 05 38	21 10 06	21 12 21	.08	10.4	22 01	V. M.	
		WSW-ENE	21 00 27	21 05 22	21 10 17	21 12 21	3.35	12.6	22 40	H. P.	
281	13	NNW-SSE	2 55 40	3 01 03	3 07 17	3 08 13	.01	13.6	3 56	V. M.	
		WSW-ENE	2 55 44	3 01 25	3 07 36	----------	------	------	3 56	V. M.	
		WSW-ENE	2 55 39	3 01 55	3 07 37	3 10 06	.16	10.8	4 10	H. P.	
282	13	WSW-ENE	20 14 46	----------	20 15 05	20 15 09	.12	2.4	20 18	V. M.	V. C. 0.04 mm.
283	13	WSW-ENE	20 49 38	----------	20 49 55	20 49 57	.04	2.4	20 52	V. M.	V. C. 0.01 mm.
284	13	NNW-SSE	21 14 37	----------	21 14 58	21 15 11	.22	2.4	21 21	V. M.	V. C. 0.32 mm.
		WSW-ENE	21 14 36	----------	21 14 58	21 15 07	.48	2.4	21 21	V. M.	
285	14	WSW-ENE	23 02 13	----------	23 02 32	23 02 34	.06	2.4	23 06	V. M.	
286	18	WSW-ENE	3 21 40	----------	----------	----------	------	------	3 31	V. M.	Earthquake, III, NE of Mindanao.
		WSW-ENE	3 21 45	----------	----------	----------	------	------	3 34	H. P.	
287	18	WSW-ENE	23 47 27	----------	----------	----------	------	------	24 44	V. M.	
		WSW-ENE	23 47 37	----------	----------	----------	------	------	25 17	H. P.	
288	20	WSW-ENE	0 55 42	----------	0 56 01	0 56 04	.11	2.4	0 59	V. M.	V. C. 0.06 mm.
289	21	NNW-SSE	17 44 20	----------	----------	----------	------	------	18 44	V. M.	
		WSW-ENE	17 44 23	----------	----------	----------	------	------	18 16	H. P.	
290	22	WSW-ENE	10 44 23	----------	----------	----------	------	------	12 00	H. P.	
291	22	WSW-ENE	----------	----------	16 04 00	16 04 04	------	------	16 07	H. P.	V. C. 0.13 mm.
292	27	NNW-SSE	3 44 00	----------	3 44 54	3 45 46	.20	2.4	3 56	V. M.	V. C. 0.06 mm. Earthquake, III, NE of Luzon.
		WSW-ENE	3 44 01	----------	3 44 52	3 45 09	.40	2.8	3 56	V. M.	
293	28	NNW-SSE	12 33 39	12 45 22	12 56 42	----------	------	------	14 20	V. M.	
		NNW-SSE	12 33 40	12 45 30	12 56 42	12 58 12	.06	14	14 26	H. P.	Messina's earthquake.
		WSW-ENE	12 33 41	12 45 36	12 56 51	----------	------	------	14 20	V. M.	
		WSW-ENE	12 33 42	12 45 45	12 56 03	12 58 10	.07	13.8	14 26	H. P.	
294	29	NNW-SSE	9 41 00	----------	9 41 20	9 41 35	.40	2	9 49	V. M.	V. C. 0.50 mm.
		WSW-ENE	9 41 00	----------	9 41 20	9 41 22	.51	2.2	9 49	V. M.	
		WSW-ENE	9 41 04	----------	9 41 20	9 41 22	.19	1.8	9 49	H. P.	
295	29	WSW-ENE	11 02 39	----------	11 02 57	11 03 00	.06	2.4	11 06	V. M.	V. C. 0.03 mm.

Instrumental constants.—Vicentini microseismograph (V. M.): Length of the pendulum, 1.50 meters; weight of the bob, 100 kilograms; period of simple oscillation, 1.2 seconds. Magnification of the record: NNW–SSE component, 50 times; WSW–ENE component, 50 times.

Horizontal Pendulums (H. P.): Vertical distance between the point of suspension and the point of support, 1.05 meters; horizontal distance between the point of support and the center of the heavy bob, 0.77 meter; weight, 20 kilograms; period of oscillation, NNW–SSE pendulum, T=9.2 seconds; WSW–ENE pendulum, T=10.8 seconds. Magnification of the record: NNW–SSE, 15 times; WSW–ENE, 15 times.

These seismographs have no damping arrangement.

Foundation and location.—The instruments are mounted against a solid cut-stone pier measuring 5 by 5 meters at its base and 3.30 by 3.30 at the top, with a foundation about 4 meters deep, and insulated from the surrounding walls of the building by a space, 2 meters wide, filled with sand. The Vicentini microseismograph stands at a height of 9.5 meters above the ground and 10.5 above the sea level, while the horizontal pendulums stand at 1.50 meters above the ground and 2.50 above the sea level.

Geological structure.—The geological formation of the ground is alluvium and beach sand to a depth of some 14 meters which extends many kilometers toward north and south and only four to the east, where volcanic tuff outcrops. To the west there lies the Manila Bay at a distance of some 300 meters. The alluvial plain of Manila is crossed by creeks in many directions and by the Pasig River, which flows in an E–W direction, at a distance of 1.5 kilometers to the north of the Observatory.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

1, 5^h 35^m 37^s.* **NE de Luzón y Batanes.** Temblor de tierra de intensidad III. El origen parece que estaba en el Pacífico hacia el E del grupo de las Babuyanes y á unos 900 kilómetros al NE de Manila. Registráronlo los microseismógrafos de Manila, Zikawei y de la India Inglesa y sin duda también los de Japón.

1, 21^h 33^m 23^s.* **Isla de Leyte y NE de Mindanao.** Temblor de tierra de intensidad III. En la parte NE de la Isla de Mindanao fué acompañado de ruido subterráneo: el centro parece se hallaba cerca de la Isla de Dinagat.

2, 4^h 54^m. **Tacloban** (NE de Leyte). Temblor oscilatorio de intensidad III, dirección E–W.

2, 23^h 03^m 21^s.* **Joló y parte W de Mindanao.** Temblor de tierra de intensidad IV: las direcciones de las ondas observadas en Joló, Zamboanga y Cotabato colocan el origen de este temblor en la bahía Illana á bastante distancia de las costas de Mindanao.

7, 2^h 50^m. **Ormoc** (W de Leyte). Temblor de tierra de intensidad II.

8, 18^h 45^m. **Cotabato** (Mindanao). Temblor oscilatorio de intensidad III, notóse bien la dirección ESE–WNW de las ondas séismicas. El origen de este temblor se hallaba hacia al W de los volcanes Apo y Matutum.

9, 19^h 04^m. **Butúan** (N de Mindanao). Temblor de tierra de intensidad III.

18, 3^h 21^m 40^s.* **NE de Mindanao.** Temblor oscilatorio, intensidad IV; tanto en Surigao como en Butúan se observaron varias direcciones de las ondas séismicas: en ambas estaciones la duración pasó de 30^s. El epicentro de este terremoto se hallaba en la parte oriental de la bahía de Butúan.

19, 20^h 31^m. **Tacloban** (NE de Leyte). Temblor de tierra de intensidad II.

23, 16^h 20^m. **Butúan** (N de Mindanao). Temblor oscilatorio de intensidad III, dirección S–N.

27, 3^h 44^m 00^s.* **Aparri** (NE de Luzón). Temblor de tierra oscilatorio y susultorio, intensidad III, duración 20^s.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

Véase en el texto inglés la tabla correspondiente que contiene una lista completa de estos registros.

[1] La intensidad de los terremotos se indica conforme á la conocida escala de De Rossi-Forel. Cuanto á la hora de su ocurrencia, adoptamos la indicada por los seismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterisco (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo oficial del Archipiélago que es el del meridiano 120° E de Greenwich.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1890–1907.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF DECEMBER.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1890	*h. m.*			*Km.*	*Km.*		
18	6 36	NE Mindanao	Near the NE coast	120	60	IV	
22	17 28	do	do	120	60	IV	
26	8 40	Rizal Province	N Lake Bay	60	60	II	
29	15 09	N Zambales	Off the Cape Bolinao	50	50	III	Felt at Manila by the Bertelli's tromometer.
1891							
10	1 09	S Luzon	Vicinity of Taal Volcano	150	50	III	
21	10 10	N Luzon	Near the N coast	160	40	III	
22		Negros Island	Near Canlaon Volcano			IV	With rumbling sounds.
29	2 10	N Luzon	Near the N coast	160	150	V	Aftershock at 2h 18m.
1892							
3	16 27	Central Luzon	Nueva Vizcaya	400	180	V	
6	5 36	Albay	Vicinity of Mayon Volcano	80	80	IV	
18	9 56	N Luzon	Near the N coast	150	50	III	
1893							
9	5 10	S Mindanao	Illana Bay	300	60	IV	
11	9 06	E Mindanao	Agusan River Valley	80	70	III	
19	6 15	Jolo	S Sulu Sea			III	
24	0 24	SE Luzon and N Samar	NE of Masbate	200	180	V	Aftershock few minutes later and rather strong quake at 18h 2m.
26	21 00	E Mindanao	Agusan River Valley	80	70	III	
29	20 50	NE Mindanao	Near Lake Mainit	80	50	IV	With rumbling sounds.
1894							
2	7 36	NE Mindanao	Near Lake Mainit	80	50	IV	Aftershock at 8h 20m.
17	23 00	do	do	60	40	III	
18	4 10	do	do	60	40	III	
24	20 30	W Mindanao	SE Sulu Sea	140	50	III	
1895							
10	15 50	E Mindanao	Agusan River Valley	80	70	III	
11	10 40	do	do	200	180	V	
11	17 00	NE Mindanao	Near Lake Mainit	120	50	IV	
15	12 55	E Mindanao	Agusan River Valley	80	70	III	
16	6 36	Albay	Near Mayon Volcano	60	60	IV	
1896							
17	13 20	NE Mindanao	Near the NE coast	120	60	IV	Repeated 10m later.
20	17 00	do	do	200	90	V	Aftershocks at 20h and 23h 15m.
1897							
1	12 04	N Samar	Near the NE coast	150	80	IV	Repeated at 15h.
2	7 32	Albay	Near the SE coast	60	20	III	
3	3 26	Ilocos Norte	Near the Ilocos coast	80	60	III	
3	18 00	N Samar	Near the NE coast	100	50	III	
4	23 40	NE Mindanao	Near Lake Mainit	60	40	III	
6	5 10	W Mindanao	SE Sulu Sea	180	60	IV	Repeated at 20h 21m.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF DECEMBER—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1897	*h. m.*			*Km.*	*Km.*		
8	6 08	S Luzon and Mindoro	Off the SW coast of Luzon	240	80	IV	Repeated at 11h 54m.
10	13 37	N Samar	Near the NE coast	300	220	V	
11	10 40	do	do	260	180	IV	
15	20 41	do	do	120	100	III	
18	20 00	do	do	120	100	III	
21	8 50	W Mindanao	SE Sulu Sea	80	30	III	Repeated at 12h and 22h 15m.
22	19 10	N Samar	Near the NE coast	120	100	III	
23	16 10	W Mindanao and Jolo	SE Sulu Sea	90	40	IV	
25	3 05	do	do	90	40	III	
26	10 07	do	do	140	60	IV	
28	6 10	do	do	80	30	III	
30	10 00	NE Mindanao	Near the NE coast	90	20	III	
31	0 29	W Mindanao and Jolo	SE Sulu Sea	80	30	III	Repeated at 7h 4m.
1898							
1	1 41	W Mindanao	do	90	30	III	
6	15 40	do	do	180	80	IV	Repeated at 21h 31m.
14	8 45	do	do	80	30	III	
1899							
25	22 48	E Mindanao	Agusan River Valley	280	200	V	
26	4 20	do	do	300	200	VI	
1900							
23	15 45	SE Mindanao	Vicinity of Apo Volcano			IV	
28	12 15	NE Mindanao	Near Lake Mainit			III	
1901							
15	6 58	S Luzon and Mindoro	Vicinity of Taal Volcano	800	500	VII	Registered in Europe. Few and very light aftershocks.
28	3 02	N Luzon	Near the N coast	120	40	III	
29	6 19	do	do	120	60	IV	
1902							
5	6 42	W Mindanao	SE Sulu Sea	100	40	III	
10	22 57	Batanes Islands	S of the group			V	Rumbling sounds.
11	9 18	N Luzon	Near the N coast	140	50	IV	Registered at Manila.
14	1 13	S Leyte	In the SE coast	60	60	III	Do.
16	13 15	do	do	100	60	IV	Do.
30	13 05	N Luzon	Off the NE coast	110	100	IV	Do.
30	14 30	NE Mindanao	Near Lake Mainit	60	30	III	
1903							
2	3 41	Batanes Islands	S of the group			III	
6	22 19	Albay	Near Mayon Volcano	40	40	III	
18	20 20	S Mindanao	N Celebes Sea	460	250	V	Registered outside of the Archipelago.
22	2 00	N Mindanao	Butuan Bay	80	20	III	
28	6 30	Batanes Islands	S of the group			III	
28	10 56	SE Mindanao	Near the SE coast	540	350	VIII	Do.
29	2 03	do	do	120	40	III	
30	11 22	do	do	120	40	III	
1904							
4	1 15	Pampanga Province	E Zambales Range	20	20	III	
4	7 40	E Samar	Near the E coast	80	40	III	
8	3 40	Batanes Islands	S of the group			II	
10	6 59	E Samar	Off the E coast	140	40	IV	Registered at Manila.
25	0 56	N Luzon	N Central Range	170	80	IV	Registered at Manila. Repeated at 1h 43m.
30	6 00	W Mindanao	SE Sulu Sea	140	50	IV	Repeated at 23h 40m.

EARTHQUAKE CATALOGUE, 1890-1907, MONTH OF DECEMBER—Continued.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Total land area of disturbance. Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1905	*h. m.*			*Km.*	*Km.*		
2	2 05	W Luzon	W Zambales Range	240	110	IV	
2	18 48	NE Leyte	SW coast of Samar	50	50	III	Registered at Manila.
6	21 50	N Mindanao	S of Camiguin Volcano	100	60	III	
8	16 22	E Visayas	S of Masbate	580	400	VII	Registered outside of the Archipelago. Moderate aftershocks at 19h 46m and 22h 3m.
9	3 10	SE Negros Island	Near the SE coast	80	30	III	
9	12 30	E Visayas	S of Masbate	140	70	III	
10	2 30	do	do	200	120	IV	
11	2 12	Mindanao and Visayas	W Agusan River Valley	900	500	VIII	Registered in Europe.
11	20 28	N part of Luzon	N Central Range	450	200	IV	Registered at Manila.
12	21 05	N Cebu	S of Masbate	120	120	III	
13	3 09	SE Luzon	N of Samar	180	110	IV	Do.
13	5 45	N Cebu	S of Masbate	120	120	III	
1906							
2	22 24	Romblon Island					
3	9 11	Camarines	SE of St. Miguel Bay	80	40	IV	Registered at Manila. Repeated at 9h 50m.
3	16 20	Mindoro Island	Mount Halcon				
4	14 55	Camarines	SE of St. Miguel Bay	50	40	II	
20	2 27	NE Mindanao	Off the NE coast	240	120	IV	Registered at Manila. Some light aftershocks were felt during the next four hours and many on the 21st, 22d and 23d.
23	17 12	Batanes Islands	SE of the group			III	Repeated at 20h 32m and 21h 05m.
26	5 39	NE Luzon	Near the NE coast	200	140	IV	Registered at Manila.
1907							
1	6 32	E Mindanao	Agusan River Valley	140	80	IV	
9	10 20	NE Luzon	Near the NE coast	60	40	III	
19	19 30	E Mindanao	Agusan River Valley	80	40	III	
21	6 37	NE Luzon	Near the NE coast	100	50	III	Do.
24	0 30	SE Mindanao	W of Davao Gulf	60	60	III	
25	6 00	E Mindanao	Agusan River Valley	100	70	IV	
29	9 43	N Panay	Near the N coast	150	50	III	Do.

APPENDIX TO THE MONHTLY BULLETIN FOR 1908.

APPENDIX TO THE MONTHLY BULLETIN FOR 1908.

ANNUAL SUMMARY OF METEOROLOGICAL DATA FOR MANILA, DEDUCED FROM TWENTY-FOUR DAILY OBSERVATIONS DURING THE YEAR 1908.

Month.	Pressure.		Air temperature.						Wind.			
										Velocity.		
	Mean.	Departure from normal.	Mean.	Departure from normal.	Maximum mean.	Departure from normal.	Minimum mean.	Departure from normal.	Prevailing direction.	Mean.	Departure from normal.	Hourly maximum.
	mm.	*mm.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*	°*C.*		*Km.*	*Km.*	*Km.*
January	762.10	+0.94	24.5	−0.5	30.4	+0.5	20	−0.5	E, SE	159.3	−10.8	29.5
February	59.80	−1.59	25	− .3	30.9	+ .3	20.1	− .2	E quad.	177.3	−16.3	31.5
March	60.40	− .20	25.8	− .9	31.9	− .4	20.4	−1.1	SE	207.3	−21.6	29.5
April	58.75	− .68	27.9	− .3	34.7	+ .9	21.7	−1.2	SE	238.2	− 2	29.5
May	57.79	− .62	27.3	−1.3	32.7	− .7	23.5	− .5	SE	230.8	− 1.8	54
June	58.11	+ .19	27.2	− .7	32.2	.0	23.4	− .6	ESE	183.2	−53.9	37.5
July	57.64	+ .30	26.6	− .6	30.9	+ .1	23.2	− .5	SW	246.6	−29	42
August	56.75	− .64	26.5	− .6	30.6	.0	23.2	− .5	WSW	328.8	+41.4	48
September	57.35	− .18	26.7	− .3	31.5	+ .9	23.3	− .4	Variable	206.8	−62.5	42.5
October	57.75	− .89	26.2	− .6	30.9	− .1	22.7	− .4	WSW	221	+41.4	77
November	58.32	−1.11	25.1	− .9	29.5	− .7	21.5	− .7	N quad.	205.8	+42.8	42
December	59.32	−1.17	25	− .2	30.2	+ .4	21.1	− .2	NE quad.	165.6	+ 9	47
Annual	758.67	−0.47	26.2	−0.6	31.4	+0.1	22.0	−0.6		214.2	− 5.3	77.0

Month.	Relative humidity.		Cloudiness.		Evaporation.			Sunshine.		Rainfall.			
					Free exposure.								
	Mean.	Departure from normal.	Mean.	Departure from normal.	Total.	Departure from normal.	Shelter, total.	Total.	Departure from normal.	Total.	Departure from normal.	Rainy days.	Departure from normal.
	Per ct.	*Per ct.*	*0-10.*		*mm.*	*mm.*	*mm.*	*h. m.*	*h. m.*	*mm.*	*mm.*		
January	80.5	+2.7	6.2	+1.1	165.7	−12	78.4	174 40	− 18.41	18.9	− 8.7	9	+ 4
February	76.3	+2.5	6	+1.4	212.5	+12.2	82.2	196 40	− 8.39	29.6	+ 19.2	5	+ 2
March	71.4	− .4	6.5	+2.2	275.7	+ 8.6	112.3	168 00	− 75.26	64.7	+ 46.6	3	0
April	66.4	−3.2	4	+ .1	293.4	+10.4	139.3	288 45	+ 21.15	0	− 29.7	0	− 4
May	81.1	+5	7.2	+1.6	164.1	−69.5	84	181 10	− 53.34	476.5	+365.9	21	+12
June	82.5	+1.4	7	+ .1	155.4	−16.4	81.9	177 45	+ 2.20	157	− 87.8	15	− 1
July	85.9	+1.3	8	+ .4	125.7	−14.3	67.1	152 45	− 3.48	290.6	− 98.6	23	+ 2
August	86.6	+1.6	8.4	+ .6	128.7	−13	65.4	132 25	− 7.17	645	+285.4	23	+ 2
September	85.6	− .1	7.6	0	133.2	+ 6.3	65.3	154 10	+ 11.21	225.5	−137.8	25	+ 5
October	86.1	+2.5	7.5	+ .9	[a]	------	57	149 55	− 23.02	238.6	+ 46.3	19	+ 3
November	84.7	+2.2	7.6	+1.3	------	------	54.5	135 40	− 26.31	218.5	+ 86.9	14	+ 2
December	82.8	+1.6	7.1	+1.1	------	------	64.6	150 00	− 13.47	116.1	+ 56.1	11	+ 2
Annual	80.8	+1.4	6.9	+0.9	------	------	952.0	2,061 55	−195.49	2,481.0	+543.8	168	+29

[a] A serious defect having been discovered in the free exposure of the atmidometer since October 1908, our readers are requested to consider as of no value the observations taken with this instrument and published in our bulletins for October and November, 1908, and for January and February, 1909.

PHILIPPINE EARTHQUAKES (1902-1908).

By Rev. Miguel Saderra Masó, S. J.,
Assistant Director of the Weather Bureau.

From the Catalogue of Earthquakes originated within the Archipelago or its vicinity that was published in the Monthly Bulletin during 1908, we have compiled the following tables of those corresponding to the period 1902 to 1908, inclusive. The total number of earthquakes for this period is 849, distributed throughout the respective years as follows:

Year.	Number of earthquakes.
1902	87
1903	141
1904	119
1905	132
1906	103
1907	145
1908	122
Average	121

In this number only those are included which were clearly perceptible, since the only seismometer used in some stations consists of a pendulum of very simple construction and slight sensibility. Consequently there seems to be sufficient reason to suppose that the greater number of those earthquakes in the Catalogue qualified as *light* or only *perceptible* (II, III) can be placed in the grades III and IV of the Rossi-Forel scale: we except only some few very light and local shocks felt in Manila and registered solely by the Gray-Milne and Cechi seismographs of the Observatory. However, the number of those earthquakes affects the general result very slightly, if at all, since the total number of local shocks of very light intensity and extension registered by the seismographs of the Observatory is very small compared to the number of those experienced in other parts of the Archipelago.

The monthly distribution of earthquakes during this period will be found in Table I.

Table I.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1902	3	9	8	7	8	6	11	7	8	3	10	7	87
1903	12	5	8	8	15	13	9	24	10	12	17	8	141
1904	22	10	10	9	6	10	11	5	11	15	4	6	119
1905	14	8	12	11	10	8	12	10	11	16	8	12	132
1906	13	6	5	12	6	11	9	9	9	11	5	7	103
1907	13	7	10	14	22	17	14	16	5	5	15	7	145
1908	17	6	11	6	13	9	5	11	8	10	15	11	122
Total	94	51	64	67	80	74	71	82	62	72	74	58	849

The principal maximum corresponds to January, while two secondary ones belong to the months of May and August. The principal minimum falls in February. However, we do not believe that this has any special signification since, if we should take the period 1890–1901 in the Catalogue instead of the period 1902–1908, the distribution of maxima and minima would then be entirely different. In Table II we present the monthly totals of different periods that we have discussed on other occasions. The variance shown in the table is evident and at the same time proves that in the Philippines there is no determined season of earthquakes.

TABLE II.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1880–1889[1]	34	43	36	35	39	31	38	43	52	43	35	36
1890–1901[2]	61	73	73	61	58	71	74	57	69	73	66	50
1902–1908	94	51	64	67	80	74	71	82	62	72	74	58
Total	189	167	173	163	167	176	183	182	183	188	175	144

[1] During this period the earthquake totals are complete only in regard to Luzon.
[2] During this period the earthquake totals are complete only in regard to Luzon and Mindanao.

Table III shows the monthly and yearly distribution of 844 principal earthquakes taking into account the intensity represented by the different degrees of the Rossi-Forel scale.

TABLE III.

Month.	Intensities.						
	II–III.	IV.	V.	VI.	VII.	VIII.	>VIII.
January	72	16	4	1			
February	29	19	3				
March	48	14		2			
April	42	16	7		1		1
May	50	21	4	3	2		
June	47	20	4	1			
July	34	26	10	1			
August	54	18	8				2
September	43	16	3				
October	38	26	6		2		
November	49	19	2	1	1		1
December	35	17	2		1	2	

The strongest earthquakes of this period occurred in the months of April, August, November, and December. During the period 1890–1901 the following strong earthquakes took place:

Month.	Intensity (Rossi-Forel).	Number of earthquakes.
Febuary	VIII	1
March	IX–X	1
April	VIII	1
May	VIII	2
June	VII	1
August	VIII	1
September	IX	1
October	IX–X	1
December	VII	2

Consequently during the last period of nineteen years (1890–1908), 17 earthquakes of intensity VII to X have been felt in various regions of the Philippines and in every month except July.

Perhaps some will wonder why such a large number of violent or destructive earthquakes have not caused any loss of life nor created any stir in the world of news. The answer is that in this country there are very few masonry buildings that might be dangerous in case of an earthquake. If it were not for this circumstance, the victims would have been very numerous, since many of the violent earthquakes have left in the land incontrovertible marks that indicate the lot that would have befallen edifices of masonry if they were not constructed earthquake-proof.

Table IV shows the regions of the Archipelago where the greater total number of earthquakes have been felt during the last seven years (1902–1908). They are arranged according to their intensity and the approximate area in square kilometers of the region in which they were perceptible.[1]

In this table it can be seen that the most intense earthquakes do not correspond exactly to the districts that show the greatest number.

If we take the first eight districts enumerated in the table, which are those that have the higher totals of earthquakes, we will see that they are located in the eastern part of the Archipelago. The centers of northeastern Luzon, Batanes Islands, eastern Samar, northeastern and southeastern Mindanao are situated along a geo-synclinal depression of the western region of the Pacific. The centers of Agusan, Butuan Bay, Masbate, and eastern Camarines are in a line parallel to the same synclinal. Other interesting deductions will be made in a future article.

TABLE IV.

Place.	Intensity (Rossi-Forel I–X).								Approximate area of sensible motion, square kilometers.				
	II–III.	IV.	V.	VI.	VII.	VIII.	>VIII.	Total.	300–4,000.	4,000–11,000.	11,000–30,000.	30,000–90,000.	>90,000.
Near the SE coast of Mindanao	68	14	----	----	----	1	----	83	47	26	5	----	1
Near the N and NE coast of Luzon	43	23	2	1	----	----	----	69	30	26	9	1	1
Agusan River Valley (Mindanao)	25	21	10	1	1	1	----	59	20	10	17	9	3
Batanes Islands	27	15	2	----	----	----	----	44	----	----	----	----	----
Near the E coast of Samar	20	12	7	----	----	----	----	39	18	14	5	2	----
Butuan Bay (Mindanao)	25	9	5	----	----	----	----	39	20	7	9	1	----
Eastern part of Camarines (Luzon)	22	7	1	1	1	----	2	34	17	10	1	2	3
Near the N and NE coast of Mindanao	20	11	2	----	----	----	----	33	19	6	7	1	----
Southeastern part of the Sulu Sea	24	5	2	1	----	----	----	32	12	8	----	1	2
Vicinity of Masbate Island	13	10	5	1	1	----	----	30	8	4	11	5	2
Near the W coast of Leyte	28	1	----	1	----	----	----	30	24	6	----	----	----
S and SSW of Samar	15	12	1	----	----	----	----	28	17	7	3	----	----
Western part of the Zambales Range (Luzon)	9	9	4	----	----	----	----	22	7	7	6	2	----
Vicinity of Baler coast and S Casiguran Bay (Luzon)	14	7	----	----	----	----	----	21	7	5	----	1	----
Vicinity of the Mayon Volcano (Luzon)	16	5	----	----	----	----	----	21	17	3	----	----	----
Southeastern part of Leyte	13	4	1	1	1	----	----	20	13	3	----	3	----
Davao Gulf (Mindanao)	10	3	2	1	----	----	----	16	6	3	4	1	2
Northern part of the Central Range of Luzon	6	6	1	----	2	----	----	15	3	4	5	2	1
Illana Bay (Mindanao)	7	6	----	----	----	----	1	14	5	3	3	1	1
Vicinity of Lake Mainit (Mindanao)	8	6	----	----	----	----	----	14	8	6	----	----	----
Southeastern part of Panay	7	4	----	----	----	----	1	12	10	1	1	----	----
Near the N and NE coasts of Samar	4	6	1	----	----	----	----	11	3	2	3	----	1
Total	424	196	46	8	6	2	4	686	311	161	89	32	17

[1] See the Map. Bulletin for January, p. 38.

TEMBLORES FILIPINOS (1902-1908).

Del Catálogo de temblores de tierra, originados dentro ó en los alrededores del Archipiélago, publicados en el Boletín mensual de este año 1908 hemos reunido los correspondientes al período 1902–1908, ambos inclusive, y formado las siguientes tablas.[1]

El número total de temblores de este período es 849 distribuidos en la siguiente forma:

Años.	Número de temblores.
1902	87
1903	141
1904	119
1905	132
1906	103
1907	145
1908	122
Promedio anual	121

En este número entran tan solo los terremotos perfectamente perceptibles, puesto que el único seismómetro existente en algunas estaciones consiste en un péndulo de muy sencilla construcción y escasa sensibilidad. Podemos por consiguiente asegurar con suficiente fundamento que los más de los terremotos que en el expresado Catálogo se califican de *ligeros* ó solo *perceptibles* (II, III) pueden colocarse entre los grados III y IV de la escala Rossi-Forel: únicamente deben exceptuarse algunos pocos sentidos en Manila, muy ligeros y locales, registrados tan solo por los seismógrafos Gray-Milne y Cechi del Observatorio. El número de éstos sin embargo en nada ó en casi nada afecta al resultado general puesto que el total de temblores locales, de muy poca intensidad y extensión, registrados por los seismógrafos del Observatorio es muy pequeño comparado con el número de los experimentados en otras partes del Archipiélago.

La distribución mensual de los terremotos del expresado período aparece en la Tabla I.

El máximo principal corresponde á Enero y otros dos secundarios á los meses de Mayo y Agosto. El mínimo principal cae en Febrero. No creemos sin embargo que esto tenga significación ninguna, puesto que si en lugar del período 1902–1908 tomamos el período 1890–1901 comprendido por el Catálogo, entonces la distribución de máximos y mínimos será completamente diferente.

En la Tabla II presentamos los números mensuales de diferentes períodos que hemos estudiado en otras ocasiones: la variedad salta á la vista y prueba que en Filipinas no hay para los terremotos estación determinada.

La Tabla III representa la repartición anual y mensual de 844 terremotos principales teniendo en cuenta su intensidad representada por los diferentes grados de la escala Rossi-Forel.

Los terremotos más intensos de este período han ocurrido en los meses de Abril, Agosto, Noviembre y Diciembre. Durante el período 1890–1901 ocurrieron los siguientes:

Mes.	Intensidad (Rossi-Forel).	Número de temblores.
Febrero	VIII	1
Marzo	IX–X	1
Abril	VIII	1
Mayo	VIII	2
Junio	VII	1
Agosto	VIII	1
Septiembre	IX	1
Octubre	IX–X	1
Diciembre	VII	2

[1] Véanse en el texto inglés.

Por consiguiente durante el último período de 19 años (1890–1908) se han experimentado en varias regiones de Filipinas 17 terremotos de intensidad VII á X, distribuídos por todos los meses, excepto el de Julio.

Tal vez alguien se admire de que tan gran número de terremotos violentos ó destructores, ni hayan causado víctimas ni hayan tenido más resonancia; á esto se responde que debe tenerse en cuenta que en este país son muy pocos los edificios de mampostería que ofrezcan peligro en caso de terremoto. Si no fuera por esta circunstancia las víctimas hubieran sido muy numerosas, puesto que muchos de los terremotos más violentos han dejado en el terreno huellas indelebles que indican la suerte que hubiera cabido á los edificios de mampostería, no construídos á prueba de terremotos, si los hubiese habido.

La Tabla IV presenta ordenadas las regiones del Archipiélago donde se han experimentado mayor número total de terremotos durante los últimos siete años (1902–1908). Están distribuídos según su diferente intensidad, y el área aproximada en que fueron perceptibles, expresada en kilómetros cuadrados.

En esta tabla se ve que los terremotos más intensos no corresponden precisamente á las regiones que presentan el mayor número.

Si tomamos las ocho primeras regiones enumeradas en esta tabla, las cuales dan los mayores números totales de terremotos, observaremos que todas corresponden á la parte oriental del Archipiélago. Los centros de NE Luzón, Islas Batanes, E de Samar, NE de Mindanao y SE de Mindanao están colocados á lo largo de la depresión geo-synclinal del W del Pacífico. Los centros del Agusan, Bahía de Butúan, Masbate y E de Camarines en una línea paralela á dicho synclinal. Otras deducciones interesantes se harán en un siguiente artículo.

E R R A T A

Pag. 346, in meteor, table, <u>for</u> "Strong or whole gale from SW quadrant with drizzle during the afternoon and evening" <u>read</u> "Moderate gale from SW quadrant ......"

Pag. 466 in meteor. table, <u>for</u>"Gusty wind with heavy rain" <u>read</u> "Hurricane wind with heavy rain".

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