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1909

THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

MONTHLY BULLETIN
1909

PREPARED UNDER THE DIRECTION OF

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DIRECTOR OF THE WEATHER BUREAU

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INTRODUCTION.

The form of the BULLETIN as adopted in 1907 and slightly modified in 1908 will be retained. To facilitate the understanding of the tables of observations published in the Meteorological Bulletin we beg to remark that the hours of observations are, for the 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, will be found at the head of each meteorological table.

In regard to the rainfall observations, we have to state that heretofore the daily total rainfall given in our BULLETINS for each station represented, as far as practicable, the amount of rain collected in the pluviometers from midnight to midnight. But, except at stations provided with recording rain gauges, it is frequently impossible to know how much of rain was collected before midnight and how much after midnight. In order, therefore, to obviate this difficulty, it has been decided to consider as total rainfall for any day the amount of rain collected in the pluviometers from 6 a. m. of the said day to 6 a. m. of the following. This modification will be applied only to the rainfall records of the secondary stations, but not to those of the Central Observatory.

We subjoin a list of all the meteorological stations of the Weather Bureau in operation on January, 1909, together with the names of the respective observers, who must be held largely responsible for the accuracy of the observations published in the bulletins.

SECONDARY STATIONS AND OBSERVERS OF THE WEATHER BUREAU.

Station.	North latitude.		East longitude.		Observers.	Class.
	°	′	°	′		
Jolo	6	03	121	00	Román Kabigtin	III
Isabela, Basilan	6	42	121	58	Inocencio Rodriguez	IV
Zamboanga	6	54	122	05	Leandro Albano	III
Davao	7	01	125	35	Lamberto García	III
Cotabato	7	13	124	15	Manuel Galicia	III
Cagayan, Mindanao	8	29	124	38	Emiliano San Juan	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	Leoncio G. Santos	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
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
Laoang	12	35	125	01	Manuel Oria Gonzales	III
Gubat	12	55	124	08	Antonio Rocha	III

SECONDARY STATIONS AND OBSERVERS OF THE WEATHER BUREAU—Continued.

Station.	North latitude.		East longitude.		Observers.	Class.
	°	′	°	′		
Legaspi	13	09	123	45	Bernardino Costa	I
Sumay, Guam, Ladrones Islands	13	24	144	38	Herbert Taylor	III
Calapan	13	25	121	11	Aquilino Nokom	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
Corregidor	14	23	120	35	Mariano Atienza	III
Olongapo	14	49	120	16	Gregorio Yuse	II
San Isidro	15	22	120	53	Bernardo Pecache	II
Tarlac	15	30	120	35	Atanasio Caliolio	III
Dagupan	16	03	120	20	Domingo Torres	I
Bolinao	16	24	119	53	Ezequiel Reinoso	II
Baguio, Benguet	16	25	120	36	Gregorio Galvan	III
San Fernando, Union	16	37	120	19	Francisco Burgos	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
Laoag	18	12	120	35	José Saez	III
Aparri	18	22	121	38	Manuel Delgado	I
Santo Domingo, Batanes Islands	20	28	121	59	Claudio Castillejos	III

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 ligthning.
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 (°) 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.

Conservaremos en esta publicación la misma forma adoptada en 1907, y ligeramente modificada en 1908. 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 tercera y cuarta clase, 6 a. m. y 2 p. m. El tiempo seguido por nuestros observadores es el 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.

Cuanto á las observaciones de lluvia, hemos de advertir que hasta el presente la cantidad diaria de lluvia dada en este Boletín para cada estación representaba, en cuanto era posible, el total de agua caída en los pluviómetros en un día natural contado desde media noche á media noche. Pero, excepto en las estaciones provistas de pluviógrafos, es con frecuencia absolutamente imposible conocer cuánta cantidad de agua fué recogida antes de media noche y cuánta después de media noche. Con el fin, pues, de obviar esta dificultad, se ha resuelto considerar en adelante como total de lluvia para cada día la cantidad recogida en los pluviómetros desde 6 a. m. del día que se considera hasta 6 a. m. del siguiente. Esta modificación se aplicará solamente á las observaciones de estaciones secundarias, pero no á las del Observatorio Central.

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.

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-cumulus.	v	Trasparencia del aire.
A.-Cu.	Alto-cumulus.	w	Húmedo.
A.-S.	Alto-stratus.	●	Lluvia.
S.-Cu.	Strato-cumulus.	≡	Niebla ó neblina.
N.	Nimbus.	⌓	Rocío.
Cu.	Cumulus.	⊕	Corona solar.
Cu.-N.	Cumulo-nimbus.	⊖	Corona lunar.
S.	Stratus.	⋓	Halo lunar.
Fr.-Cu.	Fracto-cumulus.	○	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-cumulus.	⌒	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,	T.	Mar rizada.
	fosco.	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, 1909.

METEOROLOGICAL BULLETIN FOR JANUARY, 1909.

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

GENERAL WEATHER NOTES.

Pressure and temperature.—The means of atmospheric pressure for the Philippines, as shown in the table below, are indeed remarkably low if compared both with the normal of this month and with the monthly means for January, 1908. Thus, for instance, the monthly mean for Manila is 759.90 millimeters while the normal is 761.11 millimeters and the monthly mean for January, 1908, was 762.10 millimeters.

This is the more remarkable, since there has been no depression over the Archipelago during the whole month. It should be attributed only to the fact that the great center of high pressure prevailing over Siberia influenced the atmospheric pressure on the Philippines less than it usually does in the month of January.

The maximum pressure was generally observed throughout the Archipelago on the 15th or 20th, and the minimum pressure, on the 5th.

The monthly average of temperature differs very little from the normal as well as from the monthly mean for January, 1908. The absolute maximum and minimum temperatures as registered at the Central Observatory have been 32.9° C. and 18.2° C.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, JANUARY, 1909.

Station.	Pressure.						Temperature.					
	Mean.	Departure from January, 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from January, 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	758.53	—1.76	760.08	16, 20	756.94	5	25.9	—0.2	31.8	1	19.6	17
Surigao	58.87	—1.74	60.52	16	57.34	5	25.4	0	30.6	8	20.9	14
Cebu	58.95	—1.46	60.44	16, 20	57.41	5	26	+ .2	30.1	6, 8, 22	20.6	18
Iloilo	58.92	—1.86	60.47	16	57.46	5	25.9	+ .1	31.5	20, 26	20	13
Ormoc	59.06	—1.78	60.55	20	57.53	5	24.9	0	31.9	23	17.5	17
Tacloban	59.52	—1.63	61.18	16	57.95	5	25.8	+ .5	32.8	22	20.8	17
Calbayog	59.77	—1.83	61.42	20	58.52	5	24.8[1]	----------	----------	----------	17.5	17
Legaspi	59.84	—2	61.61	15	58.24	5	25.8	+ .4	32.1	20	19.9	13
Atimonan	60	—2.31	61.90	15	58.46	5	25.5	0	33.5	28	21.1	16
Manila	59.90	—2.20	61.58	15	58.34	5	24.7	+0.2	32.9	4	18.2	16
Olongapo	59.61	----------	61.32	15	57.97	5	25.5	— .7	32.6	22	17.6	18
San Isidro	59.85	—2.39	61.51	15	58.25	5	24.5	— .2	31.8	13	17.1	18
Dagupan	59.69	—2	61.42	20	58.08	5	25.9	—1	35 ?	7, 8	17.4	18
Bolinao	59.48	----------	61.18	20	57.89	6	26.1	----------	31.9	6	19	17
Vigan	59.90	—2.01	61.87	20	58.36	5	25.8	— .4	32.4	26	19.5	14
Tuguegarao	60.80	----------	63.45	15	58.52	5	24.3	+ .4	32.5	4, 25	16.1	18
Aparri	61.33	—2.84	64.30	15	58.82	5	----------	----------	----------	----------	----------	----------

[1] From 25 days only.

Precipitation.—The following table shows that about a half of our stations have reported a total amount of rainfall above that of January, 1908, and the other half, a total below it. The rainfall for Manila differs from the normal by +18.8 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JANUARY, 1909.

Station.	Total.	Departure from January, 1908.	Rainy days.	Departure from January, 1908.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from January, 1908.	Rainy days.	Departure from January, 1908.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	[1] 229.6	------	13	------	48	8	Calapan	180.4	------	20	------	32.3	18
Ysabela, Basilan	56.7	+ 4.1	16	+11	8.6	25	Legaspi	264.3	− 39.1	22	−2	109	2
Zamboanga	57.9	+ 47.8	8	+ 5	18.8	1	Virac	136.3	−110	20	−7	52.1	2
Cotabato	209.1	+158.2	17	+ 4	50.8	1	Batangas	10.3	+ 1	8	+1	2.8	18
Cagayan, Misamis	19.3	------	5	------	7.7	21	Atimonan	468.6	+295	20	+3	99.6	14
Butuan	152.7	+ 62.4	21	+ 4	25.4	22	Silang	79.1	+ 60.5	5	+3	47.8	31
Yap, Western Carolines	[1] 146.1	------	17	------	50.8	16	San Antonio, Laguna	226.5	+ 62.3	19	+3	45.2	18
Tagbilaran	48.1	− 42.4	17	+ 3	13	6	Corregidor	19.8	− 8.4	2	0	14.7	18
Surigao	351.7	+ 18.8	25	+ 2	46.5	14	Manila	46.8	+ 27.9	9	0	27.5	21
Maasin	[1] 96.5	------	10	------	24.1	29	Olongapo	14.3	------	6	------	8.4	19
Cebu	46.2	− 49.9	10	− 3	14.7	21	San Isidro	34.9	+ 16.5	3	−1	20.3	19
Bacolod	21.1	− 45	5	− 8	14	1	Tarlac	15.7	+ 9.9	3	−1	7.4	3
Iloilo	18.4	+ 3.3	6	− 2	10.2	9	Dagupan	10.4	− 11.5	2	−5	6.6	24
San Jose Buenavista	11.4	− 23.7	2	− 3	10.9	4	Bolinao	25.6	+ 4.7	4	−4	16.3	24
Tuburan	26.8	− 38	6	− 4	8.1	20	Baguio, Benguet	4	− 69.4	3	−3	3	19
Ormoc	120.6	+ 54.4	18	− 1	35.3	6	San Fernando, Union	0	------	0	------	0	0
Tacloban	188.5	− 22.9	18	− 4	55.4	6	Echague	17.8	− 42.8	10	−8	6.9	18
Borongan	312.5	−112.5	30	+ 4	34.3	5	Candon	0	− 19.8	0	−4	0	0
Calbayog	101.2	− 81	19	− 5	23.1	4	Vigan	.5	+ .5	1	+1	.5	28
Palanoc [2]	87.2	------	15	------	40.6	2	Tuguegarao	3.3	− 50.1	2	−8	2	19
Romblon	51.2	------	16	------	25.9	2	Laoag	0	------	0	------	0	0
Laoang	424.4	------	29	------	59.2	1	Aparri	163.2	+ 72.7	17	+1	48	28
Gubat	188.5	−168.6	15	− 9	61.7?	1	Sto. Domingo, Bat. Is.	172.2	− 45.5	23	+1	26.1	24
Sumay, Guam, Lad. Is.	55.2	------	19	------	10.2	14							

[1] 30 days only.

[2] 29 days only.

DEPRESSIONS AND TYPHOONS.

As stated above, no atmospheric perturbation of any importance has been observed in the Archipelago during this month. In regard to the Pacific Ocean, however, the Manila Observatory announced in the following words two depressions toward the end of the month.

25th, 12.15 p. m.: Pressure is relatively low over the Eastern Sea northwest of the Loochoos.

26th, 11.45 a. m.: Pressure is lowest over the Pacific not far from the southeastern part of Nippon Island. A well-developed cyclone seems to have moved northeastward along the southern coast of Japan.

28th, 11.50 a. m.: There are signs of a depression far off east of northern Luzon or of the Balintang Channel.

29th, 12.15 p. m.: The depression mentioned yesterday has moved away toward east-northeast.

According to Tokio Observatory, there were on the 25th two centers of low pressure moving northeastward near the southern coast of Japan. They were in the neighborhood of the Loochoos on the 24th not very far from each other, and both appeared over the Pacific east of northern Japan on the 26th.

The track of both depressions have been published in the "Journal of the Meteorological Society of Japan" for February, 1909.

The other depression which was situated northeast of Luzon in the early morning of the 28th, seemed to lie on the 29th south of the Bonin Islands, moving east-northeast.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Es en verdad digno de llamar la atención lo relativamente baja que se ha conservado la presión atmosférica en Filipinas con respecto á la normal de este mes, y más aún si se compara con la de Enero, 1908. Así, por ejemplo, la media mensual de Manila, según puede verse en el cuadro correspondiente de observaciones hechas en el Observatorio Central, es 759.90 milímetros inferior á la normal en 1.21 milímetros y á la media de Enero del año pasado en 2.2 milímetros.

Este hecho es tanto más notable cuanto que en todo el mes no se ha observado depresión alguna en todo el Archipiélago, debiendo atribuirse únicamente á la poca influencia que con respecto á otros años ha ejercido en Filipinas el centro de máxima presión de la Siberia.

Las máximas presiones se han observado generalmente el día 15 ó 20, y las mínimas el día 5.

La temperatura media mensual difiere muy poco así de la normal como de la media de Enero, 1908. La de Manila difiere de la normal en —0.3° C. La máxima y mínima absolutas registradas en el Observatorio han sido 32.9° C. y 18.2° C.

Precipitación acuosa.—En la tabla de lluvia que acompaña el texto inglés se ve que la mitad próximamente de nuestras estaciones nos dan un total de lluvia superior al de Enero del año pasado, y la otra mitad un total inferior. La suma de agua recogida en Manila difiere de la normal de este mes en +18.8 milímetros.

DEPRESIONES Y TIFONES.

Como queda ya indicado, nuestro Archipiélago se ha visto libre este mes de perturbaciones atmosféricas. Por lo que toca al Océano Pacífico, el Observatorio anunció en los siguientes términos dos depresiones durante la última semana del mes:

Día 25, 12.15 p. m.: La presión afmosférica está relativamente baja en el Mar del Este al NW de Liukiu.

Día 26, 11.45 a. m.: La presión atmosférica esta muy baja en el Pacífico no lejos de la parte SE de la isla Nippon. Un ciclón bien desarrollado parece haberse movido hacia el NE á lo largo de la costa S de Japón.

Día 28, 11.50 a. m.: Hay indicios de una depresión lejana al E del N de Luzón ó del Canal de Balintang.

Día 29, 12.15 p. m.: La depresión mencionada ayer se ha alejado en dirección al ENE.

Sobre la primera de estas depresiones solamente diremos que, según el Observatorio de Tokio, fueron dos los centros de baja presión que del 24 al 26 se observaron en los alrededores de las islas Liukiu y en los mares cerca de la costa Sur de Japón. Sus trayectorias pueden verse en el "Journal of the Meteorological Society of Japan" de Febrero 1909.

La otra depresión que el 28 por la madrugada demoraba hacia el NE de Luzón, parecía hallarse el 29 al S de las islas Bonin moviéndose al ENE.

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.	Air temperature.[2]			Underground temperature.						Relative humidity, mean.	Vapor pressure, mean.	Evaporation.[2]	
		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	759.54	24	27.2	21.2	26	26.6	26.6	26.6	27.3	27.7	83.4	18.4	2	2
2	59.11	24.8	30.2	21.1	25.7	27	26.4	26.8	27.2	27.6	78.5	18	2.2	2
3	58.81	24.7	27.8	21.2	26.1	27	26.7	26.8	27.2	27.8	89.1	20.5	.7	1
4	58.57	26	32.9	21.5	26.3	28	26.8	27	27.2	27.7	81.7	20.1	2.9	2.3
5	58.34	24.5	29.4	19.8	26	27.1	26.7	26.9	27.1	27.6	83.6	19	1.6	1.3
6	58.49	25.4	31.4	20.8	26.3	27.8	26.9	27	27.2	27.8	80.9	19.4	2.6	2.1
7	58.71	25.3	31.9	21.2	26.3	27.9	26.9	27	27.1	27.7	81.5	19.4	2.6	2
8	59.81	25	30.8	20.9	26.2	27.9	26.9	27	27.1	27.7	79.1	18.4	2.6	2.1
9	60.72	24.5	30.9	20.3	26	27.8	26.7	27	27	27.7	80.6	18.2	2.5	2.3
10	60.81	24.3	31.9	18.9	25.9	27.8	26.7	27.1	27.1	27.6	81.4	18.3	2.5	2.2
11	60.48	24.6	30.2	20.3	25.9	27.7	26.6	26.9	27.1	27.7	83.1	18.9	2.3	1.9
12	59.29	25.2	30.6	20.2	26	28	26.6	27	27.1	27.6	81.2	19.2	2.8	2.1
13	58.77	25.4	30.8	21.3	26.5	28.9	26.9	27.4	27.1	27.7	80.1	19.1	2.8	2.2
14	60.52	23.8	27.7	20.7	26.4	27.4	26.8	27	27.1	27.6	87	19	1.5	1.4
15	61.58	23.6	28.3	19.8	26	26.6	26.7	27	27.1	27.6	81.4	17.5	1.9	1.7
16	61.30	22.8	29.2	18.2	25	27.2	26.4	26.8	27	27.6	77.7	15.8	2.8	2.7
17	60.54	23	27.3	19.4	25.5	26.4	26.5	26.4	27.1	27.7	74.7	15.4	3.3	2.7
18	60.26	24.5	30	18.9	25	27.1	26.1	26.6	27	27.6	81.2	18.1	2.3	1.8
19	60.73	25.6	32.1	21.8	26	28.1	26.3	26.9	27.1	27.6	83.9	20.2	2.5	2
20	61.41	25.3	31.1	19.7	26	28	26.6	27	27	27.7	78.8	18.7	3	2.3
21	60.99	24.7	29.5	21	26.1	27.4	26.7	26.9	27.1	27.6	87.7	20.2	.7	1
22	60.94	25.3	30.9	21.2	26.2	27.5	26.6	27	27	27.3	77.6	18.4	2.8	3.6
23	60.87	24.4	30.7	18.4	25.9	27.1	26.8	27	27.1	27.7	78.3	17.7	2.6	2.2
24	60.15	25.1	31.8	18.5	25.9	27.4	26.7	26.9	27.1	27.5	76.7	17.8	3.7	3
25	59.97	25.7	30.5	20	26.2	27.5	26.7	26.9	27.2	27.7	77.5	19	3	2.3
26	59.99	25.3	31	20.3	26.3	27.8	26.8	27	27.2	27.7	81.1	19.2	2.8	2.2
27	59.65	25.1	31.3	20	26.1	27.8	26.8	27.3	27.2	27.7	76.5	17.8	3.2	2.5
28	58.73	25.1	31	18.9	26	28	26.8	27	27	27.4	79.4	18.8	3.7	2.8
29	58.69	24.3	29.5	20.7	26.1	27.1	26.8	26.9	27	27.4	80.9	18.2	1.9	1.5
30	59.20	23.9	30	19.1	25.6	27.4	26.6	27.2	27	27.2	77.7	16.9	3.4	2.5
31	59.82	23.3	27	20.4	26.1	26.7	26.8	26.4	27.1	27.6	81.8	17.4	1.1	1.6
Mean	759.90	24.7	30.2	20.2	26	27.5	26.7	26.9	27.1	27.6	80.8	18.5	2.5	2.1
Total													76.3	65.3
Departure from normal	—1.21	—0.3	+0.3	—0.3							+2.8	+0.3	—97.3	

Date.	Wind.				Clouds.					Sunshine.		Rain, 24 hours beginning midnight.	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	NE, E	123.5	20	NE	9.4	A.-Cu.		N.-cf.	ENE	0	05	1.7	d a. ↯° p.
2	N	127	22	N	9.1	Ci.-S.		Cu.	ENE	2	30	1.8	$\equiv^{\circ}$ $\oplus$ a. d p.
3	NE	85	9.5	ESE	8.7	A.-Cu.	NE by E	Cu.-N.	E by S	2	10	2.6	$\bullet^{\circ}$ a. p° p.
4	ESE	171	21	ESE	6.5	Ci.	SE	Cu.	E	8	30		Ω^2 $\equiv$ a.
5	ESE, W	80	10	W	9.9	Ci.-S.	SE	S.-Cu.	E	0	30		Ω° $\equiv$ a.
6	W	122	12	W	7	Ci.-S.	SE	Cu.	ESE	7	30		$\equiv$ a.
7	Variable	98.5	14.5	NW	5.1	Ci.-S.		Cu.	E	7	45		Ω $\equiv$ a.
8	ESE	138.5	15	ESE	5.8	A.-Cu.	SE	Cu.	E	5	45		Ω $\equiv^2$ a.
9	NE	161.5	16.5	NE	7	Ci.	S	Cu.	E	4	45		$\equiv^{\circ}$ a.
10	NE, E	139	12.5	E	6	Ci.-S.	SE	Cu.	E	8	15		$\ominus^{\circ}$ Ω $\equiv$ a.
11	NNE	151.5	19	WNW	6.2	Ci.-S.	SW	Cu.	E	6	25		$\equiv$ a.
12	S, W	142.5	13	WSW	2.8	A.-Cu.	N	Cu.		9	40		Ω° $\equiv$ a. ∞ $\frown$ p.
13	ESE	201.5	17	SE	4.7	A.-Cu.	NE	Cu.		8	55	4.1	$\equiv$ a. $\bullet$ p.
14	NE, SE	119.5	13.5	E	9.2	A.-Cu.	ESE	Cu.-N.	ENE	1	05	2.3	$\bullet$ $\equiv$ a. d° p.
15	ESE	107	9.5	NW	8.8	Ci.-S.		S.-Cu.	NE	2	25		$\equiv$ a.
16	ESE	141	10.5	SW	6.8	Ci.-S.		Cu.	E	6	35		Ω $\equiv^2$ a.
17	NE quad.	183.5	19	N	7.3	A.-Cu.	NE by E	S.-Cu.	E by S	4	45		$\equiv$ a. ↯° d° p.
18	Variable	148.5	13	WSW	6.1	Ci.-S.		Cu.	E	6	30	3.2	Ω $\equiv^2$ a. $\bullet$ d° p.
19	N	229.5	16	ESE	6	A.-Cu.		Cu.	ESE	7	35	.9	d $\equiv$ a.
20	SE	182.5	15	W	4.7	Ci.	SE	Cu.	E	8	00		Ω^2 $\equiv$ a.
21	E	146.5	12	N	8.3	A.-Cu.	E	N.		4	25	27.5	$\equiv^{\circ}$ $\bullet^{\circ}$ a. ☈ $\bullet$ p.
22	ESE	149	16.5	W	4.3	Ci.-S.		Cu.	ENE	8	20		$\equiv^2$ a.
23	ESE	164	19	ESE	6	A.-Cu.		Cu.	E	7	25		Ω^2 $\equiv^2$ a.
24	NE, ESE	179	23	ESE	6.2	Ci.	SSW	Cu.	E	8	50		Ω $\equiv$ a. ↯° p.
25	W	186.5	18	W	5.1	A.-Cu.	SE	Cu.	E	6	30		$\equiv$ a.
26	ESE	122.5	12	W	5.5	Ci.		Cu.	E	8	55		$\equiv^{\circ}$ a.
27	ESE	117.5	14	W	4.6	Ci.		Cu.	E	6	55		Ω $\equiv$ a.
28	WSW	240	25	N	2.1	Ci.		Cu.	N	9	40		Ω $\equiv$ a.
29	N, ESE	181	17	N	5.8	Ci.		S.-Cu.	E	5	25		Ω $\equiv$ d² a. $\equiv^{\circ}$ p.
30	E, W	137.5	14	W	6	Ci.		Cu.	E	7	45		Ω $\equiv$ a.
31	E	134	11	E by S	9.3	A.-Cu.		N.	E	3	00	2.7	$\equiv^{\circ}$ a. $\bullet$ a. p.
Mean		148.7	15.5		6.5					6	02		
Total										186	50	46.8	
Departure from normal		—20.5			+1.3					—6	11	+18.8	

[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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	757.33	26.9	31.8	23.7	79.8	NNE	1.5	8.3	A.-Cu.	S.-Cu. NE	------	
2	57.41	26.1	30.5	23.2	85	Variable	.8	7.2	Ci.-S.	S.-Cu. NE	4.8	● d p.
3	57.51	26	30.2	23	84.2	NNE	1.2	8.3	Ci.-S.	S.-Cu. E	------	
4	57.39	26	31.6	23.6	83.8	N, NNE	1.3	8.2	A.-Cu., Ci.-S.	S.-Cu. ENE, NE	8.9	●^{2} ◡° p.
5	56.94	26.2	30.1	23.2	80.3	NNE	1.7	7	Ci.-S.	N. E, NE	------	
6	57.10	25.8	29	23.7	87.6	NNE	1.2	7.5	Ci.-S.	N. NE, E	13	● a. ⌈↯ ●^{2} p.
7	57.47	26.3	30.2	23.5	84.5	NNE	1.2	7.3	Ci.-S., A.-S.	Cu.-N. NE	1	●° a. p. ⌽° p.
8	58.27	26.3	30	23	83	NNE	1.7	5.2	Ci.-S.	S.-Cu., Cu.-N E	------	
9	59.06	26.4	30.8	22.5	79.3	NNE	1.8	5.7	Ci.-S.	Cu. NE	------	
10	59.20	25.9	29.8	22.5	79.8	NNE	1.8	7.8	Ci.-S.	S.-Cu. E	------	p a. ⌽° p.
11	59.02	26.1	31.4	22.4	76.5	NNE	2	2.8	Ci.-S.	Cu. ENE, NE	------	↙° a.
12	58.39	25.8	31.5	21	77.3	NNE	1.7	2.5	Ci.-S.	Variable	------	
13	57.90	25.8	30.7	21.5	77.1	SE, NNE	2.3	3.7	Ci.-S.	Cu. E	.8	
14	58.88	26	31.7	21.3	76.5	NNE	2	6.7	Ci.-S. E	Cu. NE	.5	d a.
15	60	25.1	28.5	21.7	81.5	NNE	2	9.3	Ci.-S., A.-S.	N. E	1.4	d^{2} a. ● p.
16	60.08	25	29.8	21.4	75.3	NNE	1.7	7.8	Ci.-S.	Cu.-N. NE	------	
17	59.12	24.4	30.8	19.6	75.8	N, NNE	1.5	5.2	Ci.-S.	Cu. NE	------	
18	58.94	26.1	31.5	22.3	78.1	NNE, SE	1.7	3.8	------	Cu. E, NE	------	
19	59.86	26.4	31.4	22.7	78.3	NNE, SE	1.2	4.7	Ci.-S.	Cu.-N. NE	1.5	●° a.
20	60.08	26.1	31.5	23	82.5	NNE	2	6.3	A.-Cu., Ci.-S.	N. E	2.3	●° a.
21	59.81	25	29	22.8	86.3	NNE	1.8	6.7	------	N. E	2.3	●° a. d° p.
22	59.10	26.5	30.8	22.3	77 3	NNE	1.7	5.3	Ci.-S.	S.-Cu. NE	------	
23	59.36	25.9	30.1	22.7	81.2	NNE	1	9.2	A.-Cu. E	Cu.-N. E, NE	6.4	d° a. ●° p.
24	58.71	26.2	30.5	22.5	78	NNE	2.2	6.2	Ci.-S.	Cu. E	.5	↙° d a. d° p.
25	58.74	26.4	31.5	23.4	82.3	Variable	1.3	8	Ci.-S. E	Cu.-N. E, NE	.3	d° a. ●° p.
26	59.10	26.2	31	22.2	77.3	Variable	1.5	6.5	Ci.-S.	S.-Cu. E	------	
27	58.66	26.3	30.6	21.8	77	NNE	1.5	6.7	Ci.-S.	Cu.-N. E	.8	d p.
28	57.76	25.8	30.8	22.6	82.5	NNE	2	7.7	Ci.-S.	Cu.-N., Cu. E	------	
29	57.32	25.8	30.7	23	84	Variable	1.5	9	Ci.-S., A.-Cu.	S.-Cu.,Cu.-N. NE	2.8	● a. p.
30	57.76	25.4	28.7	22.7	81.8	NNE	1.2	10	A.-S., Ci.-S.	Cu.-N. NE	.8	↙° a. ●° p.
31	58.10	26	30	22.4	73.8	NNE	1.2	8.7	Ci.-S.	Cu.-N. NE	------	
Mean	758.53	25.9	30.5	22.5	80.2	------	1.6	6.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	48.1	

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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	757.92	24.7	27.8	23.2	93.5	E	1	9.8	A.-Cu.	Fr.-N. E, NE	37	●° a. ●^{2} p.
2	57.80	24.7	27.9	22.3	92.3	NNE	.5	7.8	Ci. SE	N.-cf. ENE	1.5	●^{2} a. d° Ω p.
3	58.02	25.6	28.8	21.3	86.8	ESE	1.3	9.5	Ci.-S. ESE	S.-Cu., Cu. E	11.7	Ω° ↙° d° a. ●° p.
4	57.71	24.8	27.9	22.7	92.7	E by N	.5	8.7	Ci.-S. NE	Cu. NNE, N	3	●° a. d ◡ Ω° p.
5	57.34	24.8	28.5	22.6	92.7	NNE	.5	8.3	Ci.-S. SE	Cu. NE	14.2	◡ ●° a. d p. Ω
6	57.35	25.8	28.7	23.3	92	NNE	.5	8.8	Ci.	N.-cf. E	19.8	●° a. p.
7	57.74	26.3	30.4	23.5	89.8	ENE	1	8.7	A.-Cu.	Cu. ENE	3	● a. Ω° ◡ p.
8	58.43	26.9	30.6	23.5	86.7	ENE	1.5	5.5	Ci.	Cu. E	------	Ω a. p.
9	59.51	26	30.4	22.5	86	NE	1.5	7.5	Ci., Ci.-S.	Cu. E	23.6	Ω^{2} a. ↙° ●° p.
10	59.74	25.7	29.2	23.1	88	NE, ENE	1.8	7.3	Ci., Ci.-S.	N. E	14.7	●^{2} a. ↙° p.
11	59.14	26.4	30	22.4	84.2	NE	2.2	4.8	Ci. SE	Cu. E	6.9	●° ≡° a. d° p.
12	58.55	25.9	30.5	22.1	84.9	NNE	.7	3.5	------	Cu. ENE	5.9	Ω^{2} ≡° a. Ω° p.
13	58.08	24.8	28.3	21.8	87.7	NNE	.5	5.3	A.-Cu.	Cu. E	1	d a. Ω^{2} p.
14	59.20	24.6	27.9	20.9	87.3	N	.8	7.2	Ci., Ci.-S. E	Cu. NNE	46.5	Ω^{2} a. Ω° p.
15	60.39	23.6	25	22.3	93.2	N	1.5	10	------	N.	31.8	● a. p.
16	60.52	24.7	28.2	21.3	79.3	N	1.8	8.8	Ci.-S., A.-Cu.	Fr.-N. NE	------	●° ↙° a. p. d p.
17	59.15	25.2	27.8	21.6	84	N	2.2	5.3	Ci.-S.	Fr.-Cu. NE	------	Ω a. p.
18	59.10	25	27.9	21.6	88.2	NE	1	4	A.-Cu.	Fr.-Cu. E	4.6	Ω a. p. < p.
19	60.33	26	29.9	22.9	88	NE	2.2	6.2	Ci.-S.	N.-cf. E	8.2	●° a. p. Ω° p.
20	60.42	25.1	27.9	23	92	E quad.	1.7	9.3	A.-Cu. E	N. E	36.7	↙ ● a. ●° p.
21	60.01	25.7	28.2	23.1	87.3	ENE, NE	2	8.8	Ci.-S.	Fr.-N. ENE	4.8	●^{2} a. ○ Ω^{2} p.
22	59.52	26	29.6	22.4	86.7	E	1.7	6.7	Ci.-S.	Fr.-N. E	11.2	Ω^{2} ●^{2} a. ↙ ●° p.
23	59.67	25.5	28.7	22.7	87.2	E quad.	2.5	7.5	A.-Cu. SE	Fr.-N. E	20	● ↙ a. ●° p.
24	59.17	25.9	29.7	23.3	86.7	ESE	2	7.8	------	Fr.-N. E	12.5	● a. p.
25	59.27	25.7	29.4	23.1	85.7	E quad.	2	6.5	Variable	Cu. E	------	●° a. d. ↙° Ω^{2} p.
26	59.41	24.5	28.8	21.1	89.1	ENE	.5	4.8	Ci. ESE	Cu. E	2	d a. p ↙° p. Ω^{2}
27	59	25	29.1	21.7	90.4	ENE	1.7	7.2	------	Fr.-N. E	16.3	Ω^{2} ●° a. ↙ ●° p.
28	58.07	25.2	29.2	22.9	91.3	ENE	.8	9.2	Ci.-S. NW	Fr.-N. E	1.8	d a. Ω° p.
29	57.57	25.8	29.5	23.2	85.7	ENE	.8	8.3	Ci.-S. NNW	Cu.	3.8	Ω^{2} a.
30	58.20	25.4	28.2	22.4	83.3	NE quad.	3.3	9.8	A.-Cu.	Fr.-N. NE	7.9	↙ ●° d a.
31	58.61	26	27.8	23.1	78.8	ENE, NE	3.3	8.8	Ci.-S. ESE	Cu. ENE	1.3	●° a. ↙° a. p.
Mean	758.87	25.4	28.8	22.5	87.8	------	1.5	7.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	351.7	

[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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	58.02	25.9	28.7	23.7	85.5	NE, ENE	10.2	7.2	Ci.-S.	Cu. ENE, E	8.9	Ω ≡ a. ●° p.
2	57.89	25.9	29.2	22.8	82.5	NE	6.2	4.5	Ci.	Cu. ENE	------	●° ≡ a. Ω p.
3	58.11	26.3	29	23.1	84.7	NE, E	6.2	6.5	Ci.-S.	Cu. ENE	------	Ω ≡ ◯ a. ⊎ a. p.
4	57.78	26.4	29.6	22.7	81.3	NE, E	8.2	6.3	Ci.-S.	Cu. NE	------	Ω² ≡ a. ψ p.
5	57.41	26	29.5	22.5	82	E	7.6	5.2	Ci.	Cu. ENE	------	≡ a. Ω a. p.
6	57.48	26.7	30.1	22.1	80.7	NE	8.8	5.5	Ci.	Cu. NE	------	Ω ≡ a. ⊎ p.
7	57.96	27	30	24	78.8	NE, ENE	8.5	6.3	A.-Cu.	Cu. NE	------	Ω ≡ a.
8	58.70	26.5	30.1	22.5	77.4	N, ENE	8.5	3.3	Ci.	Cu. ENE	------	≡ a. Ω a. p.
9	59.48	26	29.9	22.3	79	E	8.1	3	Ci.	Cu. ENE	------	≡ a. Ω a. p.
10	59.76	26	29	22.9	79.8	ENE, E	7.7	5.8	Ci.-S.	Cu. NE	------	Ω ≡ a.
11	59:48	25.9	29.6	22.4	81.7	ENE, E	8.4	4	A.-Cu. E	Cu. NE	1.8	≡ Ω a. p p.
12	58.72	25.8	30	22.1	77.2	E	8.7	2.8	Ci.	Cu. NE	------	Ω² ≡ a.
13	58.14	25.6	30	22	79.2	E	7.5	2.8	Ci.	Cu. ENE	------	≡ Ω² a.
14	59.26	25.8	29.2	22.8	83.1	NE	------	4.8	Ci., A.-Cu.	Cu. NNE	.8	≡ Ω a.
15	60.30	25.3	29.2	21.8	81.5	E	------	6.5	Ci.	Cu.-N. NNE	6.1	Ω² ≡ a. ●° a. p.
16	60.44	25.2	28.5	22.8	78	NE, E	10.9	4.3	Ci.-S.	S.-Cu.	------	Ω ≡ a.
17	59.32	25.2	29.4	22	76.3	N, E	11.1	3.7	Ci., A.-Cu.	Cu. NE	------	≡ a. Ω a. p.
18	59.16	25.6	29.5	20.6	84.2	E	8.4	3	Ci.	Cu. NE	------	≡ a. Ω² a. p.
19	60.37	26.7	30	23.2	81	NE quad.	8.9	5	Ci.-S., Ci.	S.-Cu. ENE	4.3	d° ≡ Ω² a.
20	60.44	26.4	29.5	23.5	83.8	N, ENE	7.6	7	Ci.-S.	Cu. NE	------	≡ Ω² p a.
21	60.30	24.8	29	21.2	88.7	N	7.4	6.2	A.-Cu. E	S.-Cu. NE	14.7	ϟ ●° a. Ω a. p.
22	59.58	26.4	30.1	22.4	77.8	ENE	9.9	3.5	Ci.	Cu. ENE	------	d ≡ Ω² a.
23	59.80	26.6	30	23.8	79.3	NE	9.9	5.8	Ci.-S.	Cu.-N. NE	1	≡ Ω a.
24	59.28	25.8	29	23.2	85.8	ENE	8.7	6.5	Ci.-S.	N.-cf. ENE	2	Ω² ≡ a. ●° a. p.
25	59.18	26.4	29.5	23.5	80.5	E, NE	8.4	3.3	Ci.	Cu. ENE	------	≡ Ω a.
26	59.50	26.2	29.7	22.7	78.8	N, E	8.4	3.2	Ci.	Cu. NE	------	≡ Ω² a.
27	59.08	25.9	29	23.4	79.7	NE quad.	9.3	5	Ci.	Cu., S.-Cu. ENE	2.8	Ω ≡ a.
28	58.16	25.4	29	22.9	86.9	NE, E	6.9	6.3	Ci.	Cu., S.-Cu. ENE	------	p Ω ≡ a.
29	57.60	25.8	29	22.3	81.7	E	10	5.5	Ci.-S.	Cu. NNE	------	Ω a.
30	58.05	25.8	28.7	23.3	79.8	NE quad.	13	7	A.-Cu.	Cu. NE	2.5	Ω ≡ a.
31	58.63	25.9	28.7	22.9	79.8	ENE, NE	11.6	6.2	Ci., Ci.-S.	N.-cf. ENE	1.3	p Ω ≡ a.
Mean	758.95	26	29.4	22.7	81.2	------	8.8	5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	46.2	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	758.02	25.5	29.9	23	85.8	NNE, NE	17.4	8	A.-Cu.	S.-Cu. NE	4.8	p ϟ d° ● p.
2	57.86	25.2	30	22.9	87.7	N	13.4	8.3	Ci.-S., A.-Cu.	N., Cu.	.5	● a. ⊕ p.
3	57.87	25.7	29.7	23	83	NE	10.5	8.5	Ci.-S.	S.-Cu., Cu.	------	Ω a. ψ ⊎ p.
4	57.85	25.4	30.5	23	85.2	NNE	13.4	8	A.-Cu, Ci.-S.	S.-Cu.	------	d² p.
5	57.46	26.1	30.5	23.4	81.2	NE	11.9	7.5	Ci.-S.	Cu.	------	⊕ a. ⊎ p.
6	57.80	25.4	29	22.5	84.2	N	12.9	5.8	A.-Cu., Ci.	Cu.	1	d a. ● p.
7	57.88	26.6	30.8	23.5	80.2	NE	13.3	7.7	A.-Cu.	S.-Cu. NE	------	Ω a.
8	58.78	26.4	31	23.7	78.8	NE	12.1	5.8	Ci.-S.	Cu.	------	Ω a.
9	59.54	26.3	31	22.8	75.8	NE	14.4	5.8	Ci., Ci.-S.	Cu.	10.2	Ω° a. ●° p.
10	59.69	26	30.1	22.5	79.2	NE	15	7.7	Ci.-S.	Cu.	------	●° a.
11	59.35	26.2	31.2	22.8	79	NE	14.4	3	Ci.	Cu. NE	------	Ω² a. d p.
12	58.74	25.7	30.5	22.4	74.7	NE quad.	11	1.8	Ci.	Cu.	------	Ω ≡° a.
13	58.27	25	30.9	20	75.2	NE	9.8	1.7	Ci.	Cu. N	------	Ω² a. ∞ p.
14	59.42	25.2	30.6	21.4	76.9	N, NE	------	5.2	Ci.-S.	Cu. NE	------	Ω² a. ∞ p.
15	60.45	25.5	30	22	75.8	N, NE	15.3	5.5	Ci.-S.	Cu.	------	⊎ Ω² a. d° p.
16	60.47	24.5	28.5	21.8	75	NE quad.	16.9	5.3	Ci.-S.	Cu. NE	------	
17	59.44	24.5	29.5	20.6	69.2	N, NE	15.3	2.8	Ci.	Cu.	------	≡ a. ∞ p.
18	59.14	26.3	31.4	21.7	77.8	NE	12.2	2.2	Ci.	Cu. NE	------	Ω a. ∞ p.
19	60.16	26.4	31	22.2	78.7	NE	10.4	1.7	Ci.	Cu.	------	Ω² a. ∞ p.
20	60.37	26.8	31.5	23.7	78.8	N, NE	13.5	5.7	Ci.-S.	Cu.	------	Ω° a.
21	59.97	25	27.5	23.6	88	NE	11.4	7.8	Ci.-S.	Fr.-N. NE	1.9	d ●° a.
22	59.60	26.5	31	23	76.3	NE	15.7	4.7	Ci.	Cu.	------	d Ω² a. ∞ p.
23	59.70	26.2	30.5	23.1	73.2	NE quad.	17.6	5.5	A.-Cu.	S.-Cu. NE	------	∞ p.
24	59.07	26	30.9	23.4	80.7	N	14.7	6	Ci.	S.-Cu. NE	------	d° a. d² p.
25	59	26.6	30.9	23.4	76.5	N	12.4	3.2	Ci.	Cu. NE	------	
26	59.27	26.2	31.5	23	74.7	N	11.7	5	Ci.-S.	Cu.	------	∞ p.
27	59.04	26.4	30.6	23.1	75.4	NE quad.	12.3	5.2	Ci., A.-Cu.	S.-Cu. NE	------	⊎ p.
28	58.07	26.5	31.2	23	79.8	N, E	8.7	5.7	Ci.-S., A.-Cu.	S.-Cu.	------	Ω² a. ●° p.
29	57.65	26.2	30.1	23.1	78.9	NNE, E	12.4	5.8	Ci.	S.-Cu.	------	Ω d a.
30	58.10	25.6	29.9	22.6	78.2	NE	16.7	6.2	Ci.-S.	Cu. NE	------	⊎° p.
31	58.51	25.5	29.5	22.5	74.2	NE	17.8	7.5	Ci.-S.	S.-Cu.	------	d° a.
Mean	758.92	25.9	30.4	22.7	78.6	------	13.5	5.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	18.4	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	758.13	24.2	30.2	22.1	88.8	E, ENE	4.7	9.8	Ci.-S.	Cu. E	5.1	● p.
2	57.98	24.2	28.4	21.1	88.8	WNW, SSE	3.3	7.8	Ci.-S.	Cu.	4.8	≡° a. p. ● ϖ p.
3	58.14	25.2	29.6	22	84.2	W, SSE	4.6	9.3	Ci.-S.	Cu. E	.8	≡° a. ⊕ ● p.
4	57.97	24.9	29.5	22.1	88.2	NW, N	3.4	8.7	Ci.-S.	Cu. E	1.8	Ω d° a. ● Ψ p.
5	57.53	25.4	30.7	21.2	80.3	Variable	5.3	5.2	Ci. SE	Cu. E	6.9	Ω a.
6	57.86	24.6	28.9	21.8	90.8	Variable	4.1	8	Ci.-S.	Cu.	35.3	ϖ ● a. ⊤ ●² ⌒ p.
7	58.09	24.9	29.8	22	88.2	N	4.8	6.5	A.-Cu. SE	Cu. E	1.3	● Ψ p.
8	58.88	24.8	31.3	20.6	83.5	N	5.6	4	A.-Cu. SE, S	Cu. E	------	Ω a.
9	59.69	24.9	30.4	18.7	80.8	Variable	6.1	3.8	Ci. SSE	Cu. E, ENE	------	Ω a. ●° p.
10	59.78	25.9	31.6	21.6	75.7	ENE	6.2?	4.7	Ci. S, SSE	Cu. ENE	------	
11	59.47	24.6	31.5	19.9	79.4	E	5.7	2.2	Ci.	Cu. E	3.3	● a.
12	58.89	23.8	30.7	18.2	82.6	N	6	3.2	Ci.-S.	Cu. ENE	1	● p.
13	58.32	23.8	30.2	18.4	82.8	Variable	5.2	4.5	Ci.-S.	Cu. NE	2.3	Ω a. ● p.
14	59.36	24.8	30.3	19.6	82.3	Variable	5.7	5.3	Ci.	Cu. NE, N	.8	Ω a. ● p.
15	60.33	25.1	29.6	21.8	71.2	Variable	5.2	7	Ci., Ci.-S.	Cu. NNE	------	
16	60.38	24.2	30	20.5	67.8	N	5.3	4.3	Ci. SE	Cu. NNE	------	
17	59.37	23.3	29.8	17.5	81.3	N, SSW	4.6	3.5	Ci.-S,. A.-Cu.	Cu. E	------	Ω a. d p.
18	59.32	24	29.6	18.2	87.9	Variable	4.9	3.5	Ci.	Cu. NW, E	6.4	Ω a. ● p.
19	60.46	25.6	31.3	21.3	79.7	Variable	5.4	6.2	Ci.-S.	Cu. E	------	d p.
20	60.55	25.7	30	23	84.7	N, SE	6.5	9	Ci.-S.	Cu. ENE	27.9	● a. d p.
21	60.21	26	30.9	22.7	77.2	ENE	5	8	Ci.-S.	Cu. ENE	------	≡ a.
22	59.78	25.5	31.8	20.3	74.7	Variable	6.4	2	Ci.	Cu.	------	
23	59.92	26.8	31.9	22.8	65.2	ENE	8.1	3.7	Ci. SE	Cu. ENE	------	d p.
24	59.22	25.8	30.1	22.1	78.2	Variable	8.5	8.3	Ci.-S.	Cu. E	.8	d a. ⌒ ⊤ ● p.
25	59.23	25.7	31.5	21	77.8	SSE	6.2	5.3	Ci.	Cu. ENE	------	
26	59.62	24.6	31.2	19.8	77.7	Variable	5.9	3.5	Ci.	Cu. ENE	------	Ω a.
27	59.31	25	29.9	20	77.2	N	6	4.2	Ci.-S.	Cu. E	------	Ω a. d p.
28	58.33	24.7	30	21.4	87.8	Variable	4.5	7.2	Ci.-S.	Cu. E	14	● ⌒ p.
29	57.84	24.2	29.5	20	84.5	NNW, SE	5.2	5.3	Ci. SE	Cu. NNE	7.6	Ω a. ● ϖ p.
30	58.18	25.2	30.7	21.2	73.2	ESE	6.8	7.8	Ci.-S.	Cu. NE, E	.5	● p.
31	58.73	25.6	29.7	22	63.2	E	8.8	5.2	Ci.	Cu. ENE	------	
Mean	759.06	24.9	30.3	20.8	80.2	------------	5.6	5.7	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	120.6	

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.	Rain.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	758.78	25.1	29.6	22.8	86.3	NNE, NE	1.2	9.3	Ci.-Cu. WSW	N. NE	20.9	● a. p.
2	58.35	25.4	30	22	85.7	SE	.8	8.7	Ci.	Cu.-N. E	13.9	● a. p.
3	58.55	26.2	31.2	22.8	83	SE	.7	7.7	Ci. SW	Cu. E	------	○² a. Ψ² p.
4	58.33	25.8	30	23.6	85.2	NE	.7	7.8	Ci. SW	S.-Cu. E	2.5	● a. ϖ p.
5	57.95	26.6	31.5	23	83.5	NW	.8	6	Ci. SW, SSW	S.-Cu. E	7.4	Ω² a. ϖ° Ψ° p.
6	58.34	25.1	28.7	23.9	92	NW quad.	.8	9.5	------------	N. ENE	55.4	● a. ●² p.
7	58.54	25.8	31.5	23.3	86.7	Variable	.7	7.2	Variable	Variable	5.3	Ω² a. ● p.
8	59.22	26.6	32	22.8	81.8	WNW	.8	4.3	Ci.-S. E, S	S.-Cu.	------	Ω² a.
9	60.06	26.5	31.6	22.4	80.2	NW, SE	.8	5.2	Ci. SW	Cu. ENE	------	Ω² a.
10	60.40	27	32	23.9	76.8	N, ESE	1	5.5	Ci.-S. SW	Cu. ENE	1.8	Ω² a. ϖ² p.
11	59.89	26.7	32.5	22.7	76.2	NW, ESE	.8	4.5	Ci.-S.	S.-Cu., Cu.-N. E	.8	Ω² ● a.
12	59.01	26.4	32.2	22.3	78.2	Variable	.7	2.3	------------	Cu. NE	------	Ω² a.
13	58.54	25.4	32	22.1	84.7	NNW	.7	4	------------	Cu. NE	12.2	Ω² a. ● p.
14	59.73	24.7	30	21.5	83.7	NNW, NE	.7	7	Ci.	Cu., Cu.-N. NNE	4.1	● p.
15	61	24.9	30	22	79.3	WNW, NE	1	9.2	------------	Cu.-N. NE	9.2	● p.
16	61.18	24.6	30	21.7	76	NNW, NE	1	5.5	Ci.-S. SSW	N.-cf. NE	------	Ω² a.
17	59.87	24.3	30.6	20.8	85.2	NW, NE	1	4.2	------------	Cu.-N.,S.-Cu. NE	1	Ω ● a. d p.
18	59.48	25.9	30.8	22	81.2	NW, ESE	1	4	Ci.-S.	Cu. E	------	Ω a. ⌒ p.
19	60.91	26.2	31.2	23	80.6	Variable	1	5.2	Variable	Cu. ESE, SE	------	Ω a.
20	60.93	26.1	31.2	24	86.9	SE	1	7.7	Ci.-S.	Cu.-N., N. E	6.1	● a. p.
21	60.59	26.6	31	23.7	76.6	NW	.8	5.7	Ci. SW	Cu.-N. E, NE	------	● a.
22	60.30	26.9	32.8	22.8	74.6	WNW, E	.7	4.2	Ci. S	S.-Cu.	------	Ω² a.
23	60.52	27.1	32.5	23.8	72.4	E	.8	6.3	Ci.-S. SW	Cu. ENE	.8	
24	59.99	25.9	31.2	23	82.5	SE	1.3	6.8	------------	Cu.-N. E	9.3	⌒² a. ● a. p.
25	59.70	26.5	32	22.8	78.9	NW, SSE	.7	5	Ci. SW	Cu. E, ENE	2.3	Ω² a. ● p.
26	60.04	26.3	31.8	23	77.7	NW	.7	3.8	Ci.-S., Ci. SW	Cu. E, ENE	------	Ω a.
27	59.62	25.2	29.8	22.2	84.8	WNW, E	.8	5.2	Ci.-Cu. SW	Variable	6.1	Ω² a. ● a. p.
28	58.69	25.1	30.8	23	86.2	NW	.8	8	Ci.-S., Ci. W	Cu.-N. ENE	------	○° ⊕° a. ϖ² p.
29	58.26	24.6	29.5	22.5	88	WNW, SW	1.2	8	Ci. W, SW	N. N	25.6	● a. p.
30	58.78	25.5	29.5	23	78.5	E	1.3	9	Ci.-S. W	Cu.-N. NE	3	● a.
31	59.56	24.5	30	22	78.7	E	.7	8.7	Ci.-Cu. WNW	N. NE, E	.8	● a. Ψ² p.
Mean	759.52	25.8	31	22.7	81.7	------------	.9	6.3	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	188.5	

METEOROLOGICAL DATA, ETC.—Continued.

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.97	23.8	27.2	21.8	90	N	1.2	8.3	Ci.-S.	Cu.-N. E	6.3	d a. p. ⚡ p.
2	58.44	25.1	29.5	22.8	90.2	N	1	8.3	Ci.-S.	Cu.-N. NE, E	21.3	●° a. p. ⚡ p.
3	58.72	24.6	------	22	91	N	1	7.8	Ci.-S.	Cu.-N. E	15	p a. ● ψ² ⚡ p.
4	58.46	24.6	27.4	22.8	93.3	N	1	8.2	Ci.-S.	Cu.-N., s.-cu. NE, E	23.1	●° a. p. ψ ⚡ p.
5	58.22	24.9	31.2	21	89.2	N	1	7.5	Ci. SE	S.-Cu. E	.5	ψ ⚡ p.
6	58.34	25.8	30.3	23.5	86.7	N	1.2	7.2	Ci.-S.	Cu.-N., s.-cu. E, NE	------	p a.
7	58.49	25.4	29.2	23.1	88.5	N	1	7	A.-Cu. SE	Cu.-N. E	8.6	T ⌒° ⊕ ⚡ p. p
8	59.46	25.5	30.2	21.7	85.7	N	1.2	5.5	A.-Cu. SE	S.-Cu. E	2.3	p a. ⚡ ⌒° p.
9	60.22	25.2	31	21	85.7	N	1	6.7	Ci. SE, E	S.-Cu. E	6.6	⚡ ●° p.
10	60.63	25.6	30.5	21.5	80.7	N	1.3	7	Ci. SE	S.-Cu. E	------	d a. p ⚡ p.
11	60.09	------	------	20.5	------	N	1	4.2	A.-Cu. E	S.-Cu.	------	⚡ p.
12	59.40	------	------	20	------	N	1	4.3	A.-Cu. E	S.-Cu. E	------	p° ⚡ p.
13	58.84	24.6	31.7	20.2	84.8	N	1	5	A.-Cu. E	S.-Cu. E, N	------	
14	59.88	24.7	30	20.4	81.3	N	1.2	7	A.-Cu. NE	S.-Cu. N, NE	------	≡ p° a. ⚡ p.
15	61.26	24.2	29	20.4	78.7	N, NE	1.5	6.3	A.-Cu. NE	S.-Cu. NE	.3	d ⚡ p.
16	61.33	23.9	28.5	19.6	73.7	N	1.3	6.7	A.-Cu, Ci. NE	S.-Cu. NE	------	p° a.
17	60.12	22.9	29	17.5	87.3	N; NE	1.3	5.8	Ci, Ci.-S.	S.-Cu. NE	.8	d a. p. ●° p.
18	59.79	24.9	------	20.5	87.7	N	1	6.3	A.-Cu. NE	S.-Cu. NE	.3	d a. ⌈⚡ ●° ⌒° p.
19	61.22	------	------	21	------	N	1	4.8	Ci. E	S.-Cu. E	2.8	●° p.
20	61.42	25.7	------	22	89.5	N	1	6.5	Ci. E	S.-Cu. E	4.1	● ⌈⚡° p.
21	60.83	26	31	22.2	81.5	N	1	7.3	Ci. E, SE	S.-Cu. E	------	d° a. ⚡ p.
22	60.83	25.4	31.8	21	82	N	1.2	5.5	Ci. SE	S.-Cu. E	------	
23	60.78	25.2	31.2	21	79.8	N	1.3	5.5	Ci. SE	S.-Cu. E	.3	p ⌒° p.
24	60.34	24.3	30.5	20.7	86	N	1	7.3	Ci.-S.	S.-Cu. E	3.3	●° a. p. ⚡ p.
25	60.08	------	------	21	------	N	1	5.3	A.-Cu. SE	S.-Cu. E	1	●° p.
26	60.23	------	------	21	------	N	1	4.8	Ci. E	S.-Cu. E	------	d ⌒° p.
27	59.83	25	29.8	20.8	85.2	N, NE	1	6.3	Ci.-S.	Cu.-N. E	2.8	●° ⚡ p.
28	58.97	------	------	22	------	N	1	6.7	Ci. SE	S.-Cu. E	------	d ⌒° ⚡ p.
29	58.48	24.9	29.2	22	82.5	N	1	6.2	Ci. E	S.-Cu. E	1.8	p a. ⊕° p.
30	59.33	24.3	29.7	20.5	81.5	N	1.3	7.2	Ci. E	S.-Cu. E	------	⚡ p.
31	59.93	24.2	29.5	19	79.3	N	1.3	6.2	Ci. SE, E	S.-Cu. E	------	⚡ p.
Mean	759.77	24.8	29.9	21.1	84.9	------------	1.1	6.4	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	101.2	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	759.50	24.4	25	23	86.4	NE	15.9	10	Ci.-S.	Fr.-N. NE	18	● a. p.
2	58.72	24	25.1	22.2	93	NE quad.	15.3	10	------------	N. NE	109	● a. p.
3	58.96	25	26.6	22.5	88.7	ENE, NE	9.3	8.7	Ci.-S.	Fr.-N. E	8.4	● a. p.
4	58.70	25.4	30	23.1	86.8	NE	7.8	7.8	Ci.-S.	Cu.-N. NE	31.2	d° a. ● p.
5	58.24	26.2	29	23.6	85.5	NE, E	6.6	6	Ci.-S.	Cu.	------	◯ a. ψ p.
6	58.51	26.6	30.5	24	81.7	NE, E	10.3	5.3	Ci.	Cu. ENE, NE	------	≡° a.
7	58.87	26.6	30.1	24.5	79.2	NE	10	6	Ci.	Cu. ENE, NE	------	d° a.
8	59.54	26.6	30.1	24.5	79.3	NE	10.7	7.3	A.-Cu.	Cu.-N. NE	.3	d a. p.
9	60.43	26	30.5	22.1	82.3	E, NE	10.1	5.2	Ci.	Cu. NE	4.3	⌒ d a. ● p.
10	60.69	26.6	29.7	23	77.5	E	13.3	3.3	Ci. S	Cu. NE	1.3	p a.
11	60.25	26.5	30.5	23	76.8	NE, ENE	9.2?	2.3	------------	Cu. E	9.4	d p.
12	59.44	25.6	29.6	21	80.2	E quad.	--------	3.7	A.-Cu.	Cu.	------	● a.
13	58.71	24.7	30.1	19.9	78.7	NE	6.5	2	A.-Cu.	Cu.	------	◯° ≡ a.
14	60.03	25.4	30.5	20.2	76.5	NE	10 ?	2.5	------------	Cu. N	.3	≡ a. ●° p.
15	61.61	24.7	29.6	22.5	76.9	ENE	15.1	7	Ci.	Cu.-N. NE	.8	d° a. ●° p.
16	61.43	25.2	28.5	22.9	67.8	ENE, NE	14.6	4.3	Ci.	Cu.-N. NNE	------	d° a.
17	60.09	25.2	29.5	22.6	70.7	NE	12	7.2	A.-Cu., Ci.-S.	Cu. NE	.8	d° p.
18	59.65	24.4	27.5	21.4	92	ENE	6.3	7.7	Ci.-S.	Fr.-N. NE	24.9	T a. ● a. p.
19	61.07	26.7	29.8	22.9	80.8	ENE, E	8.7	2.2	Ci.	Cu., Cu.-N.	------	≡ a.
20	61.38	27	32.1	24.3	81.1	E, NE	8.2	5.8	Ci. SW	Cu. E	20.1	● p.
21	60.97	25.8	30.9	22.9	87.7	E	8.8	7.7	Ci.-S.	Fr.-N. E	1.5	●° a. d° ⚡° p.
22	60.93	26.4	30.1	23.1	79.5	NE	10.2	6.8	Ci.-S.	Cu. ENE	8.4	● p.
23	60.87	26.7	30.5	23.5	76.7	NE	14.3	3.5	Ci.	Cu.-N. NE, ENE	.3	⌒ d a.
24	60.16	26.8	30.8	23.7	80.7	NE	11.1	3.7	Ci.	Cu. ENE, E	5.3	● p.
25	59.99	26.1	30.3	22.5	81.7	ENE	5.4	3.7	A.-Cu., Ci.	Cu.-N. ENE	------	●° a.
26	60.20	26.9	31	24	76.2	E	6.7	1.2	Ci.	Cu. E	------	≡° a.
27	59.92	25.8	30.5	22	78.1	NE, E	6.6?	3.8	A.-Cu.	Cu. ENE	5.3	p a. p.
28	58.67	25.4	30.8	21.4	83.5	E	--------	5.2	Ci.	Cu.	------	⌒° p.
29	58.35	26.2	31.4	21	76.7	NE	8.2	3.5	Ci. SW	Cu. NE	.5	d p.
30	59.37	24.6	29.9	22.4	79.5	NE	--------	8.3	Ci.-S.	Cu.-N., N.	13.7	d a. ⌒° ● p.
31	59.83	24.8	27.9	21.2	75	ENE	13.7	5.8	A.-Cu., Ci.	Cu.-N. ENE	.5	● a.
Mean	759.84	25.8	29.6	22.6	80.6	------------	10.2	5.4	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	264.3	

METEOROLOGICAL DATA, ETC.—Continued.

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.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	759.93	24.2	25.4	22.5	86.8	ENE	2.5	10	Ci.-S., Ci.	N. NE	58.9	↯° ● a. p.
2	59.46	23.9	24.8	22.5	90.3	NE	2	10	Ci.-S.	S.-Cu. NE	59.4	↯° d² a. ● p.
3	58.85	25.6	29.3	22.9	88.7	NE	.5	8.8	Ci.	S.-Cu. E, NE	3.8	⊕° a. ●° Φ² p.
4	58.74	25.8	31.5	22.3	86.5	NE	.7	4.5	Ci. E	Cu.	------	Ω° Φ° a. Φ² p.
5	58.46	26	26.6	24.5	85.9	NNE	1	9.7	Ci.-S., Ci.	S.-Cu. NE	1.5	d a. p. Φ² Ω°
6	58.77	26.8	31.4	24.4	85.2	N by E	1	8.5	Ci. E	S.-Cu. NE	------	Φ° ⊕² a. d p.
7	58.97	26.4	31.8	22	83.8	NE	.8	3.3	Ci. ESE, S	Cu. NE	------	Ω² Φ° ≡° a. Φ² p.
8	59.86	27.1	32.2	25	79.7	NE	1.5	7	Ci.	Cu., S.-Cu. NE	------	Φ a. p.
9	60.73	25.6	28.5	23.7	85.1	NE	1.7	7.3	Ci.-S., Ci.	S.-Cu. NE	91.4	Φ² ●° a. ●² p.
10	60.93	26.6	31.5	23.6	81.8	NE	1.7	4.7	Ci.	Cu. ENE	7.6	Φ° a. p d² Φ² p.
11	60.42	26.1	30	23.6	83.9	NNE, NE	1	7.2	Ci.	S.-Cu. NE	20.8	●° a. p.
12	59.39	25.2	29.9	22	86.6	Calm	------	4.8	Ci.	S.-Cu. E, NE	------	●° ⌒² a.
13	58.85	24.5	26.8	21.6	87.2	NE	.5	6.8	Ci.	S.-Cu. N, NE	15	Ω° Φ² a. ●° a. p.
14	60.54	23.4	25.7	21.4	91	N quad.	.8	8.2	Ci.-S.	N. NE	99.6	⌒° a. ● a. p.
15	61.90	23.7	26.2	21.6	86	NE	2	8.5	Ci. ENE	S.-Cu. NE	16	⌒° a. ●° a. p.
16	61.79	23.8	28.4	21.1	84	NE	2.3	9.2	Ci.	S.-Cu. NE	3.6	d ●° a. p.
17	60.50	25.3	29.8	21.5	75.1	NE, ENE	1.7	8.2	Ci. SE	S.-Cu. NE	1	
18	60.20	24.8	27.3	22.4	89.6	NE	1	10	Ci.-S.	S.-Cu. NE	41.4	d a. ⊓° ● p.
19	60.65	25.9	31.4	23.1	87.2	NE	.2	4.7	Ci.	Cu. SE	------	d° ⊕° a.
20	61.56	25.6	29.7	21.8	88.3	N quad.	.7	7.2	Ci. S	S.-Cu., Cu. NE	------	Ω² ≡° a. d° p.
21	60.85	26.5	30.3	23.8	87.5	NNW	.2	8.2	Ci. E	S.-Cu. NE	2.5	Ω² a. ⊓° ● p.
22	61.08	26.6	31.2	23.6	80.8	NE	1	3.7	Ci. SSE	S.-Cu. NE	1	
23	60.90	25.4	29.2	23.8	87.5	NE	.8	6.7	Ci.	S.-Cu. NE	1.4	●° a. p.
24	60.32	26.1	30.7	21.4	85.7	NE, ENE	.8	5.5	Ci. E	S.-Cu. NE, ENE	------	d° a.
25	59.91	25.5	29.1	21.5	86.4	NNW	.7	2.3	Ci.	S.-Cu. NE	------	Ω²≡°⊕²a.d°Φ°p.
26	60.10	25.9	30.7	22	84.8	NNE, NE	.7	5.3	Ci.	S.-Cu. NE	.8	Ω° ⊕° a. d p.
27	59.70	26.6	30.4	23.5	82.5	NNW, N	.3	4.7	Ci.	Cu., S.-Cu. NE	------	Ω² a.
28	58.56	25.7	33.5	21.4	85.6	Calm	------	1.3	Ci.	S.-Cu. NNE	12.7	Ω² a.
29	58.72	25.1	29.6	22	86	NE	.8	7.8	Ci.	Fr.-N. NE	7.4	● a. Φ° p.
30	59.58	25	29.6	22.5	82.5	NE	1.8	6.8	Ci. E	S.-Cu. NE	10.2	●° a. d° p.
31	59.84	25	30	22.3	79	ENE, E	.8	7.2	Ci.-S., Ci.	S.-Cu. NE	------	d a. p. ⌒° Φ° p.
Mean	760	25.5	29.4	22.6	85.2	------	1	6.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	468.6	

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.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.97	24.8	28.4	22.6	74.2	NE quad.	1.8	8.5	Ci.-S.	Cu.-N. ENE	------	≡° a. ∞ d° p.
2	58.62	25.2	30.1	22.6	69.5	NE, ENE	2	9.3	A.-Cu. SE	Cu.-N.	0.3	≡° a. ∞ ●° p.
3	58.39	25.8	29.7	23.1	79.6	E quad.	2.3	8.5	A.-Cu. SE	Cu.-N. ENE	------	≡° a. d° a. p.
4	58.27	26.6	31.6	22.7	79.8	NNE	1.3	7.2	Ci.-S.	Cu. E	------	∞ p.
5	57.97	25.8	31	21	79	ENE	1.5	8	Ci.-S. SSW, S	Cu. E	------	Ω≡°a.◯°∞◡²p.
6	58.26	26	32.2	21.6	80.5	NE quad.	1.3	6.5	Ci.-S.	Cu. ENE	------	≡ ◯° a. p.
7	58.48	26.3	31.9	22	78.8	NNE	1.4	4.8	Ci.-S.	Cu. ENE	------	≡ a. ∞ p.
8	59.45	26	31.7	21.4	78.2	NE quad.	1.5	4.8	Ci.-S.	Cu. ENE	------	≡ a. ∞ p.
9	60.38	25.8	32	20.8	75.9	ENE	1.4	5	Ci.-S.	Cu. ENE	------	≡° a. ∞ p.
10	60.30	26.4	31.9	22	71.2	ENE	1.8	5.3	Ci.-S.	Cu. ENE	------	≡ a. ∞ p.
11	60.39	25.5	30.9	21.9	80.7	ENE	1.3	6	Ci.-S., A.-Cu.	Cu. ENE	------	≡ a.
12	59.19	24.9	29.9	20.8	85.2	NNE	1.2	2.3	Ci.-S.	Cu.	------	≡° Ω a. ∞ p.
13	58.58	24.8	31.1	21.3	87.7	NNE	1.3	5	Ci.-S.	Cu. ENE	1.1	Ω² ≡ a. d² p.
14	60.17	24.7	29.4	20.4	84.7	ENE	1	7	Ci.-S.	Cu.	2.3	≡ Ω a. p² p.
15	61.32	24.7	30	20	76.8	NE quad.	1.5	3.8	Ci.-S.	Cu. ENE	------	Ω ≡ a. ∞° p.
16	60.90	24.7	30.4	20.6	73.8	NE quad.	1.7	6.2	A.-Cu. N	Cu. E	------	≡° a. ∞ p.
17	60.30	23	27.2	20.6	82.2	NE quad.	1.2	7.2	A.-Cu. E	Cu. ENE	1.4	d° a. p p.
18	60.08	24	31.4	17.6	80.9	ENE	1.7	5.2	A.-Cu. SE	Cu. E	.8	≡° a. d² p.
19	60.49	25.9	31.1	22.8	88.5	ENE, ESE	1.4	7.2	A.-Cu. SSE	Cu., Cu.-N. E	8.4	●° a. ⊓ ↯ ●° p.
20	61.10	25.8	31.9	20.6	83	NNE, E	1.4	5.7	Ci.-S.	Cu. E	------	≡° a.
21	60.66	26.7	32.3	21.5	83	NE quad.	1.2	6.3	A.-Cu. ENE, SE	Cu., Cu.-N. ENE	------	≡ a. ᐸ p.
22	60.72	27	32.6	23.6	82.2	NE quad.	1.5	6.5	Ci.-S.	Cu. ENE	------	d° a. ∞ p.
23	60.53	25.9	32.2	20.1	81	NNE	1.7	6.3	Ci.-S.	Cu. ENE, E	------	Ω ≡° a. d° p.
24	59.92	26.4	32.4	22.3	80.7	ENE	1.2	6.8	Ci.-S.	Cu. ENE	------	≡° a. ∞° p.
25	59.76	26	32	20.6	83.2	NNE, ESE	1.7	5.8	Ci.-S.	Cu. ENE	------	≡ Ω² a. ∞ p.
26	59.83	26	31.6	21.7	83	NNE	1.5	5.5	Ci.-S.	Cu. E, ENE	------	≡° Ω° a.
27	59.49	26.3	32	21.8	82	NNE	1.5	5.5	Ci.-S.	Cu. ENE	------	d° ≡° a.
28	58.60	25	29.7	21	88.1	NNE	1.7	3.5	Ci.-S.	Cu.	------	Ω² ≡° a. ∞ p.
29	58.41	25	31.2	22.1	90	NNE	1.5	7.2	A.-Cu. ENE	Cu. E	------	≡² a. d° ∞ p.
30	58.86	25.4	31	22.2	76.6	ENE	1.8	5.8	Ci.-S.	Cu. ENE	------	≡ a. ∞ p.
31	59.55	24	28.5	19.6	85	ENE	1.5	6.3	Ci.-S.	Cu. ENE	------	Ω° ≡° a. d° p.
Mean	759.61	25.5	30.9	21.4	80.8	------	1.5	6.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	14.3	

METEOROLOGICAL DATA, ETC.—Continued.

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).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.50	24.6	28.2	21.5	73.3	Variable	1.2	7.3	A.-Cu. SE	Cu.-N. ENE	------	Ω a.
2	59.01	24.5	29.7	20.4	71.2	NW, ESE	1	8.2	A.-Cu. SE	S.-Cu. NE	------	
3	58.86	24	27.1	22	88.8	NNW, NE	.6	9	A.-S.	N. NE	5.5	d ⌒^{0} a. ●^{0} ψ^{2} p.
4	58.45	25.5	29.7	22	80.7	NW	.8	5.7	Ci. SE	S.-Cu. E	------	Ω a. p. ⊕^{2} p.
5	58.25	24.6	30.4	19.5	77.8	NNW	.6	5.5	Ci. SE	S.-Cu. E	------	Ω ≡^{0} a. ψ^{2} p.
6	58.46	24.9	30	21	81.3	NNW	.5	6.5	Ci. SE	N. E	------	≡^{0} a. ◯^{0} a. p.
7	58.74	24.9	30.2	20.6	77.5	ESE	.9	5	Ci.	S.-Cu.	------	ψ^{2} a.
8	59.73	24.7	30	19	77.2	NNW	1.2	3.3	Ci. SE	S.-Cu.	------	Ω^{2} ≡^{0} ⊕^{2} a.
9	60.58	24.7	31	19.5	73	NW	.8	3.5	Ci. SE	S.-Cu.	------	Ω ≡^{0} a.
10	60.70	24.8	30.1	19	75.2	NNW, ESE	1	4.5	Ci. SE	Cu.-N., S.-Cu. E	------	Ω^{2} a.
11	60.46	24.6	30.1	20.4	76.8	NW	.8	6.5	Ci. SE	Cu. ENE	------	Ω ≡^{0} a.
12	59.26	25.1	31	20.4	75.5	NNW	.6	4.8	A.-Cu., Ci.	Cu. ESE	------	Ω ≡^{2} a.
13	58.65	25.2	31.8	21	75.2	NNW	.7	4	A.-Cu. E	S.-Cu.	------	≡^{2} Ω a.
14	60.33	24.2	29.7	21	77.3	NNW, ESE	1	6.7	A.-Cu. NE	Cu.-N, S.-Cu.	------	≡^{0} Ω a.
15	61.51	22.9	28	19.2	75.5	NNW	1.4	3	Ci.	S.-Cu.	------	Ω^{2} a.
16	61.28	22.8	28.5	18	74.8	NNW	1.3	3.8	Ci. SE	S.-Cu.	------	Ω^{2} a.
17	60.52	22.6	28.3	18.8	72.9	NNE	.8	5.8	A.-Cu. NE	Cu.-N. E	------	Ω^{0} a.
18	60.26	23.1	29.7	17.1	79	Variable	.6	6	Ci.	S.-Cu.	9.1	Ω^{2} a. d^{0} < p.
19	60.77	24.2	27.6	21.6	85.2	NW	1.1	7.7	A.-Cu. E, SE	N. N quad.	20.3	●^{2} a. < p.
20	61.29	24.8	30.7	19.3	79.2	NNW	.7	4.2	Ci. SE	S.-Cu.	------	Ω a.
21	60.86	24.8	30.7	20.1	79.7	NNW	.8	6	A.-Cu. E	Cu.-N. ESE	------	Ω a.
22	61	25.3	29.4	22	75.5	ESE	1.3	4.2	A.-Cu. E	S.-Cu. ESE	------	Ω a.
23	60.76	25.1	30.9	19.6	73.2	NE, ESE	.9	4.5	Ci.	S.-Cu.	------	Ω^{2} a.
24	60.33	25.2	30	19.9	71.8	ESE	1.2	4.3	Ci. SE	S.-Cu.	------	Ω^{0} a.
25	60.12	25.4	31	20.2	75.5	N	.8	5.2	A.-Cu. E	N.	------	Ω^{2} ≡^{2} a.
26	59.83	25.2	30.7	20.1	74.2	SE	1.2	3.2	Ci.	S.-Cu.	------	Ω^{2} ≡^{2} a.
27	59.51	25.2	30.5	20	73.8	SE, NNW	.8	5.3	A.-Cu. E	Cu.-N. ESE	------	Ω a.
28	58.71	25.1	31.5	20.8	76.7	N, NNW	1	3.3	Ci., A.-Cu.	S.-Cu.	------	Ω ≡^{0} a.
29	58.56	24.6	30.4	19.5	73.8	NNW	.9	5.2	A.-Cu. SE, E	S.-Cu.	------	Ω^{2} a.
30	59.40	24.1	29.1	19.8	72.8	NNW, ESE	1.5	5.3	Ci. ENE, ESE	Cu.-N.	------	Ω a. ϖ^{2} p.
31	59.77	23.3	27.5	19.2	74.8	ESE	1.2	7	A.-Cu. E	N.-Cf. ESE	------	Ω^{2} a. ϖ^{2} p.
Mean	759.85	24.5	29.8	20.1	76.4	------------	.9	5.3	------------------	------------------	------	
Total	--------	------	------	------	------	------------	------	----------	------------------	------------------	34.9	

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.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force. (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	759.14	25.3	32.4	20.5	71	SE, S	12.5	5.3	A.-Cu.	S.-Cu.	------	
2	58.60	25.7	32.6	21.8	62.4	S	14	8.5	A.-Cu.	S.-Cu.	------	
3	58.49	26.1	31.6	22.5	73.8	SE	8.7	6.7	A.-Cu.	S.-Cu.	------	⌒ a. d^{0} p.
4	58.35	26.4	31.8	22.8	77.2	Variable	7.1	6.5	A.-Cu.	S.-Cu.	------	d a. ϖ p.
5	58.08	26.2	32.9	20.5	75.9	Variable	8.9	4.8	Ci., Ci.-S.	Cu.	------	ψ ϖ p.
6	58.21	26.8	34.5	21.3	73.5	SE, S	9.3	5.8	Ci.	Cu.	------	ψ ϖ a.
7	58.43	26.9	35	20.8	72.2	SE	9.2	5	Ci.	S.-Cu.	------	ϖ p.
8	59.44	27.2	35	21.2	68.8	S	8.9	2.7	Ci.	S.-Cu.	------	ψ ϖ p.
9	60.52	25.9	33.5	20.2	74.9	Variable	6.9	2	Ci.	S.-Cu., Cu.	------	
10	60.37	26.4	34	22	69.2	SE, N	12.8	1.8	Ci.	Cu.	------	
11	60.38	26.5	32.1	20.9	72.3	SE, N	8.8	2.7	Ci.	Cu., S.-Cu.	------	
12	59.37	25.3	29.9	20.4	80.5	NW	12	2.8	------------------	S.-Cu.	------	
13	58.80	25.9	30.2	21.9	77.6	NE, NW	14.4	4.3	------------------	S.-Cu.	------	ψ p.
14	60.10	25.7	33.2	19.8	73.2	Variable	8.2	4.2	A.-Cu.	S.-Cu.	------	d^{0} p.
15	61.21	25.6	33.1	20.4	63.3	S	9.5	2.3	------------------	S.-Cu.	------	
16	60.92	24.7	31.9	20.8	67.2	S	12.6	4	Ci.	S.-Cu.	------	
17	60.16	24.3	31.6	21	66.2	SSE, S	11.6	4.5	Ci.	S.-Cu.	------	
18	60.19	23.8	30.4	17.4	72	SE, NW	8	3.3	Ci.	S.-Cu.	------	
19	60.61	26	32.7	21.8	77	S	7.2	5.2	A.-Cu.	S.-Cu.	------	⊤ < p.
20	61.42	25.4	32.4	19.5	79.2	SE, N	10.7	2.5	Ci.	Cu.	------	
21	60.89	26.2	31.7	20.9	80.3	NW	9.8	2	Ci.	Cu., S.-Cu.	------	
22	60.75	27	33.7	22	77.1	SE	9	5.3	Ci.-S.	S.-Cu.	------	d^{0} p.
23	60.55	26.2	33.4	21.3	72.8	N	9	4.2	Ci.	S.-Cu.	------	
24	60.07	26.6	34.3	22.1	69.4	Variable	12.6	5	Ci.-S.	S.-Cu.	6.6	p p.
25	60.08	25.4	30.6	20.4	82.5	NW	12.2	3.8	Ci.	S.-Cu.	------	d^{0} p.
26	59.82	26.4	33.5	21.9	79.8	NW	10.9	3.2	Ci.	S.-Cu.	------	
27	59.45	26.4	34.3	21.4	79.2	Variable	10.5	3.5	Ci., A.-Cu.	S.-Cu.	3.8	v p.
28	58.86	26	30	22.3	81.8	NW	16.9	4.2	------------------	S.-Cu.	------	● a.
29	58.65	25.5	29.8	21.5	74.8	NW	13	.7	------------------	S.-Cu., Cu.	------	
30	58.94	25.4	34	20.4	66.8	S	11.3	2.7	Ci.	S.-Cu., Cu.	------	ϖ p.
31	59.57	24.2	31.3	18.1	70.8	SSE	10.4	3.5	Ci.	S.-Cu.	------	ϖ a. p.
Mean	759.69	25.9	32.5	21	73.6	------------	10.5	4	------------------	------------------	------	
Total	--------	------	------	------	------	------------	------	----------	------------------	------------------	10.4	

METEOROLOGICAL DATA, ETC.—Continued.

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.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevaling direction.	Force (mean).	Amount (mean).	Prevaling form and its direction. Upper.	Prevaling form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per. ct.		0-12.	0-10.			mm.	
1	758.66	25.6	30.5	21.5	82.5	SE	2.3	7	Ci.-S.	Cu. E	------	⌓ ≡° a. ↯° p.
2	58.19	25.6	29.2	23.2	80.8	SE	2.8	8.8	A.-Cu. S	S.-Cu.	------	d ↯° a. ⊕ p.
3	58.20	26.2	29.3	24.2	83.8	ESE	1.2	9.7	A.-Cu.	S.-Cu.	------	⌓° ≡° a. ⌒ p. ⊕
4	58.08	26.9	31	23.6	84	SE	1.3	8.3	Ci.-S.	Cu. E	------	⌓ ≡° a.
5	57.92	25.8	30.4	20.3	85.3	Variable	2.3	8.2	Ci.-S.	Cu., S.-Cu.	------	⌓^{2} ≡° ↯° a. ⊕
6	57.89	26.9	31.9	23.2	84.5	ESE, E	1.5	8.8	Ci--S.	S.-Cu.	------	⌓° ≡° a. ⊕
7	58.15	26.6	30.9	21.2	83.6	SE, N	2	4.5	Ci.-S.	Cu. S	------	⌓^{2} ≡ a.
8	59.07	27.4	31.2	23.4	82.2	ESE	2	4.8	Ci.-S.	Cu., S.-Cu.	------	⌓ ≡° a. ↯°
9	60.08	26	30.4	21.7	85	ESE	2.2	3.2	Ci.-S.	S.-Cu.	------	⌓ ≡° a.
10	60.07	26	30.2	20.3	82.5	SE, NNE	2.7	2.8	Ci.	Cu.	------	⌓ ≡° a. ↯°
11	60.28	26.2	30.2	21.8	83.7	SE, N	1.8	3.2	Ci.	Cu.	------	⊕° ⌓ ≡° a.
12	59.25	26.8	29.9	24.1	82.8	N	3.3	7	------	Cu. NNE	------	↯° p.
13	58.81	26.6	30.2	24.9	81.2	NNE, N	4.8	7.2	------	Cu. NNE	------	↯° a. p.
14	59.86	26.4	29.9	23.2	80.8	N	2.5	5.3	------	Cu. E	2	⌓° ≡° a. ●^{2} p.
15	60.87	25.1	29.9	20.2	80.8	SE, NNE	1.7	6.2	A.-Cu.	S.-Cu., Cu.	------	⌓° ≡° a.
16	60.67	25.1	29.8	21.7	80.4	SE	2.7	4.7	Ci.-S.	S.-Cu.	------	⌓° ↯° a.
17	59.95	23.8	29.4	19	80.5	SE	2	6.3	Ci.-S.	S.-Cu.	------	⌓^{2} ≡° a.
18	60.04	24.8	29	20.2	81.3	SE	1.3	5.8	Ci.-S.	S.-Cu. E	------	⌓ ≡° a.
19	60.38	26.3	30.4	22.4	84	SE	1.5	7	Ci.-S. SSE	Cu. SE, NNE	------	⌓ ≡° a. ≺ p.
20	61.18	26.2	30.2	21.8	82.3	SE, NNE	2.7	5.5	Ci.-S.	S.-Cu.	------	⌓ ≡° a.
21	60.77	27.1	30.4	24.6	86	N	2.5	7.5	Ci.-S.	Cu. N	------	⌓ ≡° a. ↯° p.
22	60.45	27.3	30.6	24.2	84.3	SE, N	2.7	9.7	Ci.-S.	Cu.	------	⌓° ≡° a. ↯° p.
23	60.12	27	30.7	23.3	83.2	SE	2.2	8.2	Ci.-S.	S.-Cu.	------	⌓° ≡° a.
24	59.75	27	31.2	22.4	78.8	SE	3.7	6.3	Ci.-S.	S.-Cu.	16.3	⌓° ≡° a. ↯° p.
25	60.14	26.5	29.2	23.5	86.2	NE	3.2	8.8	------	Cu.-N. N	4.8	●^{2} ⌒ a. ↯°
26	59.91	26.1	28.7	24.4	91.3	NE	2.7	9	Ci.-S.	Cu. NNW	2.3	●° a.
27	59.22	26.4	29.9	22.6	85.7	NW	1.3	4	Ci.-S., A.-Cu.	Cu.	------	⌓ ≡° a.
28	59.05	26.2	29.2	24.5	84.2	N	3.5	7.5	------	Cu.-N. N	------	⌓° ≡° a. ↯° p.
29	58.70	25.9	29	24.1	82.3	N	4.5	7	------	Cu. NNE, N	------	↯° a. p.
30	58.70	24.8	29.1	20.6	81	SE	2.2	4.2	Ci.-S.	S.-Cu., Cu.	------	⌓ ≡° a.
31	59.37	24.8	28.9	20.1	82	SE	1.5	6.2	Ci.	S.-Cu.	.2	⌓^{2} ≡° a. ●° ⊕° p.
Mean	759.48	26.1	30	22.5	83.1	------	2.4	6.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	25.6	

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. Prevaling direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	759.32	26.3	31	22.1	------	NE, E	3.2	0.2	Ci.	Cu.	------	↯° p.
2	58.72	26.3	29.6	24.1	------	SE	2.3	3.8	A.-Cu. SSW	Cu.	------	↯ d° ⊕ p.
3	58.64	25.9	29.6	22.6	72.5	Variable	1.5	2.7	A.-Cu.	Cu.	------	⌒ a. ⊕ p.
4	58.55	26.8	31	23.9	74.6	Variable	.7	4.3	A.-Cu., Ci.	Cu.	------	⌓ ° p.
5	58.36	26.2	30	23.4	77.9	Variable	1	.2	Ci.	Cu. NNW	------	⌓ a.
6	58.38	26.2	30.7	23	80.5	Variable	.8	.3	Ci.	Cu.	------	⌓ ◯ a. ⊍ p.
7	58.78	26.3	31.1	23.2	83.2	Variable	1.2	0	Ci.	Cu.	------	⌓ a. ⊕ p.
8	59.62	26.8	30.7	23.5	77.7	S	1.2	1.8	Ci.	Cu.	------	⌓ a. ⊕ p.
9	60.49	26.9	30.1	23.9	------	E quad.	1.8	0	Ci.	Cu.	------	⌓ a. ↯° p.
10	60.60	26.2	29.5	22.5	------	Variable	1	1.5	Ci.-S., Ci.	Cu. NW, ENE	------	⊕^{2} a.
11	60.57	26	30.6	22.4	80.3	SE quad.	1.2	.3	Ci., Ci.-S.	Cu.	------	⌓ a.
12	59.50	25.6	29.1	22.2	76.5	N	1.8	.3	A.-Cu.	Cu. N	------	⌓ a. ↯° p.
13	59.36	24	28.6	21.2	74.7	NNE, N	2.2	0	Ci.-S., Ci.	Cu. N	------	≡° a. ↯° p.
14	60.25	24.2	29.2	19.5	72.3	N quad.	1.5	0	A.-Cu.	Cu.	------	≡° a. ↯° p.
15	61.41	24.6	28.7	20.1	63.8	NE	1.2	.8	A.-Cu. SW	Cu.	------	≡° a.
16	61.02	25.5	30.1	22.7	------	Variable	1.8	.3	A.-Cu. SW	Cu.	------	≡° a.
17	60.35	25.9	29.1	23	------	Variable	2.3	2.3	A.-Cu.	S.-Cu.	------	↯° a.
18	60.37	25.1	29.4	20.6	67	NE quad.	1.2	.3	Ci.	Cu.	------	
19	60.70	26.6	31	23.1	72.7	Variable	1.2	3	A.-Cu.	S.-Cu.	------	
20	61.87	25.9	30	23.4	77.2	Variable	1.3	.2	Ci.	Cu.	------	⌓ a.
21	61.07	25.7	29.6	22	76	NE quad.	1.3	0	Ci.	Cu.	------	⌓ ≡ a.
22	61	25.4	30.6	21.3	76.7	N	1.7	.5	Ci. SW by S	Cu.	------	⌓ ≡ a.
23	60.73	26.1	30.9	21.5	72.7	S	.8	2.3	Ci.	Cu.	------	⌓ ≡ a.
24	60.24	26.5	29.9	24.5	75.1	N	.8	2	Ci.-S. SW	S.-Cu., Cu.	------	
25	60.30	25.6	30.4	23	78.2	Variable	2	.5	Variable	Cu.	------	⌓ a. ↯° p.
26	60.08	26	32.4	22.2	74.8	Variable	1	.7	A.-Cu.	S.-Cu., Cu.	------	≡ ⌓ a.
27	59.60	26.4	30.6	23	75.7	SSW	1.2	.3	Ci.	Cu. S	------	⌓° ≡° a.
28	59.48	24.6	29.4	22.6	76.5	NNE	2.5	2.2	A.-Cu., Ci.-S.	Cu. N	0.5	⌓° ≡ ●° a. ↯° p.
29	58.96	23.7	28.4	20.3	72.1	N	2	.2	A.-Cu. SE	Cu.	------	⌓ ≡ a. ↯° ⊕ p.
30	59.15	25.8	29	21.2	------	NE	1.3	.8	A.-Cu.	Cu.	------	
31	59.56	25.5	29.4	22.4	------	NE	1.2	1.7	Ci.	Cu.	------	⊕ p-
Mean	759.90	25.8	30	22.4	75.2	------	1.5	1.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	.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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	761.88	23.6	27.3	19.5	74.3	NW	0.8	6.3	Ci.	S.-Cu.	------	Ω a.
2	60.97	23.6	28.3	17.7	80	NW	.2	7.3	A.-Cu.	S.-Cu. NE	------	Ω a.
3	59.79	25.1	30.5	20.3	83.5	Variable	.7	7.7	Ci.-Cu. SE	S.-Cu. N	------	Ω a.
4	58.69	26.6	32.5	21.7	78.5	S	.5	5.2	Ci.-S., Ci.-Cu. s, sw	Cu.	------	Ω a.
5	58.52	25.6	32.4	20.1	78.6	SW, NW	.3	1.3	Ci.	Cu.	------	Ω a.
6	59.04	25.4	32	20.2	81	Calm	------	4	Ci.	Cu. S	------	Ω ≡² a. ⊍ p.
7	59	25.4	32.4	20	80.4	S	.5	1.5	Ci.	Cu.	------	Ω ≡ a.
8	60.02	25.6	32	21.6	83	S	.5	4.3	Ci., Ci.-S.	Variable	------	Ω ⊍ a.
9	61.42	24.8	30.5	20.4	79.4	NW	.2	3.8	Ci.	Cu. S, SW	------	Ω a. ⊕² p.
10	62.17	23.5	29.5	17	80	NW, NE	.3	5.2	Ci.	Variable	------	Ω ≡² a.
11	61.03	25.2	30.8	22	79.8	S	.3	5.8	A.-Cu.	Cu.-N. S, SE	------	d° a.
12	59.70	24.3	30.4	21.4	84.3	NW	1.3	6.3	Ci.-S.	Cu. N	------	Ω a.
13	59.52	24.3	29.8	20	80.7	NW	1.2	5.5	------	S.-Cu. ENE	------	Ω a.
14	61.89	22.4	25.4	20.2	85.2	N, NW	1.8	8.2	A.-S.	Cu.-N. N	------	d a. p.
15	63.45	22.3	26.5	17.8	82.5	N	1.8	6.5	A.-Cu.	Cu.-N. NE	------	d p.
16	62.91	22.1	27.8	18.6	77	N, NW	.8	5.3	Ci.	Cu. NE, NW	------	
17	61.87	22	28.2	18.4	77?	N, NW	.3	6	Ci.	Cu. NW	------	d a.
18	61.60	23.1	29.4	16.1	77.5	Calm	------	8.3	Ci.-S.	S.-Cu., Cu.-N.	------	Ω a. d p.
19	61.61	24.7	30.6	21.5	85	SE	.3	6.8	------	Cu.-N. SE	2	Ω a. ● ⊤ p.
20	61.70	25.4	32.4	19.4	81.2	Variable	.5	5.5	------	Cu. S	------	d a.
21	61.45	25.7	32.4	22	84	NW	1	5.5	Ci.	Cu.-N W	------	Ω ≡² a.
22	61.96	24.8	30	22.1	84.8	NW	.7	7.3	Ci. NE	Cu. N	1.3	
23	62.19	24	28.2	21.3	88.8	NW	.7	9	------	Cu.-N. Variable	------	● a.
24	60.77	25.2	31.6	20.6	79.1	S, SE	.7	4.8	Ci.	Cu. S	------	Ω ≡² a.
25	60.20	25.5	32.5	19.6	77.3	NW	.8	2.2	------	Variable	------	Ω a.
26	60.50	25.2	29.3	22.5	84.3	N, NW	.7	6	------	S.-Cu.	------	
27	59.83	24.6	30.2	21	87	NW	.5	7.2	A.-Cu. NE	S.-Cu.	------	Ω ≡ a.
28	58.98	24.4	29.4	21.2	90.8	NW	1.3	6.8	------	S.-Cu. NE	------	
29	60.06	22.9	27.4	18.8	80.8	N, NW	1.8	6.2	Ci.-S.	Cu. N	------	d a.
30	61.24	21.8	26	18	81.1	N	.2	6.7	------	Cu. E, ENE	------	Ω a. d p.
31	60.92	23.3	29.2	18.3	76.2	NW	.2	7.5	A.-S.	Cu. WNW, S	------	Ω a.
Mean	760.80	24.3	29.8	20	81.4	------	.7	5.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	3.3	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	762.74	------	------	------	------	E	19.7	7	------	S.-Cu. E	------	
2	61.32	------	------	------	------	SE, S	6	5.2	A.-Cu. E	S.-Cu. E	------	Ω a.
3	60.04	------	------	------	------	SE	9.9	9	A.-Cu. E	S.-Cu. E	------	
4	59	------	------	------	------	SE	10.6	5.5	A.-Cu. SW	S.-Cu. S	------	
5	58.82	------	------	------	------	Variable	9	0	------	------	------	
6	59.36	------	------	------	------	SW, NE	6.6	.2	------	S.-Cu.	------	Ω a.
7	59.39	------	------	------	------	NE, S	10.3	0	------	------	------	Ω a.
8	60.52	------	------	------	------	SW, NE	6.2	2	A.-Cu. E	Cu.-N. SE	------	⌒ a.
9	61.94	------	------	------	------	SW, NE	9.7	0	------	------	------	Ω ≡ a. ⊕
10	62.48	------	------	------	------	SW, NE	8.5	4.7	A.-Cu. E	S.-Cu. NE	6.4	Ω ≡ a. ●° p.
11	61.36	------	------	------	------	S	8.9	5.2	------	S.-Cu.	------	● ⌒ a. ☇ p.
12	60.30	------	------	------	------	SW, N	7.8	8	A.-Cu. W	S.-Cu.	6.4	● a.
13	60.28	------	------	------	------	W, NE	14.7	5.3	------	Cu.-N. NE	6.6	● a.
14	62.83	------	------	------	------	NE	22	10	------	N. ENE	37.3	● a. p.
15	64.30	------	------	------	------	NE	13.8	10	------	N. E, ENE	13.2	● a. p.
16	63.74	------	------	------	------	NE	12.7	9.3	------	S.-Cu. E	2.8	● a.
17	62.31	------	------	------	------	Variable	10.7	5.3	A.-Cu. E	S.-Cu.	------	● a.
18	61.92	------	------	------	------	Variable	------	5.8	Ci. E	S.-Cu. E	------	
19	61.77	------	------	------	------	SE	------	6.3	Ci. E	S.-Cu. E	4.1	● p.
20	62.03	------	------	------	------	N, SE	9.9	1.5	------	Cu.-N.	------	Ω a.
21	62.18	------	------	------	------	NE, NW	13	6.3	A.-Cu. SW	Cu.-N. NE	------	
22	62.88	------	------	------	------	NE	18.1	8.8	------	S.-Cu. NE	10.4	⌒ a. ● p.
23	62.68	------	------	------	------	NE	16.9	8.3	------	N. NE	.3	● a.
24	60.80	------	------	------	------	SE, NE	12.4	1.8	Ci. W	S.-Cu.	------	Ω a.
25	60.79	------	------	------	------	Variable	10.2	3.2	------	Cu.-N. N	3	Ω a. ● p.
26	61.13	------	------	------	------	NE	18.4	10	------	N. NE	3.6	●° a. p.
27	60.43	------	------	------	------	NE	14.4	8.2	------	N. E, NE	.3	●° a.
28	59.70	------	------	------	------	Variable	9.3	6.3	------	N. NW, N	48	Ω ≡ a. ● p.
29	61.07	------	------	------	------	NE	16.4	10	------	N. NE	20.8	● a. p.
30	61.82	------	------	------	------	E	9.6	9.5	------	S.-Cu. ENE	------	
31	61.44	------	------	------	------	S	9	5.5	A.-Cu.	S.-Cu. E	------	
Mean	761.33	------	------	------	------	------	11.9	5.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	163.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.8	21.9	97	92	10	10	?	Ω² ≡² a. ⊤ ●² p.
2	30.4	21.8	98	78	10	9	32.8	d a. ● p.
3	31.3	22.8	98	74	8	8		Ω ≡ a.
4	31.5	21.4	94	70	3	4		Ω² ≡ a. ϖ² p.
5	31.5	23.6	94	72	10	7	6.1	●² a.
6	31.7	21.5	97	68	3	6		Ω² ≡ a.
7	30.6	23.1	96	82	10	10	18.8	●° a. ⊤ ●² ≤ p.
8	30.6	22.5	96	92	7	10	48	●² p.
9	29.9	21.4	97	79	10	9		Ω² ≡² a. ⊤ p.
10	31.7	21	96	73	9	8	1.5	Ω² ≡² a.
11	30	22	96	87	10	10	35.3	d ● a. d ●² p.
12	31	21.2	97	79	9	8		Ω² ≡² a. ↯ p.
13	31.2	24.1	84	68	6	5		↯ a.
14	31.2	21.3	97	71	8	6		Ω ≡ d a.
15	31.2	22.4	90	71	7	6		
16	30.8	21.7	95	71	5	8		Ω° ≡° a.
17	30.1	22.2	95	71	9	9		Ω² ≡² a.
18	30.3	21	96	82	7	9		Ω² ≡² a. d p.
19	31.5	21.3	97	72	8	5		Ω² ≡² a.
20	31	21.6	98	76	6	8	5.3	Ω² ≡² a. ● ⌜ p.
21	31.8	22.1	98	77	9	7	2.5	Ω² ≡² a. ●° ≤ p.
22	30.4	22.3	94	86	9	9	35.3	Ω° ≡° a. ●² p.
23	30.5	21.4	98	80	5	6	.5	●° p.
24	29.8	21.6	93	89	8	9	7.4	Ω° ≡° a. ●° p.
25	29.1	22.8	97	95	10	10	36.1	d a. ●² p.
26	30.4	22.3	97	78	9	7		
27	30.6	21.4	98	71	7	8		Ω² ≡² a.
28	30	20.2	96	77	8	9		Ω² ≡² a.
29	31.4	20	97	73	7	7		Ω² ≡² a. ϖ p.
30	31	23.1	84	74	9	9		d ϖ² p.
31	31	21.4	95	70	8	7		Ω° ≡° a.
Mean	30.8	21.9	95.3	77.4	7.9	7.8		
Total							229.6[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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.6	23	96	77			8.1	Ω a. ● p.
2	28.7	23	97	86				● d a.
3	30.3	23	96	82			.5	Ω a.
4	30.7	23	93	84				d a.
5	30.5	22.2	97	82			7.5	Ω ≡° a. ● ⊤ p.
6	31.8	22	96	80			.5	p p.
7	31.7	21.5	96	80?			7.1	Ω a.
8	30.3	22.5	98	80				● d a.
9	30.3	22.7	96	81				Ω a.
10	30.5	22.2	96	82				Ω° ≡° a. ≤ p.
11	28.8	23	97	82			.5	Ω a. ↯° d ≤ p.
12	29.8	22.7	91	81				Ω° a.
13	32.8	20	91	81				Ω a.
14	31.8	21.5	96	78				Ω a.
15	31.7	21.7	96	79				Ω a.
16	30.8	22.5	96	76			.5	Ω a. d p.
17	32.3	22.5	86?	71				Ω a.
18	31.9	20.2	96	75				Ω a.
19	32.1	21.5	96	77				Ω ≡° a.
20	33.5	21.5	98	79			5.3	Ω ≡ a.
21	34.3	23	93	74				d a. ↯° ● ⌜ p.
22	31.8	22.5	97	71			5.8	d a. ↯° ● ≤ p.
23	32.3	21.8	93	74			5.1	Ω a. ↯° ● ⌜ p.
24	32.2	22	93	74			1.5	d a. p.
25	32.3	22.2	96	94			8.6	Ω ≡ a. ● p.
26	29.4	23	97	76				d a.
27	32	22	95	77			1.8	Ω a. p d p.
28	29.3	21.3	97	77				Ω a.
29	29.7	21.8	96	80				Ω ≡ a.
30	32.1	22.5	94	72			3.8	Ω a. ● ≤ p.
31	32.3	22	93	70				Ω a.
Mean	31.2	22.1	95.1	78.5				
Total							56.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.4	23.4			9	10	18.8	Ω a. ● p.
2	28	21.9			10	9		≡ a.
3	30.4	22.8			6	7		Ω ≡ a. ◯ ω p.
4	29.7	23.2			9	8		Ω ≡ a. ↯° p.
5	31.3	22.8			7	4		Ω ≡ a. ↯° p.
6	31.4	22.7			2	9		Ω ≡ a. ◯ p.
7	31	23.3			9	9	5.6	◯ a. ↯° ⌜ ● p.
8	30.5	22.7			10	3		≡ ⌒ a. ↯° p.
9	31.3	22.8			9	3		Ω ≡ a. ↯° p.
10	31.4	22.2			4	7	7.1	Ω ≡ a. ◯ p.
11	30.2	23.8			9	7		↯ ● ⌒ a. ↯° ≤ p.
12	29.8	22.8			6	8		Ω ≡ a.
13	31.2	20.2			1	2		Ω ≡ a. ↯° p.
14	29.8	21.7			3	9		Ω a. ◯ ∞ ↯° p.
15	30.8	20.4			2	4		Ω ≡ a. ↯° ω p.
16	29.4	22.2	91	83	6	10		≡ a. ↯° a. p.
17	30.2	21.6	90	70	3	4		Ω ≡ a. ↯° p.
18	30.3	20.4	90	78	3	3		Ω ≡ a.
19	30.4	21.4	90	71	2	3		Ω ≡ a. ↯° ≡ p.
20	31.7	20.7	84	71	5	3	1.5	Ω ≡ d a. ⌜ ●°
21	31.7	21.9	96	77	10	7	6.4	≡ ⌒ ◯ a. ↯ ● ⌜
22	31.7	22.4	86	70	9	8	5.8	◯ a. ⌜ ↯ ● p.
23	30.8	22.2	94	78	2	3	7.1	≡ a. ↯ ● ⌜ p.
24	31.3	21.9	89	59	2	5		≡ ◯ a. ≤ p.
25	31.2	22.4	94	71	6	5		Ω ≡ a. ◯ ⌜ p.
26	30.2	22.8	95	72	10	7		≡ a. ⊤° p.
27	30.7	19.7	91	63	2	8		Ω ≡ a. ◯ ϖ p.
28	28.9	20.1	86	79	2	9		Ω ≡ ◯ a. ↯° p.
29	29.7	22	90	84	5	9		Ω ≡ ↯ a.
30	30.9	21.4	87	60	5	8	5.6	Ω ≡ a. ≤ ● p.
31	30.5	21.8	93	70	4	6		≡ a.
Mean	30.5	22	90.4	72.2	5.5	6.4		
Total							57.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30	22.5	96	76	8	9	18.3	● a. p.
2	31.8	22	97	68	5	7	10.7	● p.
3	31.2	22.3	96	70	6	7		
4	32.7	21.3	96	63	6	8		⌒ d ϖ p.
5	32.4	22	96	64	6	7		
6	31.7	21.3	96	68	6	7	16	● ⌜ p.
7	31	22.1	98	77	6	5		
8	32.2	22	97	68	6	5		
9	31.2	21.2	98	78	7	7		
10	31.5	22	96	76	6	7		
11	33.3	21.1	96	64	5	6		
12	31.7	21.2	96	67	5	7		
13	32.9	19.7	93	54	5	7		
14	32.6	19.8	94	60	7	6		
15	33.4	20.9	95	61	5	7	24.6	● p.
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
Mean	32	21.4	96	67.6	5.9	6.8		
Total								

[1] 30 days of observation.

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	23.2	98	62	4	8	50.8	∞ ○ a. ⊤ ● p.
2	------	22.4	92	69	10	7	1.3	●° a. ⊤ ⊖ p.
3	------	23	96	71	2	7	------	Ω^{2} ≡ a. ⊖ p.
4	------	23.6	93	63	9	3	4.6	≡° a. ↙ ● p.
5	------	22.7	97	66	9	9	13.2	≡ a. d p.
6	------	23	92	71	3	9	9.7	● ≡ a. ⊤ ↙ ● p.
7	------	23.3	95	65	10	8	5.1	≡ a. ⛈ ↙ ● p.
8	------	22.8	91	70	9	10	15.5	≡^{2} a. d ↙ ● p.
9	------	21.8	93	65	2	2	------	Ω^{2} ∞ a. d p.
10	------	22.5	95	68	3	9	7.1	⊤ ↙ ● p.
11	------	21.7	91	62	2	1	------	⛈° ↙ p.
12	------	21.5	94	64	3	4	------	Ω a. ↙° p.
13	------	22.1	91	64	6	3	------	Ω^{2} a.
14	31.5	22	91	64	5	6	------	Ω ≡ a. ↙ p.
15	32	21.1	91	65	1	9	5.6	Ω^{2} ≡ a. ↙ ● p.
16	30.2	22.4	94	69	9	10	4.3	≡° a. ↙ ● p.
17	33	21.1	91	58	1	2	------	∞ ↙ a. ↙° p.
18	32.5	21.4	95	58	1	6	9.1	Ω^{2} ≡ a. ⛈ ↙ ● p.
19	33.6	22.7	95	57	2	3	------	≡ a. ↙ ⛈ p.
20	34.1	21.2	89	59	2	6	------	Ω^{2} ≡ a. ⛈ p.
21	30.6	22.1	90	63	6	9	3.8	◌^{2} ⛈ ↙ ● p.
22	32.4	21.5	95	68	6	4	11.2	↙° a. ◌ ⛈ ● p.
23	32.2	22.6	94	62	4	8	24.9	◌^{2} a. ↙ ● ↯ p.
24	30.8	22.2	89	68	8	9	7.6	↙ ● ↯ p.
25	32.2	21.6	90	59	6	8	14	Ω a. ● ↙ ↯ p.
26	32	22	94	59	6	7	------	≡° a.
27	32.1	21.4	89	57	3	3	------	Ω^{2} ↙° a. ⛈ d p.
28	32	24.1	96	68	9	8	10.2	Ω ∞ a. ↙° p.
29	31.1	22.6	93	65	8	9	3	● a. ↙ ●° p.
30	32.1	21.3	91	59	4	5	8.1	Ω a. ● p.
31	31.6	21.5	91	67	3	9	------	↙ a p.
Mean	32	22.2	92.8	64	5	6.5	------	
Total	------	------	------	------	------	------	209.1	

CAGAYAN.

[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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	22.2	97	81	7	8	3.8	● p.
2	29.8	21.4	96	75	9	8	------	
3	31.2	20.8	95	72	9	9	------	
4	30.8	22.4	93	74	8	7	------	Ω a. ↙ p.
5	30.4	21.2	93	72	9	10	------	Ω a.
6	31	21.6	96	79	4	9	1.5	Ω° ≡° ↙° ● ⊕ ↯°
7	30.5	21.6	95	79	8	10	------	
8	31	20.6	94	68	7	6	------	Ω^{2} a. ↙° p.
9	30.8	19.8	92	69	8	8	------	◡° Ω^{2} a.
10	31.2	21.9	92	78	10	8	------	Ω° ≡° a.
11	32	19.6	92	64	4	9	------	
12	30	18	89	70	3	4	------	↙ ↯° p.
13	30.7	18.7	91	69	3	4	------	Ω ≡ a. ↙° p.
14	30.4	20.9	92	65	9	9	------	
15	26.3	18.7	90	82	3	10	5.5	d a. ↙ ● p.
16	29.4	22.3	94	65	10	8	------	↙ p.
17	29.8	19.1	93	64	3	3	------	↙ a. p.
18	30.7	19.9	93	68	2	4	------	Ω^{2} ≡^{2} a. ⛈ p.
19	32	21.3	94	63	3	5	------	Ω° a. ⛈ p.
20	31.9	20.7	92	72	8	9	------	⛈ p.
21	31.8	21.1	93	88	7	10	7.7	Ω^{2} ≡° a. ● ⛈ p.
22	31.3	19.5	95	68	4	4	------	Ω^{2} ≡° a.
23	30.9	23.2	96	78	7	9	.8	⛈ d p.
24	31.8	22.2	94	68	8	8	------	↯° p.
25	31.3	21.3	94	65	7	8	------	Ω^{2} a. ↙° ↯° p.
26	31.3	21.2	90	65	8	8	------	Ω ≡° a. ↙° p.
27	31.7	20	92	63	7	6	------	Ω^{2} ≡^{2} a.
28	32.1	22	91	65	10	8	------	
29	32.2	22.9	91	61	9	9	------	↙° p.
30	31	22.3	94	70	6	8	------	↙ p.
31	32.5	20.4	91	58	4	8	------	
Mean	30.9	20.9	92.7	70.3	6.6	7.5	------	
Total	------	------	------	------	------	------	19.3	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.6	22	95	90	10	9	17.3	∞ a. ● p.
2	28	22	99	70	10	8	------	Ω ≡° a. ◡ p.
3	29	23.1	95	81	8	8	.8	● d p.
4	28.6	22.6	97	74	7	9	------	Ω a. d° p.
5	27.5	21.6	96	86	9	9	3.3	Ω a. ● a. p.
6	28.2	22.3	98	79	9	9	6.9	Ω ≡^{2} a. ⌒ ● p.
7	28	21.8	96	80	7	7	4.8	Ω d ● a.
8	28.6	21.6	97	70	4	5	.3	Ω a. d a. p. ⊖ p.
9	28.1	21.6	96	69	6	10	6.4	Ω ≡^{2} a.
10	27.5	21.5	97	82	10	8	------	● a.
11	29.1	21.6	97	64	7	3	1	Ω ● a.
12	28.1	20.9	96	70	3	5	------	Ω ≡^{2} a.
13	28.5	21	95	56	1	6	------	Ω a.
14	27.8	21	99	72	10	7	------	Ω ≡^{2} a.
15	24.9	22.1	95	92	9	10	12.4	Ω ≡ a. ● a. p.
16	27.6	19.6	97	63	9	7	------	Ω a. ⌒ p.
17	27.3	19.5	96	67	5	2	------	Ω ∞ a.
18	28.3	20.4	96	91	2	7	7.9	Ω ≡ a. ● p.
19	30.1	22.9	96	67	7	7	------	Ω a. ⌒ ⊤ p.
20	28.2	22.9	92	86	7	9	1	Ω a. ● p.
21	25.6	21.5	96	91	9	9	12.7?	● a. p.
22	28.1	21.6	98	73	6	5	25.4	Ω a. ⛈ ●^{2} p.
23	24.6	22	94	95	10	10	8.6	d a. ● p.
24	28.5	22.4	96	73	5	4	.3	Ω d a. ⌒ p.
25	30.1	21.1	94	71	5	7	------	Ω ≡ a.
26	28.8	21	96	62	8	8	.3	p p.
27	28.5	21.6	96	88	2	7	6.6	Ω ∞ a. ↙ ● p.
28	30.1	23	96	77	9	7	24.1	Ω ≡^{2} a. ●^{2} p.
29	27	22.8	94	79	9	9	2.5	Ω a. ● ⌒ p.
30	27	22.6	98	86	9	9	8.1	Ω ≡ ● a.
31	27.6	20.3	95	70	8	9	2	Ω a. ● p.
Mean	28	21.7	96.1	76.6	7.1	7.4	------	
Total	------	------	------	------	------	------	152.7	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	21	89	82	6	5	------	
2	27.8	21.5	73?	83	6	7	------	
3	29.2	22.8	85	83	4	6	6.4	● p.
4	29.3	22.7	83	81	7	6	2.8	● p.
5	28.2	23.1	82	79	8	9	------	
6	29	23	77	76	7	8	1	
7	29.1	22.9	78	76	7	6	.8	
8	29.5	23	77	68	6	4	1.8	
9	29.3	24	77	74	5	6	.8	⊖ p.
10	29.5	22.5	80	70	4	3	------	⊖ p.
11	28	23.5	74	71	2	4	------	
12	29.5	23.1	86	68	3	2	------	
13	29.4	22.1	72	66	2	4	------	
14	29.1	22.4	70	69	5	4	------	
15	30.2	22.7	87	74	8	6	.3	
16	30.5	22.5	85	71	5	4	50.8	● p.
17	29.5	22.6	83	70	3	4	10.2	⌒ ● p.
18	27.2	21.3	85	86	8	7	35.6	● p.
19	29.2	21.3	81	83	8	10	?	● a. p.
20	27.7	21.1	75?	75	9	4	------	⌒ a.
21	28.5	22	75	72	3	4	------	
22	28	22	83	79	8	10	13.5	
23	28.9	22.1	91	74	10	5	2.5	● a.
24	28.3	22.3	90	73	5	3	1	
25	28.3	22.2	88	74	3	7	12.7	● p.
26	28.5	22.4	88	80	6	7	------	
27	28.7	22.2	66?	64	8	6	------	
28	31.1	22.2	76	80	7	6	------	
29	31.1	22.2	81	78	4	5	.8	● p.
30	31.2	22.1	79	82	5	6	------	
31	31.3	22.1	73	78	8	7	5.1	
Mean	29.2	22.4	80.3	75.5	5.8	5.6	------	
Total	------	------	------	------	------	------	146.1[1]	

[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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.8	22.6	92	78	10	8	8.1	ϟ ⏀ ● p.
2	29	21.9	93	81	10	10	------	∞ ⌣ ⏀ p.
3	29.6	22.7	91	69	10	10	------	⌣ ⏀ p.
4	29.5	23	88	77	10	10	------	⌣ p.
5	30	22.5	88	76	10	8	------	⌣ ⏀ p.
6	30	23	91	92	10	8	23.4	≡●a.≡● ϟ ⌣⏀
7	28	23	97	81	10	9	4.3	● ϟ ⌣ ⏀ p.
8	29	22.5	91	77	10	4	------	d ⌣ ⏀ p.
9	30.1	21.6	87	72	10	10	------	⌣ p.
10	30.2	22.8	94	83	10	10	------	d° ≡ a. d° ∞ p.
11	29	22.3	89	63	10	3	------	⌒ a. ↙ p.
12	30	22.5	84	68	1	4	------	d ∞ p.
13	30.5	21.6	90	75	5	6	------	d ≡ ϟ p.
14	28	21.6	91	78	8	10	12.2	d ∞² ϟ ● p.
15	29.4	22	93	86	10	10	------	d a. p. ≡ p.
16	28.6	22.3	79	59	10	8	------	↙° a.
17	29.5	20.6	85	71	3	6	------	
18	29	21.5	80	78	10	8	------	d a. ∞ p.
19	29	22.4	95	72	10	6	4.6	ϟ p.
20	31	23.2	95	86	10	10	5.1	● ↙ a. d° ∞ p.
21	28.5	22.8	93	75	10	8	------	● a. d ϟ p.
22	29	22.3	95	76	10	8	------	
23	31	23.4	75?	73	10	10	8.1	↙ a. d a. p.
24	30	23.2	95	71	9	5	?	↙ ●° a. ⌣ d p.
25	29.5	22.8	93	72	10	6	------	↙° a. ⌣ ⏀ p.
26	29.6	22.2	91	70	10	8	------	∞² ⌣ ⏀ p.
27	30.1	21.4	88	72	3	9	------	↙°●°∞⌣⏀p.
28	30.5	23	92	83	10	10	------	↙° a. ⌣ p.
29	29.4	23.3	93	83	8	9	24.1	≡ ● a. ● ⌣ p.
30	30.4	23.2	86	81	10	10	6.6	● ⌣ ⏀ p.
31	29.9	22.6	90	80	10	10	------	↙° ⏀ ⌣ p.
Mean	29.6	22.4	89.8	76.1	8.9	8.1	------	
Total	------	------	------	------	------	------	96.5[1]	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.1	24	92	82	10	8	14	↙° ●° a. ↙ ● p.
2	28.1	23.3	94	83	8	8	------	d° a.
3	29	22.6	95	84	10	10	------	⌣ p.
4	29.3	22.7	93	81	7	8	------	↙° ⌣ p.
5	29.6	22.1	91	78	6	7	------	↙° ⏀ p.
6	27.5	23.9	95	82	6	8	2	≡ ↙° d a. ⌒ p.
7	29.1	24	95	81	6	7	------	d° a. ⏀ ⌣ p.
8	29.5	22.6	94	78	6	7	------	⏀ ⌣ p.
9	29.1	22	96	78	4	6	2.3	↙° p.
10	29.7	23.2	95	79	6	6	------	●° ⌒ ≡ a. ↙° p.
11	29	22.9	90	79	1	7	------	≡ a. ↙° ⌒ d p.
12	29.7	19	92	78	1	1	------	Ω ≡° a. ↙° p.
13	29.3	19.8	96	75	1	1	------	≡ a. ↙° p.
14	29.6	19.9	93	77	1	6	------	≡ a. ↙° p.
15	29.3	21.4	90	77	5	5	------	≡ a. ↙° p.
16	28.9	22.4	90	77	6	7	------	≡ a. ↙° d° p.
17	28.4	20	87	81	4	2	------	↙° p.
18	29.7	22.4	96	75	3	1	------	≡ a. ↙° ϟ p.
19	30	21.6	96	80	2	6	1.8	≡° a. ↙° ●° p.
20	29.5	23.6	91	82	6	8	------	↙° p.
21	27.5	23.4	93	83	6	10	1	d° a. d ϟ p.
22	29.6	21.6	91	70	8	4	------	Ω a. ↙° p.
23	29.7	23.7	93	80	8	7	------	↙° p.
24	29.5	23.6	91	82	4	7	------	≡° a. ↙° p.
25	29.7	22.1	88	79	3	4	------	≡ a. ↙° p.
26	30.4	21.9	94	78	7	1	------	Ω ≡° a.
27	30.5	22.4	92	74	2	4	------	↙° p.
28	29.9	22.9	92	79	6	5	------	
29	30.5	22.6	93	70	7	6	------	Ω a. ↙° ⌣ p.
30	29.6	22.8	91	71	7	6	------	↙ ⏀ p.
31	30	22.5	87	72	7	6	------	↙° p.
Mean	29.4	22.4	92.5	78.2	5.3	5.8	------	
Total	------	------	------	------	------	------	21.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	23.2	92	76	10	10	------	
2	30	22.6	90	72	10	10	------	⌣ ⏀ p.
3	29.8	21.7	91	75	10	10	------	⌣ p.
4	32	21.3	92	75	10	8	10.9	● p.
5	30.9	21.5	92	73	10	8	------	Ω a. ⌣ p.
6	29.1	20.6	90	74	1	10	------	d p.
7	32.2	21.8	91	71	5	8	------	
8	32	21.6	94	68	3	2	------	
9	32.1	21.3	86	62	2	4	------	
10	33	22.1	89	62	8	7	------	
11	32.8	19.6	88	59	1	3	------	
12	32.9	20.2	85	63	1	1	------	
13	31.9	19.7	82	64	0	2	------	
14	32.2	19.4	81	61	3	4	------	
15	32.5	19.5	84	59	8	4	------	
16	32	19.3	94	59	8	10	------	
17	31.9	18	82	52	0	7	------	
18	32.1	18.2	88	62	0	2	------	
19	32.6	21.5	87	67	0	6	------	
20	32.9	21	90	66	7	4	------	ϟ p.
21	32.5	22.5	86	80	3	10	.5	●° p.
22	32.6	19.6	91	58	4	0	------	
23	33.5	19.7	81	62	10	10	------	
24	32	20.8	82	66	1	10	------	
25	33	21.9	88	63	1	8	------	
26	32.2	20.8	88	65	10	8	------	
27	33.8	22	81	60	10	3	------	
28	33.3	22.7	80	60	10	4	------	
29	32.5	21	88	60	10	4	------	
30	32.9	20.3	90	55	2	10	------	
31	32.5	20	82	56	1	7	------	
Mean	32.2	20.8	87.3	64.7	5.1	6.3	------	
Total	------	------	------	------	------	------	11.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.9	22.8	97	79	9	8	2.5	●° p.
2	30	22.9	97	81	6	9	5.3	⌣° p.
3	29.1	23	97	82	10	10	------	●° a. ○² p.
4	30	22.4	97	82	10	9	------	Ω² a. ⌣° p.
5	30.5	21.7	96	77	9	8	------	○² a.
6	29	22.6	96	84	10	10	6.6	d ⌒² a. ● ⏀° p.
7	29.9	23	98	79	10	8	------	Ω° a. ⌣² p.
8	30.4	21.6	96	77	9	8	2.3	○° a. ●° p.
9	30.5	21.1	96	75	10	7	2	Ω° a. ●° p.
10	30.2	22.7	96	74	10	9	------	d p.
11	30.4	21	95	77	3	6	------	≡² Ω² a. ⊕° p.
12	29.9	20	95	69	1	3	------	≡² Ω² a. ∞° p.
13	30.6	21.3	96	70	3	4	------	≡² Ω² a.
14	30	20.9	95	71	4	8	------	Ω² a. ○° p.
15	30.7	21.1	95	67	4	6	------	≡° Ω² a. d p.
16	30.5	21.1	90	61	8	8	------	≡° a. ∞ p.
17	30.8	19.1	92	70	1	8	------	Ω² ≡² a. ∞² p.
18	30	21.1	95	73	4	3	------	
19	30.3	22.3	95	74	6	7	------	∞² p.
20	30.6	23	93	72	9	8	8.1	d° a. ⊤° ○² p.
21	26.9	23.5	96	85	10	9	------	● a.
22	31.8	21.1	96	72	6	7	------	Ω² ≡² a. ϟ° p.
23	31.6	22	96	69	8	7	------	Ω° a.
24	30.9	21.7	95	72	10	8	------	d a. p.
25	31.1	21.9	96	73	9	8	------	≡° Ω² a.
26	31.4	21.4	95	66	8	7	------	Ω° a ⏀° p.
27	30.2	21.8	95	62	3	8	------	≡² Ω² a. ⏀² p.
28	30.9	22.3	94	71	9	8	------	Ω° a.
29	32.1	22.2	95	69	8	8	------	○° ⌣² p.
30	32.6	21	95	66	9	8	------	⏀° p.
31	32.1	21	93	58	9	8	------	≡° a. ⏀° p.
Mean	30.5	21.8	95.3	72.8	7.3	7.5	------	
Total	------	------	------	------	------	------	26.8	

[1] 30 days of observation.

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.8	23.4	86	75	9	8	------	
2	30.2	23.8	82	73	9	6	------	
3	32.2	23.5	87	69	2	4	------	
4	32.2	23.2	92	73	2	4	------	
5	32.3	24.3	92	72	5	7	------	
6	31.7	23.4	90	74	2	7	------	
7	31.5	24.3	86	73	6	7	------	
8	32.4	24.3	90	68	5	2	------	
9	31.4	23.9	81	70	7	4	------	
10	32.7	24	84	67	6	5	------	
11	33.2	23.2	90	65	4	1	------	
12	32.8	23.8	88	66	1	2	------	
13	33	23.3	88	65	2	3	------	
14	------	23.6	84	------	4	------	------	
15	------	------	------	------	------	------	------	
16	------	------	------	------	------	------	------	
17	------	------	------	------	------	------	------	
18	------	------	------	------	------	------	------	
19	------	------	------	------	------	------	------	
20	------	------	------	------	------	------	------	
21	------	------	------	------	------	------	------	
22	------	------	------	------	------	------	------	
23	------	------	------	------	------	------	------	
24	------	------	------	------	------	------	------	
25	------	------	------	------	------	------	------	
26	------	------	------	------	------	------	------	
27	------	------	------	------	------	------	------	
28	------	------	------	------	------	------	------	
29	------	------	------	------	------	------	------	
30	------	------	------	------	------	------	------	
31	------	------	------	------	------	------	------	
Mean	32	23.7	87.1	70	4.6	4.6	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	22.9	98	92	10	9	3.8	● a. d ↙ p.
2	------	22.8	97	86	8	10	23.1	≡ ●° a. ● ↙ p.
3	------	22.5	98	76	10	8	------	● a. ↙ p.
4	------	23.1	97	74	10	8	17.8	⌓ ●° a. ● p.
5	------	22.4	97	71	9	4	34.3	● a. ↙ ●° p.
6	------	23.5	97	81	10	10	29.5	●² a. ● p.
7	------	23.6	97	86	10	9	22.6	↙ ● a. ● p.
8	------	22.3	97	72	8	5	3.8	●² a.
9	------	21.3	98	74	4	7	4.1	≡ a. ↙ ● a. p.
10	------	22.3	97	70	8	6	1.8	⌓ a. ↙ ●° p.
11	------	22.2	95	69	5	9	.8	●° ≡ a. d ↙ p.
12	------	21.6	95	69	6	2	------	●° a. ↙ p.
13	------	20.7	98	71	2	2	------	⌓ a. ↙ p.
14	------	20	95	63	3	6	21.6	⌓ a. ↙² ● p.
15	------	22.5	81	75	9	10	19	↙ ● a. p.
16	------	21.2	90	59	10	9	7.4	↙ ● a. p.
17	------	20.1	96	68	10	8	------	● a. d ↙ p.
18	------	21.8	96	76	9	5	3.3	⌓ ●° a. ↙ ● p.
19	------	22.3	97	88	6	9	32.5	● ≡ a. ↙ ● p.
20	------	22.4	94	76	8	6	11.4	↙ ● a. p.
21	------	23.1	97	71	8	6	------	↙ ● a.
22	------	22.9	97	68	2	7	2.3	⌓ a. ↙ ● p.
23	------	24	93	71	6	6	2.8	↙ ● a. ↙ p.
24	------	23.5	96	86	10	10	15.2	↙ ● a. p.
25	------	22.5	95	71	4	5	6.1	⌓ a. ↙ p.
26	------	21.6	96	78	3	6	.8	↙ ● a. ●° ⌒ p.
27	------	21.9	97	77	8	9	33.5	↙ ● a. ● p.
28	------	21.8	98	72	4	9	------	↙ ● ◯ a.
29	------	21.8	96	77	8	9	6.6	≡ ⌓ a. ↙ ● p.
30	------	22.8	72?	67	8	10	2.3	↙ ● a. p.
31	------	22.5	71?	58	10	9	6.1	↙ ● a. ↙ ⊕ p.
Mean	------	22.3	94.1	73.9	7.3	7.4	------	
Total	------	------	------	------	------	------	312.5	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.6	22.8	97	95	9	10	9.1	
2	29.2	22.8	97	97	10	10	40.6	
3	30	23.5	97	73	9	9	.5	
4	30	23.5	97	93	9	9	11.9	
5	29.2	22.6	98	78	8	8	.3	
6	28.2	22.8	97	84	9	9	.5	
7	29.6	22.8	96	75	9	7	10.4	
8	27.6	22.6	91	82	10	8	3.3	
9	29.8	22.6	98	77	9	8	1	
10	30	23.5	85	72	8	7	1.5	
11	30.4	22.6	96	76	6	4	------	
12	30	22.5	95	74	4	4	------	
13	29.6	21.8	97	68	4	4	------	
14	29.2	22.5	90	69	7	7	------	
15	27.5	23.6	91	80	8	9	.5	
16	28.6	22.8	80	68	9	9	------	
17	28.8	23	81	73	6	9	1	
18	28.8	23.4	98	88	9	8	------	
19	30	23.5	98	78	6	4	------	
20	31.6	24.5	96	67	8	7	------	
21	31.5	24.6	90	65	8	8	------	
22	30.8	23.6	92	78	9	9	5.3	
23	30	22.8	97	69	8	6	.5	
24	30.6	23.8	92	83	6	9	.8	
25	30.6	23.6	93	69	10	7	------	
26	30.8	23.5	97	62	9	8	------	
27	31.4	------	------	75	------	5	------	
28	29.6	23.2	96	76	8	6	------	
29	------	22.6	96	------	2	------	------	
30	------	------	------	------	------	------	------	
31	------	------	------	------	------	------	------	
Mean	29.6	23.1	93.9	76.6	7.8	7.4	------	
Total	------	------	------	------	------	------	87.2	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.2	24.3	89	85	10	10	4.6	↙° ● a. p.
2	29.4	23.7	91	66	10	10	25.9	●° ↙° a. ● p.
3	27.9	23.6	92	80	4	8	------	
4	28.3	24.7	91	81	9	9	.3	p p.
5	29.7	24.4	92	76	7	9	.5	
6	29.8	22.8	93	69	8	7	------	p a.
7	30	24.5	88	74	3	6	------	
8	28.1	24.2	91	84	10	10	2.3	↙ ●° p.
9	28.8	23.4	89	76	5	7	.5	p a. p.
10	29.5	24.3	91	70	7	4	------	
11	29.4	23.9	87	67	7	3	------	↙° p.
12	30.1	23.5	86	69	6	4	------	
13	30.7	21.1	95	72	4	6	------	p a. ↙ p.
14	30	21.6	95	71	5	6	6.4	↙ ● p.
15	28	23.8	85	71	9	9	------	p ↙° a. ●° ↙° p.
16	28.4	23.6	76	64	5	5	------	↙° p.
17	29.5	23.7	75	58	10	6	.3	↙ p a. p.
18	28.6	23.3	86	77	5	8	.5	ϟ ↙° p.
19	30.3	23.1	94	71	7	4	------	p a.
20	30.5	24	91	70	6	4	4.1	↙° a. ● ⛈ p.
21	29.6	24.4	94	77	9	8	------	↙° a.
22	29.9	24.1	87	78	9	9	------	↙° a.
23	30.5	24.5	88	69	10	6	------	●° ↙° a. ↙ p.
24	30.5	24.6	85	67	7	8	.5	↙ a. p. p p.
25	30.9	24.8	91	73	10	5	1	p p.
26	30.1	24.1	87	69	7	5	------	●° p.
27	30.6	24	83	63	5	3	------	↙° p.
28	31.2	24.6	87	63	9	6	------	
29	31.2	22.9	91	69	6	8	.5	↙ a. ●° p.
30	30	24.3	82	80	7	9	3	↙ p a. ● ↙ p.
31	28.4	23.7	80	83	5	9	.8	↙ ●° a. p.
Mean	29.6	23.8	88.1	72.3	7.1	6.8	------	
Total	------	------	------	------	------	------	51.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	25.7	22.3	98	82	10	10	59.2	●^{2} a. p.
2	27.2	22.9	95	91	7	10	39.9	● a. p.
3	28.4	22.4	95	84	6	10	32.3	● a. p.
4	28.6	22.5	93	79	8	9	20.3	● a. p.
5	29.9	21.6	99	77	10	7	10.2	≡^{2} a. ●
6	29.4	23.3	96	84	9	6	10.2	● a. p.
7	28.8	23.4	97	84	9	8	25.4	● a.
8	28.2	23.2	96	72	10	7	42.4	●^{2} a. p.
9	28.6	22	91	80	7	6	6.9	● a.
10	29.5	22.9	89	76	8	6	.3	
11	29.9	20.9	83	74	5	4	3	
12	30	20.8	95	72	4	3	5.3	
13	30.6	20.6	91	73	3	3	18	● p.
14	27.4	22	97	81	8	7	27.9	● a. p.
15	27	22.9	73?	70	8	9	11.2	● a. p.
16	28	23.3	65?	56	8	7	1	●° p.
17	27	22.6	81	81	8	9	17.8	● a.
18	29.1	22.4	89	81	9	7	3.6	≡° ● a.
19	29.4	20.6	96	80	2	6	2.3	
20	29.4	21.9	96	81	4	6	15	● a.
21	29.3	22.9	92	70	7	5	11.9	● a.
22	29	21.9	97	71	8	7	14.5	● a.
23	28.8	24.1	73?	73	6	9	12.7	● a.
24	29.4	21.5	84	74	8	4	.8	●° a.
25	29	21.4	97	75	3	5	6.4	
26	28.5	21.7	87	75	5	6	1.5	● a.
27	28.6	22	93	73	7	8	2.3	●° a.
28	28.4	22.2	91	75	6	5	11.4	
29	28.1	22.4	98	76	10	8	9.4	● a.
30	28.4	23.9	76?	74	8	7	.8	
31	28	23.6	72?	61	9	5	.5	
Mean	28.6	22.3	89.5	76	7.1	6.7	------	
Total	------	------	------	------	------	------	424.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.7	22.2	90	87	10	10	61.7?	● a. p.
2	27.3	23.2	92	93	10	10	53.6	● a. p.
3	28.9	23	91	83	10	10	7.6	● a. Ф p.
4	29	23.1	92	92	10	10	7.1	● a.
5	29.4	23.2	95	84	10	10	------	≡ a. ⊔ p.
6	28.9	23.2	91	81	10	10	------	Ф p.
7	30	23.4	89	79	6	10	------	d a.
8	28.5	24	88	79	8	8	1	● a.
9	29.9	22.8	93	81	8	10	2.5	● a.
10	29.6	23	89	79	8	8	2	p a. ⌒ ● p.
11	30	23.2	88	71	5	5	------	d a.
12	29.6	22	86	77	8	5	------	
13	29	20	91	72	6	5	------	Ω a.
14	29.2	20.5	88	75	4	6	------	Ω a. d a. p.
15	27.5	23	86	88	10	10	2.5	● a. d p.
16	27.5	20	86	66	6	8	3	● a. p p.
17	28.2	20.2	76?	91	10	10	6.6	● p.
18	29	23	93	90	10	10	2	● a. d a. p.
19	30.3	23.1	88	76	5	6	------	
20	30.8	24.2	89	85	8	8	3.8	● p.
21	30.6	23.3	92	83	10	10	------	d a.
22	30.8	24.2	88	84	8	8	------	d ⌒ p.
23	30.9	23.5	87	78	10	8	------	↙° p.
24	30	25	94	77	8	6	------	
25	31	22.5	97	76	10	5	------	
26	------	24	89	78	6	5	------	⌒ p.
27	------	22	91	85	10	8	11.7	⌒ d a. ● a. p.
28	------	22.8	94	81	10	8	------	
29	------	21	89	76	8	8	14	● p.
30	------	22.3	86	77	10	10	9.4	● p.
31	------	23	81	70	10	8	------	
Mean	29.3	22.7	89.3	80.5	8.5	8.2	------	
Total	------	------	------	------	------	------	188.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.2	24.2	84	70	2	8	1.3	
2	29	23	83	66	10	3	2.5	
3	29	25.2	84	70	8	6	2.5	
4	29.4	24.4	87	68	8	10	1.3	
5	27.6	24.4	90	74	10	10	------	
6	28.6	21.6	93	69	10	10	1.3	
7	28	24.8	90	77	10	10	.8	
8	27.6	24.8	84	74	10	7	3	
9	27.8	23.8	91	70	10	10	.8	
10	28.2	24.6	90	71	10	10	------	
11	27.6	24.4	92	75	10	10	.8	
12	28	24	92	76	8	2	------	
13	28.4	24.2	90	70	2	8	------	
14	27	22.2	95	84	3	?	10.2	
15	28.2	23.4	85	76	10	10	------	
16	28	24	92	77	7	10	7.6	
17	27.6	23.2	90	80	10	10	3.8	
18	27.4	23.2	92	83	10	8	------	
19	27.8	24.6	92	78	10	8	2.5	
20	27.4	23.4	92	84	5	8	3.8	
21	27.8	23	92	78	3	4	------	
22	28	24.4	87	77	2	6	1.3	
23	28.8	23.4	78	63	5	4	------	
24	28.4	23.6	76	65	7	4	2.5	
25	28.2	22.6	79	68	10	7	1.3	
26	29	24.4	80	63	10	10	------	
27	27.4	22	83	85	10	10	1.8	
28	28	23.6	92	73	10	10	------	
29	29.4	22.2	85	73	10	10	------	
30	29	20.8	91	69	10	6	------	
31	26.8	23.4	88	84	10	10	6.1	
Mean	28.1	23.6	87.7	73.9	8.1	8	------	
Total	------	------	------	------	------	------	55.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	25.6	22.4	91	91	10	10	3.6	● a. d p.
2	26.6	22.2	90	82	10	10	17.3	● a. ↙° p.
3	28.1	22.7	90	79	10	6	2.3	●^{2} a. ↙° d p.
4	30	22	90	72	10	6	.5	⌒° p.
5	28.8	24.2	83	81	10	9	------	d a.
6	30.5	23.2	90	74	8	9	------	◯^{2} p.
7	30.2	23.5	93	64	2	4	------	⊕ ◯^{2} p.
8	30	24.3	88	70	9	4	1.3	⊕ ⊔° Ф° p.
9	28.3	23.2	94	80	10	8	2	d° ●° a. ● p.
10	30.2	22.2	91	61	10	5	3.9	p a. ● p.
11	29.2	23.5	91	71	5	2	.4	
12	29.9	22.5	91	74	9	1	------	
13	29.9	21.8	94	74	6	4	.6	◯° p.
14	29	22	93	70	5	9	11.7	● a. ↙° d p.
15	25.5	22	84	76	10	9	24.8	⌒ ° a. ● d p.
16	27.2	22	91	82	9	10	8.3	d a. d° ● p.
17	28.9	20.8	88	60	9	5	------	
18	29.7	21.2	95	69	10	5	32.3	d° a. ●^{2} p.
19	29.1	23	96	76	10	3	1.5	d ●° a.
20	29.8	21.4	94	66	8	4	.3	d p.
21	30.1	24.5	88	70	7	4	4.8	● p.
22	29.5	23.6	93	70	8	6	15.5	p a.
23	29.3	22.5	91	80	10	8	6.6	● d a. ⊕ d p.
24	29.7	22.4	90	71	7	7	8.1	d p.
25	29.3	21.7	95	70	10	2	3.3	p a. ● p.
26	29.2	22.9	96	69	8	6	------	
27	29.6	22.9	91	71	9	3	------	
28	29.4	20.4	89	72	4	4	------	Ф p.
29	29	21.3	91	70	6	9	2.3	
30	27.2	22.2	91	83	10	10	29	● a. p. ⊔ p.
31	28	21	93	70	9	7	------	
Mean	28.9	22.4	91.1	73.2	8.3	6.1	------	
Total	------	------	------	------	------	------	180.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.1	23	94	80	10	10	2	⌒ a. ●° a. p.
2	28.3	23.4	95	93	10	10	52.1	d a. ● ↙ p.
3	31.9	23.1	94	89	10	10	2.8	● a. d ⊕ p.
4	31.8	21.5	98	73	8	8	16.8	●° a. p.
5	31.2	21.5	97	81	9	9	------	○ p.
6	32.9	21.3	95	68	8	8	------	
7	31.5	21.5	96	71	3	9	------	
8	32	22.1	93	64	9	8	------	
9	32	22.8	95	73	10	8	.8	●° ⌒ a. ⊕ p.
10	32.6	21.4	95	73	7	8	6.6	⌒ d ↙ ● p.
11	32.2	21.4	98	65	8	3	.8	●° a.
12	33.2	20.8	96	80	10	8	3.8	● a.
13	30.5	19.4	95	83	1	9	------	d° p.
14	31.1	20	96	76	1	8	5.6	d° a. d p.
15	29.6	22.1	94	81	10	8	1.3	●° a. d a. p.
16	30.7	21.5	97	69	8	8	------	d° a.
17	31.6	21.4	85	74	8	9	3.3	d p.
18	32.8	22.3	96	88	10	8	7.6	●° a. ⌒ ● p.
19	32	23.1	94	86	2	4	10.2	● p.
20	33.4	22.1	96	72	8	8	6.1	● a. d p.
21	31	23.9	93	83	10	9	2	●° a. d² p.
22	32.5	21	97	72	8	8	.5	●° p.
23	32.2	20.9	91	75	7	7	1.3	● a. d p.
24	32	24.4	88	71	8	8	1.8	●° p.
25	31.9	22	96	68	4	6	------	d° ⊕° p.
26	32	21	97	75	3	7	------	⊕ p.
27	33.2	20.7	97	72	10	8	2	●° a. d p.
28	31.4	22	94	84	10	8	------	d° a. ⊕ p.
29	31.5	21	95	73	3	8	------	
30	32	23.1	92	88	9	9	7.4	● a. p.
31	30.5	22.1	92	76	9	8	1.5	● a. d ⊕ ◡ p.
Mean	31.6	21.9	94.5	76.6	7.5	8	------	
Total	------	------	------	------	------	------	136.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	26.7	21.2	96	78	10	9	0.3	d a.
2	29.7	20.9	86	80	9	9	1.3	d p.
3	31.8	21.3	93	63	6	6	------	
4	33	20.9	97	54	6	5	------	
5	31.8	20.2	93	61	9	7	------	◡ p.
6	32.9	19.3	96	56	5	5	------	
7	33	21.2	96	58	4	5	------	
8	33.7	20.1	97	57	7	6	------	
9	30.8	19.9	92	67	5	7	------	d° a.
10	32.3	18	94	60	3	7	------	⌒ a.
11	33.6	20.3	97	53	5	6	------	
12	32.8	20.1	93	55	6	6	.5	⊤ ●° p.
13	33.4	20.7	96	62	3	7	------	
14	31.5	20	96	68	7	8	1.8	● p.
15	28.8	20.1	95	82	9	9	2	● p.
16	29.3	18	95	76	7	7	------	
17	29.4	17.7	95	82	5	6	------	
18	31.9	18.8	93	65	5	7	2.8	● p.
19	31.8	21.5	97	65	9	6	.3	d a.
20	32.3	20.2	95	61	6	6	------	
21	32.5	20.7	95	60	4	7	------	
22	31.8	20	96	51	3	7	------	
23	29.4	18.7	95	82	5	6	1.3	d p.
24	31	19	96	56	5	7	------	○ p.
25	32.5	19.2	95	54	7	6	------	
26	32.8	19.1	96	56	4	5	------	
27	32.9	19	95	48	5	3	------	
28	32.3	18.3	91	62	2	3	------	
29	30.8	19	92	69	4	7	------	
30	30.5	17.4	96	62	6	7	------	
31	31.6	19.5	96	52	6	7	------	
Mean	31.6	19.7	94.7	63.1	5.7	6.4	------	
Total	------	------	------	------	------	------	10.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.5	20.4	98	71	8	8	------	● a.
2	28	20	98	71	8	8	4.1	Ω ↙° a. ↙° ● p.
3	27.3	21	97	72	10	7	------	d a.
4	28.7	21.5	97	70	10	5	------	Ω a.
5	29.2	20.4	98	69	5	6	------	Ω ≡ a.
6	29.6	20.5	98	69	5	8	------	☇ p.
7	29.1	20.3	98	69	5	7	------	↙° p.
8	29	19	98	68	5	7	------	≡ a.
9	29.5	19.8	97	69	8	8	------	≡ a. d ↙° p.
10	28.8	21	97	68	7	3	------	Ω ≡ a.
11	29.5	20	97	68	6	6	------	p p.
12	29	19.2	97	68	3	8	------	☇ p.
13	29	19	98	70	3	5	------	Ω ≡ a.
14	29.6	20	98	68	10	7	11.7	● a. p.
15	30.5	19.2	98	67	5	7	------	
16	29.3	20.6	97	68	5	5	------	≡ a.
17	29.3	20.8	98	68	3	6	------	☇ p.
18	30.5	19.2	97	68	3	3	------	Ω ≡ a.
19	29.7	20.5	98	69	7	4	15.5	Ω ≡ a. ● p.
20	29.2	20.3	97	67	2	5	------	↙° a. p.
21	30.9	19.7	97	68	7	5	------	d a. p p.
22	29.5	20	98	68	8	5	------	Ω ≡ a.
23	29.2	19.5	97	68	8	8	------	Ω ≡ a. d ↙° p.
24	27.6	20	97	75	8	5	------	Ω d a.
25	28.5	18	98	72	2	3	------	
26	29.5	20.9	98	69	5	7	------	≡ a.
27	29	20.3	98	67	3	3	------	≡ a. ↙° p.
28	29	20.5	98	67	7	8	------	↙° ☇ p.
29	28.6	19.2	97	69	5	5	------	Ω ≡ a. ↙° p.
30	28	19.4	98	70	7	8	------	d p.
31	27.1	20.3	98	73	10	9	47.8	● a. p.
Mean	29	20	97.6	69.1	6.1	6.1	------	
Total	------	------	------	------	------	------	79.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	23	20.4	95	89	10	10	34	
2	24.4	19	93	92	10	10	40.6	
3	25.5	19.8	99	91	10	9	10.4	
4	27	20.6	98	77	10	10	------	
5	27	20.8	95	81	9	10	------	
6	27	20.8	98	72	10	8	------	
7	28	21	92	74	5	3	5.8	
8	28	21.2	96	73	10	10	------	
9	26.5	20.3	94	77	10	10	1.3	
10	27.4	20.1	93	79	10	8	1.3	
11	28	20.8	95	77	10	6	------	
12	30.4	19.3	96	58	1	3	------	
13	25.3	19	95	88	1	8	11.9	
14	23.6	19.1	99	88	10	10	10.2	
15	23.5	19	98	83	10	5	2.5	
16	24.9	19	91	79	10	7	------	
17	26	18.6	94	64	10	10	2.8	
18	26.5	17.9	95	82	10	10	45.2	
19	29.6	19.8	96	71	10	7	------	
20	28.5	20	98	71	10	8	.8	
21	28.2	20.4	96	78	9	9	6.4	
22	28	20.1	98	70	3	3	1.5	
23	25.6	20.5	98	84	10	9	12.7	
24	26.8	20.2	93	76	8	9	7.6	
25	28.4	19	98	70	1	3	------	
26	27	19	95	72	1	1	------	
27	27	17.4	96	70	2	3	------	
28	29.6	17.6	95	69	2	1	------	
29	25.8	16.6	93	81	4	9	1.3	
30	26	19	96	72	10	6	2.8	
31	25.5	18.6	89	74	10	8	27.4	
Mean	26.7	19.5	95.4	76.8	7.6	7.2	------	
Total	------	------	------	------	------	------	226.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27	21.5	86	76	10	10	------	
2	27.5	21.5	89	70	10	10	------	
3	27.5	22.3	89	85	10	10	------	
4	30.2	22.3	86	85	10	10	------	
5	28.7	22.7	84	72	10	10	------	
6	29.8	23.5	86	75	10	3	------	
7	29.3	23	88	79	10	10	------	
8	29.5	23	87	76	10	10	------	
9	29.5	23	86	69	10	8	------	
10	29.2	25.5	76	70	10	5	------	
11	29.5	23	80	68	2	2	------	
12	30	23.3	80	65	10	2	------	
13	30	23.3	80	66	10	2	------	
14	27.5	21	92	73	10	10	------	
15	28	21.9	76?	67	10	10	------	
16	28	20.5	72?	66	10	10	------	
17	27	21.5	81	75	10	10	------	
18	29.8	21.5	75?	64	10	2	14.7	d p.
19	29.5	22.2	88	77	10	10	------	● a.
20	30.5	22.7	83	81	10	2	------	
21	30.2	23	81	71	10	8	------	
22	30	22.5	85	66	10	3	------	
23	29.5	22.5	80	68	10	10	------	
24	29.8	22.5	86	68	10	10	------	
25	30.5	21.5	80	65	10	2	------	
26	31	23	80	65	10	2	------	
27	30.5	21.2	84	68	10	10	------	
28	30	22.5	80	69	10	8	------	
29	29.3	22.5	84	71	10	10	------	
30	28.8	23.2	83	62	10	10	------	
31	26	20.5	87	92?	10	10	5.1	● a.
Mean	29.1	22.4	83	71.7	9.7	7.4	------	
Total	------	------	------	------	------	------	19.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.9	20	94	58	4	9	------	Ω² ↙° a. d° p.
2	30.6	19.3	72?	52	10	6	------	d° a.
3	28.9	22.2	90	88	10	10	7.4	Ω↙°a.●⌒°⏀p.
4	32	22.1	96	63	7	8	------	
5	31.6	18.8	97	48	1	4	------	Ω²⊕◠a.◡⏀p.
6	32.2	19.3	95	57	4	7	------	Ω a. ⏀ p.
7	32.2	19.8	95	58	8	5	------	Ω a. ∞² p.
8	31.8	18.7	95	53	3	5	------	Ω ≡ a.
9	32.5	19.4	95	50	2	7	------	Ω² ≡ a.
10	31.6	18.7	94	54	0	4	------	Ω ≡ a. ∞ p.
11	32.2	18.9	94	55	1	7	------	Ω ≡° a.
12	31.2	20.2	93	50	10	1	------	Ω° a. ∞° p.
13	31.6	19.9	95	59	7	6	------	Ω a.
14	31.8	18.3	97	56	3	6	------	Ω² ≡ a.
15	30.4	17.7	93	48	0	4	------	Ω≡²a.↙°∞²p.
16	30.5	17.2	94	49	4	4	------	Ω≡a.∞²↙°p.
17	29	17.7	93	46	9	3	------	Ω ≡ a. ↙° p.
18	31.6	16.5	92	54	0	9	2.5	Ω a. d° p.
19	29.4	21.8	97	75	10	9	5.8	●° a. d° ↯° p.
20	32	18.9	96	60	1	5	------	Ω² a.
21	32.7	20.8	95	52	2	5	------	Ω² a. ⊤ d° p.
22	32	21.7	96	56	10	6	------	
23	32.3	19.4	95	52	0	6	------	Ω² ≡ a. ↙° p.
24	32.4	19.6	95	52	3	7	------	Ω² ≡ a.
25	32.4	19	95	51	0	5	------	Ω ≡ a. ⊕ p.
26	32.8	19.5	97	48	0	6	------	Ω² ≡² a. ⊕ p.
27	32.1	19.8	96	53	1	6	------	Ω ≡ a. ⊕ p.
28	31.8	20	96	54	2	2	------	Ω ≡ a. ∞ ↙° p.
29	31.5	20.8	92	51	1	4	------	↙°Ω≡²⊕a.∞p.
30	31.1	18.4	90	46	4	5	------	Ω≡↙°a.⊕²⏀²p.
31	29.8	18	92	60	2	9	------	Ω ≡° a.
Mean	31.4	19.4	93.7	55.1	3.8	5.8	------	
Total	------	------	------	------	------	------	15.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	22.1	11.5	94	57	3	5	------	
2	22.1	9.5	85	90	10	6	------	d ⌒ a. ≡ p.
3	23	14.6	92	68	6	7	------	≡ p.
4	22.3	16.5	93	85	8	7	------	≡ a.
5	24.2	11	74?	71	2	6	------	
6	24	12	89	77	3	7	------	
7	24.1	13	95	75	3	7	------	
8	23.6	10	94	78	4	5	------	≡ a. p.
9	23	12	87	73	5	9	------	≡ a. p.
10	24.2	10.5	60?	52	2	2	------	≡ a. p.
11	22.7	12	88	78	2	7	------	≡ a.
12	21.7	13.5	94	65	3	6	------	≡ p.
13	22	11.5	88	68	3	5	------	≡ a.
14	21	9.5	94	80	4	9	------	
15	21.	10.4	89	80	2	9	0.5	d p.
16	21.6	10.5	94	71	9	5	------	≡ d° p.
17	19.6	10.6	85	82	6	9	------	
18	23	10	78	75	2	9	.5	≡ a. p. d p.
19	23	13	96	74	10	9	3	d a. p. ↯ ⌒ p.
20	23.5	12.6	94	79	2	5	------	≡ a. p.
21	24	14.1	97	74	4	9	------	≡ a. p.
22	23	12	95	83	6	9	------	≡ a.
23	23.5	12.6	94	84	2	9	------	≡ p.
24	23	12.6	94	74	5	7	------	≡ p.
25	22.5	11	98	77	2	6	------	≡ a. p.
26	22.2	13	94	80	4	9	------	≡ a. p.
27	22	11.9	98	70	4	9	------	≡ a. p.
28	20.6	10.5	95	83	3	8	------	≡ a. p.
29	22	10.4	97	69	2	7	------	≡ a.
30	21.5	10.3	94	78	5	9	------	≡ p.
31	21	10.4	94	81	2	10	------	≡ a.
Mean	22.5	11.7	90.7	75.2	4.1	7.3	------	
Total	------	------	------	------	------	------	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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	20	86	58	2	2	------	Ω a.
2	31.6	19.4	78	63	8	3	------	Ω ≡ a.
3	30	21.6	93	70	4	6	------	Ω ≡ a.
4	31	21.2	95	70	10	3	------	Ω a.
5	30.2	19.2	95	73	6	2	------	Ω a.
6	32.2	20.4	96	58	3	2	------	Ω a.
7	31.8	20.2	96	65	2	3	------	Ω a.
8	32.6	20.4	95	59	3	4	------	Ω ≡ a. ⏀ p.
9	32.8	20.2	91	62	2	2	------	Ω a.
10	31.8	19.4	89	63	2	2	------	Ω a. ⏀ p.
11	31.8	18.8	87	69	2	2	------	Ω a.
12	30.9	19.3	92	66	3	2	------	Ω a. ⏀ p.
13	30.3	18.9	96	58	2	1	------	Ω° a.
14	30.6	18.3	98	64	3	3	------	Ω° a.
15	30.3	19.6	98	62	3	4	------	Ω° a.
16	30.2	19.5	94	64	9	4	------	⏀ a.
17	30.4	19	94	63	10	7	------	Ω° d° a.
18	30.6	17.4	95	57	3	5	------	Ω° a.
19	32.8	20.1?	92	63	4	7	------	⌒° p.
20	31.6	20	98	39	2	3	------	Ω a.
21	31.6	21.6	96	69	2	3	------	
22	31.8	22	92	66	5	7	------	
23	31.6	21.6	93	66	3	4	------	
24	31.5	22.1	96	62	4	6	------	
25	31	20.5	96	71	4	5	------	
26	32	23.1	94	60	2	2	------	
27	33.1	23.3	91	56	1	2	------	↙° p.
28	31	21.3	97	71	1	5	------	
29	30.4	21	86	66	1	3	------	
30	30.4	20	95	70	2	3	------	Ω a.
31	30.5	18.6	95	66	2	4	------	Ω a.
Mean	31.3	20.3	93.2	63.5	3.5	3.6	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	26.8	17.9	97	87	10	9	3.3	d° p a. ⌈ϟ ◒^{2} p.
2	27.7	17.6	98	67	10	10	------	⊕° a. d° ◒° p.
3	29.7	19.1	98	67	10	8	------	d° a. p. ⌈ϟ ◒^{2} p.
4	31.7	20.1	97	63	10	7	------	d° ≡ a.
5	31.6	16.8	99	58	2	6	------	Ω^{2} ≡ a. ○ p.
6	31.1	17.6	98	65	9	9	------	Ω^{2} a. ⌈ϟ ⊕° ◒^{2} p.
7	32.3	16.6	96	55	4	2	------	Ω^{2} ≡ a.
8	32.2	18	95	57	9	4	------	Ω^{2} ≡ ○ a. ◒^{2} p.
9	31.7	17.4	98	61	4	4	------	Ω^{2} ≡^{2} a. ◒^{2} p.
10	31.8	16.6	97	60	2	4	.8	Ω^{2} ≡° ⊕^{2} ⌈ϟ ⌒° d^{2}
11	31.2	18.5	98	61	10	7	------	≡^{2} a. ⌈ϟ p.
12	31.6	16.8	98	59	4	3	------	Ω^{2} ≡^{2} a. ⌈ϟ ↙° ◒^{2}
13	31.1	18.5	95	53	10	3	------	↙° ◒^{2} p.
14	27.9	17.8	92	85	10	10	1	≡ p ⊕^{2} ⌈ϟ d° ↙°
15	27.2	16.1	94	64	10	9	------	d° ⊕° a. ⌈ϟ p.
16	28.5	16.7	95	60	10	8	.3	p ⌈ϟ p.
17	28.8	16.6	96	56	10	6	1.3	d° ⌒° a. ⌈ϟ ↙° p.
18	28.7	16.3	100	60	7	10	6.9	Ω° ⊕° a. ●° p.
19	27.8	18.8	98	82	10	9	1.8	●° a. d° ⌈ϟ p.
20	31.7	17	98	62	6	5	------	Ω^{2} ≡° a. ⌈ϟ d° p.
21	31.1	17.1	97	62	5	3	------	Ω^{2} ≡ a. ⌈ϟ p.
22	31.6	20.3	96	60	10	8	.3	⊕^{2} ⌈ϟ a. ↙° p.
23	30.7	19.2	98	70	10	7	1.3	d a. ⌈ϟ d^{2} p.
24	31.7	18	99	60	10	6	------	≡^{2} a. ○ p.
25	32.3	16.7	95	55	4	2	------	Ω^{2} a. ⌈ϟ p ↙° p.
26	32.7	20	95	57	10	3	------	d° a. ↙° ◒° p.
27	32.6	18.2	97	53	6	2	------	Ω° ≡ ⌈ϟ ⌒° a. ◒
28	31.9	19.6	96	61	10	3	------	↙° ◒° p.
29	29.8	17.6	96	60	10	6	------	Ω^{2} a. ⌈ϟ v ↙° ◒°
30	27.3	16.7	91	73	10	10	.8	d^{2} ⌈ϟ ↙° ◒° p.
31	28.6	17	96	60	10	9	------	⊕° a. ⌈ϟ ◒^{2} p.
Mean	30.4	17.8	96.5	63	8.1	6.2	------	
Total	------	------	------	------	------	------	17.8	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.1	22	73	63	3	1	------	Ω° ≡° a. ↙° p.
2	28.4	21.8	68?	57	10	8	------	
3	29.1	21.7	79	68	4	8	------	Ω^{2} ≡^{2} a.
4	29.8	24	81	64	10	4	------	d a. ◒ p.
5	29.4	22.9	84	65	3	4	------	Ω^{2} ≡^{2} a. ◒ p.
6	30	23.5	82	68	3	4	------	Ω^{2} ≡^{2} a.
7	29.5	23	85	70	0	1	------	Ω^{2} ≡^{2} a.
8	29.5	23.2	85	72	1	1	------	Ω^{2} ≡^{2} a. ↙° p.
9	29.4	22.6	84	68	0	0	------	Ω^{2} ≡^{2} a. ↙° p.
10	28.9	21.7	81	70	8	3	------	Ω^{2} ≡^{2} a.
11	29.4	21.9	83	69	0	0	------	Ω^{2} ≡^{2} a.
12	28.8	21	82	68	0	0	------	Ω^{2} ≡^{2} a. ↙° p.
13	28	21	81	58	3	1	------	Ω^{2} ≡^{2} a. ↙° p.
14	28.6	19.4	81	61	0	0	------	Ω^{2} ≡^{2} a.
15	28.5	21	71	62	5	0	------	
16	27.8	20.6	77	62	9	0	------	
17	28.2	20.5	69?	51	9	5	------	
18	29	19.5	73	54	0	1	------	Ω ≡ a. ↙° p.
19	29.4	19.5	79	60	4	7	------	Ω^{2} ≡^{2} a. d p.
20	29.4	22.5	82	69	0	4	------	Ω^{2} ≡^{2} a. ↙° p.
21	29.4	22	82	71	0	1	------	Ω^{2} ≡^{2} a.
22	29	22.9	84	71	9	8	------	Ω° ≡° a. ↙° p.
23	28.8	22.1	85	70	3	7	------	Ω^{2} ≡^{2} a.
24	29	23.7	83	71	5	4	------	Ω° ≡° a. d p.
25	28.9	23	83	73	3	5	------	Ω^{2} ≡^{2} a. ↙° p.
26	29.2	22.9	86	72	8	3	------	Ω° ≡° a. ↙° p.
27	29.6	22.5	84	63	0	0	------	Ω^{2} ≡^{2} a.
28	28.2	22.6	83	68	9	4	------	Ω° ≡° a. ↙° a.p.
29	28.7	20.5	83	63	2	0	------	Ω^{2} ≡^{2} a. ↙° p.
30	29.2	20.9	71	54	0	0	------	
31	28.8	20.9	77	58	1	1	------	Ω° ≡° a. ↙° p.
Mean	29	21.8	80	64.9	3.6	2.7	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	19.3	82	74	0	1	------	Ω ≡ a.
2	31.4	16.3	87	73	9	6	------	≡ a.
3	31.5	20.5	91	75	8	2	------	≡ a. ⌒ p.
4	31	20.9	90	65	9	4	------	≡ a. d p.
5	31.2	21	97	66	0	1	------	Ω ≡ a.
6	30.9	20	98	72	0	3	------	Ω^{2} ≡ a.
7	31.9	20.4	97	73	0	1	------	Ω ≡ a.
8	32	21	98	57	0	0	------	Ω ≡ a.
9	32	20.3	95	60	0	1	------	Ω ≡ a.
10	31.3	18.4	86	59	0	3	------	Ω ≡^{2} a.
11	32.4	19.7	97	68	0	1	------	Ω ≡ a.
12	29.5	21	94	65	2	8	------	Ω ≡ d a. ↙ p.
13	29.8	17.9	96	70	0	8	------	Ω ≡^{2} a. ↙ p.
14	28.8	20.6	79	58	4	2	------	d ↙ a.
15	31.9	19	83	44	6	0	------	Ω ≡ a.
16	30.9	18.5	84	58	4	1	------	Ω ≡ a.
17	30.8	16.2	93	50	0	1	------	Ω ≡^{2} a.
18	32	15.5	90	60	0	3	------	Ω ≡^{2} a.
19	31.2	20.6	92	71	0	5	------	Ω ≡ a.
20	32	21.6	94	73	1	1	------	Ω a.
21	32.2	20	98	67	1	1	------	Ω ≡ a.
22	31.9	20.3	98	65	0	4	------	Ω ≡ a. ↙ p.
23	34	19.1	97	------	0	2	------	Ω ≡^{2} a. ↙ p.
24	31.4	22	------	------	4	4	------	
25	30.6	21	------	------	1	3	------	Ω ≡ a.
26	31.8	20.3	------	------	0	8	------	Ω a.
27	32.2	19.9	------	------	0	1	------	Ω ≡ a.
28	28.3	21.5	------	------	10	3	------	d a. ↙ p.
29	28.9	17.2	------	58	0	2	------	Ω ≡ a. ↙ p.
30	32.9	16.1	89	36	0	1	------	Ω ≡^{2} a.
31	31.5	17.1	90	52	0	1	------	≡ a.
Mean	31.3	19.5	91.8	62.8	1.9	2.6	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	24.1	20.7	74	71	10	7	6.4	d a. p. ↙° p.
2	26	20.2	65?	70	10	8	3.6	↙ a. p. d p.
3	26.2	21.7	82	73	10	5	.7	d ↙° a. ↙° ≡ p.
4	28	24	90	83	10	7	.4	d ↙° p.
5	28.8	24.6	83	80	10	2	------	≡ Ω^{2} p.
6	27.9	22.1	90	77	0	2	------	Ω^{2} a. ≡ p.
7	28	24	86	78	2	3	------	v a. ≡ Ω^{2} p.
8	26.3	20.6	89	87	8	9	2.5	●° ⌒ a. Ω^{2} d p.
9	27.2	21.7	96	79	10	3	2.8	d a. ●° p.
10	27.9	22.5	86	73	10	9	------	d° a.
11	27.9	23.3	84	85	4	8	1.8	d° a. p.
12	27	22.3	84	73	2	2	.3	≡ a. p.
13	23.6	20.2	82	78	8	10	18.3	d a. ● p.
14	22.4	18.3	73	64	10	10	3.6	●° a. p. ↙°
15	23.4	19.2	73	63	10	7	------	d a. p. ↙° p.
16	24.6	19.6	68	58	10	1	------	↙° a. p.
17	25.2	19.4	67?	62	9	8	4.8	●° a.
18	25.3	21.1	75?	81	10	10	.4	↙° a. d° a. p.
19	27.4	22.4	69?	74	7	6	------	↙° a. p. ⌈ϟ° p.
20	26.8	22.8	84	90	6	10	8.4	⌈ϟ ●° a. d ↙° ⌒°
21	25.7	22.2	89	79	8	9	10.6	d a. p. ● ⌒° p.
22	24.6	21	82	79	10	10	17.8	d ⌒ a. p. ● p.
23	25.6	20.3	80	86	10	10	11.4	●° a. p. ↙° p.
24	27.4	21.2	87	81	10	10	26.1	● a. p. d° p.
25	25.8	22.1	91	76	10	10	7.8	↙° ●° a. Ω p.
26	24.8	19.6	77	85	0	10	5.1	●° ⌒ a. d ↙° p.
27	25.7	20.2	86	76	10	8	------	d° ⌒ a.
28	23.9	20.3	91	78	10	6	15	●° ↙° a. p. ≡ p.
29	23.2	19.3	86	69	10	8	21.3	● a. ↙° a. p.
30	24.7	19.8	75	74	10	3	2.8	d a. ↙° p.
31	26	21	75?	65	5	6	.3	↙° a. ≡ d p.
Mean	25.9	21.2	81.3	75.7	8	7	------	
Total	------	------	------	------	------	------	172.2	

SEISMOLOGICAL BULLETIN FOR JANUARY, 1909.

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

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

2, 4^h 15^m. **Butuan** (N Mindanao). Oscillatory earthquake, direction NNW-SSE, intensity III, short duration.

4, 21^h 45^m. **Butuan** (N Mindanao). Earthquake shocks of intensity II.

5, 6^h 28^m 32^s.* **Aparri** (NE Luzon). Earthquake shocks of intensity III. Vertical and horizontal vibrations were well distinguished. The epicenter probably lay near the NE coast of Luzon.

6, 19^h 19^m 13^s.* **Benguet** (W Luzon). Oscillatory vibrations of intensity III. The epicenter was in the western mountains of Nueva Vizcaya.

6, 21^h 40^m. **Butuan** (N Mindanao). Earthquake of intensity II.

16, 0^h 35^m 55^s.* **Eastern Mindanao.** Earthquake of intensity III. Its epicenter was placed under the Pacific sea, many miles out of the coast. It was also registered by the microseismographs of the Osaka Observatory (Japan).

21, 0^h 24^m 39^s.* **Bolinao** (W Luzon). Oscillatory earthquake, direction NW–SE, intensity IV, duration 4^s. Its epicenter was placed W of Cape Bolinao under the China Sea.

21, 15^h 35^m. **Ormoc** (W Leyte). Earthquake shocks of intensity II.

23, 2^h 52^m 03^s.* **Benguet** (W Luzon). Earthquake shocks of intensity III. The epicentral area seems to lie in the western part of Nueva Vizcaya.

26, 23^h 16^m. **Butuan** (N Mindanao). Oscillatory earthquake, direction SSW–NNE, intensity III; rumbling sounds.

27, 5^h 15^m. **Butuan** (N Mindanao). Earthquake tremors of intensity II.

[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. The 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.*		
1	5	NNW-SSE	6 28 32	----------	6 29 26	6 29 34	0.11	2.8	6 40	V. M.	Vertical C. 0.04 mm. Earthquake, III
		WSW-ENE	6 28 33	----------	6 29 31	6 29 40	.29	2.4	6 40	V. M.	at Aparri (NE of Luzon).
		WSW-ENE	6 28 44	----------	6 29 48	6 29 49	.07	3.6	6 50	H. P.	
2	6	NNW-SSE	19 19 13	----------	19 19 49	19 20 22	.46	2.4	19 31	V. M.	V. C. 0.09 mm. Earthquake, III, Ben-
		WSW-ENE	19 19 13	----------	19 19 47	19 20 03	.30	2.2	19 29	V. M.	guet and Nueva Vizcaya (Luzon).
		WSW-ENE	19 19 16	----------	19 19 49	----------	------	------	19 30	H. P.	
3	10	NNW-SSE	15 40 55	----------	15 41 13	15 42 05	1.94	2.4	15 49	V. M.	V. C. 0.06 mm.
		WSW-ENE	15 40 56	----------	15 41 13	15 41 45	1.90	2.8	15 48	V. M.	
4	14	WSW-ENE	0 24 42	----------	----------	----------	------	------	0 56	V. M.	
		WSW-ENE	0 24 46	----------	----------	----------	------	------	1 00	H. P.	
5	16	NNW-SSE	0 35 55	0 39 00	0 41 43	0 42 45	.01	11.2	1 27	V. M.	Earthquake, III, E of Mindanao.
		WSW-ENE	0 35 56	0 39 00	0 42 20	0 43 30	.01	15.2	1 27	V. M.	
		WSW-ENE	0 35 56	0 38 48	0 41 08	0 42 17	.33	11.4	1 38	H. P.	
6	17	WSW-ENE	----------	----------	9 54 06	----------	------	------	9 57	V. M.	
7	19	WSW-ENE	----------	----------	3 38 24	----------	------	------	3 40	V. M.	
8	20	WSW-ENE	----------	----------	10 08 41	----------	------	------	10 12	V. M.	
9	20	WSW-ENE	10 55 23	----------	----------	----------	------	------	11 34	H. P.	
10	21	NNW-SSE	0 24 39	----------	0 25 04	0 25 15	.14	2.4	0 32	V. M.	V. C. 0.02 mm. Earthquake, III, W.
		WSW-ENE	0 24 38	----------	0 25 06	0 25 12	.12	2.4	0 31	V. M.	Luzon.
11	22	NNW-SSE	20 40 33	----------	----------	----------	------	------	21 31	V. M.	
		WSW-ENE	20 40 33	----------	----------	----------	------	------	21 31	V. M.	
		WSW-ENE	20 40 33	----------	----------	----------	------	------	21 32	H. P.	
12	23	WSW-ENE	----------	----------	1 19 54	----------	------	------	1 23	V. M.	
13	23	WSW-ENE	2 52 03	----------	2 52 46	2 53 24	1.72	2	3 03	V. M.	V. C. 0.39 mm.
		WSW-ENE	2 52 06	----------	2 52 50	2 53 20	.67	7.8	3 04	H. P.	
14	23	NNW-SSE	10 57 35	11 05 16	11 12 48	11 14 58	.01	7.2	12 28	V. M.	Earthquake in Persia.
		WSW-ENE	10 57 36	11 05 09	11 13 01	11 13 46	.01	8	12 28	V. M.	
		WSW-ENE	10 57 44	11 04 55	11 12 57	11 14 12	.04	6.9	12 40	H. P.	
15	25	WSW-ENE	1 04 32	----------	----------	----------	------	------	1 35	V. M.	
		WSW-ENE	1 04 39	----------	----------	----------	------	------	1 47	H. P.	
16	25	NNW-SSE	20 56 08	----------	20 56 30	20 57 22	.23	2.4	21 02	V. M.	V. C. 0.14 mm.
		WSW-ENE	20 56 08	----------	20 56 30	20 57 09	.20	2.4	21 03	V. M.	
17	27	WSW-ENE	5 08 07	----------	----------	----------	------	------	5 16	V. M.	
		WSW-ENE	5 08 12	----------	----------	----------	------	------	5 20	H. P.	
18	27	NNW-SSE	17 27 40	----------	----------	----------	------	------	17 51	V. M.	
		WSW-ENE	17 27 40	----------	----------	----------	------	------	17 51	V. M.	
		WSW-ENE	17 27 41	----------	----------	----------	------	------	17 52	H. P.	
19	29	NNW-SSE	8 47 50	----------	----------	----------	------	------	9 19	V. M.	
		WSW-ENE	8 47 48	----------	----------	----------	------	------	9 19	V. M.	
		WSW-ENE	8 47 51	----------	----------	----------	------	------	9 40	H. P.	
20	29	NNW-SSE	20 58 23	----------	----------	----------	------	------	21 20	V. M.	
		WSW-ENE	20 58 19	----------	----------	----------	------	------	21 20	V. M.	
		WSW-ENE	20 58 21	----------	----------	----------	------	------	21 24	H. P.	
21	30	NNW-SSE	16 46 59	----------	16 47 12	16 47 17	.04	2.4	16 50	V. M.	V. C. 0.01 mm.
		WSW-ENE	16 46 59	----------	16 47 12	16 47 13	.03	2.2	16 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=9.2 seconds; WSW–ENE pendulum, T=10.4 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]

2, 4^h 15^m. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección NNW–SSE, intensidad III, duración corta.

4, 21^h 45^m. **Butúan** (N de Mindanao). Temblor de tierra de intensidad II.

5, 6^h 28^m 32^s.* **Aparri** (NE de Luzón). Temblor de tierra de intensidad III. Se observaron movimientos verticales y horizontales. El epicentro probablemente estaba cerca de la costa NE de la isla.

6, 19^h 19^m 13^s.* **Benguet** (W de Luzón). Movimientos oscilatorios de intensidad III. El epicentro debe colocarse en la parte occidental de Nueva Vizcaya.

6, 21^h 40^m. **Butúan** (N de Mindanao). Temblor de tierra de intensidad II.

16, 0^h 35^m 55^s.* **E de Mindanao.** Temblor de tierra de intensidad III. El origen de este temblor se hallaba en el mar Pacífico á mucha distancia de las costas. Lo registraron también los microseismógrafos de Osaka (Japón).

21, 0^h 24^m 39^s.* **Bolinao** (W de Luzón). Temblor oscilatorio, dirección NW–SE, intensidad IV, duración 4.^{s} Su epicentro se hallaba hacia el W en el mar de la China.

21, 15^h 35^m. **Ormoc** (W de Leyte). Temblor oscilatorio de intensidad II.

23, 2^h 52^m 03^s.* **Benguet** (W de Luzón). Temblor de tierra de intensidad III. Epicentro probablemente en la parte occidental de Nueva Vizcaya.

26, 23^h 16^m. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección SSW–NNE, intensidad III; acompañado de ruido subterráneo.

27, 5^h 15^m. **Butúan** (N de Mindanao). 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.

[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.

BULLETIN FOR FEBRUARY, 1909.

METEOROLOGICAL BULLETIN FOR FEBRUARY, 1909.

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

GENERAL WEATHER NOTES.

Pressure and temperature.—The monthly means of atmospheric pressure for the Philippines are higher than those of February, 1908, and especially so in the southern part of the Archipelago. With the only exceptions of Aparri and Tuguegarao, the highest pressures took place generally on the 7th, 8th, or 9th. The lowest means were observed on the 3d in southeastern Luzon, the Visayas, and Mindanao, and on the 24th in central and northern Luzon.

The monthly mean temperature for the stations of northern Luzon is somewhat higher than that of the preceding year. In all the other stations the differences between the mean temperatures of both years are as a rule of very little importance.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, FEBRUARY, 1909.

Station.	Pressure.						Temperature.					
	Mean.	Departure from February, 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from February, 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°C.	°C.	°C.		°C.	
Tagbilaran	759.32	+1.16	761.19	8, 9	757.89	3	26.2	— .1	32.2	26	20.4	1
Surigao	59.70	+1.27	61.42	8	58.13	3	25.4	+ .1	30.3	25	[1]19.9	1
Cebu	59.80	+1.38	61.76	8	58.24	3	25.9	— .1	30.6	22	19.5	1
Iloilo	59.71	+1.07	61.62	8	58.23	3	26.1	— .1	33	20	21	1
Ormoc	59.86	+1.05	61.75	8	58.43	3	24.8	— .4	32.2	26	17.1	1
Tacloban	60.36	+1.31	62.16	8	59.03	3	25.8	+ .4	32.7	4	20.6	1
Calbayog	60.71	+1.18	62.57	7	59.46	3	[1]24.9	----------	----------	----------	17.5	1
Legaspi	60.71	+1.03	62.56	8	59.47	3	25.9	+ .3	31.7	22	18.1	11
Atimonan	60.91	+ .79	63.11	7	59.38	24	26	+ .5	32.8	26	19.1	9
Manila	60.66	+ .86	62.58	7	59.07	24	25.3	+ .3	34.2	25	17.3	1
Olongapo	60.41	+ .97	62.23	7	58.82	24	26.1	— .1	34.2	28	18.9	2
San Isidro	60.66	+ .63	62.83	7	58.98	24	25.2	0	34	25	17	9
Dagupan	60.46	+ .95	62.20	6, 7, 9	58.70	24	26.2	----------	36.1?	24	18	2
Bolinao	60.46	----------	62.23	9	58.79	24	26.4	----------	31.5	21	20.3	2
Vigan	60.69	+ .89	62.57	9	59.10	24	26.3	+ .6	32	19,24,25,26	20.5	12
Tuguegarao	61.56	----------	64.73	13	58.87	24	25	+1.2	34.5	28	15.5	2
Aparri	62.09	+ .17	65.70	13	59.28	24	----------	----------	----------	----------	----------	------

[1] From 25 days only.

Precipitation.—As shown in the following table, only eleven of our stations have reported this month a total amount of rainfall greater than that of February, 1908. At the Central Observatory, 14.1 millimeters of water were collected by the rain gauges: it differs from the normal of February by +3.6 millimeters, but from the monthly mean of the preceding year by —15.5 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF FEBRUARY, 1909.

Station.	Total.	Departure from February, 1908.	Rainy days.	Departure from February, 1908.	Greatest rainfall in a single day.	Day.
	mm.	mm.			mm.	
Jolo	166.3	− 4.4	10	−5	58.4	4
Isabela, Basilan	142.7	− 5.8	12	−4	69.3	14
Zamboanga	97.2	-------	11	-----	39.3	3
Cotabato	194.3	+ 48.2	13	−4	53.3	17
Cagayan, Misamis	40.9	-------	10	-----	10.2	15
Butuan	204	− 58.4	21	−1	26.4	12
Yap, Western Carolines	46.8	− 13.4	13	+4	7.6	15
Tagbilaran	50.7	− 55.3	16	−1	14.9	15
Surigao	371.8	−458.9	21	−6	73.9	15
Maasin	289.2	-------	10	-----	64.3	6
Cebu	101.1	− 50.5	11	−7	19.8	6
Iloilo	23	− 2.7	11	+3	5.1	19
San Jose Buenavista	15	− 4.9	5	−1	6.9	13
Tuburan	17.9	− 60.9	5	−6	5.6	16
Ormoc	49.8	−125.1	13	−7	8.9	18
Tacloban	165.4	−133.7	15	−8	26	12
Borongan	421.2	−218.9	20	−2	135.4	12
Calbayog	96.3	− 89.4	14	−5	22.9	23
Palanoc, Masbate	58.6	− 18.1	10	−4	16	1
Romblon	95.1	-------	18	-----	27.2	18
Laoang	304.3	-------	22	-----	68.6	12
Gubat	443	+ 75.5	17	+1	101.6	14
Sumay, Guam, Lad. Is.	61.4	-------	19	-----	8.9	7,8

Station.	Total.	Departure from February, 1908.	Rainy days.	Departure from February, 1908.	Greatest rainfall in a single day.	Day.
	mm.	mm.			mm.	
Calapan	91.7	-------	15	-----	15.2	18
Legaspi	462.7	+ 26.6	18	−1	169.7	13
Virac	205.9	−223.4	19	0	67.8	13
Batangas	4.6	− 50.2	2	−5	4.1	6
Atimonan	147.7	−227.9	11	−4	44.2	12
Silang	32.3	+ 21.1	5	+2	19.6	13
San Antonio, Laguna	190.7	− 30.5	12	−3	53.3	6
Manila	14.1	− 15.5	4	−1	6.2	21
Olongapo	3.4	+ 3.4	2	+2	3	19
San Isidro	6.6	+ 1.2	3	−1	4.6	15
Tarlac	13	+ 2.2	4	+1	11.4	21
Dagupan	108	+103.6	4	+2	64.8	19
Bolinao	3.8	− 15.8	1	−3	3.8	19
Baguio, Benguet	52	+ 41.6	7	+4	32.8	19
San Fernando, Union	21.9	+ 14.3	3	+1	12.5	19
Echague	61.9	+ 13.5	13	0	23.4	20
Candon	9.9	− 25.9	3	0	3.8	19
Vigan	4.5	− 19.3	2	−3	4.3	19
Tuguegarao	37.4	− 17.9	5	−3	24.2	19
Laoag	6.6	-------	2	-----	4.1	15
Aparri	45.3	−114.4	13	−2	11.4	11, 15
Sto. Domingo, Batanes Is.	92.7	−162.8	14	−3	30.5	7

DEPRESSIONS AND TYPHOONS.

It is a known fact that February is the only month in which no real typhoon has ever been observed in the Philippines, as far as can be ascertained from the records of Manila Observatory. Yet, some depressions of little importance used to influence at times, even in this month, the weather of the Archipelago. But this year no depression worth mentioning has occurred. Those moving from the continent toward Japan crossed north of the Philippines at a distance altogether too great to exert any notable influence on our stations.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Los valores medios mensuales de la presión atmosférica en Filipinas son sin excepción mayores que los de Febrero 1908, especialmente en la región meridional del Archipiélago. Con excepción únicamente de Aparri y Tuguegarao, las presiones más altas tuvieron lugar los días 7, 8 ó 9. Las presiones más bajas se observaron el día 3 en el sudeste de Luzón, Visayas y Mindanao, y el día 24 en el centro y norte de Luzón.

La media mensual de la temperatura es algo mayor que la del año pasado en las estaciones del norte de Luzón. En las demás estaciones las diferencias entre las temperaturas de ambos años son de muy poca importancia.

Precipitación acuosa.—Sólo once estaciones han dado este mes un total de lluvia superior al de Febrero 1908. En los pluviómetros del Observatorio se han recogido 14.1 mm. de agua, cantidad que difiere de la normal de este mes en +3.6 y de la media mensual del año pasado en —15.5 mm.

DEPRESIONES Y TIFONES.

Sabido es que el mes de Febrero es el único en que no se ha observado ningún tifón en Filipinas, al menos desde que se vienen estudiando estas perturbaciones atmosféricas en el Observatorio de Manila. Sin embargo, algunas depresiones de poca importancia suelen influir á las veces aun en este mes, en el tiempo del Archipiélago. Mas este año no ha ocurrido depresión alguna que sea digna de mencionarse. Las depresiones del Continente y de Japón han cruzado al Norte de Filipinas á distancias demasiado grandes, para que se dejase sentir su influencia de un modo notable en nuestras estaciones.

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.	Air temperature.[2] Mean.	Air temperature.[2] Maximum.	Air temperature.[2] Minimum.	Underground temperature. 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.	Evaporation.[2] Shelter, total.
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	mm.	mm.
1	759.75	23.7	30.2	17.3	25.1	26.7	26.2	26.6	27	27.2	73.2	15.7	3.9	3.3
2	59.93	23.5	29.2	17.5	25	26.8	26.4	26.7	27	27.4	78	16.6	2.7	2.1
3	59.53	24.1	30.7	18.1	25	27.1	26	26.5	27	27.4	81.9	18.1	2.7	2.2
4	60.38	24.8	32	18.6	25.2	27.8	26.1	26.8	27	27.4	76.8	17.5	3.6	3
5	61.91	24.5	30.7	20.8	26	27.8	26.5	26.8	27	27.5	77.5	17.4	3.7	3.2
6	62.25	23.7	27.5	20.4	25.5	26.4	26.4	26.5	27	27.3	87.3	19	.8	.7
7	62.58	24.8	31.2	19.9	25.6	27.7	26.5	27	27	27.5	71.4	16.1	6.1	5.2
8	62.42	24.5	31.2	18.5	25.3	27.3	26.2	26.9	27	27.2	73.2	16.4	4.9	4.3
9	62.23	24.2	30.4	17.9	25	27.5	26.1	26.9	27	27.2	77.5	17.2	3.6	2.8
10	62.19	23.9	31	18.1	25.1	27.2	26.2	26.7	27	27.3	75.8	16.5	3.1	2.6
11	62.11	24.8	31	19.3	25.2	28	26.2	26.8	27	27.4	74.2	17	3.5	2.9
12	62.42	24.5	30	19.3	25.7	27	26.6	26.7	27	27.4	72.3	16.4	3.9	3.5
13	62.07	24.7	28.3	21.5	25.8	26.8	26.5	26.6	27	27.5	68.2	15.6	4.1	3.9
14	61.36	25.2	30.8	21.6	25.5	27.8	26.3	26.7	27	27.4	71.4	16.8	3.3	3
15	60.42	24.8	29.5	20.7	25.9	27.6	26.5	26.8	27	27.3	79.7	18.4	2.3	2.1
16	60.76	25.3	31.2	21.1	26.1	28.3	26.8	26.9	27	27.5	78	18.5	3.4	2.4
17	60.28	25.4	31.3	20.3	26.1	27.7	26.5	27	27	27.3	78.6	18.7	2.8	2.4
18	59.73	26	32.7	21.5	26.1	28.6	26.7	27.2	27	27.4	78.1	19.3	3.4	2.9
19	59.63	26	32.3	22	26.6	28.7	27	27.4	27	27.5	80.1	19.8	2.7	2.3
20	59.54	26.9	34.1	21.5	26.6	29.1	27.1	27.5	27	27.4	79.8	20.7	3.6	2.6
21	59.39	26.9	31.6	23.3	27.5	28.5	27.7	27.6	27.1	27.6	82.6	21.6	1.8	1.7
22	59.44	26.5	32.6	21.3	26.8	29.2	27.4	27.9	27.1	27.5	77.1	19.6	4.1	3.2
23	59.65	26.6	32.3	21.3	26.8	28.6	27.4	27.7	27	27.4	74.8	19.1	3.7	3
24	59.07	27.3	33.7	21.1	26.8	29.6	27.4	28	27.1	27.5	69.7	18.2	5.4	4.3
25	59.51	27	34.2	21	27.1	29.7	27.6	28	27.1	27.4	72.3	18.8	4.5	3.6
26	60.21	26.4	33.2	20.3	27	30	27.7	28.2	27.1	27.4	68.4	17	5.3	4.3
27	60.04	26.1	32.7	19.3	26.7	29.4	27.7	28.3	27.1	27.3	67.9	16.8	5.4	4.3
28	59.66	26.2	33.7	20.2	27	29.6	27.9	28.4	27.1	27.3	66.2	16.4	5.4	4.3
Mean	760.66	25.3	31.4	20.1	26	28.1	26.8	27.2	27	27.4	75.4	17.8	3.7	3.1
Total													103.7	86.1
Departure from normal	—0.70	0.0	+0.7	—0.2							+1.5	+0.2	—92.4	

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.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	Km.		0-10.					h. m.	mm.	
1	E	182.5	21	E	6.7	Ci.		Cu.	E	7 05		Ω ≡ a.
2	E	143.5	16	W	8.6	Ci.		Cu.		2 35		≡° a.
3	ESE	161	13	WNW	6.6	Ci.		S.-Cu.	E	5 20		Ω ≡² a.
4	Variable	150.5	15	WSW	5.2	Ci.		Cu.	ENE	8 10		≡ a.
5	E	198	25	E by S	9	Ci.-S.		N.-cf.	ENE	3 10		≡° d° a.
6	NE	102	10	WSW	8.8	Ci.		Cu.	E, ENE	2 35	4.1	≡° d° ● a.
7	E	242.5	33.5	E	5.5	Ci.		Cu.	E, NE	9 05		≡ a. ↙° p.
8	ESE	200	20.5	E	7.2	Ci.		Cu.	E by N	8 30		≡ a.
9	SE, WNW	197.5	19	WNW	6.3	Ci.-S.	S	Cu.	E	8 50		Ω ≡² a.
10	E	141	18	WSW	6.4	Ci.-S.		Cu.	ENE	6 05		≡ a.
11	NE quad.	157	13.5	NW by N	5.1	Ci.-S.		Cu.	E by N	8 30		≡ a.
12	NNE	104.5	12	ENE	8	A.-Cu.	ESE	S.-Cu.	ENE	3 35		Ω° ≡ a. d p.
13	NNE	299.5	25.5	NNE	9.2	A.-Cu.		N.-cf.	ENE	1 30		≡ a.
14	NE quad.	95	15.5	E	10	Ci.-S.		S.-Cu.	E	1 55		≡° a. d² ⌒ p.
15	NW quad.	127	22	NNW	8.3	A.-Cu.		Cu.	ESE	3 45	3.6	Ω ≡² d a. ● p.
16	Variable	122	9.5	ESE	6.8	A.-Cu.	W	Cu.	ESE	5 10		Ω° ≡ a.
17	Variable	100	10.5	SW by W	7.8	Ci.-S.	SSE	Cu.	ENE	5 05		≡² a.
18	ESE	151	20	ESE	6.9	A.-Cu.	E by N	Cu.	E	6 15	.2	≡² a. d° p.
19	NE	134.5	16	NNE	7.8	Ci.-S.		Cu.	ESE	6 50		Ω° ≡² a. ⊤ p p.
20	N, W	126	13	W	4.3	Ci.		Cu.	ESE	8 35		Ω² ≡² a. ⌐↯° p.
21	Variable	76	14	WNW	6.2	Ci.-S.	S	Cu.	ESE	7 30	6.2	≡ d° a. ● ⊤ p.
22	SE	177.5	20.5	SE	5.8	Ci.-S.	SW	Cu.	E	9 00		≡ a.
23	SE	192.5	16.5	WNW	7.8	Ci.-S.	SW	Cu.	ESE	7 00		Ω ≡ a.
24	SE	240	22	SE	5.8	Ci.	SW	Cu.	E	9 45		≡ a. ⦶° p.
25	ESE	212	15	ESE	3.7	Ci.-S.		Cu.	E	10 20		Ω ≡ a. ⦶² p.
26	SE	243	19.5	SE	.8	Ci.-S.		Cu.	E	10 25		≡° a.
27	ESE	291	26	SE by E	5.3	Ci.		Cu.	ESE	10 10		≡° a.
28	SE	271	24	ESE	3.4	Ci.		Cu.	E	10 25		Ω ≡ a. ↙° p.
Mean		172.8	18.1		6.5					6 41		
Total										187 10	14.1	
Departure from normal		—20.0			+1.8					—17 15	+3.6	

[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.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	758.44	25.2	30.5	20.4	70.7	NNE	1.7	4.8	Ci.-S.	Cu. NNE, NE	------	∪° p.
2	58.84	25.9	31.5	20.5	73.7	NNE	1.7	7.5	Ci.-S. SE	Cu.-N. E	------	∪° p.
3	57.89	26.7	30.5	23.1	78.6	N quad.	1.8	10	Ci.-S., A.-S.	Cu.-N. E	0.6	●° p.
4	58.97	26.6	31.5	23.6	75	Variable	1.7	9	Ci.-S.	Cu. E, NE	------	∪° a. p.
5	60.32	26.1	30.8	20.6	69.5	N quad.	2	7	Ci.-S.	Cu. E	.3	⊍ p.
6	60.29	27	32.1	22	66.7	NE quad.	2.5	5.8	Variable	Cu. E	.8	●° a.
7	60.73	26.3	29.9	22.5	70.7	NNE	1.5	9	A.-S.	Cu.-N., N. E	4.8	● a.
8	61.19	25.1	27.8	22.5	79.7	NNE	1.7	10	------	N. E, NE	2.4	●° a. d° p.
9	61.19	25.8	30	21.3	75.8	SE	1.2	7.5	Ci.-S.	Cu. NE	------	
10	61	25.6	31	21.5	75.2	NNE	1	6.5	Ci.-S., A.-S.	N. NE	.4	●° p.
11	60.31	26.3	30.2	22.5	76	NNE	1.3	8.7	Ci.-S.	S.-Cu. NE	1	● p.
12	60.12	26.2	30	22.9	76.5	NNE	2	8.7	A.-Cu., A.-S.	N., Cu.-N. NE	1	d° a. ↙° ●° p.
13	59.65	26.6	30	22.6	76.3	N, NNE	1.8	7.8	Ci.-S.	Cu.-N. NE	.3	●° p.
14	59.25	25.6	30.7	22	80.7	N quad.	1.5	4	------	Cu. E	1.1	● p.
15	59.11	25.3	29.1	22	82.7	Variable	1.3	8	A.-Cu., A.-S.	N. E	14.9	Ω ●² a. d° p.
16	59.01	25.6	31.1	22.4	84.2	NW	1.7	6.8	------	Variable	9.9	●² ⟦ʒ° p.
17	58.64	26.3	30	22.5	81.6	NW, NNE	1.8	8.5	Ci.-S.	N., Cu. E	1.2	● a. p.
18	58.51	26.5	30	22.7	79.8	Variable	1.7	6.5	Ci.-S.	S.-Cu. E	------	
19	58.72	27.2	31.7	23	77.8	Variable	2.2	4	Ci.-S.	Cu. NE, E	------	⟦ʒ° a. ⟦ʒ² ↯ p.
20	59.01	26.6	30	23	81.1	Variable	1.2	7.5	Ci.-S.	S.-Cu. E	1.3	↙ ●° p.
21	58.54	26.6	31.1	23.3	81.7	NNE, SE	1.2	7.2	Ci.-S.	Cu. E	8.9	● ⊤° p.
22	58.80	26.5	30.5	23.5	78.4	NNE, SE	1.7	5.3	Ci.-S.	Cu. E	1.3	● ↙ p.
23	58.71	26.7	30.3	23	79.2	N, SE	1.7	4.8	Ci.-S.	S.-Cu. E	.5	d° a. ●° p.
24	58.49	26.7	31	22.7	76.2	Variable	1,5	6.7	Ci.-S.	S.-Cu. E	------	↙° p.
25	58.85	26.1	32.1	22	76.8	NNE	2.2	5.5	Ci.-S.	S.-Cu. E	------	
26	59.24	26.6	32.2	20.7	71.3	Variable	1.8	6.2	Ci.-S.	S.-Cu. E	------	
27	58.81	26.9	32	22.4	66.5	NNE	2.3	4.8	Ci.-S.	S.-Cu., Cu. E	------	↙° p.
28	58.42	25.8	29.8	21.3	75.7	NNE, SE	1.8	6.2	Ci.-S.	Cu.-N. E	------	
Mean	759.32	26.2	30.6	22.2	76.4	------	------	------	------	------	------	
Total	------	------	------	------	------	------	1.7	6.9	------	------	50.7	

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.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.71	25.1	29.8	19.9	79.9	NE quad.	1.8	7	Ci.-S.	Cu. ENE	------	Ω a. Ω° ∪ p.
2	58.94	25	29.6	20.6	88.5	NE	1	9.2	Ci.-S.	N.-cf. NE	16.3	Ω² a. ●² p.
3	58.13	25.8	28.3	23.2	89.8	E quad.	2.7	9.5	Ci.-S.	Fr.-N. E	8.9	● a. ● ↙° p.
4	59.42	27	29.9	24	81.5	E	2.3	6.7	Ci., Ci.-S.	Cu. E	1.5	●° a. Ω° p.
5	60.78	25.9	29.7	21.4	82.2	NNE	2.2	6.7	Ci.-S. N	Cu. NE	3.3	Ω° d ≡ a. ↙° ⊍ p.
6	60.60	26.4	29.3	------	78	ENE	2.8	6.2	Ci.-S. SSE	Fr.-Cu. ENE	9.7	●° ≡ a. ∞ p. ↙°
7	61.02	25.8	28.8	------	80.7	NE quad.	3.3	9.8	Ci.-S.	Fr.-N. E	40.6	● a. ∞ p. ↙°
8	61.42	23.2	24.4	------	94.8	NE	1.7	10	Ci.	N. NE	25.9	● ↙° a. d ●² p.
9	61.30	25.7	30.1	21.7	83.5	NE quad.	2	7.3	Ci.	Cu. NE	6.6	d ≡° a. Ω° ↙° p.
10	61.20	24.6	26.3	21.5	86.8	NE quad.	1.3	9.7	Ci.-S.	N.-cf. NE	24.1	● a. p. ⌒ p.
11	60.56	24.6	28.2	22.2	89.7	NNW	.7	9.8	Ci.-S., A.-Cu.	Fr.-N. NE	25.4	● a. p. ↙° ● p.
12	60.34	24	26.9	21.7	92.3	NW quad.	1.8	9.8	A.-Cu. E	N. NE	47	●° a. p.
13	60.10	24.5	29.1	22	91.5	E quad.	1	8	A.-Cu. ENE	Fr.-N. NE, ENE	8.4	●° a. p. Ω p.
14	59.54	25.2	28.8	22	89	E quad.	1.2	5.2	Ci.-S.	Cu. E	13.5	●° Ω² a. d p.
15	59.38	24	25	22.9	94.7	ESE	.7	8.8	Ci.-S.	Fr.-N. E	73.9	● a. p.
16	59.14	24.9	29.1	22.9	91.3	NE	1.5	8.8	Ci.-S.	N.-cf. E, NE	8.4	● a. p. ↙ ∞ p.
17	59.44	24.4	26.9	22.5	92.7	E quad.	2	9	------	Fr.-N. ENE	9.7	d° ●° a. ↙ ● p.
18	59.02	25.1	27.7	23.4	91.5	E	1.7	8	Ci.-S. NE	N.-cf. E	15.5	●° Ω a. p.
19	59.24	26.4	29.8	22.5	87.1	E	1	4.2	Ci.-S.	Cu. ESE	------	Ω a. p. d° a.
20	59.47	26	29.7	23.4	90.3	E	.3	6.3	A.-Cu. SE	Cu. ESE	1.8	Ω a. p. ∞ p.
21	58.96	26.1	29.4	23.2	89	E	1	7.5	Ci. ENE	N.-cf. E	16.8	●° a. p.
22	59.31	25.8	29.8	22.4	88	ESE, E	1	6.3	A.-Cu. NE	Fr.-N. E	4.3	● a. p. Ω° p.
23	59.27	25.3	28.7	22.6	90.7	E	.8	6.3	Ci.-S NE	Cu. E	4.6	● a. p. ≡ a. Ω° p.
24	59.06	26	29.9	22.9	84.2	E	1.3	6.2	Ci.-S. ENE	Cu., S.-Cu. E	------	Ω² ↙° ≡ a. ◯ Ω² p.
25	59.56	25.6	30.3	21.3	82.7	ESE, E	1.5	3.3	Ci. NE	Fr.-Cu. E	.8	Ω a. p. ≡ a.
26	59.81	26	29.9	22.2	83.5	E	1.3	5.7	Ci. NE	Cu. E	4.8	●° ≡ a. Ω a. p.
27	59.43	26.4	29.8	22.2	82	SE, NE	2	5.3	Ci.	Fr.-Cu. NE, ENE	------	●° Ω² a. ∞ p.
28	58.46	26.7	29.4	23.9	81.7	NE	2.5	7.2	Ci.-S.	N.-cf. E	------	↙° a. p. ∪ p.
Mean	759.70	25.4	28.7	22.3	87.1	------	1.6	7.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	371.8	

[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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	758.79	24.7	28.4	19.5	76.3	E	9.7	3.3	Ci., Ci.-S.	Cu. ENE	------	Ω ≡ a. ∞ ⌣° p
2	59.13	25.7	29.3	20.7	77.8	E, N	8.7	6.2	Ci.-S.	Cu. ENE	------	Ω ≡ a.
3	58.24	26.3	29.1	21.7	80.3	NE	9.1	7.3	Ci.-S.	Cu. NE	10.7	Ω ≡ a. ○ ⌣ p p.
4	59.35	26.5	29.5	23.9	81.2	NE quad.	12.3	5.8	Ci.-S., Ci.	Cu. ENE	------	Ω ≡ a. ○ p.
5	60.99	26	29.5	22	74	NE quad.	10.9	4.7	Ci., Ci.-S.	Cu. NE	9.1	Ω a.
6	60.88	26	29	22.5	77.8	NE, ENE	18.1	4.5	Ci.	Cu. ENE	19.8	Ω ● ↙° ≡ a. ↙° p.
7	61.20	25.8	29	22.4	77	ENE	11.5	7.3	Ci.-S.	Cu. NE	------	● ≡ ↙° a. Ω p.
8	61.76	23.9	26	22	88.5	NE quad.	10.1	8.8	------	Cu.-N., N. NE	16.5	Ω ≡ ● a. ● ↙° p.
9	61.52	24.8	28.6	21	79.3	NNE, ENE	8	6	Ci.-S.	Cu. NE	------	Ω² ≡° a. [ϟ ∞ ⊽ p.
10	61.39	25.2	29.2	20.9	77.2	NE	9.2	5.2	Ci.	Cu. NE	2.8	Ω² ≡ a. ● ↙° p.
11	60.59	26.4	29.9	22.9	71.7	NE	10.1	5.2	Ci.-S. E	Cu., Cu.-N. NE	2.3	Ω ≡ a. T ϟ p.
12	60.48	25.9	30.1	22.5	77.5	NE, N	8.5	6.7	A.-Cu. E	Cu. NNE, NE	------	≡° Ω [ϟ a.
13	60.16	25.7	29.4	22	79.2	N, E	8	4.5	A.-Cu. E	Cu. NE	------	Ω ≡ a. ●° [ϟ ∞ p.
14	59.62	25.7	28.5	23.3	80.2	NE quad.	10.1	5	Ci.	Cu. ENE	10.4	Ω ≡ a. [ϟ ● ↙° p.
15	59.42	25.2	28.5	23.4	85.9	NE quad.	9.1	6	Ci., Ci.-S.	N.-cf. NE	2.8	Ω ≡ d a. ●° a. p.
16	59.50	25.2	28.6	23	86.8	NE quad.	6.7	7.3	Ci.-S.	S.-Cu.	15.5	Ω ≡ a. ● ↙° p.
17	59.30	25.2	28.1	22.9	86	E, NE	8.2	7.5	Ci.-S.	N.-cf. ENE	10.9	Ω ≡² ● a.
18	59.20	26.1	29.2	23	80.3	NE quad.	7.9	5.5	Ci., Ci.-S.	S.-Cu. ENE	------	Ω ≡ a.
19	59.29	26.3	29.2	23.9	82.5	ENE	7.2	4	Ci.	Cu. E, ENE	------	Ω ≡ a. [ϟ p.
20	59.32	26.4	30	22.9	81	E	6.5	4	Ci.	Cu. E	------	Ω a. p. ≡ a.
21	58.96	26.8	29.6	23.5	79.1	E	8.9	4.3	Ci.	Cu. ENE	.3	Ω ≡ a.
22	59.33	26.4	30.6	20.9	83.3	E	9.6	4	Ci.	Cu., S.-Cu. E	------	Ω d ≡ a.
23	59.27	26.7	29.8	24	82.7	E	9.6	5.3	Ci., Ci.-S.	Cu. ENE	------	Ω ≡ a. ∞ [ϟ p.
24	59.06	[1]27.2	29.9	22.8	[1]81.4	E	9.5	[1]4.2	Ci.-S., Ci.	Cu.	------	Ω a.
25	59.43	25.8	29.4	22	82.8	NE, ENE	9.4	4.7	Ci.-S., Ci.	Cu.	------	Ω [ϟ a.
26	59.89	25.8	29.9	21	83.8	ENE	11	3.5	Ci.-S. E	Cu. ENE	------	Ω ≡ a.
27	59.57	[1]27	30	20.5	[1]76.4	NE, E	14.4	[1]4	Ci.	Cu. E, ENE	------	↙° p.
28	58.87	26.9	30.5	20.5	79	NE, E	12.1	3.7	Ci.-S.	Cu. NE	------	Ω a.
Mean	759.80	25.9	29.2	22.2	80.3	------	9.8	5.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	101.1	

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. 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	758.66	25	29.6	21	71.9	N, ENE	17.8	4.8	Ci.	Cu. NNE	------	⌣° ⊽ p.
2	58.99	25.5	29.6	22	77.7	NE quad.	15.2	8	Ci.-S.	Cu.	------	
3	58.23	26.8	32.4	23	77	NE	15.7	8.7	A.-Cu. ESE	S.-Cu.	------	d p.
4	59.26	26.3	30.4	23.6	81	ENE	13.9	8.8	Ci.-S.	S.-cf. NE	2.8	●° a. ⊕ ⌣ ⊽ p.
5	60.90	25.5	30.4	22.5	71.5	NE	15.8	8.2	Ci.-S.	Cu.	------	Ω° a. Ͻ° ⊕ p.
6	60.70	26.1	30.9	22.7	71.7	NE quad.	15.7	5.3	Ci.-Cu.	Cu. NE	2.3	● a.
7	61.25	25.5	29.5	22.8	73.7	NE quad.	18.9	6.2	A.-Cu. SE	S.-Cu. NE	------	p² a.
8	61.62	24.8	29.6	22	76.8	NE	18.4	9.3	Ci.-S.	S.-Cu.	.8	●° p.
9	61.48	25.6	29.7	22	76.7	N, E	14.3	8.2	A.-Cu.	S.-cf. NE	------	
10	61.45	24.8	29.2	21.8	79	N, NE	14.5	7	Ci.-S.	Cu.	------	Ω² a. ⊕ p.
11	61.04	25.3	29.1	22.1	73	NE	14.5	7	A.-Cu.	S.-Cu. NE	------	d p.
12	60.96	25	29.6	22.5	78.2	NE	17.1	8.3	Ci.-S.	S.-cf. NE	------	
13	60.29	25.3	30.4	22.5	81.2	ENE, NNE	16.6	6.8	A.-Cu.	Fr.-N. NE	1.8	d° a. ● p.
14	59.58	25.8	31.1	22.9	81.4	NE	14.6	5.5	A.-Cu.	Fr.-N. E, NE	2.8	d° a. d² ● ϟ p.
15	59.46	25.4	30.8	22.6	81.4	NE quad.	14.5	5.3	A.-Cu.	S.-Cu.	4.8	d ● T° ↙ p.
16	59.47	25.7	29.5	23	82	NE	14.9	7.5	Ci.-Cu.	Fr.-N. NE	1.6	d ⌒° a. ●° p.
17	59.04	26	30	23.5	83.5	N, NE	13.9	7.8	A.-Cu.	S.-cf. NE	.8	● ⌒ a.
18	58.94	26.4	31	23.3	78.2	N, NE	13.5	6.3	A.-Cu.	S.-cf., Cu.	------	
19	59.07	26.7	32	23.5	78.5	Variable.	9.8	4.2	Ci.	Cu. NE	5.1	Ω a. [ϟ² ● p.
20	59.21	27.2	33	23.6	79.8	N, E	9.2	5	Ci.	S.-Cu. ENE	------	ϟ p.
21	58.64	27.4	32.6	24	73.8	N, ENE	13.9	5	Ci., A.-Cu.	S.-Cu.	------	
22	58.95	27.5	31.5	24.1	75	ENE	12.7	4	Ci.	Cu. NE	------	●° d a.
23	59.03	27.3	32	24	77.2	NE quad.	13.2	5.8	Ci.	S.-Cu. NE	.3	●° p.
24	58.79	26.9	31.5	23.1	76	NE quad.	12	3.7	Ci.-S., Ci.	Cu. E	------	
25	59.27	26.5	31	22.5	70.5	N	13.2	5.2	Ci.-S.	Cu.	------	
26	59.59	26.8	31.9	23	70.5	ENE	14.8	4.7	Ci.-S., Ci	Cu.	------	
27	59.31	26.9	32.1	23.1	71.5	N, ENE	16	3.8	Ci.	Cu.	------	Ω a.
28	58.73	27	32.1	23	70.2	ENE	14.5	4.3	Ci.	Cu.	------	Ω° a.
Mean	759.71	26.1	30.8	22.8	76.4	------	14.6	6.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	23.1	

[1]From five observations only.

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	758.70	23.8	30.6	17.1	67.8	NE quad.	7	3.5	Ci. SE	Cu. E, NNW	------	Ω a. ⊍ p.
2	59.14	23.7	29.7	17.8	79.7	Variable	6.2	8	Ci. SE	Cu.	------	Ω a. ◯ ⊍ p.
3	58.43	25.4	29.8	20.5	81.5	NE	6.2	7.2	Ci.	Cu. E	2.3	d a. p. ● p.
4	59.50	26.2	31.8	21.7	71.3	NE quad.	6.4	5.5	Ci ESE	Cu. NE	------	Ω a.
5	61.12	25	31.6	18.3	69.5	Variable	6.9	3.8	Ci. SE	Cu. ENE	2	Ω a. d p.
6	60.92	26.3	30.8	22.7	67.7	E	9	5.7	Ci. S	Cu. E	.8	d a. p.
7	61.37	25.2	30.3	22.2	66.6	NE	6.1	8.8	Ci.-S.	Cu. E, ENE	------	● a.
8	61.75	23.6	27.2	22	83.8	N	5.6	9.5	Ci.-S.	Cu. E	5.1	● a. p.
9	61.58	23.6	29.3	20	82.9	Variable	4.6	5.3	Ci. SE	Cu.	------	
10	61.38	24.1	30.9	18.5	75.5	N quad.	4.7	6.3	Ci.	Cu. E	------	Ω a.
11	60.74	25.4	31.3	20.6	76.8	N	4.8	7.7	Ci.-S.	Cu. ENE	1.3	Ω a. d p.
12	60.49?	23.6	26.6	22.1	88.6	N	5.1	9.8	Ci.-S.	Cu. NE	2	●° ≡ a. d a. p.
13	60.26	24.6	30.5	20.2	82.8	NE, SSW	6.4	4.5	A.-Cu. ENE	Cu. ENE	3	⊤° p.
14	59.76	24	27.3	21.3	87.3	Variable	4	6.7	Ci.-S.	Cu.-N.	5.6	d ● a. p.
15	59.42	24.2	27.8	21.2	83.5	Variable	5.3	4.7	Ci. SSE	Cu. E, ENE	6.1	● a. d p.
16	59.42	25	29.5	21.7	83	ENE	5	8.3	Ci.-S.	Cu. E	2	● d a. ⌈↯° ●° p.
17	59.32	24.6	27.2	22.5	86.2	ENE, SE	4.8	9.8	Ci.-S.	Cu.-N.	6.4	● a. p. d p.
18	59.36	24.4	27.5	21.3	86.3	SSE, S	3.9	8.2	Ci.-S.	Cu.-N. ESE	8.9	● d a. p. ≡ p.
19	59.28	25.6	30.3	22.1	84.5	Variable	6.5	4.8	Ci. SE	Cu. ESE	------	● ≡ d a.
20	59.40	24.8	30.6	20.6	83.5	Variable	4.2	4.2	Ci. SE	Cu. E	------	Ω a. d ↯ p.
21	59.14	25.3	29.5	21.2	81	Variable	4.8	7.2	Ci.-S.	Cu. E	1.3	Ω a. d ⊤ p.
22	59.18	26.2	31.8	22.7	78.7	SE quad.	5.4	4.8	Ci.-S., Ci.	Cu. E	------	● a.
23	59.32	24.6	30.6	20.6	85	Variable	4.6	5.2	Ci. S	Cu.	3	Ω a. ⊤ ● ↯ p.
24	59.12	24	31	19.2	79.5	SE	6.7	3.2	Ci. S	Cu. SE, E	------	Ω a.
25	59.66	24	31.2	18.2	76.3	SSE	7.4	3.5	Ci. SE	Cu. E	------	Ω a.
26	60.03	24.8	32.2	19.7	73.2	Variable	5.8	2.2	Ci. SE	Cu.	------	Ω a.
27	59.59	26.4	32	20.8	65.7	Variable	6.6	3.2	Ci.	Cu. E	------	Ω a.
28	58.62	26.1	32.1	20.4	67.7	NE	7.5	3	Ci.	Cu. E	------	Ω a.
Mean	759.86	24.8	30	20.6	78.4	------------	5.8	5.9	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	49.8	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	759.43	24.7	30.2	20.6	74.3	NW	0.8	5.5	Ci.-S. WNW	S.-Cu. NE	------	Ω² a. ⊍² ⊖° p.
2	59.56	25.7	32.2	21.7	79.3	NW	.8	7.8	Ci. WNW, SW	Cu. ENE	------	C² ⊕° ⊍² p.
3	59.03	25.6	30	23.2	89	WNW	.8	9.7	------------	Cu.-N. ENE	7.1	⌒ a. ● p. d
4	60.06	26.5	32.7	23.9	77.7	E	.7	6.8	Ci.-S. SW	Cu. ENE	------	
5	61.58	25.7	31.8	21.3	80.1	NW, NE	1	6.3	Ci.-S. W	S.-Cu., N.	9.6	Ω a. ● p.
6	61.49	26.6	31.2	23.3	73.8	ESE	.8	7.7	Ci.-S. W	Cu. ENE	4.6	● a. p.
7	61.87	26.2	31.5	23.2	70.3	E	1.5	7.8	Ci.-S.	Cu.-N. ENE	------	d a. ⊍² p.
8	62.16	24.3	26.6	23	85.3	N	.8	9.7	------------	Cu.-N. ENE	14	d a. ● a. p.
9	61.99	25.4	30	22.9	78.8	NW, E	.8	6.8	Ci.-Cu. SE	Cu. SE	------	
10	61.84	25.6	30.8	22.2	75.7	NW, ESE	1.3	7.3	Ci.-S. SW	S.-Cu. ENE	------	⊖² a. d p.
11	61.07	26.4	31.8	22.7	72.8	E	1	6.7	Ci.	Cu. NE	7.6	⊖° Ω a. ● p.
12	61.08	24.6	27	22.7	87.3	N quad.	1	9.5	------------	N. N, NE	26	● a. p. d p.
13	60.76	25.6	31.5	22.5	83.5	NNW, SSE	.5	7.7	A.-Cu. ESE	Cu.-N., N. NE, E	16.3	● ⌒ p.
14	60.36	23.8	26	22.6	90	Variable	.5	9.2	------------	N. E	20.4	●² ⌒ ● a. p.
15	60	25.8	31	22.2	79.3	WNW, E	1	7	Ci. SSW	Cu.-N. E, ENE	21.8	● ⌒² a.
16	59.86	25.4	28.9	22.2	86.3	N	.8	8.5	------------	N.Cu.-N. E, ENE	6.9	● a. p.
17	60.03	24.5	29	23	87.2	NW	.5	8.7	Ci.-S. SW	N. E by NE	8.6	● a. p.
18	59.90	24.8	27	22.8	88.5	NW, SSE	.8	7.3	Ci.-S. W	Cu.-N. E, ESE	9.6	● a.
19	59.83	26.5	31	23.2	82.3	SE	.5	6.7	Ci.-S. W	Cu. SE	.5	● d a.
20	59.73	26.8	31.5	23	80.8	SSE	.8	4.5	Ci.-S. W	Cu. ESE	------	
21	59.48	26.5	31.5	23.3	82.2	ESE	.8	4.2	Ci.-S. SW	Cu. ESE, SE	------	Ω a.
22	59.75	27.2	32.5	23.9	77.5	SE	1.2	4.3	Ci.-S. W	Cu. SE, ESE	------	
23	59.80	25.7	31	23.4	86.2	NW, NE	1	5.5	Ci.-S. SSW	Cu., N. ENE, E	10.1	● a. p.
24	59.63	26.4	31	23	77.5	SE	1.2	5	Ci.-S. SW	Cu. ESE	1.3	● a.
25	59.96	26.6	31.8	22	76.2	SE	.8	3.5	Ci.-S.	Cu. ESE	------	Ω a.
26	60.42	26.8	32.5	22.7	73.3	Variable	1	5.5	Ci.-S. SW	Cu. ESE	------	
27	60.28	26.3	32	22.7	73.3	SE	.7	4	Ci.	Cu.-N. ESE	------	d a.
28	59.26	26.5	32.5	21.9	72.8	NW, ESE	.7	4.3	Ci., Ci.-S.	Cu. ESE	1	Ω² a. ⌒ d p.
Mean	760.36	25.8	30.6	22.7	80	------------	.9	6.7	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	165.4	

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.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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												
11												
12												
13												
14												
15												
16	759.90	25.7	28.9	20.9	86.7	NE	0.5	8.2	Ci.-S.	N. NE	3.8	d° a. d ⊤ ⩽ p.
17	59.48	26.2	28.8	22.2	86	NE	.7	8	Ci.-S.	N. NE, E		⩽ p.
18	59.50	26.4	29.3	21.9	83.8	ENE	.3	7	Ci. E	S.-Cu. NE	.5	
19	59.40	26.7	29.7	22	86.5	ENE	.3	7.2	Ci.-S.	Cu.-N. SE		d a. ⊤ p.
20	59.42	27.3	29.9	22	83.8	NE	.3	5	Ci.-S.	Cu. SE		
21	59.17	27.4	30.3	22.6	83.3	E	.3	4.5	Ci., Ci.-S.	S.-Cu. SE		⩽ p.
22	59.38	27.6	30.5	22.9	79.3	ENE	.3	5	Ci.-S.	S.-Cu. NE		
23	59.51	26.6	29.8	22	83	NE quad.	.8	6.7	Ci.-S. SE	S.-Cu. E	37.3	●² ⩽° p.
24	59.16	25.9	29.7	21.2	87.2	NE quad.	.3	5.3	Ci.	S.-Cu. E		
25	59.64	25.5	29.4	20.3		NE, E	.3	4.2	Ci. SE	Cu. E		Ω a. ⌣ ϖ p.
26	60.11	26.2	29.8	20.6	84.5	E, NE	.5	4	Ci.-S. SE, ESE	S.-Cu. E		Ω a. ϖ² p.
27	59.84	26.8	30.4	21.6	82.5	ENE	.7	5.3	Ci. SE	Cu.-N., Cu. E		⌒° a.
28	59.39	26.4	30.2	20.4	83.8	NE	.7	3.3	Ci.-S. ESE	Cu. E, SE		
Mean	759.53	26.5	29.7	21.6	84.2		.5	5.7				
Total											41.6	

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).	Temp. Mean.	Temp. Maximum.	Temp. Minimum.	Relative humidity (mean).	Wind direction.	Wind force (mean).	Clouds amount (mean).	Clouds upper.	Clouds lower.	Rain.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	759.65	24.1	31.5	17.5	78.7	N	1	6.3	Ci., A.-Cu.	S.-Cu. E		
2	59.67	25.2		20.5	81.7	N	1	5.8	Ci.	S.-Cu. E		d ⌣° ⩽ p.
3	59.46	25.2	30.2	20.8	84.8	N	1	7.2	Ci.	S.-Cu. E	0.3	p ⩽ p.
4	60.53	26	30.8	21	78.7	N	1	6	Ci.	Cu. E		ϖ ⩽ p.
5	62.03	24.8	31	18.8	75	N	1.2	5.3	Ci.	S.-Cu. E, NE		≡ a. ⌣° ⩽ p.
6	61.86	25.4		20.7	76.2	N	1.2	6.8	Ci. SE	S.-Cu. NE	2.5	≡ a. ↙° ● ⩽ p.
7	62.57	24.4	29.9	20.3	78	N, NE	1.3	5.3	Ci. SE	S.-Cu. NE		↙° d p.
8	62.43	25	29.2	20.4	75	N, NE	1.3	7.2	Ci. SE	S.-Cu. NE		p° a. ⩽ p.
9	62.32	23.9	30.5	19.8	84.2	N, NE	1	6.2	Ci. SE	S.-Cu. NE		
10	62.30	24.1	30.5	20	80.7	N, NE	1	5.8	Ci. SE	S.-Cu. NE		
11	61.74	25	31.2	21	80.2	N	1.2	6	A.-Cu.	S.-Cu. NE	10.9	↙° ● ⩽ p.
12	61.77	23.5	24.5	22.3	91.2	N, NE	1	8.2	Ci.-S.	Cu.-N. NE	9.4	d ● a. p.
13	61.16	24		21.3	88.7	N	1	6.5	Ci.	S.-Cu. NE	15.5	d a. p. ●° ⊤ ⌒° p.
14	60.77	24.2	26.5	22	91.2	N	1	8.3	Ci.-S. E	Cu.-N. NE	11.9	d ● a. p. ⩽ p.
15	60.16	24.8	30.5	20.5	85.2	N	1	6.3	A.-Cu. NE	S.-Cu. NE	1.5	●° a.
16	60.28	24.6	27.6	21.4	90.3	N, NE	1	7.5	Ci.-S.	Cu.-N. NE	4.3	●° a. d ⊤ p.
17	60.22	24.9	29.6	22	88.8	N	1	6.3	A.-Cu. NE	S.-Cu. NE	5.3	●° ⩽ p.
18	60.06	24.6	29.8	21.5	90.5	N	1	6.8	Ci.	Cu.-N. NE	9.7	p a. ⊤ ● ⩽ p.
19	60.10	25.4	31.5	22.5	88.7	N	1	5.5	Ci.	S.-Cu. NE, E	.3	●° a. p.
20	59.88	26.4		21.8	85.5	N, SE	1	5.2	Ci.	S.-Cu. NE	.5	p p.
21	59.89	26.2		22.5	86.2	N, SE	1	5.8	Ci.	S.-Cu. E		
22	60.04	26.6		22.7	83	N	1	5.5	A.-Cu.	S.-Cu. NE, E		
23	60.18	24.7		21.3	90.8	N	1	6.5	Ci.-S.	S.-Cu. E	22.9	● p.
24	59.75	25.3		20.3	84.3	N	1	5.5	Ci.	S.-Cu. E		≡ a.
25	60.26			19.5		N, NE	1	4.3	Ci.	S.-Cu. E		≡ a.
26	60.64			21.8		N	1	5.2	A.-Cu. E	S.-Cu. E	.5	≡ a. ⌒° p p.
27	60.44	25.1		21.3	83.7	N	1	5.2	Ci., A.-Cu.	S.-Cu. E	.8	d ≡ a. ●° p.
28	59.72			20		N	1	5	Ci., A.-Cu.	S.-Cu.		p p.
Mean	760.71	24.9	29.7	20.9	84.1		1	6.1				
Total											96.3	

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.			Rain, 24 hours beginning 6 a. m.	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	759.75	24.6	29.5	22.1	77.5	NE	11.7	6.3	Ci.	Cu. ENE	4.8	d² a. p.
2	59.79	26	30.5	22.1	78.1	NE	7.5	4.7	Ci. S	Cu. ENE	.3	d a. ⍦ p.
3	59.47	26.2	29.9	23.5	79.7	NE	7	8.2	Ci.-S. W	Cu.	.8	d° a. ● p.
4	60.39	26.2	31.2	24	79.5	NE	9	4.3	Ci.	Cu. NE	1.5	● d p.
5	61.94	26.1	30.9	23.4	73.8	NE	13.6	2.2	Ci.	Cu. NE, E	------	≡° a.
6	62.10	25.6	29.7	23.2	81.3	E, ENE	14.8	5.2	Ci.	Fr.-N. NE, E	6.4	d a. ● d² p.
7	62.49	26.2	29	23.1	70.6	E	18.8	2.7	Ci.	Cu. NE	.5	d° a. p p.
8	62.56	26.3	31.4	24.4	71.3	ENE	14.6	6.2	Ci.	Cu.-N. NE	------	○ p.
9	62.35	25.8	30.4	22.9	75	ESE, ENE	8.3	5.7	Ci. WSW	Cu. NE	------	≡ p° a.
10	62.25	26.1	31.1	20.6	71.5	ENE	9.5	4.7	Ci. WNW	Cu. NE	------	≡ a.
11	61.85	25.4	31	18.1	74.8	NE	11	4.7	Ci.	Cu. NE	------	≡ a.
12	61.87	24.8	27.5	22.1	79.3	NE	15.7	8.7	Ci.-S.	Fr.-N. NE,NNE	15.5	d° a. p.
13	61.46	22.8	24.7	21.9	94.9	NE	14.7	9.7	------	N. NE	169.7	● d a. p.
14	60.96	22.7	23.9	21.5	95.2	NE, E	10.2	10	------	N.	140.2	d² a. ● a. p.
15	60.33	26	30.2	23	81	NE, E	11.6	2	A.-Cu.	Cu. NE, E	9.6	● a. p.
16	60.40	26.4	31.1	23	83	NE	10.8	5.8	Ci., A.-Cu.	Cu.-N. ENE	25.7	d ○ a. ● p.
17	60.20	25.6	28.9	23.1	87.3	NE, E	11.4	9.5	A.-Cu. ESE	N.	17.5	d ● a. p.
18	59.96	25.1	26.5	23.4	89.5	NE	7.4	6.7	Ci.-S.	Fr.-N. E, ENE	31.5	● d a. p.
19	59.96	25.8	29.8	23.4	88.4	E	6.2	7.5	Ci.-S.	N. E, ENE	.8	● a. d² p.
20	59.74	26.7	31.1	22.6	84.8	NE, E	------	2.7	Ci.	Cu. E	------	≡ a.
21	59.63	27.3	31.4	25	81.2	E	10.2	3.3	Ci. SE, SSE	Cu. E	------	≡° a.
22	59.88	27.3	31.7	24.7	80.3	NE	10.9	2.3	Ci. SSW	Cu. E	2.5	⚡° p.
23	60.10	25.9	30.5	23.5	87.2	NE	8.3	6.5	Ci., Ci.-S.	N. ENE	13	● d a. p.
24	59.55	26.8	30	22.5	79.8	E	10.2	4.7	Ci. SW, W	Cu. E, ESE	1.5	● a.
25	60.14	26.9	31.2	23	73.4	E	9.6	.8	Ci.	Cu.	------	≡ a.
26	60.60	26.9	31	22.2	75.5	E, ENE	------	3	Ci., A.-Cu.	Cu. E	13	≡ a.
27	60.38	27.1	31.1	22.4	76.5	NE	------	6.2	------	Cu.-N. ENE	4.3	● a. p.
28	59.74	25.8	31	24	86.7	NE, E	9.7	5.3	------	Cu.-N. ENE	3.6	● a. p.
Mean	760.71	25.9	29.9	22.8	80.6	------	10.9	5.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	462.7	

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).	Mean.	Maximum.	Minimum.	Relative humidity (mean).	Prevailing direction.	Force (mean).	Amount (mean).	Upper.	Lower.	Rain.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*0-12.*	*0-10.*			*mm.*	
1	759.98	25.7	31.4	22.6	74.6	NE	1	5.3	Ci.	Cu. E	------	Ω° ≡° a. d p.
2	60.15	25.3	29	23	81.2	N quad.	1	8.8	Ci.	S.-Cu. NE	4.8	⊕° a. d ● p.
3	59.55	25.7	30.3	22.5	84.6	N quad.	.7	8.3	Ci. ENE, E	S.-Cu., Cu. NE	------	⊕° p.
4	60.62	26	31.6	24.3	85.1	NNE, ENE	1	7	Ci. E	S.-Cu. NE	8.1	● a. d ⊕² p.
5	61.99	26.8	32.3	24	74.4	ENE, E	.8	4.2	Ci. SSE	Cu. ENE	------	⊕² a. p. ⍦° p.
6	62.39	24.8	28.3	21.4	87.4	ENE	1.2	6.2	Ci. SSW, S	S.-Cu. E, NE	15.7	Ω d a. ● ⊕² p.
7	63.11	25.8	30.8	23	77.5	NE	2.3	5	Ci. E	S.-Cu., Cu. NE	1.3	☇° ● a. p. ⊕°.
8	62.73	26.2	30.8	23.6	77	NE	1.2	5	Ci. E	Cu. E, ENE	------	⊕² d° ⊕° p.
9	62.40	24.8	32.4	19.1	81.6	N, SW	.8	2.5	Ci. SE	Cu., S.-Cu. NE	------	Ω² ≡ a. ⊕° p.
10	62.38	26.6	32.3	23.5	79.3	NE	.8	4.2	Ci. SSW, S	Cu. NE	------	⊕° a.
11	62.21	26.8	32.5	23.3	76.1	NE	1	3	Ci.	Cu. NE	------	⊕° Ω° a.
12	62.49	26.5	31	23.5	76.8	NE	2.5	8	Ci. SE	Cu., S.-Cu. NE	44.2	☇° d ● p.
13	62.62	23.5	24.7	22.1	91.1	NE	3.8	10	Ci.-S.	N. NE	26.2	☇° ● a. p.
14	62.16	22.9	23.4	21.6	94	NE	2.5	10	Ci.	N. NE	25.1	☇° ● a. p.
15	60.38	25.1	29.6	22.1	87.3	N quad.	.7	6.7	Ci.-Cu. E	S.-Cu. NE, SSE	------	d a. p.
16	60.66	26.5	32.3	21.5	82	NE quad.	1	5.8	Ci. SW	S.-Cu. ENE, NE	------	Ω° a. d p.
17	60.64	25.2	26.3	23.6	89.5	NE	1	7.3	Ci.	S.-Cu. NE	7.2	Ω° ●° a. d p.
18	59.96	26.1	30.6	23.6	87.8	NE	.7	4.7	Ci. E	S.-Cu. NE	8.4	≡° d a. ● ☈° p.
19	59.81	25.8	30	22	88	NNW	.5	7	Ci.	S.-Cu. NE quad.	------	Ω° ≡° a. ●° d p.
20	59.83	26.5	30.2	23	84	NNW	.5	4.5	Ci. S	Cu. SE, S	------	Ω² ≡° a. ⚡° p.
21	59.62	27.4	32.2	24	84.8	NE	.7	6.5	Ci. SSE, S	S.-Cu. NE, N	1.3	Ω° a. ⚡° p.
22	59.85	27.8	31.7	24.1	82.3	NE quad.	1	7.5	Ci. S	S.-Cu. NE	------	d a. ⚡° d p.
23	60	26.8	32.7	22.5	83.5	NE	.7	5.7	Ci. E	S.-Cu. NE	------	Ω² ≡° a.
24	59.38	26.2	31.4	21.9	84.2	Variable	.5	5	Ci.	S.-Cu. Variable	------	Ω² ≡° a. d p.
25	59.70	27	31.8	23.4	84.1	NNW	.8	5.3	Ci.	Cu. SE	1.8	p a.
26	60.54	25.8	32.8	20.5	82.8	NNE	.8	2.3	Ci.	Cu., S.-Cu. N	------	Ω² ≡° a.
27	60.42	27.5	32.2	24.6	79.2	NE	1	5.7	Ci.	S.-Cu. E	------	Ω° a. ⊕° p.
28	59.92	27.3	31.7	24.5	78.5	NNE, NE	1	6.7	Ci.	S.-Cu. ENE	3.6	d° ⊕² p.
Mean	760.91	26	30.6	22.8	82.8	------	1.1	6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	147.7	

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. 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.37	24.8	30.5	20	78.8	NNE, ENE	1.7	5.7	Ci.-S.	Cu. ENE	------	Ω° a. ∞ a. p.
2	59.64	24.4	30.4	18.9	81	NNE	1.3	7.8	Ci.-S.	Cu. E	------	Ω²a. ∞ ◯°a. p. ◡²p.
3	59.39	25.2	31.6	19.4	83.8	NNE	1.3	7.8	Ci.-S.	Cu. ENE	------	Ω ◯ a. ◡ a. p.
4	60	26.5	32.9	21.1	80	NNE	1.4	5	Ci.-S. SE	Cu. ENE	------	Ω² ◡° a. ≡ a. p.
5	61.58	25.3	29.3	23.2	86.8	E	1.7	8.8	A.-Cu.	Cu.-N. ENE	0.4	p° a. d° a. p.
6	61.99	25.2	29	23.3	83.2	E quad.	1.3	8.5	Ci.-S.	Cu.-N. Cu., ENE	------	◡° a. d° a. p.
7	62.23	26.2	31.5	21.8	69.8	ENE	2.2	6.8	Ci.-S. SW	Cu. ENE	------	≡° a. ∞ p.
8	62.02	26	31	22.8	69	NE	1.7	7	Ci.-S.	Cu. ENE	------	∞² a. p.
9	62.13	24.4	31.3	19.1	82.7	NNE	1.3	7	Ci.-S. SSW	Cu. ENE, N	------	Ω² a. ∞² a. p.
10	62.06	25.4	32	20.9	81.5	NNE	1.4	5.8	Ci.-S.	Cu. ENE, NE	------	Ω² ≡ a. ∞² a. p.
11	61.96	25.2	32.4	20.2	84.2	NNE	1.3	4.7	A.-Cu. E	Cu. NE	------	Ω² a. ∞² a. p.
12	62.09	25.8	32	20.4	73.2	NE quad.	1.6	5	Ci.-S.	Cu. ENE	------	Ω² a. ∞ a. p.
13	61.79	25.3	30.5	22.2	64	ENE	2	6.3	A.-Cu. ESE, SE	Cu. ENE	------	≡° a. ∞ p.
14	61.08	25.7	31.3	22.2	64.6	NE quad.	1.7	9.7	Ci.-S.	Cu.-N. ENE	------	d° ⌒ a. ∞ p.
15	60.12	25.7	29.9	23.2	71.8	E	1.5	8.5	A.-Cu.	Cu.-N. E	------	
16	60.34	26.5	33	20.9	70.3	NNE, ENE	1.6	6.3	Ci.-S.	Cu. E	------	≡° a. ∞° p.
17	60.08	26.8	33	21.5	70.6	ENE	1.8	6.3	Ci.-S. SE	Cu. ENE, NE	------	Ω° a. ◯² ∞ a. p.
18	59.48	27.9	33	23.6	70.8	ENE	1.4	7.7	A.-Cu. E	Cu.-N. ENE	------	d° ⌒ ≡° a.
19	59.40	26.6	33.6	22.5	78.8	ENE	1.6	8.2	Ci.-S. SE	Cu. E	3.1	∞ a. ● ⊤ ⩽ p.
20	59.42	26.6	32	22.7	82	NE quad.	1.8	6.7	Ci.-S. WSW, SW	Cu. E	------	⊤ ⩽ ⌒² p.
21	59.06	27.7	33.9	23.6	77.2	NNE	1.3	6.5	Ci.-S.	Cu. E	------	∞ a. p. ⊤ p.
22	59.28	27.7	33.2	23	74.6	NNE	1.7	5.8	Ci.-S.	Cu. ENE	------	∞ a. p.
23	59.52	26.9	32.9	22.6	76.7	NNE	1.4	6.8	Ci.-S. WSW	Cu. ENE	------	∞ a. p.
24	58.82	27.5	32.6	24.2	74.2	NNE	1.5	6.8	Ci.-S.	Cu. E	------	Ω ◯° a. ∞ p.
25	59.34	26.1	33.1	22.2	81.3	NNE	1.5	3.7	Ci.-S.	Cu. ENE	------	Ω a. ∞² a. p.
26	59.93	26.9	33	23.4	75.4	NNE	1.2	3.5	Ci.-S.	Cu. ENE	------	Ω ≡ a. ∞ a. p.
27	59.89	26.4	33.4	20.5	71.2	NE quad.	1.4	3.8	Ci.-S.	Cu.	------	Ω² ≡ a. ∞ a. p.
28	59.50	26.8	34.2	21.2	70.5	NNE	1.7	3.7	Ci.-S.	Cu.	------	Ω° ≡° a. ∞ p.
Mean	760.41	26.1	32	21.8	76	------------	1.5	6.4	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	3.5	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.85	23.7	28.5	18.9	68.7	ESE	1.4	4	Ci. E	S.-Cu. ESE	------	Ω ≡°
2	59.85	23.2	28.8	17.2	70.8	NW, ESE	.9	5.3	Ci., Ci.-S. ESE	S.-Cu.	------	Φ² Ω ≡° ⊕² ◯² ◡²
3	59.45	24.4	30.1	18.5	72.5	NNW	.8	5.8	Ci. SE	Cu. E	------	◡² Ω² ◯²
4	60.22	24.6	30.6	18.5	75	NNW	1.2	3.8	Ci. ESE, SE	Cu.	------	Ω a. Φ² ∞ p.
5	61.99	25.2	28.6	22	73.7	E quad.	1.8	6.7	Ci. SE	Cu. NE, E	------	Ω² p.
6	62.38	24.2	29.6	21	76.2	NNW	1.7	8.3	Ci.-S.	N. E, ENE	------	d° a. ↙° Ω p.
7	62.83	24.2	29	20.6	72.2	NNW, ESE	1.2	4.7	Ci.	Fr.-Cu. ENE, E	------	◡² a.
8	62.52	23.4	28.5	18.5	73.2	Variable	1	5.3	Ci. SE	Cu. ENE	------	Ω a. p.
9	62.14	24.2	30.7	17	69.9	Variable	.8	5.3	Ci. SE	S.-Cu.	------	Ω² ◯° a. Φ² p.
10	62.14	24.8	30.5	19	68.5	NNW, E	.7	4	Ci. SE	S.-Cu.	------	Ω ≡° a.
11	61.90	25.3	31.4	18.5	69.5	N quad.	.6	6	A.-Cu. E	Fr.-Cu. NE	------	∞ p.
12	62.26	25	29.7	19.5	70.5	E quad.	.7	5.2	A.-Cu. E	Cu.-N. NE	------	Ω a.
13	62.17	24.2	28.6	21	67.7	NNE	.9	7.3	A.-Cu. E	Cu. NE	------	Ω a.
14	61.45	24.5	29.2	19.6	67.4	NNW, ESE	1.1	7.8	Ci.-S. ESE	N. NE	------	Ω ◯° a.
15	60.76	23.4	26.5	21.1	85.3	NNW	.6	8.5	Ci.-S.	N. NE	4.6	d a. ●° p.
16	60.80	25.4	30.6	21	73.1	Variable	1	6.2	Ci. ESE	Cu.-N. NE	------	Ω a.
17	60.29	26	31.8	20.9	71.1	NNW, ESE	1.5	5.8	Ci. ESE, SE	Cu. NE	------	Ω a.
18	59.94	25.9	30.9	22.2	74.3	ESE	1.2	5.8	A.-Cu. ESE, E	N. NE, E	.5	d° a.
19	59.60	25.6	31.3	22.5	81.8	Variable	.8	7.8	Ci.-S. SE	N. E	1.5	d a. ⩽ ⊤ d p.
20	59.49	25.8	33.4	21.8	80.5	N quad.	.6	5.8	Ci. SE	Cu.-N. ESE	------	≡² Ω ◯° a. ⊤ p.
21	59.28	26.4	31.9	22	76.2	ESE	1.2	5	Ci.	S.-Cu.	------	≡² Ω a.
22	59.40	26.8	32.5	21.5	73.8	NE quad.	1.1	4.3	Ci. SE	Cu. E	------	Ω ≡² a.
23	59.61	27.1	33.9	21.6	71.2	NNW	.4	4.7	Ci. SE	S.-Cu.	------	≡° a.
24	58.98	26.4	32.9	21.6	73	N, E	1.1	4.7	Ci. S	S.-Cu.	------	
25	59.41	26.5	34	20	71.5	Variable	.7	3.3	Ci. SE, S	Cu.-N. NE	------	Ω a.
26	60.10	26.3	32.4	21.5	65.5	Variable	.7	2.5	Ci.	S.-Cu.	------	Ω a. ∞ a. p.
27	59.99	25.4	32.2	17.4	70.6	E quad.	.9	3.2	Ci. SE	S.-Cu.	------	Ω ≡° a. Φ² p.
28	59.60	26.6	33.6	19.1	63.4	ESE	.7	4.3	Ci. SE	S.-Cu.	------	Ω ⊕²a. ∞ p.
Mean	760.66	25.2	30.8	20.1	72.4	------------	1	5.4	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	6.6	

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.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevaling direction.	Force (mean).	Amount (mean).	Prevaling form and its direction. Upper.	Prevaling form and its direction. Lower.		
	mm.	°C.	°C.	°C.	Per. ct.		Km. p. h.	0-10.			mm.	
1	759.49	25.4	32.7	19.7	64.9	S, SE	9.6	5	Ci.	S.-Cu.	------	
2	59.80	24.2	32.7	18	70.6	Variable	8.3	5	Ci.	S.-Cu.	------	ᗜ a. ⌣ p.
3	59.57	24.9	30.4	18.8	76.5	NW	11.3	5	Ci.	S.-Cu.	------	ᗜ a.
4	60.13	26.1	31.5	21.3	78.2	NW	8.1	4.7	Ci.	S.-Cu.	------	
5	61.44	25.8	33.4	21.2	74	SE quad.	9.8	6	Ci.	S.-Cu.	------	
6	62.20	25.4	30.7	22.3	77.3	SE quad.	8.5	9	Ci.-S., Ci.	S.-Cu.	------	ᗜ d° a.
7	62.20	25.9	33.1	20.8	64	SE	12.1	5.5	Ci.	S.-Cu.	------	
8	62.14	25.7	33.1	19	63.8	S, SE	15	3.5	Ci.	S.-Cu., Cu.	------	ᗜ a.
9	62.20	24.7	30.9	18.2	75.2	Variable	10.8	4	Ci.	S.-Cu., Cu.	------	⌣ ᗜ a.
10	62.01	25.4	33	19.8	77.5	NE, NW	7.6	2	Ci.	S.-Cu.	------	
11	61.97	25.8	31.5	20.6	74	SE, NW	10.9	2.7	------------------	S.-Cu.	3.3	
12	62.06	25.7	31.8	20.5	78.8	SE, NW	9.1	3.7	------------------	S.-Cu.	------	● a.
13	61.71	25.5	31	21.6	65.8	SSE, S	12.6	4.7	------------------	S.-Cu.	------	
14	61.08	26.4	33.5	21.6	62	SSE, S	11.6	6.2	A.-Cu.	S.-Cu.	------	
15	60.68	24.9	30.9	21.4	78.5	SE	8.3	6.8	------------------	S.-Cu.	1	d a. d² p.
16	60.73	26.5	33.6	20.5	74.2	SE, NW	10.9	3.5	Ci.	S.-Cu., Cu.	------	
17	60	26.7	34.8	21.2	73.4	Variable	10.5	3.2	Ci.	Cu.	------	
18	59.52	26.8	34.9	22.9	73.5	SE	10.7	6.3	Ci., A.-Cu.	S.-Cu.	------	d° a.
19	59.48	26.4	35.6	22.1	77.7	SE quad.	8	8.5	A.-Cu.	S.-Cu.	64.8	⌈ζ ● p.
20	59.46	26.4	32.3	22	82.7	SE, NW	12.3	5.7	Ci., Ci.-S.	S.-Cu.	------	⊤ p.
21	59.12	26.9	36	22.3	82.7	Variable	7.6	4.5	Ci.	S.-Cu.	38.9	≡ a. ⌈ζ ● p.
22	59.15	27	33.8	22	79.1	NW, NE	10.5	4.8	Ci.	Cu.	------	⊤ p.
23	59.38	28.2	34.7	22.5	75.2	NW, E	10	3.8	Ci.	Cu.	------	
24	58.70	28.2	36.1	22.2	76.2	SE	9.5	3.5	Ci.	S.-Cu.	------	
25	59.30	27.4	33.9	21.5	72.3	NW, SE	9.7	1.2	Ci.	Cu.	------	
26	59.88	27.4	33.9	21.8	74.5	NW, SE	9.3	1	------------------	Cu.	------	
27	59.89	26.3	34.5	18.8	70.1	Variable	8.6	1.2	Ci.	Cu.	------	
28	59.56	26.9	33.5	20.9	71.2	SE, NW	13.3	2.8	Ci.	Cu.	------	
Mean	760.46	26.2	33.1	20.9	73.7	------------	10.2	4.4	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	108	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 8.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Mean.	Maximum.	Minimum.	Relative humidity (mean).	Prevaling direction.	Force (mean).	Amount (mean).	Upper.	Lower.	Rain.	Miscellaneous.
	mm.[1]	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	759.50	25.8	29.8	22.2	81.3	SE	2.5	6.8	Ci.-S.	Cu.	------	Ω ≡° a. ᗜ p.
2	59.67	24.8	29.8	20.3	81.8	SE, NNE	1.8	7.3	Ci.-S.	S.-Cu.	------	Ω ≡° a.
3	59.62	25.5	29.3	21.1	81.5	NNE	3.2	9.5	Ci.-S.	S.-Cu.	------	Ω ≡ a. ϟ° p.
4	60.12	26.8	29.8	25	83.5	NNE	3.5	5.2	Ci.-S.	Cu.-N. NE	------	d ϟ° a.
5	61.24	24.9	29.8	20.5	85.6	SE	2.2	5.5	Ci.-S.	S.-Cu.	------	Ω ≡ a. ᗜ p.
6	62.12	26.2	29.7	23.5	85.7	SE, NNE	1.7	9.5	A.-Cu. SSE	S.-Cu.	------	Ω ≡° a. ᗜ p.
7	62.15	25.6	29.9	22.7	81.3	SE	2.5	8	Ci.	S.-Cu. SE	------	Ω ≡° a. d p.
8	62.04	25.8	30.6	22.4	77.9	SE	2.3	7.2	Ci.-S. NW	S.-Cu.	------	Ω ≡° ϟ° a.
9	62.23	25.3	29	21	82.3	Variable	2.2	8	Ci.-S. SW	S.-Cu.	------	Ω ≡° a.
10	61.95	26	30	23.2	84.5	Variable	1.3	4.8	Ci.-S.	Cu. N	------	Ω ≡° a. ∞ p.
11	61.87	25.7	29.2	21.4	83.5	Variable	3.2	6	Ci.-S.	Cu. NNE	------	Ω ≡° a. ϟ° p.
12	61.91	26.8	30	25.1	81.7	NNE	2.8	8	A.-Cu., Ci.-Cu.	Cu. NE	------	ϟ° p.
13	61.65	25.7	29.9	21.2	80.5	SE	1.5	4.3	A.-Cu.	S.-Cu.	------	Ω ≡° a. ∞ p.
14	61.02	26.1	29.9	22.8	79.4	SE	2.2	9.2	A.-Cu. WSW	S.-Cu.	------	Ω ≡° a.
15	60.58	26.3	29.6	23.9	83.8	SE, ESE	1.3	9.8	Ci.	Cu.-N. E	------	
16	60.88	26.4	30.6	22.3	83.7	SE, NNE	3.2	8.5	Ci.-S.	S.-Cu.	------	Ω ≡° a. ϟ° p.
17	60.04	27.1	30.6	24.9	85.5	NE	2.5	6	Ci.-S.	Cu., S.-Cu.	------	Ω ≡° a.
18	59.58	27.1	31.1	24	84	SE	2.2	7.2	Ci.-S. SSW	S.-Cu.	------	d. ϟ° a. p.
19	59.35	26.8	30.8	22.4	87.2	SE	2	8	Ci.-S.	S.-Cu.	3.8	Ω ≡° a. ⌈ζ p.
20	59.60	26.8	29.8	24.1	88	SE, NNE	2	9.2	Ci.-S. SW	Cu. NNE	------	Ω ≡° ○ a.
21	59.02	27.7	31.5	25.4	84.5	E	2	7.5	Ci.-S., Ci.	Cu. SE	------	Ω ≡° a. ⊕
22	59.35	27.4	31	24	81.3	SE, N	1.7	8.7	Ci.-S.	Cu., S.-Cu.	------	Ω ≡° a.
23	59.55	27.6	30.9	24.5	83.7	Variable	1.8	5	Ci.-S., Ci.	Cu.	------	Ω ≡° a. ∞ p.
24	58.79	27.2	30.4	23.8	83.3	SE, NW	1.8	6	Ci.-S.	Cu. SSE	------	Ω ≡° a.
25	59.45	26.9	30.1	22.4	82.7	NNE	2.5	3.2	Ci.-S. S	Cu. NNE	------	Ω ≡° a. ∞ p.
26	59.95	27.4	30.9	23.6	82.9	SE	1.3	1.5	Ci.-S.	S.-Cu.,Cu.	------	Ω ≡° a. ∞ p.
27	59.98	26.7	30.9	21.4	79.3	SE, NNE	2.3	4.8	Ci.-S.	Cu.	------	Ω ≡° a. ∞ p.
28	59.77	27	31	22	79.2	SE	2	5.7	Ci.-S.	Cu.	------	Ω ≡° a. ∞ p.
Mean	760.46	26.4	30.2	22.9	82.8	------------	2.2	6.8	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	3.8	

[1] A new instrumental error having being found for the barrometer of this station, a correction of + 0.15 millimeter should be applied to the barometric readings of the same published in this Bulletin from October 1908 to January 1909.

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.			Rain, 24 hours beginning 6 a. m.	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	759.63	24.8	29	21.3	70.9	Variable	1.3	1.5	A.-Cu. SSE	Cu.	------	⊕ p.
2	59.97	25.2	29.5	21.6	74.5	NE	1.2	0	Ci.	Cu.	------	Ω° a.
3	60	25	29	21	75.2	NNE	2.2	.2	Ci.	Cu. NE by N	------	Ω ≡ a. ↙° p.
4	60.40	25.6	30.5	21.6	73	N quad.	2	2.3	Ci.	Cu.	------	↙° p.
5	61.41	26.1	30.8	21.3	------	NW	1.5	.2	Ci.	Cu.	------	
6	62.20	26.6	30.4	22.6	------	Variable	1	.3	Ci.-S.	Cu.	------	Ω° a. ∪ p.
7	62.34	26.1	30	22.8	69.2	NE	1	.5	Ci.-S.	Cu.	------	⊕ p.
8	62.22	26.2	30	23.6	------	E	1.5	3.3	Ci.-S.	Cu.	------	
9	62.57	25.5	29.5	22.2	73.3	Variable	1.3	3.5	Ci.-S.	Cu. ENE	------	
10	62.19	25.5	30.8	21.3	75.5	Variable	1	0	Ci.	Cu.	------	Ω ≡ a.
11	62.21	25.4	29.5	21.9	74.1	NNW	2.2	0	Ci.	Cu.	------	Ω ≡ a. ↙° p.
12	62.47	25.5	30.5	20.5	------	N	2.8	0	A.-Cu.	Cu.	------	↙° p.
13	61.99	26.5	31.5	22.9	------	E	3.3	.7	A.-Cu. S	Cu.	------	↙° a. p.
14	61.20	26.7	31.3	24.2	------	Variable	1.2	7.2	Ci.-S.	S.-Cu. SSW	------	
15	60.62	26.4	31.6	22.6	------	Variable	1.2	7.8	Ci.-S., A.-Cu.	S.-Cu.	0.2	≡° a. d^2 p.
16	61.08	26.5	30.1	23.6	71.3	NE quad.	1.3	6.2	A.-Cu.	Cu., S.-Cu.	------	≡° a.
17	60.22	25.8	30.6	21.5	77.6	W, N	1.3	.2	Ci. SW	Cu.	------	Ω ≡ a.
18	59.78	26.9	31.4	23.9	76.7	Variable	1.3	1	Ci.-S.	Cu.	------	ϟ° p.
19	59.59	26.9	32	24.1	77.7	ESE, SW	1.5	5.2	Ci.-S.	Cu.	4.3	☈ d ● ϟ p.
20	59.97	26.3	30.5	23.5	80.8	N, NE	1.5	4	Ci.-S.	Cu., S.-Cu.	------	ϟ° p.
21	59.25	27.2	31.1	23	70.4	NW	.7	.3	Ci.	Cu.	------	Ω ≡ a. ϟ p.
22	59.50	27.4	30.6	24.4	73.6	Variable	1.3	2	Ci.-S.	Cu. NE	------	≡ a. ϟ p.
23	59.60	27.6	31.5	25.1	76.5	ENE	.8	.3	Ci.	Cu.	------	ϟ° p.
24	59.10	27.2	32	23.7	76.7	Variable	1	.3	Ci.	Cu. W	------	Ω a.
25	59.56	26.9	32	23.8	79.3	Variable	1.3	2.2	A.-Cu.	Cu.	------	
26	60.08	27.2	32	24	76.2	Variable	1.5	0	Ci., Ci.-S.	Cu.	------	≡° a.
27	60.13	27	31.6	23.5	79.4	Variable	1.2	1.5	Ci.	Cu. WSW	------	Ω° ≡ a.
28	59.94	27.1	31.3	23.2	77.8	N	1.8	3.2	Ci.	Cu. N	------	↙° ⊕ p.
Mean	760.69	26.3	30.7	22.8	75.2	------------	1.5	1.9	------------------	------------------	------	
Total	------	------	------	------	------	------------	------	------	------------------	------------------	4.5	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	760.50	23.4	30.1	16	72.8	SE	0.2	1.5	Ci.	Cu. SW	------	Ω ≡^{2} a.
2	60.56	23.2	30.7	15.5	69	S, N	.3	4.2	Ci.	Cu., N.-cf.	------	Ω^2 ≡^{2} a.
3	59.94	24.8	32	18.5	78.1	N quad.	.7	6.5	Variable	Cu. S	------	Ω a.
4	61.69	23.8	28.6	20.6	86.6	NE	1.8	6.5	------------------	Cu. N, SE	------	d° ↙° p.
5	63.74	23.6	28.5	20.5	80.3	NW	2	8	------------------	S.-Cu. N, NW	------	d° p.
6	64.10	23.4	27	20.5	82	NE	.5	8.8	A.-S.	S.-Cu. NE	------	d° p.
7	64.37	23.7	28.6	20	79.3	NE, S	.3	8.8	Variable	Cu.-N. NE	2.8	⌒ p p.
8	63.31	24	30	19.1	77.2	S, SE	.8	6.8	A.-Cu. SE	Cu. S, SE	------	d ≡° a.
9	62.56	25	32.7	18.5	69.7	NE	.7	4.5	Ci.	S.	------	Ω a.
10	62.82	24.6	31.5	18.5	77.3	N, NW	.3	3.8	Ci.	Cu. SE	------	Ω a.
11	63.05	25	31.7	19.5	84.2	NW	.5	4	------------------	Cu. N, NW	------	
12	64.51	23.6	27.5	21	76.5	NW	2.3	7.5	------------------	S.-Cu. NW, SE	------	≡° a. ↙ p.
13	64.73	22.5	26.5	20	72.8	N	1.3	9	A.-S.	S.-Cu.	------	Ω° a.
14	63.44	23.2	27.4	19	77.7	N	.2	8.8	------------------	S.-Cu.	------	Ω a.
15	61.90	23.8	29.4	20.2	86.7	S	.5	8.3	Ci.-S.	Cu.-N. S	2	Ω a. ● p.
16	61.62	25	32.5	21.2	80.7	SE	.8	6.7	Ci.	Cu. S	------	≡^{2} a.
17	61.69	25.8	31.3	22.2	77.5	SE, NW	.3	6.7	Ci.	Cu. SE	------	Ω a.
18	60.84	26.4	33	22.3	81	SE	.2	7	------------------	Variable	4.1	Ω a. ● ⊤ p.
19	59.92	26.2	34.1	21.8	83.3	Variable	.7	7	Ci., Ci.-Cu.	Cu., Cu.-N. SE	24.2	≡° a. ● ☈ p.
20	59.73	26.5	31.7	22.5	82.2	NW	.8	8.2	Ci.	Cu. S	4.3	● a. p. ◯^{2} ☈ p.
21	60.45	25.1	30.8	21.6	87.3	N quad.	1	6.7	------------------	Cu. E, N	------	d p.
22	60.22	25.1	30	22.5	91.5	N	.5	8.7	------------------	Variable	------	Ω a. d ϟ p.
23	59.58	27.1	33.5	23	81.5	SW	.8	5.7	A.-S , Ci.	Cu. SW	------	Ω ≡^{2} a.
24	58.87	27.6	34	23.2	78	SW	.3	3.8	Ci.	Cu., Fr.-Cu. S	------	Ω a.
25	59.63	27.2	33.5	21.6	75.2	NW	.7	1.5	Ci.	Variable	------	Ω a.
26	60.10	27.1	33.8	23.3	77.5	S	.5	4.8	------------------	Cu. S, SE	------	Ω a.
27	60.13	26.6	34.3	20.7	74.3	SE	.7	1.3	Ci., A.-S.	S.-cf.	------	Ω a. ∞ p.
28	59.68	26.7	34.5	20.1	74	NW	.3	2.8	Ci.	Fr.-Cu. S	------	Ω a.
Mean	761.56	25	31	20.5	79.1	------------	.7	6	------------------	------------------	------	
Total	------	------	------	------	------	------------	------	------	------------------	------------------	37.4	

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.			Rain, 24 hours beginning 6 a. m.	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	760.73	------	------	------	------	SE	9.2	0.5	A.-Cu.	Cu.	------	⌓ a.
2	60.76	------	------	------	------	S	10.2	.2	Ci.	------	------	≡°
3	60.64	------	------	------	------	S, NW	7	4.5	A.-Cu. S, SE	S.-Cu.	------	⌓ a.
4	62.40	------	------	------	------	NE	23.1	10	------	S.-Cu. NE	6.9	● ↙° p.
5	64.74	------	------	------	------	NE	26.5	8.7	------	Cu.-N. NE	.3	● ↙° a. p.
6	64.90	------	------	------	------	E	14.5	10	------	S.-Cu. NE, ENE	.3	●° p.
7	65.08	------	------	------	------	SW, E	9.3	7.7	A.-Cu.	S.-Cu. ENE, E	1.3	●° a.
8	63.41	------	------	------	------	SE	10.4	3.8	A.-Cu. W	S.-Cu.	------	⌓ ≡° a.
9	62.97	------	------	------	------	SSE, N	7.5	2.3	A.-Cu. W, NW	S.-Cu.	1.3	⌓ ≡° a. ● p.
10	63.31	------	------	------	------	NE	7.8	5.2	------	S.-Cu., Cu.-N. E	------	≡° p.
11	63.71	------	------	------	------	SW	9.1	2.5	------	Cu.-N. E, N	11.4	⌓ ≡ a.
12	65.44	------	------	------	------	NE	29.5	9.5	------	Cu.-N. NE	.5	● a-
13	65.70	------	------	------	------	NE, E	22.8	10	------	N., S.-Cu. NE, E	1.5	●° a. p.
14	63.82	------	------	------	------	SE, E	6.4	10	------	S.-Cu. E	------	
15	62.37	------	------	------	------	E, ENE	7.4	9.8	------	S.-Cu. ENE	11.4	● p.
16	62.17	------	------	------	------	Variable	5	8.7	A.-Cu. SW	S.-Cu. ENE	------	● a.
17	62.46	------	------	------	------	NE	13.9	9.8	A.-Cu. SE	S.-Cu. SE, E	------	
18	61.30	------	------	------	------	SE, NE	8.3	7.8	------	S.-Cu. E	------	⟨ p.
19	60.03	------	------	------	------	SE	13.7	6.3	A.-Cu. SE	S.-Cu. E	7.6	∞ a. ☈ ● p.
20	60.30	------	------	------	------	Variable	9.6	9.7	Ci.-S. W, SW	Cu.-N. N	2	○ a. ☈ ● p.
21	61.11	------	------	------	------	NE	16.7	9.2	------	Cu.-N. NE	.5	●° p.
22	60.80	------	------	------	------	NE	11.1	8.8	------	S.-Cu. E	.3	●° a.
23	60.04	------	------	------	------	Variable	9.3	1.5	Ci.-S. W	Cu.-N., S.-Cu.	------	⟨ a. ☈ p.
24	59.28	------	------	------	------	Variable	8	1.5	Ci.-S. W	Cu.-N. SE	------	☈ p.
25	60.14	------	------	------	------	N	6.5	.3	------	S.-Cu., Cu.-N.	------	≡°
26	60.44	------	------	------	------	Variable	9.7	.2	------	Cu.-N.	------	≡°
27	60.36	------	------	------	------	SW	13.2	0	------	------	------	≡°
28	60.22	------	------	------	------	S, N	11.1	1.8	A.-Cu. N	S.-Cu.	------	⌓ a. ∞
Mean	762.09	------	------	------	------	------	12	5.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	45.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	21.8	93	70	8	8	------	Ω° ≡° ↙° a.
2	31.6	21.3	97	74	9	9	------	Ω° ≡ a. ⌓ p.
3	32	21.1	91	71	7	6	------	Ω° ≡° a.
4	31.8	25.1	90	82	9	10	58.4	d a. ●^{2} ☈ p.
5	30.8	20.3	96	71	9	8	------	⌓ p.
6	31.2	20	98	67	8	4	------	Ω^2 ≡^{2} a. ⌓ p.
7	31.3	21.1	88?	71	8	7	------	
8	30.8	19.4	92	72	9	9	------	Ω° ≡° a.
9	31.4	23	94	71	9	6	------	Ω° ≡° a.
10	31.1	21.8	84?	69	9	7	------	↙ a. p.
11	28.6	22.1	81?	78	9	9	------	↙ a. p.
12	31.2	22.1	92	66	6	8	------	⊤ d° p.
13	31.6	24.2	86	73	7	7	------	↙° d° p.
14	31.5	22.1	95	80	5	5	------	⊤ d° p.
15	30.9	20.8	96	82	5	7	14	Ω^2 ≡^{2} a. ● a. p.
16	31	21.4	97	71	7	6	9.7	Ω^2 ≡ a. ● p.
17	30.5	22.9	96	89	9	9	6.6	⊤ ● p.
18	29.6	21.1	97	78	8	9	28.4	Ω^2 ≡ ●° a. ●^{2} p.
19	28.4	21.8	97	89	8	9	9.7	Ω^2 ●^{2} a. d p.
20	28	20.6	95	88	9	10	------	Ω^2 a. d° p.
21	30	21.1	95	78	8	7	18	Ω ● a. ●^{2} p.
22	30.6	20	96	79	7	8	11.4	Ω^2 a. ● p.
23	31.1	21.3	95	73	9	8	------	Ω^2 a. d° p.
24	28.2	21.7	96	83	9	9	5.3	Ω° ● a. ⌓ p.
25	30.5	21	96	86	8	9	4.8	Ω^2 a. d^2 p.
26	31.5	20.8	97	72	8	9	------	Ω^2 a. ↙° ψ p.
27	31.4	20.7	98	68	7	6	------	Ω^2 a. ⌓ p.
28	31.4	19.7	96	63	7	7	------	Ω° a.
Mean	30.7	21.4	93.7	75.5	7.9	7.7	------	
Total	------	------	------	------	------	------	166.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	22	94	77	9	7	------	Ω a.
2	33.3	21.5	96	71	8	10	------	Ω ≡° a.
3	31.8	22	98	78	6	6	1	Ω a.
4	32.7	23.8	96	78	10	9	------	d ⊤ a.
5	33.3	22	86?	66	6	6	------	Ω a.
6	33.7	20.5	81?	73?	2	5	------	Ω° a.
7	31.8	20.4	95	83	6	5	------	Ω a.
8	29.4	21.4	96	69	10	10	------	
9	32.3	22.2	95	65	10	8	------	Ω° a.
10	31.8	21.5	91	63	2	8	------	Ω a.
11	31.8	20.3	91	66	10	8	------	Ω ≡° a.
12	28.8	22.5	91	78	10	10	9.7	≡° d a. ☈ d p.
13	32.8	22.5	90	69	1	8	------	Ω a.
14	29.8	22.5	93	82	10	10	69.3	d a. ●^{2} p.
15	30.2	20.8	96	68	0	5	------	Ω a. ☈ p.
16	30.3	22	98	71	8	8	.5	Ω d a. < p.
17	30.6	23.6	98	74	10	10	2.8	d a. p p.
18	29.9	22	90	88	3	10	31.5	Ω ≡° a. ↙ ● ⊤ p.
19	31.7	22	98	95	10	10	------	● a. d a. p.
20	29.8	22	96	81	10	10	.8	d a.
21	28.9	22.2	91	87	10	10	3.8	Ω a. ● p.
22	31.8	21.5	96	76	0	8	6.1	Ω a. ↙° ☈ ● p.
23	32.8	22	97	62	1	3	------	Ω ≡ a.
24	29.3	22	96	85	10	10	5.8	Ω° ● a.
25	30.3	21.6	96	81	2	9	------	Ω a.
26	32.3	21.2	95	66	1	10	------	Ω ≡° a.
27	32.3	21	96	68	1	5	------	Ω a.
28	30.8	21.5	95	73	10	6	11.4	Ω a. ● p.
Mean	31.3	21.8	94	74.8	6.3	8	------	
Total	------	------	------	------	------	------	142.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.7	21.2	81	68	4	4	------	Ω ≡ a. ◯ ψ p.
2	30.9	22.2	91	63	6	9	------	Ω ≡ a. ∞ ψ p.
3	30.5	21.6	90	82	4	6	39.9	Ω ≡ a. ψ p.
4	31.4	22.3	94	68	8	9	4.8	● ☈ a. ● p.
5	32.2	21.9	94	40?	3	5	------	≡ a.
6	31.3	19.5	84	56	2	3	------	Ω ≡ a. ∞ ⌓ p.
7	31.4	20	91	67	3	4	------	Ω ≡ a.
8	29	21.5	87	63	10	10	------	Ω ≡ a.
9	31.9	21	84	61	9	8	------	Ω ≡ a. ◯ ⊤ p.
10	30.7	19.5	82	69	2	7	------	Ω ≡ a. ↙° ⌓ p.
11	29.7	21.3	88	72	4	8	------	Ω ≡ a. ∞ ☈ p.
12	27.8	21.8	91	80	10	9	.5	d a. p. ☈ p.
13	31	21	89	64	2	4	8.1	∞ ◯ p.
14	29.3	22.7	96	92	10	10	12.4	● a. p.
15	30.4	21.4	90	74	2	3	------	Ω ≡ a. ☈ ⌓ p.
16	29.9	21.4	90	79	9	6	.3	Ω ≡ a. ⊕ ⊤ p.
17	31.6	21	90	72	10	8	4.3	d ≡ a. ⊕ ◯ ⊤
18	30.6	22.9	96	70	6	9	------	● ≡ a. ◯ ⊤° p.
19	29.9	23.1	93	80	10	5	5.3	☈ ● a. ⊤ p.
20	29.9	21.9	90	81	10	9	------	d p.
21	30.3	21.8	86	80	3	4	4.3	Ω ≡ ● a. ◯° ⊤
22	31	21.9	93	72	3	6	4.3	Ω ≡ ⊕ a. ☈ ●
23	31.9	22	90	77	7	3	1.3	≡ a. ∞ ☈ p.
24	29	23	96	70	10	9	5.3	d ● a. ∞ p.
25	29.2	21.4	91	78	7	6	.3	Ω° ≡ d a. ∞ p.
26	30.8	21.2	91	59	3	9	------	Ω ≡ a. ◯ ∞ ψ
27	31.4	21.1	82?	68	3	7	------	Ω ≡ a. ∞ p.
28	30.9	21.2	89	72	6	7	6.1	Ω ≡ a. ∞ ● p.
Mean	30.6	21.5	89.6	70.6	5.9	6.7	------	
Total	------	------	------	------	------	------	97.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.4	21.4	84	57	6	7	------	↙° a. ↙ ◯ ψ p.
2	29.8	22.5	87	70	9	10	------	↙ ⌓ p.
3	31.6	21.8	88	72	7	5	11.2?	Ω a. ☈ ●° p.
4	33.1	21.4?	92?	65	10	8	2 ?	●° ◯° a. ψ° p.
5	31.3	20	85	60	3	3	------	Ω^2 a. ↙ ψ p.
6	32.1	20.3	84	62	3	4	------	Ω a. ↙ p.
7	29.9	19	82	64	4	8	3.6?	Ω a. ↙° p.
8	32	21.7	93	65	10	8	------	●° ↙ a. p.
9	33.8	21	91	56	4	6	------	Ω^2 ≡ a. < p.
10	31.2	21.1	88	54	6	8	3.3	Ω ≡ ◯ a. ● p.
11	30.2	21.3	93	62	5	6	6.1	Ω^2 a. ↙ ● < p.
12	31.1	21.1	96	64	7	4	------	≡ a. ↙ < p.
13	33.4	20.4	93	57	3	6	12.7	Ω^2 ≡^{2} a. ↙ ● ☈
14	32.8	21	87	55	1	3	------	Ω° a. ↙ < p.
15	33.1	21	94	55	1	6	47	Ω^2 a. ●^{2} ☈ p.
16	30.9	20.2	96	66	8	8	4.3	Ω a. ● < p.
17	31.5	21.5	96	65	7	8	53.3	⌒ ↙ ●^{2} ☈ p.
18	33.2	21.3	93	57	1	4	------	Ω a. ☈ d p.
19	33.5	22	96	57	1	4	------	Ω ≡ a. ↙ < p.
20	30.5	22.6	92	67	8	8	2.5	●° a. p. < p.
21	31.1	21.8	91	67	8	4	6.4	≡^{2} d a. ↙° ⌒ p.
22	31.6	21.6	90	65	3	6	20.3	● ≡ a. ●^{2} < p.
23	33.2	21.3	91	63	5	6	17.8	Ω^2 ≡ a. ☈ ●^{2} p.
24	30.7	22.6	93	70	8	9	------	< p.
25	33.5	21.1	94	53	1	4	------	Ω^2 a. ψ p.
26	32.8	20.3	79	56	4	6	------	Ω a. ↙ ψ p.
27	32.4	20	87	62	3	3	------	Ω^2 a. ↙ p.
28	32.2	21.7	86	65	8	9	3.8	Ω a. ● ⌓ p.
Mean	32	21.2	90	61.8	5.1	6.1	------	
Total	------	------	------	------	------	------	194.3	

METEOROLOGICAL DATA, ETC.—Continued.

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.6	20.5	88	56	8	9	------	↙° p.
2	30.2	19.9	92	65	10	10	------	Ω° ≡² a.
3	31.1	21.2	94	71	7	9	2.5	● p.
4	31.9	22.7	89	66	10	9	------	
5	31.9	17.2	90	62	8	8	------	Ω ≡° a. ↙° p.
6	32.4	18.8	88	59	4	8	------	↙° p.
7	32.3	18.5	78?	60	10	10	4.1	Ω° ≡ a. ↙° p.
8	28.1	21.9	94	75	9	9	1.9	d ● a.
9	30.8	20.1	92	67	7	5	------	Ω ≡° a.
10	31.2	20.2	98	62	4	6	------	Ω² ≡ a. ↙ Γ p.
11	30.5	22.2	90	73	10	9	------	↙° ⌒² p.
12	30.5	22.5	91	75	9	10	------	Γ d° p.
13	32.7	21.3	96	64	2	8	------	Ω² ≡° a. ↙° p.
14	32.1	20	93	62	2	4	.9	Ω² ≡ a. Γ ●° p.
15	32.1	20.2	92	69	5	10	10.2	Γ ●° p.
16	30.5	21.7	96	74	8	9	4.6	d ⊤° p.
17	30.5	21.7	96	84	10	10	4.7	d ● Γ p.
18	30.2	22.7	97	76	8	8	------	
19	32.4	21.4	96	69	2	4	3	Γ² d p.
20	29.8	21.8	96	81	9	10	.1?	d a. p. Γ p.
21	32.2	21.2	94	75	10	8	3.3?	Ω² ≡° a. ↙° Γ ●°
22	32	21.6	96	63	8	8	------	
23	31.4	20.9	94	73	9	8	------	ζ° p.
24	33.1	21.7	94	60	5	9	------	
25	32.7	20.2	91	56	4	6	------	Ω° ≡° a.
26	32	18	86	60	7	9	------	Ω° ≡° a.
27	32.8	18.9	88	54	8	7	------	
28	29.2	21.1	87	88	8	10	5.6	Ω° ≡° a. ●° p.
Mean	31.3	20.7	92	67.8	7.2	8.2	------	
Total	------	------	------	------	------	------	40.9	

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	20.4	96	63	7	8	------	Ω a. ⊍ p.
2	27.6	21.9	96	72	10	9	12.7	Ω a. ● Γ p.
3	29	22.3	93	83	7	10	10.2	Ω ⌒ a. ● p.
4	29.5	20.8	97	62	7	5	------	Ω a.
5	28.5	19.2	98	62	7	7	------	Ω² a.
6	30.3	21.2	90	57	4	7	.5	Ω ● a.
7	26.7	21.4	91	74	6	9	3	● d a.
8	26.7	21.2	95	79	10	9	20.3	● a. p.
9	28.1	21.1	99	77	8	6	10.2	≡² a. ⌒ ● p.
10	26.6	22	96	85	7	10	23.6	≡² a. ● d p.
11	26	22.4	96	83	9	10	12.4	≡ p a. ● p.
12	26.3	21.9	98	86	10	10	26.4	● a. ⊤ ●² p.
13	28	21.4	97	84	6	8	.3	p a.
14	28.2	21.5	97	86	2	7	.8	Ω ● a.
15	26.8	21.3	95	92	9	10	15.2	● d a. ● p.
16	27.5	21.9	96	94	10	10	21.1	● a. p.
17	27	22	98	85	9	10	1.3	Ω ≡ a. ● p.
18	30.1	23	96	88	7	10	4.3	Ω ≡² a. ↙ ● Γ
19	31.1	22.9	95	77	8	8	2.8	● ⌒ a. p.
20	27.7	23.1	95	80	6	7	1.3	Ω ≡² ● a p p.
21	30.5	22.4	97	90	6	10	8.9	Ω a. ● Γ p.
22	29.2	22.4	97	74	6	8	------	Ω ≡ p a.
23	29.8	22.4	96	90	6	9	19.3	Ω a. ↙ ● p.
24	29.3	21.5	97	74	4	8	.3	Ω a. ●° p.
25	31.1	20.0	96	60	1	4	------	Ω a.
26	30.6	20.5	95	64	3	5	------	Ω² a.
27	30.1	21.5	94	62	3	3	------	Ω a.
28	26.3	20	96	87	9	8	9.1	● a. d p.
Mean	28.4	21.6	95.8	77.5	6.7	8	------	
Total	------	------	------	------	------	------	204	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.1	22.5	76	70	6	8	6.4	
2	31.1?	21.7	92	84	8	6	------	
3	28.6	22.7	76	77	4	4	1.3	
4	31	21.5	76	74	5	5	2	
5	28.9	21	83	84	5	6	1.5	
6	30.1	22.5	74	66	3	9	------	
7	29.6	21.3	71?	79	8	6	------	
8	27.8	22.2	86	63	7	4	2.5	
9	29.7	24.3	83	61	4	4	3.8	
10	29.2	20.4	80	75	4	5	------	
11	28.3	22.8	74?	86	9	7	------	
12	28.2	21.6	83	75	6	7	3.3	
13	28.4	21.3	90	75	10	9	3.8	
14	28.1	22.1	84?	91	8	10	5.1	
15	29.3	23.5	73	88	8	10	7.6	
16	29.3	23.8	71?	65	9	8	3.6	
17	29.3	23.5	86	77	7	3	------	
18	29	22.7	78?	80	5	5	5.1	
19	30	22.5	74	74	4	3	------	
20	31	22	70	62	4	3	------	
21	29	22	82	74	5	7	------	
22	29.7	21.5	85	72	5	6	------	
23	31	21.3	74	72	5	7	.8	
24	30.5	22.1	77	76	6	5	------	
25	32 ?	22.3	85	72	5	7	------	
26	30.3	22.5	77	75	4	5	------	
27	29.4	21.5	90	73	6	7	------	
28	30	22.1	87	80	5	6	------	
Mean	29.6	22.2	79.9	75	5.9	6.1	------	
Total	------	------	------	------	------	------	46.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.8	------	82	74	10	7	------	↙° a.
2	29.9	------	92	76	10	10	------	d° p.
3	28.9	22.8	95	86	10	8	------	d ≡² p.
4	30.2	23.2	88	67	10	6	------	d ≡² ↙° ∞² ⊍ ⊕°
5	30.6	------	92	63	10	10	------	∞² ⊕ ⊍ p.
6	30.5	22.2	83?	58	10	8	64.3	● ↙° a. ⊕ ⊍ ● p.
7	30	22.5	93?	57	10	10	53.3	d ≡² a. ↙ ⊍ ⊕ ●
8	29.5	21.8	89	83	10	10	31.5	● a. ≡² ↙ d ⊕ ⊍
9	28	21.4	91	76	10	7	------	
10	29.3	20.8	91	62	8	10	------	d° a. d p.
11	29	22.5	82	78	10	8	------	
12	29.6	22.6	90	92	10	10	16.3	d ≡² a. ● p.
13	27	21.6	94	80	10	10	17.5	● a. ≡² ●° p.
14	27.7	21.8	95	75	10	7	------	↙° p.
15	29.5	22.8	95	95	10	10	22.4	d ≡² ● a. p.
16	27	22.5	93	82	10	10	41.7	≡² a. p. ⊤² ↙° ●²
17	29.6	22.6	95	73	10	8	18	≡ ● a. ≡² ↙° p.
18	28.5	22.8	89	86	10	10	4.1	≡ ●° ζ² p.
19	28.6	22.7	95	80	5	3	------	
20	29.5	23	91	79	8	9	------	
21	30.6	22.7	91	73	10	8	20.1	d a. ↙° ζ² ● p.
22	30.1	22.5	97	67	10	9	------	d a. p. ∞² ζ² p.
23	30.3	22.7	89	70	10	10	------	Ω² d ≡° a. ζ p.
24	30.1	22.3	88	62	10	8	------	↙° a. p. ⊍ ζ² p.
25	30	22	86	60	10	8	------	Ω² ↙° a. ○° ∞² p.
26	30.5	21.5	83	59	7	8	------	↙° a. p. ζ ⊍ ∞²
27	30.1	21.5	87	57	9	8	------	⊍ ζ ⊕ p.
28	30.5	20.8	87	63	10	6	------	Ω² a. ↙° p.
Mean	29.5	22.2	90.1	72.6	9.5	8.4	------	
Total	------	------	------	------	------	------	289.2	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.7	22.1	88	71	6	1	------	↙ ϖ p.
2	28.8	22.3	88	82	8	7	------	↙° p.
3	30.2	22.6	92	78	8	8	------	≡° a. ↙ ϖ p.
4	32.5	24.1	92	65	9	8	------	⊎ p.
5	29.2	21.2	94	75	6	8	------	↙ ≡° p.
6	32.1	23.2	91	64	8	1	------	≡° a. ϖ p.
7	29.9	23	87	61	8	7	------	≡° a. ↙ ϖ d p.
8	27.9	23	86	82	8	9	------	≡ a. ↙ a. p.
9	29.8	22.6	88	76	9	8	------	≡° a. ↙° p.
10	29.9	22	90	69	6	7	0.3	≡° a. ↙ p.
11	28.7	23.1	92	78	9	9	.3	d ⌒ a. ↙ p.
12	27.2	23.1	93	89	9	9	21.3	d a. ↙° ● p.
13	28.7	22.8	93	81	9	7	1.5	≡° a. ↙ ●° p.
14	28.7	23	97	82	6	7	5.3	≡° a. ●° p.
15	29.3	22.6	92	88	2	9	2.8	≡° a. ●° p.
16	------	------	------	------	------	------	------	
17	------	------	------	------	------	------	------	
18	------	------	------	------	------	------	------	
19	------	------	------	------	------	------	------	
20	------	------	------	------	------	------	------	
21	------	------	------	------	------	------	------	
22	------	------	------	------	------	------	------	
23	------	------	------	------	------	------	------	
24	------	------	------	------	------	------	------	
25	------	------	------	------	------	------	------	
26	------	------	------	------	------	------	------	
27	------	------	------	------	------	------	------	
28	------	------	------	------	------	------	------	
Mean	29.4	22.7	90.9	76.1	7.4	7	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.1	17.4	86	50	3	1	------	↙° a. p.
2	32	19.1	87	65	3	10	------	⊎ p.
3	33	18.4	74?	58	10	10	------	p p.
4	34.1	23.5	87	58	10	10	0.5	p a. ⊎ p.
5	34.8	21.1	80	48	1	8	------	↙ a. p.
6	34.1	19.5	81	52	4	4	------	↙ a. p.
7	33.4	20	89	37	3	8	------	
8	31.5	20.4	75	64	10	10	------	
9	32.9	20.7	79	62	6	8	------	
10	30.9	18	89	56	4	10	------	
11	32.3	18.1	82	52	8	2	------	
12	32.3	20.5	86	65	5	10	------	
13	32.7	22	83	68	10	10	6.9	● p.
14	31.2	20.7	94	71	2	10	------	Ω a. d p.
15	32.2	21.2	90	62	0	2	6.6	d ● T p.
16	32.5	20.1	93	68	8	10	------	
17	30.3	22.7	92	75	8	10	.5	T d p.
18	32.9	22	91	63	3	5	------	
19	33.2	22.1	89	68	7	10	------	T< p.
20	32.8	21.8	93	68	3	8	------	T p.
21	32.9	22.1	83	60	7	3	.5	●° p.
22	33.3	22	88	68	10	5	------	d p.
23	33.9	22.1	87	61	7	5	------	< p.
24	34.8	23.5	87	54	6	2	------	↙° a.
25	32.9	21.3	97	60	3	8	------	
26	33.4	18.8	90	56	0	8	------	
27	33.9	20.1	85	58	8	4	------	
28	33.8	19.3	88	55	8	2	------	↙° p.
Mean	32.9	20.7	86.6	60.1	5.6	6.9	------	
Total	------	------	------	------	------	------	15	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.1	19.2	93	61	4	8	------	≡² Ω° a. ϖ° ⊎² p.
2	31.4	20	93	65	10	9	------	◯° ⊎² p.
3	32	21.7	93	77	10	9	------	d ϖ² p.
4	32.6	23.6	94	66	9	8	------	ϖ° p.
5	32.7	20.2	92	66	6	8	------	Ω° ≡² a. ◯° p.
6	32.9	23.8	87	54	6	5	------	d p.
7	31.5	22.7	86	50	10	8	------	⊎° p.
8	27.9	23	79?	71	10	10	2.5	d a. ●° p.
9	30.6	20.8	95	69	9	9	------	◯° p.
10	31.1	20.1	93	65	7	8	------	Ω° a. ◯° d p.
11	31.8	22.2	92	65	6	7	2.5	d a.
12	29.4	23.1	93	79	10	10	------	●° a. ◯² p.
13	31.4	21.5	95	71	8	7	------	d p.
14	28.8	22.8	96	87	6	10	3	●° a. d p.
15	27.9	21.7	95	82	10	10	------	d° a. d p.
16	29.6	21.2	96	76	10	10	5.6	● T² <° p.
17	27.5	23.3	97	80	10	10	------	d a.
18	30.2	21.6	96	71	7	9	------	Ω² a.
19	31	23	95	70	6	6	------	Ω² a. <² p.
20	30.9	22.2	95	72	8	9	------	◯² p.
21	33.7	22.3	95	56	5	7	------	Ω° a. <² p.
22	32.9	23	93	56	5	5	------	d a. <² p.
23	32.1	22.6	91	72	6	9	4.3	◯° ●° T° p.
24	30.8	21.3	94	71	7	8	------	≡° a. ◯° ⊎° p.
25	30.7	20.5	94	68	8	7	------	Ω° ≡° a.
26	32.8	20.4	91	41	9	6	------	
27	33.9	20.4	91	48	3	6	------	≡° a.
28	33.4	20.2	91	63	9	7	------	
Mean	31.2	21.7	92.7	66.9	7.6	8	------	
Total	------	------	------	------	------	------	17.9	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	19.1	95	65	6	8	------	d a. ϖ° p.
2	------	19.7	95	70	7	8	2	d ◯° a. ϖ p.
3	------	23.1	90	76	9	9	26.7	↙ ●° a. ↙ ●² p.
4	------	23.8	82	67	4	7	------	↙ ●² a. ↙ p.
5	------	20.4	95	64	4	6	13.2	↙ a. ↙ ●² p.
6	------	23	75	68	5	6	5.6	↙ ● a. p.
7	------	24.2	72	63	8	5	2.8	↙ d a. ↙ ● p.
8	27.3	23.3	74	73	10	6	4.1	↙ ● a. p.
9	28.3	21.5	96	66	9	8	2	≡ a. ● p.
10	28.7	21.2	98	69	7	9	1	≡ ⊕ a. ↙ ● p.
11	29.3	21.3	96	67	8	6	48.3	Ω ≡ ⊕ a. ↙ ● p.
12	23.8	21.9	98	96	10	10	135.4	↙ ●² a. ●² p.
13	29.4	20.8	97	71	5	8	19	Ω ≡ a. ↙ ● p.
14	26.6	22.3	82	83	9	10	39.6	↙ ●² a.
15	28.8	22.1	97	74	10	6	38.9	↙ ● a. p.
16	28.2	21.9	97	84	10	6	18.8	●² ⌒ a. ↙ ●² p.
17	28.7	22.7	97	85	5	10	18.3	Ω ≡ ● a. ⌒ ↙ ●°
18	28.3	22.4	96	87	10	10	11.2	● a. ⌒ p.
19	29.7	23.1	96	79	4	8	4.1	≡ ↙ ● a. ●° p.
20	29.9	22.6	97	77	6	5	------	Ω ≡ a. d p.
21	29.8	22.7	96	75	7	6	18	≡ ●° a. ↙ p.
22	29.9	22.8	97	73	9	7	2.3	↙ ● a. ↙ p.
23	27.7	23.2	96	81	10	9	9.9	↙ ● a. ↙ p.
24	30.3	22.4	81?	68	8	6	------	● a. ↙ p.
25	29.7	20.3	97	66	4	3	------	Ω ≡ a. ↙ p.
26	29.8	21.3	96	64	4	4	------	Ω ≡ a. ↙ p.
27	30.4	22.9	78?	68	6	5	------	Ω ≡° a. ↙ p.
28	29.8	22.5	94	65	4	4	------	Ω ≡° a. ↙ a. p.
Mean	28.8	22.1	91.4	73	7.1	7	------	
Total	------	------	------	------	------	------	421.2	

METEOROLOGICAL DATA, ETC.—Continued.

PALANOC.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	------	------	------	------	------	------	16	
2	30	20.2	91	72	9	8	1	
3	30.4	23.2	96	71	9	9	------	
4	31.2	------	------	74	------	9	2.5	
5	30.5	23.4	88	61	7	7	------	
6	30.4	23.8	87	69	6	4	.3	
7	29.8	23.6	96	95?	8	8	------	
8	29.4	24	96	70	9	9	------	
9	31	22.8	97	69	8	9	------	
10	30.5	22.2	97	67	9	8	------	
11	30.6	22.4	88	61	6	7	------	
12	28.2	24.6	89	94	9	10	7.1	
13	27.2	22.6	93	97	8	10	10.7	
14	27.2	22.8	93	93	10	10	6.1	
15	30.2	22.8	96	68	9	6	2	
16	29.5	23.5	97	83	9	9	12.4	
17	30.6	24	97	78	7	9	------	
18	32.5	23.2	98	69	9	8	------	
19	31	24	96	75	7	6	------	⊤ p.
20	31.8	23.5	99	69	8	8	------	
21	33.4	24.5	98	64	9	8	------	
22	32.8	24.2	96	70	8	6	------	
23	32.6	24.5	95	75	8	8	------	
24	------	23.2	96	------	7	------	------	
25	31.8	22.5	97	62	7	6	.5	
26	33.2	24	92	64	9	7	------	
27	33	24.2	93	64	8	4	------	
28	30.8	23.2	97	75	8	8	------	
Mean	30.8	23.3	94.5	73.4	8.1	7.7	------	
Total	------	------	------	------	------	------	58.6	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	30.5	23.3	74	64	6	3	------	↙° ●° p.
2	28.8	23	87	74	10	7	1	p a. ↙° a. p.
3	29	24.5	83	74	10	10	------	↙° a. p.
4	31	24.7	92	68	5	5	1	d° a. ●° ↙ p.
5	30.5	24.5	76	66	6	6	------	↙° a. ↙ p.
6	30.3	24.2	74	74	5	5	2.8	●° a. p. ↙ p.
7	30	23.7	80	60	10	6	2.5	↙° a. ↙ ● p.
8	29.7	24.4	74	61	9	9	------	↙ a. d° p.
9	30.4	24.4	84	65	6	5	------	↙° p.
10	30.5	21.8	83	67	8	6	------	↙° p.
11	31	22.8	80	61	8	4	------	↙° p.
12	27.3	22.8	75	73	4	10	1	●° ↙° a. p.
13	27.3	24.3	87	79	9	10	11.2	●° a. p. ● ↙ p.
14	26	22.5	90	91	10	10	4.6	●° ↙ a. p.
15	30.4	23.5	88	79	10	10	2	p a. ●° p.
16	------	24.1	90	67	8	4	25.7	●² a. ↙° p p.
17	27.4	23.5	92	82	10	9	6.1	●² a. ● ↙ ϟ p.
18	29.5	23.8	93	81	9	9	27.2	↙° ⊤ ● p.
19	29.8	24.6	100	76	10	7	.3	● a. ↙° p.
20	29.3	24.6	96	76	8	5	.3	●° a.
21	31	23.8	95	71	6	8	2	↙° a. p. p p.
22	30.2	24.2	94	71	7	6	------	
23	30.5	24.5	96	73	8	4	6.6	ϟ ● ↙ p.
24	30.6	24	83	68	4	6	------	↙° a. p.
25	31	23.5	92	60	7	5	------	↙° p.
26	30.7	22.1	90	69	8	9	------	↙° a. p.
27	30.9	23.2	94	64	6	6	.5	p a. p. ↙° p.
28	31	24.6	82	72	4	10	.3	↙° a. p. ●° p.
Mean	29.8	23.7	86.6	70.9	7.5	6.9	------	
Total	------	------	------	------	------	------	95.1	

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	28.4	22	87	71	6	5	6.4	
2	28.7	21.4	91	71	8	6	1.3	
3	28.6	21.4	99	80	10	9	8.6	● a.
4	28.9	22.6	96	70	8	5	------	
5	29	20.3	97	67	7	6	------	
6	29.6	24.2	82	68	3	6	14	●² p.
7	28.4	22.5	69?	63	3	3	.5	
8	28.5	24.6	92	65	9	4	.5	
9	28.3	20.2	96	66	6	5	1.3	
10	28.2	22.2	92	66	5	5	------	
11	28.4	23.4	82	81	4	8	43.4	● a. p.
12	25.5	22.3	84	87	10	9	68.6	● a. p.
13	28.2	22.6	96	88	8	6	31	● a. p.
14	26.7	21.6	97	96	10	10	40.6	● a. p.
15	28.7	21.2	87	76	9	4	1.3	
16	27.7	23	90	88	8	9	31.7	● a.
17	28.4	22.8	97	75	10	7	8.9	●² a.
18	29.2	23.2	93	81	7	8	16.3	●² a.
19	29.6	23.1	92	85	7	8	6.1	●² p.
20	29.4	22	94	80	5	4	------	●² a.
21	29.4	22.2	93	73	7	5	1.5	
22	30.4	22.9	92	72	4	4	1.5	● a.
23	28.6	22.5	96	83	10	7	5.6	●° a.
24	30	21.7	91	65	4	4	9.4	
25	28.9	21.1	93	70	7	4	------	
26	30	22	97	70	8	5	.5	
27	29.2	21.6	89	89	8	9	?	●² a.
28	29	20.9	95	64	9	2	5.3	● p.
Mean	28.7	22.2	91.4	75.4	7.1	6	------	
Total	------	------	------	------	------	------	304.3[1]	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	------	21.8	90	82	5	10	------	d p.
2	------	23	83	77	5	8	------	◡ p.
3	------	24	87	78	10	10	18.8	↙ ● p.
4	------	24.2	88	83	10	10	9.7	↙ ● a. d p.
5	------	22	72	74	10	6	------	
6	------	23	79	88	6	10	24.9	d ↙ ● p.
7	------	23	78	73	10	5	20.3	d a. ● p.
8	------	22.6	78	73	10	8	6.4	↙ a. p. ● p.
9	------	22.8	83	74	8	6	------	
10	------	21	88	73	8	8	------	
11	------	21.1	90	77	5	6	------	
12	------	22.8	88	93	8	10	27.9	● p.
13	------	23	96?	97	10	10	64.3	↙ ● a. p. ⌒ p.
14	25.4	22.8	93?	97	10	10	101.6	↙ ● a. p.
15	28.4	22.8	87	80	8	6	24.9	↙ ● p.
16	28.3	24	88	77	10	10	41.9	↙ ● a. p.
17	27.7	24.1	93	84	10	10	44.4	● a. p.
18	27.5	24.8	92?	96	8	10	38.6	● a. p.
19	28.6	24	95	88	10	10	3.8	d ⊤ p p.
20	29.5	23	93	76	5	8	------	
21	29.9	25	89	83	6	5	------	
22	29.5	24.2	90	82	6	5	2.5	● ⌒ a.
23	28.5	23.8	90	90	5	10	5.6	● a. p.
24	29	24	92	81	10	6	1	● a.
25	29.5	21.2	90	78	5	5	------	
26	30	24	85	76	8	5	------	d a.
27	29.1	24.2	91	80	5	5	6.4	d a. ● p.
28	29	24	86	74	6	6	------	d p.
Mean	28.7	23.2	87.6	81.6	7.8	7.8	------	
Total	------	------	------	------	------	------	443	

[1] 27 days of observation.

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.4	24	80	71	4	9	0.8	
2	27.4	24.6	83	80	2	6	2.5	
3	26.6	23.2	85	80	10	10	3.8	
4	27.4	22.2	85	72	10	8	------	
5	27	24.2	79	83	10	10	------	
6	27	22.6	79	74	4	3	------	
7	26	23	85	78	10	10	8.9	
8	25	22	91	93	10	10	8.9	
9	26	23	88	88	10	10	7.6	
10	28.6	23.2	82	68	10	4	.8	
11	27.6	24.4	83	92	10	10	5.1	
12	28	23	87	70	10	10	.8	
13	27.6	24.2	87	74	10	5	------	
14	28	23.4	95	70	10	3	3.8	
15	29	23	80	65	10	6	------	
16	28.6	25.2	80	68	10	8	6.4	
17	28.4	23.4	80	70	10	10	3.3	
18	29	24.2	83	72	5	5	1.5	
19	28	24.4	83	70	5	4	1.3	
20	29	24.2	80	66	10	8	1.3	
21	29.4	23.8	84	70	10	10	1.3	
22	29.4	24.8	83	64	10	4	------	
23	27	24.4	85	81	10	10	2	
24	29.4	24.6	83	66	6	4	------	
25	29	25.4	76	63	3	3	------	
26	28	24.2	87	77	10	5	.5	
27	29.2	24.6	85	70	10	8	.8	
28	28.6	24.6	80	68	6	3	------	
Mean	27.9	23.8	83.5	73.7	8.4	7	------	
Total	------	------	------	------	------	------	61.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.3	20.8	93	57	6	5	------	◯° d° p.
2	29.3	22	85	70	9	8	6.6	●° a. ◯ d p.
3	28.8	22.5	96	63	10	8	---•--	● a. ◯ ψ p.
4	29.5	22.5	94	69	9	5	------	ψ° p.
5	29.9	22.2	89	59	10	9	------	●° a. ψ Ф p.
6	30	21	85	73	7	10	14	◯° ↙ ● p.
7	29	23	73?	67	10	5	2.8	⌒° ● a. Ф p.
8	29	22	87	58	8	9	1.3	⊕ a. ● p.
9	29.8	20.5	88	60	9	5	------	
10	30.2	21.3	90	55	8	8	------	
11	30.1	21.5	88	58	5	2	2.8	
12	30.2	21.4	88	61	8	8	6.1	
13	27	21.5	87	80	10	10	3.8?	↙ ● a. p.
14	25.8	21.5	96	82	10	10	12.2	d a.
15	29.3	21.1	94	69	10	5	8.4	d a. ● p.
16	29.9	22.3	91	66	10	5	------	
17	28.4	22.9	91	79	9	9	6.1	d a. ● ⌒° p.
18	30.7	23.5	93	67	8	9	15.2	
19	30	23.5	96	74	10	7	7.1	●² ⌒ a. ●° p.
20	30	23.1	94	74	9	8	1.8	d ⌒° a.
21	31	22.5	91	65	9	8	------	
22	30.4	23.5	88	69	9	5	1	
23	30.3	23.5	91	60	9	9	2.5	d p.
24	31.3	23.5	91	62	10	5	------	⌒² a.
25	30	21	87	72	9	2	------	↙° p.
26	30.3	21	84	70	2	2	------	
27	30.4	22	91	59	8	9	------	
28	30.8	24.5	80?	64	10	6	------	
Mean	29.7	22.2	89.3	66.5	8.6	6.8	------	
Total	------	------	------	------	------	------	91.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.3	19.5	93	91	8	10	8.9	● a. p. Ф ψ p.
2	31.2	19.2	94	72	9	8	1.3	⊕ ◯ Ф d ● p.
3	31.2	19.1?	96	74	9	10	------	d ⊕ ◯ a.
4	31.5	21.6	92	83	9	9	2.8	● a. d ⌒ Ф p.
5	31.5	19.9	85	70	2	3	.8	Ф p.
6	31.7	23.5	92	79	6	9	11.4	● ⌒ a. ↙ ● Фp.
7	31.7	22.9	83	67	7	8	.3	●° a. d Ф° p.
8	32.4	23.5	88	63	8	9	1	d a. p.
9	32.2	21.6	88	63	8	8	------	d° a. Ф p.
10	32.5	20.5	94	68	8	8	------	
11	31.6	19.3	93	69	8	9	------	
12	30.4	22.3	86	72	9	10	5.8	●° p.
13	27.5	22.2	96	93	9	10	67.8	●° a. ↙ ● p.
14	28.3	22.5	96?	88	10	10	36.6	↙ ● a. p. d p.
15	30.5	22.5	92	76	4	4	1	● a. p. ⌒ d° p.
16	32.9	24.5	88	65	8	7	25.1	d a. p. ● p.
17	33.6	24	97	85	10	9	20.6	● a. ↙ ● p.
18	31.5	23.9	94	85	6	10	8.1	d° a. ⊤ ●° p.
19	31.8	23.5	99	73	10	7	5.1	● a. p. ⊤ p.
20	32.1	22.4	97	79	6	7	------	
21	32.5	22.4	96	69	7	8	------	
22	32	21.4	95	68	7	8	.8	d a. p. ⊤ ●° p.
23	33.6	23.3	92	78	9	9	6.9	●° a. p.
24	31.6	21.9	96	69	10	8	.3	● d a.
25	31.4	21.3	96	68	7	2	------	
26	31.6	20.2	97	69	9	3	------	
27	31.8	21.3	95	68	8	6	.5	
28	31.8	21.8	90	68	8	5	.8	●° a. p. ⌒ p.
Mean	31.5	21.9	92.9	74	7.8	7.6	------	
Total	------	------	------	------	------	------	205.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.3	17.1	96	49	5	7	------	
2	30.3	16.5?	96	65	5	7	------	
3	31.9	19.8	95	54	6	6	------	
4	33	20.3	96	53	7	6	------	
5	31.5	20.2	97	54	9	5	------	p° a.
6	31	19.6	89	88	3	9	4.1	●° p.
7	30.3	19.7	94	56	4	5	------	
8	30.9	18.1	93	55	5	5	------	
9	32.4	18.2	94	53	4	5	------	
10	32	19	95	50	4	5	------	
11	33.1	19.1	94	51	3	4	------	
12	32.6	19	92	56	4	6	.5	d p.
13	28.8	20.8	96	68	7	9	------	⌒ a.
14	29.4	20.3	85	66	7	9	------	
15	32.4	20	92	53	4	6	------	
16	33.3	20.2	94	54	6	7	------	
17	32	20.1	93	60	5	7	------	⌒ p.
18	33.3	20.5	96	55	5	6	------	⌒ p.
19	34.8	21.4	95	48	4	6	------	⌒ a.
20	34.8	21.1	94	49	5	6	------	≡° a.
21	34.9	20.2	93	51	6	7	------	◯ p.
22	34.3	21.6	93	49	5	5	------	↘ p.
23	34.8	21.7	93	47	5	6	------	
24	33.1	21.6	93	50	7	5	------	
25	34.7	20.1	95	46	4	3	------	
26	34.8	20.2	95	42	2	2	------	
27	33.9	19.7	92	44	3	7	------	Ω a.
28	34.3	21	94	47	7	6	1.3	
Mean	32.6	19.9	93.7	54	5	6	------	
Total	------	------	------	------	------	------	5.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.5	20	98	68	7	5	------	Ω ≡ a.
2	29	19.6	98	68	8	8	------	d p.
3	29.1	20	98	65	8	5	3.3	●° a.
4	30.2	19.6	98	67	3	3	------	Ω ≡ a. ↙° p.
5	30	19.8	97	68	5	4	------	
6	29.2	19.3	97	68	7	7	------	≡ a. ζ p.
7	29.1	19.8	98	68	2	2	------	Ω ≡ a.
8	29.3	19.4	98	68	5	3	------	
9	28.7	20.1	98	71	7	5	------	ζ d p.
10	28.9	20	98	69	2	2	------	
11	28	20	98	68	8	8	2.8	d a. ●° p.
12	30.5	20.1	98	67	8	5	------	d a. ζ p.
13	28.2	19.9	98	68	4	3	19.6	Ω ≡ a. ⌐ζ ● p.
14	30.7	20.5	98	67	2	8	------	Ω ≡ a. d p.
15	29.5	20.2	98	65	8	3	4.6	● a.
16	28.8	20.3	97	65	7	8	------	d a. p.
17	29.2	19.5	98	67	8	8	------	Ω ≡ a. ζ p.
18	28	19.1	98	66	9	8	2	⌒ a. ● p.
19	28.6	19.8	98	66	9	7	------	d a. p.
20	29.6	21.1	98	67	5	5	------	Ω ≡ a.
21	30.5	21.2	98	64	7	8	------	d T° p.
22	30	21.4	98	64	2	5	------	
23	30.7	20.7	98	64	5	8	------	Ω ≡ a. p T° p.
24	30.6	21	99	63	6	6	------	≡ a. ζ p.
25	30.2	21.7	98	65	7	9	------	Ω ≡ a. T° p.
26	30.8	20.8	98	65	7	6	------	
27	30.5	21	98	65	7	8	------	Ω ≡ a. d ζ p.
28	30.4	21.4	98	64	3	7	------	ζ ↙° p.
Mean	29.6	20.3	97.9	66.4	5.9	5.9	------	
Total	------	------	------	------	------	------	32.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	26.9	19	82	67	7	6	------	
2	25.4	19.4	78?	72	10	10	1.8	
3	28	19.5	95	66	10	7	------	
4	27.6	19	91	69	3	6	------	
5	28	20.1	95	63	10	7	7.1	
6	24	20.4	95	96	6	10	53.3	
7	25.3	19	91	71	10	5	1.5	
8	26.6	19.3	82?	70	5	9	------	
9	27.8	19	95	64	6	3	------	
10	27.9	19.5	95	63	8	9	------	
11	28	19.1	96	65	10	5	------	
12	25.9	20	89	77	7	10	12.7	
13	23.2	19.6	91	87	10	10	36.1	
14	23	18.5	91?	95	10	10	17.8	
15	28.1?	18.8	98	64	10	10	34	
16	26.7	18.6	88	75	9	8	1	
17	26.4	20.8	93	78	9	9	11.4	
18	27	20.7	94	76	9	5	10.2	
19	29.5	20.9	98	73	10	5	------	
20	30.8	20.4	98	68	2	8	------	
21	29.2	21.7	97	76	3	7	------	
22	28.4	21.5	96	74	10	7	------	
23	29.5	20.5	96	77	10	8	3.8	
24	28.8	20.8	96	75	5	10	------	
25	30.2	19.3	98	76	9	4	------	
26	29.2	19.5	92	70	1	2	------	
27	29	19.9	91	70	2	9	------	
28	29.5	19.2	93	85	6	5	------	
Mean	27.5	19.8	92.6	73.6	7.4	7.3	------	
Total	------	------	------	------	------	------	190.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.5	21.5	81?	73	10	10	------	
2	28	21	81?	68	10	10	------	
3	29.2	22.5	83	81	10	10	------	
4	30	22.5	88	71	10	8	------	
5	29.5	22.5	84	71	10	10	------	
6	27	23	92	90	10	10	7.6	● p.
7	29.5	22	83	67	10	2	------	
8	30	22.2	79	61	10	10	------	
9	29.7	21.5	82	67	10	10	------	
10	30.2	22.5?	72?	68	10	10	------	
11	30	22.7	85	66	10	3	------	
12	30.1	22.9	80?	73	10	10	------	
13	28	21.7	80	59	10	8	------	
14	28.2	21.6	75	66	10	10	------	
15	28	21.2	81	79	10	10	------	
16	------	------	------	------	------	------	------	
17	------	------	------	------	------	------	------	
18	------	------	------	------	------	------	------	
19	------	------	------	------	------	------	------	
20	------	------	------	------	------	------	------	
21	------	------	------	------	------	------	------	
22	------	------	------	------	------	------	------	
23	------	------	------	------	------	------	------	
24	------	------	------	------	------	------	------	
25	------	------	------	------	------	------	------	
26	------	------	------	------	------	------	------	
27	------	------	------	------	------	------	------	
28	------	------	------	------	------	------	------	
Mean	29.1	22.1	81.7	70.7	10	8.7	------	
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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.9	20.5	95	58	9	8	------	Φ² p.
2	30.9	16.9	94	47	3	10	------	Ω ≡² a. ○ ⊕² ◡²
3	32.2	18.5	93	50	1	4	------	Ω° ≡° a. ∞ p.
4	32.8	18.7	95	42	1	4	------	Ω ≡² ⊕ a. ↙° p.
5	31.5	20.5	94	60	2	7	------	Ω ≡ a. ↙° p p.
6	31	21.1	93	54	10	8	------	≡° d° ↙° a.
7	31	20.8	86	45	8	5	------	≡° ↙° a. ∞² p.
8	31.2	18.1	91	54	10	6	------	↙° ∞ ⊕² p.
9	32.1	16.7	96	43	2	5	------	Ω² ≡ a.
10	32.9	18.4	95	45	3	7	------	Ω² ≡² a.
11	32.9	18.3	95	43	4	5	------	Ω° ≡° a. ∞ p.
12	32.6	19.6	91	46	1	6	------	Ω ≡² ↙° a. ↙° p.
13	31.1	18.9	67	48	6	10	------	↙° a. p.
14	32	20.8	72	48	10	9	------	d° ↙° a.
15	28.7	20.6	87	69	10	10	0.3	d° a. p.
16	33.6	20.2	94	47	2	4	------	
17	33.8	21	94	45	3	5	------	Ω° ≡ a. ↙° p.
18	33.5	21.9	91	69	5	7	.5	≡² a. ●° ζ° p.
19	33.8	22.2	91	51	6	6	.8	⌒ a. p. ⌐ζ ● p.
20	33.9	21.4	96	60	2	7	------	d° ζ° p.
21	34.5	21.2	95	54	2	7	11.4	≡ a. ⌐ζ ↙° ● p.
22	33.8	21.3	96	52	3	5	------	ζ° p.
23	33.9	21	95	50	2	4	------	Ω² ≡ a.
24	34	21.2	93	44	4	4	------	Ω² ≡° a.
25	35	20.2	94	44	2	3	------	Ω² ≡² a.
26	34.3	20.7	95	41	2	0	------	Ω² ≡² a. ∞² ⊕² p.
27	34.3	17.5	94	45	1	2	------	Ω ≡² a.
28	34.5	18.9	93	36	4	0	------	Ω ≡ a. ⊕² Φ² p.
Mean	32.7	19.9	91.6	49.6	4.2	5.6	------	
Total	------	------	------	------	------	------	13	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	20.7	10.5	97	82	4	9	------	≡ a. p.
2	21.5	11	82?	64	2	6	------	
3	23	11.2	94	71	4	9	------	
4	23.8	12	94	70	9	4	------	≡ a. p.
5	23	11	89	92	4	10	------	≡ p.
6	21.6	15	89	79	9	10	0.8	≡ ⊤ d p.
7	21	11.6	90	61	6	8	------	≡ p.
8	22.1	12.8	55?	68	3	7	------	
9	21.5	10	81	76	4	6	------	≡ p.
10	22	10	97	77	4	9	------	≡ a. p.
11	23	11.4	95	69	5	7	------	≡ p.
12	20.8	11.5	94	87	3	10	------	≡ a. p. d p.
13	21.5	11.5	93	82	3	7	------	
14	22	11.6	88	92	8	10	1.3	d p.
15	19.5	13	89	85	8	10	5.6	d ≡ p.
16	21.8	13.5	91	90	4	9	------	d p.
17	24.5	13	95	83	3	7	1.3	
18	23	11.6	95	83	10	7	1.5	⌒ a. d a. p.
19	23.5	14.5	84	72	4	7	32.8	
20	22.5	15	80	80	4	7	------	≡ d p.
21	22.6	15	94	95	4	9	6.4	d p.
22	22.2	15	98	76	3	8	2.3	≡ d p.
23	23.5	14.8	95	89	4	8	------	≡ p.
24	22.5	15.5	84	81	3	9	------	≡ p.
25	23	12	86	74	2	5	------	
26	24	15.2	62?	76	3	5	------	≡ p.
27	22.5	15	56?	73	3	5	------	
28	22.1	15	96	77	2	6	------	
Mean	22.3	12.8	87.2	78.7	4.5	7.6	------	
Total	------	------	------	------	------	------	52	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.5	21.4	91	63	9	4	------	◓ p.
2	31.1	19.4	98	68	3	5	------	
3	30.1	18.7	95	66	2	4	------	Ω² a. ↙° p.
4	31.5	20.5	92	60	10	3	------	
5	31.5	20.9	95	65	2	6	------	Ω a.
6	31	21.3	96	67	5	7	5.6	●° p.
7	30.6	21.1	99	68	9	6	------	
8	31.8	21.3	93	47	5	4	------	
9	30.8	18.9	91	58	5	5	------	
10	31.9	21.2	87	51	2	2	------	
11	31.3	21.5	88	58	9	3	------	
12	31.9	22.1	93	59	7	6	------	
13	31.6	20.5	89	56	2	6	------	
14	31	20.4	98	57	9	8	------	
15	30.5	22.4	84	67	8	9	3.8	●° p.
16	31.7	21.2	95	65	4	5	------	
17	31.7	21.1	94	64	2	3	------	
18	31.4	22	96	65	9	7	------	
19	32.7	22	92	58	5	6	12.5	⌒° ●² < p.
20	30.5	21.9	96	72	9	5	------	
21	32.4	22	96	59	3	4	------	
22	32.3	22.4	92	64	3	5	------	
23	33	23.8	91	63	3	3	------	
24	33.6	23.5	91	61	2	3	------	
25	32.6	22.1	94	58	7	1	------	
26	33.5	21.7	94	51	1	1	------	Ω a.
27	32.6	21.7	95	50	1	2	------	Ω a.
28	31.9	19.7	93	61	1	3	------	Ω a.
Mean	31.7	21.3	93.1	60.8	4.9	4.5	------	
Total	------	------	------	------	------	------	21.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.6	16.7	96	52	10	8	------	Ω² ≡ d° ⊕² ⛈ ↙°
2	31	14 ?	98	52	4	8	------	Ω² ≡ ⊕° ∪° ◓°
3	32.6	18.5	92	55	10	7	0.3	⌒° a. ⛈ p.
4	28.3	19.9	95	75	10	10	------	d° ↙° ⛈ a. p. ◓°
5	27.1	19.1	94	78	10	10	10.9	d² a. ↙° ●° ⛈ p.
6	30.3	18	97	80	10	10	3	d² a. p. ↙° ⛈ p.
7	27.5	17.6	97	76	10	9	.5	d² ≡ a. ⛈ ◓² p.
8	29.2	16.5	97	63	9	8	------	Ω² ≡ a. ⛈ d° p.
9	31.6	13.8?	99	52	5	7	------	Ω² ≡² a. ⊕° ◓° p.
10	32.6	16.6	97	52	9	7	------	Ω² ⊕² a. ⛈ ◓² p.
11	30.5	17.3	97	62	10	8	------	Ω² ≡ a. ⛈ p.
12	30.7	19.2	95	90	10	10	7.4	∞² d² a. ●° ◓° p.
13	25.7	16.8	94	77	10	10	2.3	d a. ↙° d² p.
14	27.8	16.2	95	66	10	10	.3	d° ≡ a. ⛈ d° ◓²
15	24.3	18.3	96	93	10	10	7.6	d a. ●° p.
16	30.8	18.5	100	59	10	8	------	≡² a. ○ p.
17	32.5	20	96	56	10	6	2.8	≡ ⛈ a. ⌒ d p.
18	28.4	19.9	96	75	10	10	2	p a. p. ⛈ p.
19	31.9	18.5	95	73	7	10	.3	Ω² ⊕² a. d ⛈ p.
20	33.1	19.9	98	61	8	7	23.4	≡ ○² a. ⛈² ●² p.
21	32.2	19.7	96	65	10	5	.8	≡ a. ⛈² d² p.
22	32.3	20.2	97	66	10	4	.3	≡ d a. ⛈ p.
23	33.4	20	99	53	9	4	------	Ω² ≡² a. ⛈ ↙° p.
24	32.6	18.3	94	54	4	3	------	Ω² ⊕² a.
25	34.3	15.4	100	49	2	2	------	Ω² ∞² a. ⛈ p.
26	33.8	19.8	95	45	9	2	------	Ω² a.
27	33.3	15.6	99	45	3	1	------	Ω² ∞² a. ↙° a. p.
28	34.3	15.7	96	47	2	4	------	Ω² ≡² ⊕° a.
Mean	30.8	17.9	96.4	63.2	8.2	7.1	------	
Total	------	------	------	------	------	------	61.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29	21.5	77	61	2	3	------	Ω² ≡² a.
2	28.6	21.7	81	67	0	3	------	Ω° ≡° a. ◓ p.
3	29	21.2	84	67	0	3	------	Ω² ≡² a. ↙ p.
4	30	21.6	79	57	9	1	------	Ω° ≡° a. ↙ ◓ p.
5	29.4	21.5	76	66	4	5	------	Ω ≡ a. ◓ p.
6	29.4	21.9	81	66	6	9	------	Ω ≡ a.
7	29	22	78	61	5	4	------	Ω ≡ a. ↙ p.
8	29.1	22.6	76	66	10	6	------	Ω° a.
9	28.8	23.2	80	66	9	2	------	Ω ≡ a. ↙ a. p.
10	29.5	21.1	82	64	0	0	------	Ω² ≡² a. ↙ p.
11	29.2	22.5	82	72	2	5	------	Ω² ≡² a. ↙ p.
12	30.9	22	75	47	0	2	2.5	Ω ≡° a. ↙ ⊕ ● p.
13	30.7	21.7	65	46	0	0	------	Ω ≡° a. ↙ a. p.
14	28.3	22.6	64	60	9	9	------	≡° a.
15	29.5	23.1	77	60	8	9	3.6	Ω ≡ a. ●° p.
16	29.5	23.7	84	63	9	4	------	≡ a. ↙° p.
17	29.6	23	84	70	5	4	------	Ω² ≡² a.
18	29.6	23.9	85	67	9	8	------	Ω ≡ a. ⊕ ↙° ⊤² p.
19	29.6	23.7	82?	71	9	8	3.8	Ω ≡ a. ●° ⛈ p.
20	29.6	23.8	83	64	4	8	------	Ω ≡ a. ○ < p.
21	30.4	23	81	67	1	3	------	Ω² ≡² a. ⊕ ⛈° p.
22	30.3	22.9	80	65	4	7	------	Ω² ≡² a. ⊤° d p.
23	31	24.5	79	68	4	3	------	Ω ≡ a. ↙° ⊤ p.
24	30.5	23.2	80	62	9	3	------	Ω ≡ a.
25	30.8	23.9	81	65	9	3	------	Ω ≡ a.
26	30.6	23.9	82	59	6	4	------	Ω² ≡² a.
27	30	22.9	80	63	10	2	------	Ω ≡ ↙ a.
28	29.9	22.5	83	66	8	5	------	Ω² ≡² a. ↙° p.
Mean	29.7	22.7	79.3	63.4	5.4	4.4	------	
Total	------	------	------	------	------	------	9.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.9	18.4	93	66	0	1	------	≡° a.
2	30.8	19.4	89	59	0	0	------	≡° a.
3	30.8	17.5	97	63	4	1	------	Ω ≡² a. ↙ p.
4	32.2	21	89	50	6	2	------	≡ a. ↙ a. p.
5	32.7	18.6	93	47	0	5	------	≡ a. ↙ p.
6	33.3	18.4	89	50	0	9	------	≡² a. ↙ p.
7	34	18.3	87	39	0	3	------	≡² a.
8	31.7	20.8	81	54	9	0	------	≡ a.
9	30.2	22	85	54	8	1	------	≡ a.
10	32.6	19.4	96	54	0	0	------	Ω ≡ a.
11	32.5	19.3	91	59	0	1	------	Ω ≡ a. ↙ p.
12	31.4	20.6	79	47	0	0	------	↙ a. p.
13	31.9	21.6	90	40	2	0	------	≡ a. ↙ p.
14	30.5	18.6	81	56	8	10	------	≡ a.
15	31.5	20.2	85	54	6	9	4.1	≡° a. ● p.
16	30.4	22.3	93	62	10	6	------	
17	34	20.3	95	56	0	3	------	Ω ≡ a.
18	30.9	20.3	93	65	0	7	------	Ω° ≡ a. ϟ p.
19	31.9	21.6	95	74	1	9	2.5	≡ a. ⌈ϟ ⌒² ● p.
20	29.9	22.2	96	72	1	9	------	ϟ p.
21	35.6	21.5	97	52	1	2	------	Ω ≡ a. ↙ p.
22	33.6	21.5	90	56	0	3	------	≡ a.
23	32.4	22.2	97	70	0	2	------	Ω ≡ a. ⊤ p.
24	32.7	21.7	97	62	0	2	------	Ω² ≡ a. ϟ p.
25	31.9	21.8	98	61	0	1	------	Ω² ≡ a. ↙ p.
26	31.8	21.9	96	68	0	9	------	Ω ≡ a.
27	32.5	21.7	96	69	0	1	------	Ω² ≡ a.
28	32.3	21	95	63	1	1	------	Ω² ≡ a.
Mean	32	20.5	91.5	57.9	2	3.5	------	
Total	------	------	------	------	------	------	6.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	26.9	21	69?	66	0	1	------	↙° ≡ p.
2	26.8	22.8	72?	64	1	1	------	↙° a. p. ≡ p.
3	27.2	21.1	91	70	5	0	------	Ω a. ↙° ≡ p.
4	23.5	19.9	77	72	10	9	2	d a. ↙° a. p.
5	23.8	20.3	78	71	10	10	.5	d a. ↙° a. p.
6	25.8	20.8	67?	62	10	4	1.3	↙° a. ●° p.
7	22.6	19.3	91	86	10	10	30.5	d a. p. ↙° ● p.
8	25.8	20.9	78	79	10	4	1.8	↙° d a.
9	26.7	21.9	91	77	4	3	------	↙ p° a.
10	26.3	21.6	77	69	5	4	------	Ω² p.
11	26.8	18.4	91	69	0	8	.5	↙° a. ↙ d p.
12	24.1	19.5	76	64	8	7	1.5	↙° a. p. d ⌒² p.
13	22.3	19.1	68	63	10	10	------	p° a. ↙° a. p.
14	25.1	19.2	66	66	7	8	------	↙° a. p. ≡° p.
15	23.5	21	76?	79	9	10	8.4	↙ a. ●° a. p.
16	23.7	20.6	84	91	10	10	16.5	d a. ● p.
17	25	20.3	85	83	10	10	8.5	●° a. ↙° p.
18	26.1	22.4	84?	83	10	8	------	↙° p° a. ↙° ○ p.
19	28.1	24	91	83	2	10	------	↙° p° a. ○ ≡ p.
20	28.4	24.1	96	79	10	7	------	↙° d° a. p.
21	24.9	21.9	78	76	10	10	1.3	d a. p.
22	24.2	21.2	88	89	10	10	10.2	●° a. p. ↙° p.
23	27.8	22.1	93	81	10	7	5.1	● ↙° a.
24	29.1	22.7	95	84	10	7	------	d ↙° a. Ω² p.
25	29	22.1	96	77	2	3	------	↙° a. Ω² a. p.
26	27.5	22.3	87	76	2	8	------	↙° p° a. Ω² p.
27	29	21.8	91	74	2	4	------	Ω² a. p. ↙° p.
28	29.3	23.2	91	89	1	10	4.6	Ω² ↙° a. p. ●° p.
Mean	26	21.3	83.1	75.8	6.7	6.9	------	
Total	------	------	------	------	------	------	92.7	

SEISMOLOGICAL BULLETIN FOR FEBRUARY, 1909.

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

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

7, 0^h 1^m. **Butuan** (N of Mindanao). Earthquake of force VI, lasting 40^s. The direction of the waves was ENE–WSW, some objects being thrown from their places toward east-northeast. Some subterraneous rumblings were heard which appeared likewise to advance in the same direction. At 2^h 45^m occurred a repetition having force IV and the same direction as the first shocks. The area shaken by this strong earthquake was very limited, since the disturbance appears to have been perceptible neither at the station of Surigao nor at that of Cagayan, which both are at a distance of only about 100 kilometers from the epicenter. It likewise failed to influence the microseismographs of Manila Observatory. This leads us to believe that the disturbance was due to the formation of a fault or to a subsidence at a very shallow depth; otherwise it can hardly be explained how, with an intensity of VI–VII (De Rossi-Forel's scale) at Butuan, the perceptible seismic waves did not reach greater distances.

11, 7^h 0^m. **Butuan** (N of Mindanao). Earthquake of force III. A repetition of greater intensity followed at 21^h 45^m, during which oscillations in the direction SE–NW were observed. At 4^h 40^m of the 12th, a second repetition was experienced.

13, 16^h 48^m 29^s.* **Aparri** (NE of Luzon). Oscillatory earthquake. Direction E–W; force III.

15, 23^h 0^m. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction ENE–WSW; intensity III.

19, 10^h 44^m 44^s.* **Butuan** (N of Mindanao). Earthquake of intensity IV, direction SSE–NNW. This disturbance was registered at Batavia at 10^h 47^m 19^s.

19, 20^h 55^m. **Aparri** (NE of Luzon). Oscillatory earthquake. Direction E–W; force III.

26, 13^h 29^m 3^s.* **Butuan** (N of Mindanao). Oscillatory earthquake. Direction SSW–NNE; force 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 =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. s.		
22	1	NNW-SSE	2 57 38						3 29	V. M.	
		WSW-ENE	2 57 39						3 29	V. M.	
		WSW-ENE	2 57 43						3 36	H. P.	
23	2	NNW-SSE	23 16 26						23 43	V. M.	Earthquake at Donggala (Celebes).
		WSW-ENE	23 16 25						23 41	V. M.	
		WSW-ENE	23 16 27						23 47	H. P.	
24	3	NNW-SSE	3 06 33	3 10 46	3 14 20				3 44	V. M.	Earthquake at Lapongs (S Sumatra).
		WSW-ENE	3 06 33	3 10 22	3 14 14				3 40	V. M.	
		WSW-ENE	3 06 53	3 11 17	3 14 40	3 15 25	0.03	10	3 48	H. P.	
25	5	WSW-ENE			23 44 41	23 44 52	.03	2.4	23 49	V. M.	
26	7	WSW-ENE	9 38 04		9 38 20	9 38 22	.05	2.4	9 42	V. M.	
		NNW-SSE	9 38 04		9 38 21	9 38 41	.06	2.4	9 42	V. M.	
27	7	WSW-ENE			13 07 35	13 07 37	.09	2.2	13 11	V. M.	
28	11	WSW-ENE			4 48 52	4 48 59	.02	2.4	4 52	V. M.	
29	13	NNW-SSE	12 25 38	12 31 46?	12 38 40?	12 38 45	.01	4.8	13 00	V. M.	
		WSW-ENE	12 25 04	12 32 02?	12 38 36?	12 38 50	.01	8.7	13 00	H. P.	
30	13	NNW-SSE	16 48 49		16 49 41	16 49 53	.03	2.4	16 58	V. M.	Earthquake, III at Aparri (NE of Luzon).
		WSW-ENE	16 48 49		16 49 40	16 49 48	.09	2.4	16 57	V. M.	
		WSW-ENE	16 48 57		16 50 03	16 50 16	.01	6	16 57	H. P.	
31	15	NNW-SSE	8 56 53	9 01 43	9 06 11	9 07 27	.01	10.4	9 27	V. M.	
		WSW-ENE	8 56 53	9 01 44	9 06 08	9 06 18	.01	13.2	9 27	V. M.	
		WSW-ENE	8 56 55	9 01 21	9 06 00	9 06 23	.04	10.2	9 36	H. P.	
32	15	WSW-ENE	17 33 48	17 37 27	17 39 45	17 41 02	.01	5.2	18 34	V. M.	Earthquake at Talaud (NE Menado).
		WSW-ENE	17 33 55	17 37 18	17 39 55	17 40 51	.16	9	18 34	H. P.	
33	16	WSW-ENE	5 31 40		5 32 26	5 32 33	.04	2.4	5 37	V. M.	Vertical C. 0.03 mm.
		WSW-ENE	5 31 46		5 32 40	5 33 16	.03	5.1	5 39	H. P.	
34	16	NNW-SSE	16 09 41	16 12 38	16 15 11	16 15 27	.01	9.2	16 37	V. M.	
		NNW-SSE	16 09 42	16 12 24	16 15 02	16 15 22	.09	11.4	16 46	H. P.	
		WSW-ENE	16 09 41	16 11 50	16 13 52	16 14 10	.01	9.6	16 37	V. M.	
		WSW-ENE	16 09 42	16 11 47	16 13 48	16 14 08	.10	11.1	16 46	H. P.	
35	19	WSW-ENE	10 44 44		10 47 27				10 58	V. M.	Earthquake at Butuan (N of Mindanao).
		WSW-ENE	10 44 50		10 47 36	10 47 56	.03	9	10 58	H. P.	
36	19	NNW-SSE	16 04 58						16 08	V. M.	
		WSW-ENE	16 04 58						16 08	V. M.	
37	19	WSW-ENE	19 32 46		19 32 56	19 32 58	.02	2.4	19 35	V. M.	
38	22	NNW-SSE	17 31 48	17 40 10	17 47 45	17 48 07	.01	9.2	19 02	V. M.	Earthquake at Sivas (Asia Minor).
		NNW-SSE	17 32 00	17 40 15	17 47 58	17 48 55	.08	7.8	19 22	H. P.	
		WSW-ENE	17 31 48	17 40 10	17 47 24	17 48 20	.01	8	19 02	V. M.	
		WSW-ENE	17 31 56	17 40 11	17 47 53	17 50 21	.14	11.4	19 22	H. P.	
39	23	WSW-ENE	5 10 00						5 44	V. M.	
		NNW-SSE	5 10 01						5 47	V. M.	
40	24	NNW-SSE	12 41 08	12 45 44	12 49 55	12 51 55	.03	11.1	13 30	H. P.	
		WSW-ENE	12 41 08	12 45 40	12 50 20	12 52 00	.03	13.5	13 31	H. P.	
41	26	WSW-ENE	9 08 48		9 08 55	9 08 59	.02	2.4	9 12	V. M.	V. C. 0.01 mm.
42	26	NNW-SSE	13 29 03		13 29 22	13 29 23	.80	2.4	13 41	V. M.	V. C. 0.38 mm. Earthquake, III at Butuan (N of Mindanao).
		NNW-SSE	13 29 02		13 29 20	13 29 23	.47	4	13 40	H. P.	
		WSW-ENE	13 29 03		13 29 21	13 29 27	1.40	2.4	13 40	V. M.	
		WSW-ENE	13 29 04		13 29 21	13 29 24	.56	6	13 42	H. P.	
43	27	NNW-SSE	9 24 08		9 24 15	9 24 18	.01	2	9 28	V. M.	
44	27	WSW-ENE	17 47 38		17 47 45	17 47 49	.04	2.4	17 52	V. M.	
45	28	WSW-ENE	15 44 48		15 45 13	15 45 16	.02	2.4	15 49	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=10.4 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]

7, 0^h 01^m. **Butúan** (N de Mindanao). Temblor de tierra de intensidad VI, duración 40^s. La dirección de los movimientos terrestres era ENE–WSW; algunos objetos fueron arrojados hacia el ENE: oyéronse ruidos subterráneos procedentes de esta misma dirección. Á 2^h 45^m hubo una repetición de intensidad IV; observáronse oscilaciones en la misma dirección del primer temblor. El área conmovida por este fuerte temblor fué muy reducida; pues no parece haber sido perceptible en ninguna de las dos estaciones de Surigao y Cagayan situadas á unos 100 kilómetros de distancia: tampoco fué registrado por los microseismógrafos de Manila. Esto induce á creer que su origen fué la formación de alguna falla ó un resbalamiento muy superficial en el terreno: de otro modo apenas se explica cómo habiendo tenido en Butúan una intensidad comprendida entre VI y VII de la escala Rossi-Forel, las ondas séismicas perceptibles no se extendieron á mayores distancias.

11, 7^h 00^m. **Butúan** (N de Mindanao). Temblor de tierra de intensidad III. Repitió á 21^h 45^m con mayor fuerza, distinguiéndose oscilaciones en la dirección SE–NW. Á 4^h 40^m del día 12 se experimentó una segunda repetición.

13, 16^h 48^m 29^s.* **Aparri** (NE de Luzón). Temblor oscilatorio, dirección E–W, intensidad III.

15, 23^h 00^m. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección ENE–WSW, intensidad III.

19, 10^h 44^m 44^s.* **Butúan** (N de Mindanao). Temblor de tierra de intensidad IV, dirección SSE–NNW. Fué registrado en Batavia á 10^h 47^m 19^s.

19, 20^h 55^m. **Aparri** (NE de Luzón). Temblor oscilatorio, dirección E–W, intensidad III.

26, 13^h 29^m 03^s.* **Butúan** (N de Mindanao). Temblor oscilatorio, dirección SSW–NNE, 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.

THE STRONGEST EARTHQUAKES FELT IN THE PHILIPPINES DURING THE LAST HALF CENTURY.

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

During the last half century the various regions of the Philippine Archipelago have been visited by 55 strong earthquakes, whose intensities varied between VII and X of De Rossi-Forel's scale. We herewith present a list of these phenomena, which shows the year, date and hour, the force, and probable place of origin of each of them.

In the accompanying map are represented the approximate extension and form of the area within which each disturbance had the intensity given in the list. These regions are numbered consecutively from north to south, and their ordinals are found along the upper half of the left margin. Opposite each area are indicated the earthquakes which have taken place within it, these being designated by the numbers which they have in the list. It must, however, be understood that, whenever two or more numbers are placed opposite an area indicative of so many earthquakes in that region, this does not imply that the various quakes were exactly coincident in epicenter and radius of action. It merely means that in all these disturbances the area of maximum intensity lay within the curve, although on some occasions the effects may have been more perceptible in one direction, and in another on others, since this depends on the various positions and forms of the seismic foci.

Thus, for instance, number 18 of the list, which corresponds to the curve inclosing the provinces in the neighborhood of Manila, represents the three strong earthquakes of July 15, 18, and 20, 1880, each of which had a different epicenter and area of destruction; but all within the limits established by the curve.

LIST OF EARTHQUAKES.

No.	Year.	Month and day.	Hour.		Intensity.	Probable origin of disturbance.
			h.	*m.*		
1	1862	Sept. 9	3	00	VIII	N Central Range, between Ilocos Norte and southern Cagayan.
2	1863	June 3	19	20	IX	Eastern Range of Luzon, ENE of Manila.
3	1869	Aug. 16	15	00	IX	Vicinity of Masbate Island.
4	1869	Oct. 1	11	35	VIII	Vicinity of Taal Volcano, Luzon.
5	1871	Feb. 21	4	00	VIII	N part of Camiguin Island.
6	1871	Nov. 5	9	00	VII	Near Eastern Range of Mindanao.
7	1871	Dec. 8	17	30	IX	Illana Bay, SW of Mindanao.
8	1871	Dec. 19	22	30	VII	Near Eastern Range of Mindanao.
9	1872	Jan. 26	19	30	VIII	Near NW coast of Zambales, Luzon.
10	1872	Dec. 29	11	48	VII	Near SW coast of Luzon.
11	1873	Nov. 14	17	30	VII	Vicinity of Lamon Bay, Luzon.
12	1874	Aug. 25	6	30	VII	S of Sibuguey Bay, W of Mindanao.
13	1875	May 12	11	30	VII	SE of San Miguel Bay, Luzon.
14	1877	July 5	12	7	VIII	Do.
15	1877	July 23	16	24	VII	Vicinity of N coast of Leyte.
16	1878	Sept. 17	0	50	VIII	W part of Davao Gulf, SE of Mindanao.
17	1879	July 1	2	38	X	NE end of Mindanao.
		July 15	0	53	VIII	Eastern Range of Luzon, E of Manila.
18	1880	July 18	12	40	IX	Eastern Range of Luzon, ENE of Manila.
		July 20	15	40	VIII	Vicinity of Lake Bay, Luzon.

LIST OF EARTHQUAKES—Continued.

No.	Year.	Month and day.	Hour.	Intensity.	Probable origin of disturbance.
			h. m.		
19	1881	July 27	16 30	IX	Southern part of Nueva Vizcaya, Luzon.[a]
20	1885	Feb. 22	15 30	VIII	Near ESE coast of Mindanao.
21	1885	July 23	22 45	IX	Vicinity of Sindangan and Dapitan Bays, NW of Mindanao.
22	1887	Feb. 2	23 00	VIII	Southeastern part of Panay.
23	1887	Mar. 24	21 14	VII	Vicinity of San Miguel Bay, Luzon.
24	1889	Feb. 5	15 53	VII	S of Sibuguey and Illana Bays, W of Mindanao.
25	1889	May 26	2 23	VIII	S of Taal Volcano, Luzon.
26	1889	Oct. 6	11 10	VII	NE part of Davao Gulf, SE of Mindanao.
27	1890	Feb. 7	0 10	VIII	Vicinity of the N coast of Leyte.
28	1892	Mar. 8	---------	VIII	Vicinity of Batan Island.
29	1892	Mar. 16	9 2	X	N and NE part of Pangasinan, Luzon.
30	1893	June 21	14 50	X	Central part of the Agusan Valley, Mindanao.
31	1894	Feb. 10	0 42	VIII	Southeastern end of Mindanao.
32	1894	June 29	2 57	VIII	Central part of the Agusan Valley, Mindanao.
33	1895	June 7	21 56	VII	Northern part of Mindoro.
34	1897	Apr. 8	21 20	VIII	Central part of the Agusan Valley, Mindanao.
35	1897	May 13	19 22	VIII	Vicinity of Masbate Island.
36	1897	Aug. 15	20 18	VIII	Near the Ilocos coast, Luzon.
37	1897	Sept. 21	3 10	X	SE part of Sulu Sea.
			13 15	IX	Do.
38	1897	Oct. 19	8 5	IX	Near the NE coast of Samar.
			15 15	VIII	Do.
39	1897	Nov. 14	8 59	VII	Near the Ilocos coast, Luzon.
40	1898	Jan. 30	19 15	VII	SE part of the Sulu Sea.
41	1901	Sept. 10	8 20	VII	SE part of Lamon Bay, Luzon.
42	1901	Dec. 15	6 58	VII	Vicinity of Taal Volcano, Luzon.
43	1902	Aug. 21	19 17	X	N part of Illana Bay, SW of Mindanao.
44	1902	Aug. 26	1 9	IX	SE part of Panay.
45	1902	Nov. 17	8 38	VII	Vicinity of Taal Volcano, Luzon.
46	1903	Dec. 28	10 56	VIII	Near the SE coast of Mindanao.
47	1904	Oct. 1	18 16	VII	Southern part of the Agusan Valley, Mindanao.
48	1904	Oct. 9	2 39	VII	North part of Central Range, Luzon.
49	1905	Dec. 8	16 22	VII	Vicinity of Masbate Island.
50	1905	Dec. 11	2 12	VIII	Central part of the Agusan Valley, Mindanao.
51	1907	Apr. 19	5 00	IX	SE of San Miguel Bay, Luzon.
52	1907	May 20	15 49	VII	Southeastern part of Leyte.
53	1907	May 25	23 52	VII	Northern part of Central Range, Luzon.
54	1907	Nov. 24	21 59	IX	SE of San Miguel Bay, Luzon.
55	1909	Mar. 18	16 30	VIII	Between the Agusan Valley and E coast of Mindanao.

[a] Four other very strong earthquakes (VIII, IX Rossi-Forel) were felt on the 1st, 18th, and 20th of September.

Annual and monthly distribution.—The maximum seismic activity of the whole period under consideration fell in the year 1897, during which 8 strong earthquakes were felt in the Philippines. Two of these, corresponding to the same epicenter, occurred in Ilocos, NW of Luzon; the other 6, due to four different foci, in Mindanao and the eastern Visayas. It is to be remembered that during the same year, in June, took place the great earthquake of Assam and Bengal, British India; and that Japan was likewise visited by two violent earthquakes, on January 17 and 20.

If we consider the decades comprised within the period, we find that the decade 1890–1900 showed the greatest number of violent earthquakes, viz, 16 quakes in ten different regions. During the same period there occurred in Japan 9 disturbances, a number which is considered as very extraordinary.[1] Among these was the earthquake of Mino-Owari, one of the most intense and disastrous recorded in the history of the Island Empire.

On running the eye over the list it is easily recognized that the years characterized by the greatest number of earthquakes form groups separated from each other by irregular intervals of years. These groups can be reduced to six which are shown in the following table. The same gives the group of years, the number of disturbances which occurred during each, the number of epicenters

[1] Publications of the Earthquake Investigation Committee in foreign languages. Tokio. No. 19, page 10.

to which they corresponded, and the interval between the last year of the preceding and the first of the following period of greater seismic activity.

Groups.	Number of—		Interval between groups (years).
	Earth-quakes.	Epicenters.	
1869–1872	8	6	-------
1880–1881	8	2	8
1885–1889	7	7	4
1897	8	6	8
1901–1902	5	4	4
1904–1907	8	6	2

The distribution by months offers no special interest. The month of July heads the list with 8 earthquakes and is followed by February and December with 7 each, while January and April show the minimum of 2; the other months figure with numbers between these limits.

The geographical distribution.—The region of the Archipelago which during the last fifty years experienced the greatest number of violent earthquakes is the extensive valley of the Agusan River, Mindanao; the second place is held by the part of the Province of Ambos Camarines lying between San Miguel Bay and Mayon Volcano; while the third is claimed by both the seismic region of Taal Volcano and that of Masbate Island.

Of the three principal districts of the Archipelago, Luzon, the Visayas, and Mindanao, the last is the most unstable. Of the 55 earthquakes which appear in the list, 20 occurred in the said district. Of these, 15 took place in the eastern part of the island; that is to say, in the neighborhood of the trough running along the eastern coast, which is one of the most important geosynclinals of the Pacific and even of the whole globe.

In subsequent numbers of the MONTHLY BULLETIN we will publish some details concerning the earthquakes of each of these districts.

LOS TERREMOTOS MÁS VIOLENTOS EXPERIMENTADOS EN FILIPINAS DURANTE LOS ÚLTIMOS 50 AÑOS.

Durante el último medio siglo se han experimentado en diferentes partes del Archipiélago Filipino 55 terremotos violentos, ó sea de intensidad variable entre VII y X de la escala Rossi-Forel. Á continuación presentamos su lista en la que consta el año, mes, fecha, hora, intensidad y origen probable de cada uno.

En el mapa que la acompaña está representada aproximadamente la extensión y forma de la región ó área dentro de la cual cada terremoto tuvo la intensidad indicada en la lista. Cerca del margen se han reunido los números de orden de las diferentes áreas ó epicentros y frente á ellos los numerales correspondientes á los terremotos de la lista experimentados en cada área. Cuando á una misma área corresponden varios números, indicadores de otros tantos terremotos, debe tenerse presente que no pretendemos significar que todos tuvieron precisamente el mismo centro y área de acción, sino que en todos el área de máxima intensidad estuvo dentro de los límites señalados por la curva, aunque los efectos fuesen unas veces más sensibles en una dirección y otras en otra, dependiendo esto de la diferente posición y forma del centro ó foco.

Así por ejemplo el número 18, correspondiente á la curva que envuelve las provincias cercanas á Manila, representa los tres terremotos violentos ocurridos los días 15, 18 y 20 de Julio de 1880, cada uno de los cuales tuvo diferente epicentro y área de destrucción, pero siempre dentro de los límites señalados por la curva.

LISTA.

Véase en el texto inglés.

Distribución anual y mensual.—De todo el período el año 1897 fué el de mayor actividad séismica; se experimentaron 8 terremotos violentos, dos en Ilocos, NW de Luzón, correspondientes á un mismo epicentro, y los seis restantes en Mindanao y en las Visayas orientales, en cuatro diferentes epicentros. Conviene tener presente que este mismo año aconteció en Junio el gran terremoto de Assam, en la India Inglesa; en Japón ocurrieron también dos terremotos violentos el 17 y el 20 de Enero.

Si se consideran las diferentes décadas que comprende el período, se verá que la de 1890 á 1900 es la que presenta mayor número de terremotos violentos; 16 terremotos en diez diferentes regiones. En Japón durante la misma década ocurrieron nueve, número considerado como muy extraordinario:[1] entre ellos el de Mino-Owari, uno de los más intensos y desastrosos que registra la historia de aquel imperio.

Además recorriendo la lista se nota fácilmente que los años de mayor número de terremotos forman diferentes grupos separados por períodos variables. Tales grupos pueden reducirse á seis, que presentamos en la siguiente tabla. En ella figura el grupo de años, el número de terremotos, el número de epicentros, y el número de años que media entre el último año de un grupo y el primero del siguiente.

Grupos.	Número de—		Período intermedio de años.
	Terremotos.	Epicentros.	
1869–1872	8	6	----------
1880–1881	8	2	8
1885–1889	7	7	4
1897	8	6	8
1901–1902	5	4	4
1904–1907	8	6	2

La distribución mensual no ofrece especial interés; el máximo número 8 corresponde al mes de Julio y el siguiente 7 á Febrero y Diciembre; el mínimo 2 á Enero y Abril; todos los otros meses figuran con números intermedios.

[1] Publications of the Earthquake Investigation Committee in foreign languages. Tokio. No. 19, page 10.

Distribución geográfica.—La región del Archipiélago que ha sufrido mayor número de terremotos violentos durante los últimos cincuenta años es el extenso valle del Río Agusan en Mindanao; sigue luego la Provincia de Ambos Camarines en su parte comprendida desde la bahía de San Miguel al Volcán Mayon; y en tercer lugar las regiones del Volcán Taal y de la Isla Masbate.

De las tres principales partes de que consta el Archipiélago, Luzón, las Visayas y Mindanao, la más inestable es Mindanao. De los 55 terremotos que contiene la lista, 20 han tenido lugar en dicha isla y de éstos, 15 en la parte oriental ó sea en la proximidad de una de las fosas ó geosynclinales más importantes del Mar Pacífico y aún de todo el globo.

En sucesivas notas presentaremos algunos datos más particulares sobre los terremotos de cada región.

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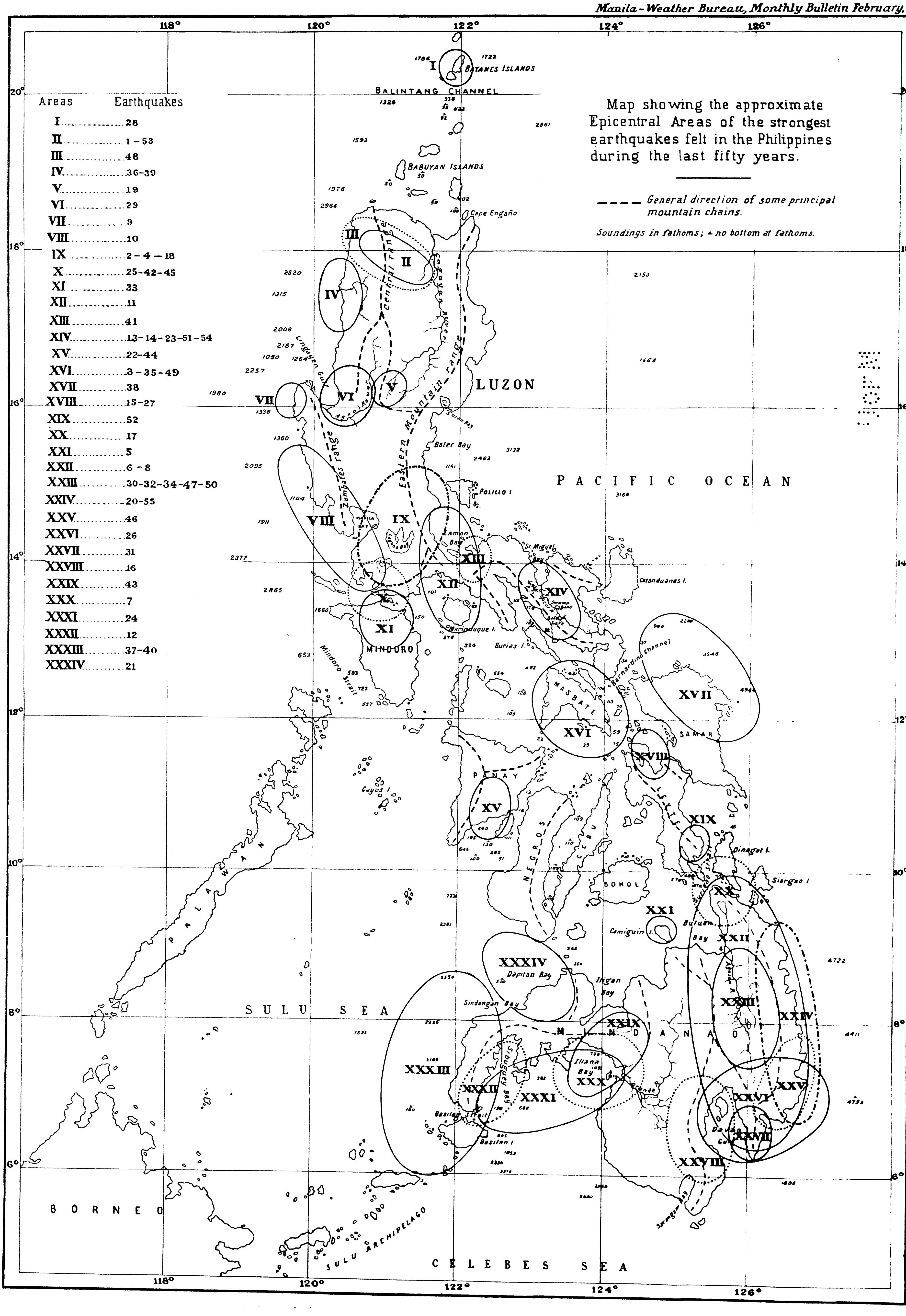

Map showing the approximate Epicentral Areas of the strongest earthquakes felt in the Philippines during the last fifty years.
General direction of some principal mountain chains.
Soundings in fathoms; + no bottom at fathoms.
Areas Earthquakes
I 28
II 1-53
III 48
IV 36-39
V 19
VI 29
VII 9
VIII 10
IX 2-4-18
X 25-42-45
XI 33
XII 11
XIII 41
XIV 13-14-23-51-54
XV 22-44
XVI 3-35-49
XVII 38
XVIII 15-27
XIX 52
XX 17
XXI 5
XXII 6-8
XXIII 30-32-34-47-50
XXIV 20-55
XXV 46
XXVI 26
XXVII 31
XXVIII 16
XXIX 43
XXX 7
XXXI 24
XXXII 12
XXXIII 37-40
XXXIV 21
118°
120°
122°
124°
126°
20°
18°
16°
14°
12°
10°
8°
6°
BATANES ISLANDS
BALINTANG CHANNEL
BABUYAN ISLANDS
Cape Engaño
Central range
Cagayan River
Lingayen Gulf
Eastern Mountain range
LUZON
Baler Bay
Polillo I.
Zambales range
PACIFIC OCEAN
Manila Bay
Lamon Bay
Catanduanes I.
Marinduque I.
Burias I.
MINDORO
Mindoro Strait
San Bernardino Channel
MASBATE
SAMAR
Cuyos I.
PANAY
LEYTE
NEGROS
CEBU
BOHOL
Dinagat I.
Siargao I.
Camiguin I.
PALAWAN
SULU SEA
Dapitan Bay
Iligan Bay
Sindangan Bay
MINDANAO
Illana Bay
Rio Grande R.
Basilan Strait
Basilan I.
Davao Gulf
Sarangani Bay
BORNEO
SULU ARCHIPELAGO
CELEBES SEA

BULLETIN FOR MARCH, 1909.

METEOROLOGICAL BULLETIN FOR MARCH, 1909.

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

GENERAL WEATHER NOTES.

Atmospheric pressure and temperature.—The mean atmospheric pressure for this month in all our stations in the Philippines has been somewhat lower than the monthly mean for March, 1908. That of Manila differs from the normal for March by —0.83 millimeter. With a few exceptions, the highest mean daily pressure was observed everywhere on the 27th. The lowest pressures took place generally on the 21st, 22d, or 23d; that is to say, during the depression of which we shall speak below.

The mean monthly temperature differs very little, as a rule, from that of March of the preceding year. Only for stations in northeastern and southeastern Luzon, we find differences of 1° C. or even higher, these differences being positive for the year 1909.

The maximum temperature for Manila has been 34.5° C., and the minimum, 17.7° C., the latter having been registered on the 1st and 9th, and the former on the 31st.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, MARCH, 1909.

Station.	Pressure.						Temperature.					
	Mean.	Departure from March, 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from March, 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	758.46	—0.49	760.27	27	756.52	21	26.7	+0.1	32.8	22	21.0	31
Surigao[1]	58.82	— .59	60.66	27	56.02	21	26	+ .2	31.1	22	21	7
Cebu	58.97	— .37	60.78	27	56.65	22	26.5	----	30.5	2, 4, 10	20	9
Iloilo	58.83	— .60	60.54	27	56.78	23	26.8	+ .3	32.9	24, 30	22.4	8
Ormoc	58.85	— .75	60.72	27	56.08	22	25.4	— .1	32.7	31	19	7
Tacloban	59.34	— .65	61.36	27	56.16	22	26.3	+ .5	33.3	31	22.1	9
Capiz	59.35	— .63	61.16	27	56.57	23	26.7	+ .4	31	6	----	----
Calbayog	59.63	— .69	61.62	27	56.38	22	25.5	+ .4	----	----	19.8	4
Legaspi	59.76	— .74	61.63	27	56.87	22	26.7	+1	32.1	10	21.2	17
Atimonan	59.96	— .85	61.82	27	57.66	23	26.9	+1.2	34.4	5	20.6	6
Manila	59.73	— .67	61.84	27	58.06	23	26.1	+ .3	34.5	31	17.7	1, 9
Olongapo	59.51	— .47	61.55	27	58.06	12	26.8	+ .1	35.4	21	19.8	9
San Isidro	59.68	— .81	61.62	27	58.20	12	26.2	— .3	34.6	20	17.9	9
Dagupan	59.50	— .45	61.32	28	58.10	23	27.3	----	36.9?	13	18.3	6
Bolinao	59.57	----	61.28	28	58.03	23	27	----	32	13	20.7	14
Vigan	59.72	— .44	61.45	26	58	23	27.6	+ .5	36.4?	22	22.5	2
Tuguegarao	60.41	----	64.27	27	58.33	12	26.4	----	35.5	10, 12, 16, 20	18	12
Aparri	60.94	—1	65.10	27	58.71	11	25.4	+1.1	----	----	----	----

[1] 30 days only.

Precipitation.—The total amount of rainfall collected this month in the rain gauges of the Observatory exceeds the normal for March by 40.2 millimeters, whereas it is 5.4 millimeters below that of March, 1908. In regard to the stations outside of Manila I shall only remark that those which show a total monthly amount of rainfall larger than that of March, 1908, are almost as many as those that report it as smaller.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF MARCH, 1909.

Station.	Total.	Departure from March, 1908.	Rainy days.	Departure from March, 1908.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from March, 1908.	Rainy days.	Departure from March, 1908.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	35.3	+ 17.6	9	+ 1	12.7	12	Calapan	61.7	--------	14	------	13	24
Isabela, Basilan	25.4	—139.9	5	—10	14.2	27	Legaspi	207.1	—138.4	22	+1	32.3	19
Zamboanga	44.2	--------	7	------	17.8	23	Virac	184.9	+ 45.8	21	+2	38.1	14
Cotabato	74	--------	10	------	26.7	23	Batangas	11.8	+ 5.1	9	+6	3.6	22
Cagayan, Misamis	143.2	--------	10	------	45.7	23	Atimonan	177.2	+ 8.9	15	+1	54.4	22
Butuan	110.2	—190.8	15	— 6	60.2	20	Silang	92.8	+ 59.5	6	+3	55.9	24
Tagbilaran	66.6	— 15.3	13	0	27.2	29	San Antonio, Laguna	204.5	+ 40.2	16	0	43.7	24
Surigao	147.5	—298.8	21	0	37.3	20	Manila	59.3	— 5.4	9	+6	19.8	18
Maasin	220	--------	8	------	62	22	Olongapo	19.9	+ 12.5	3	+2	16.8	24
Cebu	54.9	— 4.8	13	+ 3	13.2	23	San Isidro	5.7	— 3.4	4	—1	2.1	23
Iloilo	41.6	— 70.9	10	0	16.4	23	Tarlac	6.4	+ 3.4	2	+1	6.1	24
San Jose, Buenavista	43	+ 8.7	4	— 2	32.8	23	Dagupan	48.8	— 2.6	3	—4	39.9	30
Tuburan	58.1	— 8	7	— 3	18.5	21	Bolinao	5.1	+ 40.6	2	0	4.1	25
Ormoc	95	— 5.2	16	0	20.3	22	Baguio, Benguet	35.8	+ 11.2	7	+4	13.7	30
Tacloban	132.7	— 76.7	18	— 1	27	20	San Fernando, Union	0	— 21.3	0	—3	0	0
Capiz	68.6	+ 37.7	9	— 1	20.3	23	Echague	36.3	+ 1.7	9	0	11.2	22
Borongan	238.4	—282.8	24	+ 3	54.9	20	Candon	10.4	— 45.9	2	0	9.1	29
Calbayog	184.3	+ 86.3	21	+ 4	37.6	22	Vigan	10.9	+ 10.9	2	+2	8.1	23
Palanoc, Masbate	77.9	--------	18	------	18.3	21	Tuguegarao	51.1	--------	7	------	18.3	25
Romblon	80.7	--------	14	------	18.5	23	Laoag	0	— 17	0	—2	0	0
Laoang	238.6	--------	24	------	100.1	22	Aparri	53.1	— 38.6	7	—6	16.3	25
Gubat	403.5	+ 96.5	22	+ 6	68.6	22	Sto. Domingo, Batanes Is	229.4	+154.4	18	+7	62.2	24
Sumay, Guam	70.3	--------	17	------	24.1	12							

DEPRESSIONS AND TYPHOONS.

Only one depression is worth mentioning this month, and even this was of very little importance to the Philippines.

The following typhoon warnings were sent by Manila Observatory to the foreign meteorological services in the Far East:

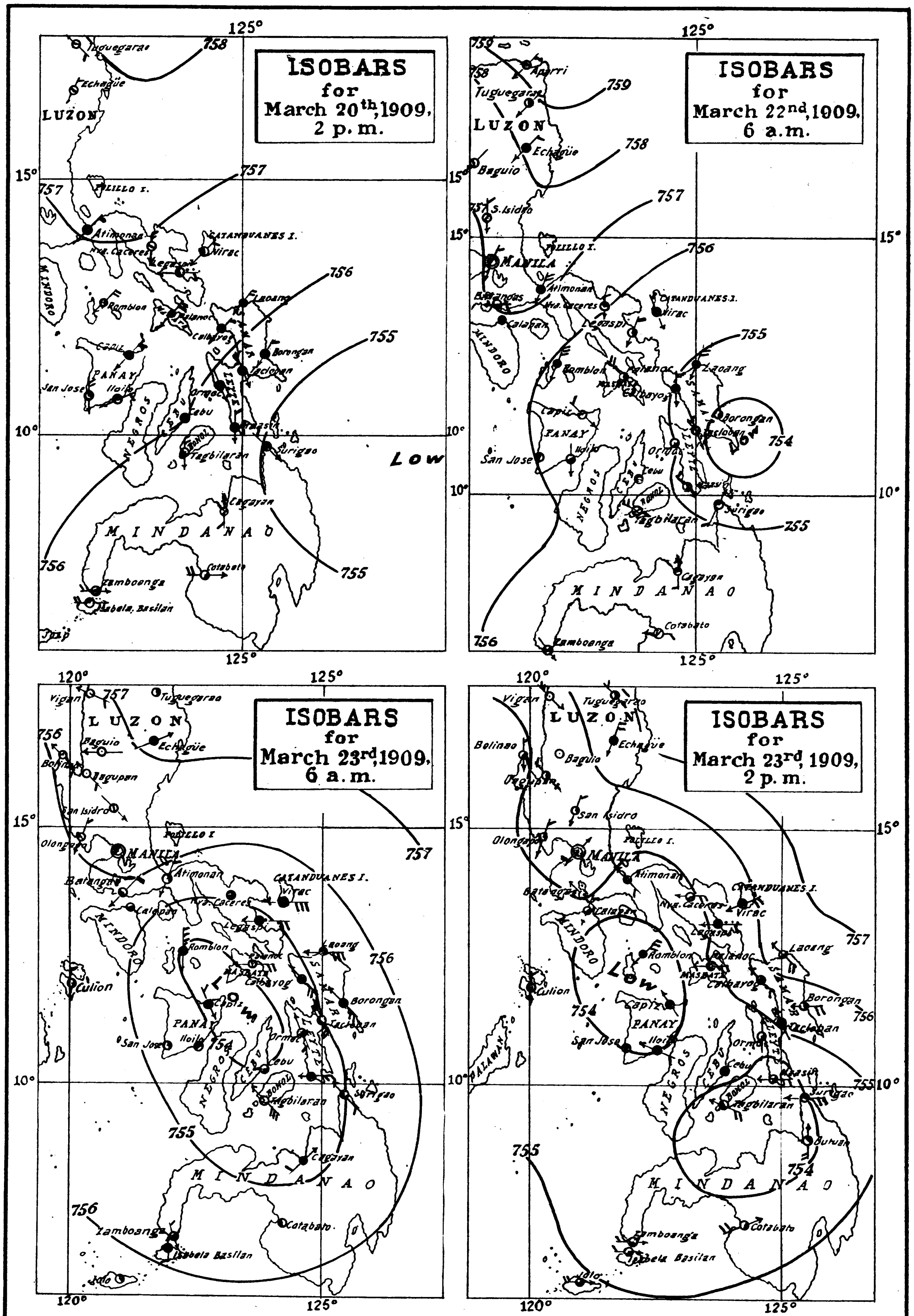
March 21, 5 p. m.: Typhoon E of the southern Visayas or northern Mindanao, moving W or WNW.

March 22, 10 a. m.: Typhoon E of the Visayan Islands, inclining northward.

March 23, 8.30 a. m.: The typhoon is crossing the Visayan Islands in the form of a shallow depression.

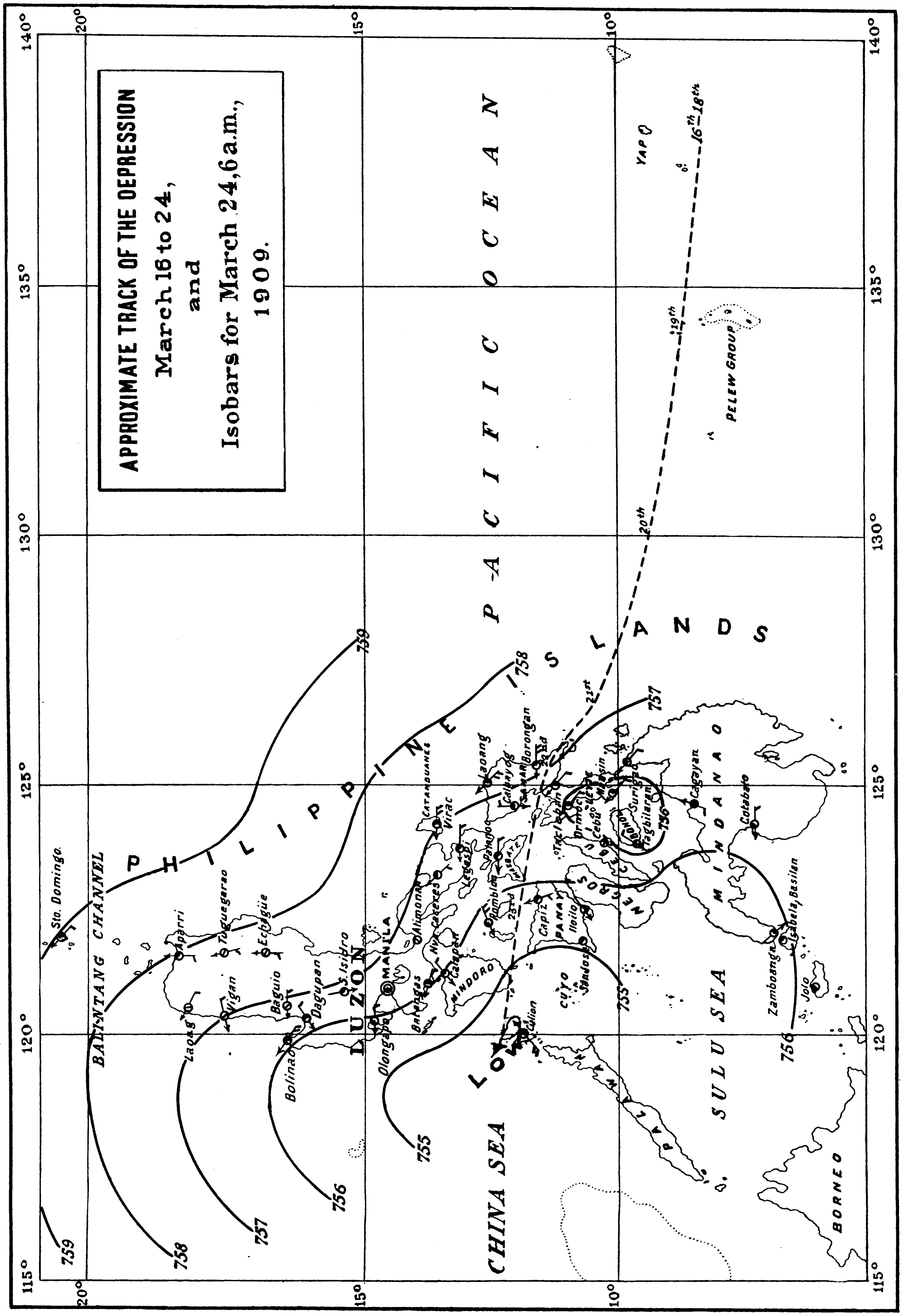
In Plates I and II our readers will see the distribution of isobars in the Philippines for 2 p. m. of the 20th, 6 a. m. of the 22d, 6 a. m. and 2 p. m. of the 23d, and 6 a. m of the 24th. In Plate II we include the approximate track of the depression from the time of its formation south of Yap on the 16th to 18th until it reached the China Sea in the early morning of the 24th.

Plate I.



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

Plate II.



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

The origin of this depression to the south of Yap, Western Carolines, is easily seen by examining the observations made there at the meteorological station of the Weather Bureau. We give some of these observations in the following table.

METEOROLOGICAL OBSERVATIONS MADE AT YAP, WESTERN CAROLINES, MARCH 16 TO 20, 1909.

Date and hour.	Pressure.	Wind.		Sea.	Weather.
		Direction.	Force.		
March 16:	*mm.*		*0-12.*		
2 p. m	754.6	NE	5	L from NE	o
4 p. m		NE	3		c
March 17:					
6 a. m	55.5	NE	4	L from NE	o
2 p. m	54.5	NE	5	H from NE	o
4 p. m		ENE	3		c
March 18:					
6 a. m	54.2	NE	6	H from NE	o
2 p. m	54.1	NE	5	H from NE	o
4 p. m		NE	4		o
March 19:					
6 a. m	55.2	NE	2	M from NE	o
2 p. m	55.2	NE	4	L from NE	o
4 p. m		ESE	4		o
March 20:					
6 a. m	58.2	E	3	M from E	c
4 p. m		E	3		b

The rising of the barometer on the 19th together with the gusty winds from the SE quadrant which were observed in the afternoon of the same day were a sign that the depression was moving away from the Carolines toward the Philippines.

The weather maps mentioned above show very clearly of how little importance was this depression, at least while crossing the Archipelago. We believe that in all probability it filled up entirely in the China Sea to the WSW or W of Manila in the evening of the 24th or the morning of the 25th.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes resulta para todas nuestras estaciones algo inferior á la media mensual de Marzo del año próximo pasado. La de Manila difiere de la normal de este mes en —0.83 milímetros. Salvas muy pocas excepciones, el día de mayor presión ha sido en todas partes el 27. Las presiones menores tuvieron lugar generalmente el 21, 22 ó 23, ó sea, durante la depresión de que hablaremos luego.

La temperatura media mensual difiere en general muy poco de la de Marzo, 1908. Sólo en las estaciones del SE y NE de Luzón llega la diferencia á 1° C. ó algo más, siendo esta diferencia positiva para este año. La máxima absoluta para Manila ha sido 34.5° C. y la mínima absoluta 17.7° C.; ésta fué registrada los días 1 y 9 y aquélla el día 31.

Precipitación acuosa.—La cantidad de agua recogida este mes en los pluviómetros del Observatorio supera á la normal de Marzo en 40.2 mm. pero es inferior al total de Marzo del año pasado en 5.4 milímetros.

Por lo que toca á las demás estaciones, sólo diremos que son casi iguales en número las que dan un total de lluvia menor que el de Marzo, 1908, y las que lo dan algo mayor.

DEPRESIONES Y TIFONES.

Solamente una depresión merece mencionarse este mes, la cual fué á la verdad de muy poca importancia para Filipinas.

Véanse á continuación los avisos de tifón que envió el Observatorio á los Jefes de los Servicios Meteorológicos de las costas de China é Indochina, Formosa y Japón:

Día 21, 5 p. m.: Tifón al E de las Visayas meridionales ó de la parte norte de Mindanao, moviéndose al W ó WNW.

Día 22, 10 a. m.: Tifón al E de las Islas Visayas inclinándose al N.

Día 23, 8.30 a. m.: El tifón cruza las Islas Visayas en la forma de una depresión dilatada.

En las Láminas I y II podrán ver nuestros lectores la distribución de las isobaras en Filipinas á 2 p. m. del 20, 6 a. m. del 22, 6 a. m. y 2 p. m. del 23 y 6 a. m. del 24, juntamente con la trayectoria aproximada de esta depresión desde que se formó al S de Yap del 16 al 18 hasta que llegó al Mar de China la madrugada del 24.

El origen de esta depresión al S de Yap, Carolinas Occidentales, se echará de ver fácilmente examinando las observaciones hechas en aquella estación meteorológica, las cuales incluímos en una tabla en el texto inglés. La subida del barómetro observada allí el día 19 y los vientos del 2.° cuadrante que comenzaron á soplar la tarde del mismo día indicaban que la depresión se alejaba ya de las Carolinas moviéndose en dirección á Filipinas.

Los mapas del tiempo arriba indicados muestran claramente la poca importancia que tenía esta depresión, al menos mientras atravesaba nuestro Archipiélago. Creemos además que con toda probabilidad acabó de deshacerse bien pronto en el Mar de China al WSW ó W de Manila durante la tarde del 24 ó mañana del 25.

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.	Air temperature.[2] Mean.	Maximum.	Minimum.	Underground temperature. 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	759.32	25.8	32.6	17.7	26.7	29.1	27.7	28.1	27	27.2	68.1	16.5	-------	3.9
2	59.84	26.5	33.4	20.1	27	29	27.8	28	27	27.1	70.9	17.9	-------	3.6
3	59.67	25.7	33.4	19.4	26.8	29.8	27.6	28.2	27.1	27.2	68.8	16.4	-------	4.6
4	59.75	25.8	33.2	19.1	26.7	30	27.9	28.2	27.1	27.2	67.7	16.4	-------	3.7
5	60.07	25.9	33.6	18.9	27	29.5	28	28.3	27.1	27.3	66.1	15.9	-------	4.8
6	60.34	26.2	34	20.1	27	30.3	28.1	28.8	27.2	27.3	65.2	15.9	-------	4.5
7	59.71	26.4	34.3	19.9	27.4	30.4	28.5	28.9	27.3	27.4	65.9	16.5	-------	4.3
8	58.96	25.8	34.4	18.5	27.5	30.7	28.5	29	27.2	27.5	64.1	15.3	-------	5.2
9	58.73	25.8	34.4	17.7	27	30.4	28.4	28.7	27.2	27.3	63	15.2	-------	4.7
10	58.71	26.1	34.1	18.5	27	30.6	28.4	29	27.2	27.3	64.2	15.8	-------	5.5
11	58.58	25.5	32.4	20	27.6	29.6	28.5	28.7	27.4	27.4	71	17	-------	3.5
12	58.16	26.1	32.4	18.8	26.9	30	28.1	28.7	27.4	27.4	69.7	17.3	-------	3.7
13	59.09	26.6	33.6	20.3	27.5	30.8	28.2	29	27.5	27.5	66.1	16.6	-------	4.8
14	60.67	24.9	31.4	19.9	27.2	29.2	28.3	28.7	27.5	27.5	68.1	15.7	-------	3.4
15	60.79	25	30.2	20.9	27	28.9	28.1	28.5	27.4	27.5	74	17.4	-------	2.2
16	59.96	25.9	32.4	20.4	26.5	30	27.9	28.5	27.5	27.6	77	18.9	-------	2.7
17	59.24	26.8	32.6	21.2	27	30.1	28	28.5	27.5	27.5	74.2	19.1	-------	3
18	59.71	24.7	29.7	21.4	27.2	29.1	28.1	28.5	27.5	27.5	83.6	19.3	-------	0.8
19	60.13	25.7	31.7	20.1	26.5	28.9	27.9	28.2	27.6	27.7	73.8	17.7	-------	3.9
20	59.95	26.1	31.1	20.5	26.8	28.3	27.9	28.3	27.5	27.6	71.1	17.6	-------	3.4
21	58.79	26.8	33.7	21.5	26.3	29	27.7	28.2	27.7	27.6	65.4	16.6	-------	6.4
22	58.81	26.5	31.2	23.5	27.1	28.6	27.8	28.1	27.6	27.6	68	17.4	-------	3.9
23	58.06	25	30.1	22.3	27	28.5	27.7	28	27.5	27.5	87.8	20.6	-------	1
24	58.29	27.1	33.5	22.5	27	29.9	27.9	28.4	27.6	27.6	77.7	20.3	-------	4
25	60.24	26.6	32.9	22.6	27.4	29.6	28	28.5	27.6	27.6	75.6	19.2	-------	3.8
26	61.39	26.8	33.4	21.5	27.5	29.9	28.1	28.8	27.7	27.7	70.8	18.1	-------	3.8
27	61.84	25.4	29.5	22.6	27.8	28.9	28.1	28.4	27.7	27.7	80.8	19.3	-------	2.3
28	61.47	25.9	31.8	22.5	27.7	28.7	28.2	28.4	27.7	27.7	82	20.3	-------	2.2
29	61	27	33.2	20.9	27	29.2	28	28.5	27.8	27.8	67.5	17.3	-------	4.4
30	60.31	27.1	33.6	20.6	27.1	29.8	28	28.6	27.7	27.7	67.2	17.6	-------	4
31	60.06	27.5	34.5	21.3	27.5	30.1	28.1	28.8	27.8	27.8	66.5	17.8	-------	4.2
Mean	759.73	26.1	32.7	20.5	27.1	29.6	28	28.5	27.4	27.5	71	17.5	-------	3.7
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	116.2
Departure from normal	—0.83	—0.6	+0.4	—0.9	-------	-------	-------	-------	-------	-------	—0.8	—0.8	-------	-------

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.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	Km.		0–10.					h. m.	mm.	
1	SE	199	19	W	4.2	Ci.		Cu.	E	9 40	-------	Ω ≡ a.
2	W	198.5	15.5	W	3.8	-------		Cu.	E	9 20	-------	≡ a.
3	SE	196.5	26.5	SE	1.2	Ci.-S.		Cu.	E	10 30	-------	Ω ≡ a. ↯° p.
4	ESE	200.5	16	SE by S	6.4	Ci.	SW	Cu.	E, SE	8 45	-------	≡° a. ↯° p.
5	E	197.5	27.5	E	4.8	Ci.	WSW	Cu.	E	10 25	-------	Ω $\equiv^2$ a. ↯° p.
6	ESE	173.5	17	SE by S	3.5	Ci.		Cu.	ESE	9 00	-------	≡ a.
7	SE	232.5	26	SSE	5	Ci.	SW	Cu.	E	9 05	-------	Ω ≡ a. ↯° p.
8	SE	242	24	SE	2.3	Ci.		Cu.	E	10 55	-------	≡° a. ↯° p.
9	SE	194.5	18.5	ESE	3.1	Ci.		Cu.	E	10 30	-------	≡° a. ↯° p.
10	ESE	233	26	SE	3.4	Ci.	SSW	Cu.		9 40	-------	≡° a. ↯° p.
11	Variable	140	15	NE	6.8	Ci.-S.		N.-cf.	E	3 30	-------	Ω ≡ a.
12	W	208.5	18	W	7.1	Ci.-S.		Cu.	NE, E	9 15	-------	Ω ≡ a.
13	E	206.5	20	NW	7	Ci.	ESE	Cu.	E	6 00	-------	Ω $\equiv^2$ a.
14	NNE, NE	143	20.5	N	8.2	Ci.-S.	SE	S.-Cu.	NE	2 10	-------	≡ a.
15	N	138	18.5	N	9.4	Ci.-S.		S.-Cu.	ESE	0 55	6.7	≡ ↯° ● a. d p.
16	W, E	137.5	17	NW	7.2	Ci.		Cu.	E	6 45	2.8	≡° a. ● p.
17	W	134.5	16.5	W	4.8	Ci.		Cu.	E	8 15	-------	≡° a.
18	Variable	75.5	13.5	NW	8.8	Ci.-S.		Cu.	E	2 15	19.8	≡° a. ● p.
19	NE	108.5	17	NE	5.3	Ci.		Cu.	ENE	8 55	-------	≡° d a.
20	NE	154	19.5	NE	6.6	Ci.	S	Cu.	E	4 00	-------	≡ a.
21	NE	309.5	36.5	NE by E	6.9	Ci.-S.	SE	Cu.	NE	6 30	-------	Ω ≡ a. ↯° p. ◯
22	NNE	372	32	ENE	9.9	Ci.-S.		Cu.	NE	1 05	.8	≡° a. ●° p. ↯°
23	NNE	183	21	N by W	9.8	A.-Cu.	NE by E	N.	ENE	2 05	5.4	≡ a. ⌒^{2} ● a. p.
24	ESE	256	23	E	8.8	A.-Cu.	SE	Cu.	ESE	7 05	5.8	⌒ a. ● a. p.
25	ESE	258.5	25	ESE	6.8	Ci.-S.		Cu.	E by N	9 20	11.3	● a. ↯° d° ⏑ p.
26	NE	194	18	ENE	4.3	Ci.		Cu.	E	7 30	-------	≡° a.
27	E	209	20	E	9.7	Ci.-S.	ENE	Fr.-N.	E	0 45	4	● ≡° ⌒ a. ⫟ p.
28	E	187	16.5	WNW	6.8	A.-Cu.	E	Cu.	ENE	-------	2.7	≡ a. ● p.
29	E, ESE	247	22	SE	2.9	Ci		Cu.	E	11 10?	-------	
30	ESE	258	26.5	SE	2.8	Ci.		Cu.	E	10 05	-------	Ω ≡° a. ↯° ϟ p.
31	SE	238	19	SE by S	2.5	A.-Cu.	NE	Cu.	E	10 25	-------	≡° a. ↯° ϟ p.
Mean	-------	200.8	21.0	-------	5.8	-------		-------		7 12	-------	
Total	-------	-------	-------	-------	-------	-------		-------		-------	59.3	
Departure from normal	-------	—27	-------	-------	+1.5	-------		-------		-------	+40.2	

[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.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	26.9	32.6	21.5	69	NNE	1.7	6.5	Ci.-S.	Cu. E, NE	------	
2	58.65	26.9	30.5	22.5	73.9	Variable	1.8	6.5	Ci.-S.	Cu. NE	------	
3	58.60	26.8	32.5	21.8	66.7	Variable	1.3	6.3	Ci.-S. SE	Cu. E	------	
4	58.55	27.2	32.5	22.3	71.8	NNE	1.5	7.8	Ci.-S.	Variable NE	0.6	d p.
5	59.11	26.9	31.2	21.8	71.8	NNE, SE	1.3	4.7	Ci.-S. SE	Cu.-N. E	------	
6	59.50	26.9	30.7	23.5	73.5	NNE	1.5	6.5	Ci.-S.	Variable	8.9	● a.
7	58.89	27.1	32.6	21.7	73	SE, NNE	1.7	7.2	Ci.-S. SE	Variable NE	------	
8	58.09	26.8	31	22.2	72.5	NNE	1.7	6.2	Ci.-S. SE	Cu.-N. E, NE	------	
9	57.87	27.2	32.1	21.5	68.3	Variable	2	5.8	Ci.-S.	S.-Cu., Cu. E, NE	------	
10	57.57	27.7	32	22.8	68.7	SE	1.5	6.7	Ci.-S.	Variable E	------	
11	57.26	26.9	31.4	22.1	69.2	NNE	1,5	9.7	Ci.-S., A.-S.	Cu.-N. NE	.2	
12	57.21	25.8	30	22.2	80.2	NNE	1.5	8	Ci.-S.	Cu.-N. E	8.7	d a ● p.
13	58.03	25.9	31.3	21.5	75.5	NNE, SE	1.5	6.8	Ci.-S.	Cu.-N. NE	------	⚡° p.
14	58.82	26.2	30.8	22.3	78.3	NNE	2	9.8	A.-S.	Cu.-N E	.2	d° p.
15	59.04	26.1	30.5	23.4	81.1	N, NNE	1.7	9.2	Ci.-S.	Variable E	3.3	● p.
16	58.89	25.3	28.7	23	85.5	Variable	1.3	9.3	Ci.-S.	S.-Cu. E	6.1	● a. ●° p.
17	58.25	26.4	31.7	22.4	80	NNE, SE	1.3	8.2	Variable	Cu.-N. NE	.4	● p.
18	58.07	26.9	31.2	22.8	76	NNE	2	4.7	Ci.-S.	Cu.-N. NE	------	
19	58.42	26.3	31.5	22.5	77.2	NNE	1.7	4.8	Ci.-S. E	Cu. NE	1.5	●° p.
20	58.04	25.8	29.7	22.7	79.5	NNE	1.8	7.5	A.-S., Ci.-S.	Cu.-N. NE, NNW	------	d° p.
21	56.52	27.4	32.4	23.9	75.2	NW quad.	3.2	9.2	Ci.-S.	Cu.-N. NNW	------	
22	56.60	27.3	32.8	24.5	76.3	WNW	2.3	8	Ci.-S.	Cu.-N. NNW	------	
23	56.74	26.6	------	24	84	SE	2.7	10	A.-S.	Cu.-N. SSW, S	5	●° a. ●<° p.
24	57.58	27	31.5	22.9	82.5	NNE, NNW	1.2	9.5	Ci.-S.	Cu.-N. ESE	.2	< p.
25	59.12	26.8	31.9	23.4	78.8	WNW, NNE	1.3	7.5	Ci.-S.	Cu.-N. ESE, E	.8	●° a. ● p.
26	59.68	27.3	32	22.4	75.2	N, SE	1.8	4.7	Ci.-S. SSE	Cu.-N. E	------	
27	60.27	27	31.2	23.4	73.6	NEquadrant	2	5.8	Ci.-S.	Cu. E, NE	2.7	d° a. ● p.
28	60.17	26.6	31.7	22.2	75.6	SE, NNE	1.8	5.7	Ci.-S.	Cu. E	.8	●° a.
29	59.94	26.6	30.1	23.8	80.2	NNW, SE	1.8	8.7	A.-S.	Cu.-N. E	27.2	●° a. ⚡●² p.
30	59.42	27	30.8	22.8	75.3	SE	1.8	5.5	Ci.-S.	Cu.-N. E	------	
31	59.19	26.6	31	21	74.8	NNE, SE	1.8	3.3	Ci.-S.	Cu. E	------	
Mean	758.46	26.7	31.3	22.6	75.6	------	1.7	7.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	66.6	

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).	Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.47	26.9	30.2	22.9	79	NE, E	1.8	6.3	Ci.-S.	Cu., Fr.-Cu. E	------	Ω° a.
2	58.97	26.7	30.8	23	80.8	E	1.2	5.5	Ci.-S.	N.-cf. NE, E	------	Ω ≡ a.
3	59.22	26	29.9	22.5	81.5	NE, SE	1.8	7	Ci.-S.	Cu. E, NE	1	≡° a. Ω a. p.
4	59	26.1	30.1	23.5	86.1	E quad.	1.3	6.5	Variable	Cu. E	15	Ω° ⚡°●a. ⚡● dp.
5	59.74	26.2	29.9	22.3	83.3	Variable	2	7.2	A.-Cu.	Fr.-Cu. E	.8	d ≡ a. ⚡° p.
6	59.76	26.4	29.3	22.5	83.7	NE	2.2	5.8	A.-Cu., Ci.	Cu. NE	1	●° ⚡° a.
7	59.18	26.1	29.7	21	84.5	NE	1.5	4.5	Ci. NE	Cu. E	------	Ω² a.
8	58.46	26.8	30.4	23	80.5	NE quad.	2.3	5.7	Ci.-S.	Cu. E	------	Ω a. p.
9	58.25	25.8	30.8	21.9	85.4	NNE	1.5	5.7	Ci.-S. NE	Cu. E	8.4	Ω² ●° a. Ω p.
10	58.10	25.7	29.2	22.5	85	NE quad.	1	8.7	Ci.-S.	Cu. E, ENE	8.4	⚡ ● ≡ a. ⚡ ●° p.
11	57.59	25.6	30	23	86.7	Variable	.8	9	Ci.-S. E	Fr.-N., Cu. ENE, NE	1.5	≡ a. ●° a. p.
12	57.40	24.9	29.4	21.9	89	Variable	1.2	7.5	Ci., Ci.-S.	Fr.-N. E, NE	9.4	Ω² ⏁ ≡ ● a. Ω p.
13	------	------	------	------	------	------	------	------	------	------	------	
14	58.96	25.9	28.5	22.3	86.2	NE quad.	.5	8.3	Ci.-S., A.-Cu.	N.-cf. E	1.8	Ω°≡●° a. ∞Ω p
15	59.42	23.9	26.1	22	91.5	SSE	.5	9.5	------	Fr.-N. E	17.3	≡ ●² a. d° p.
16	58.97	24.9	29.1	22	90.8	SSE	.2	9.2	A.-Cu. E	N.-cf. NE	1.3	d a. ∞ Ω p.
17	58.76	25.7	29.9	22.6	86	Variable	1.2	8.7	A.-Cu. E	S.-Cu., N.-cf. NE	------	d° ≡ a. Ω p.
18	58.65	26.1	30.8	22.1	82.6	NE	1.3	6.5	A.-Cu. E	Cu. NE	------	Ω ≡° a. d° p.
19	58.73	26.1	30.5	23.1	86.5	NE	1.3	6.3	Ci.-S. N	Cu. E	9.9	Ω ≡° a. ●° a. p.
20	57.77	24.4	26.1	22.1	91.2	WNW	2.2	9.8	------	N., Fr.-N. NW	37.3	● a. p. ⚡ p.
21	56.02	25.8	28.5	23.3	85.7	W, WSW	2.3	9.5	Ci.-S. N, NNW	Fr.-N. W, NW	.8	⚡ d a. < p.
22	56.46	26.5	31.1	24	86.8	SW quad.	1.2	9	Ci.-S. W	N.-cf. SW	------	Ω a. p.
23	57.10	25.8	29	23.9	90.1	ESE	1.7	9	Ci.-S.	Fr.-N., N.-cf. NE	1.8	Ω < a. ●° < p.
24	58.23	26.8	30.5	23.7	85	ESE	1.5	7.7	Ci.-S. SE	Cu., N.-cf. E	------	Ω a. p. ∞ p.
25	59.69	26.3	29.8	23	87.5	NE	1.2	5.5	Ci.-S. SE	Cu., Fr.-Cu. E	4.6	Ω a. p. ∞ ●° p.
26	60.39	26.2	29.6	23.3	87.2	ENE	1.2	5.5	Ci. NE	Cu. E	1.5	Ω a. d° p.
27	60.66	26.8	30	23.7	82.5	ENE	1.5	5.8	Ci. NW	Cu., Fr. N. E	10.7	●° a. Ω p.
28	60.51	26.4	30	22.9	85	ENE	1.3	6	Ci.-S.	N.-cf., Cu. E	1.3	● a. ⚡●° Ω p.
29	60.37	26.4	30	23.6	86.5	ENE	2	7.5	Ci. SE	N.-cf., Cu. E	3.3	⚡ ●° a. d p.
30	60.06	26.6	30.4	23	83	NE quad.	1.8	4.7	Ci. NE	Cu. E	------	Ω² d° a. Ω p.
31	59.79	26	30.5	21.7	85	NE quad.	.8	3.8		Cu. E	10.4	Ω² a. ●° p.
Mean	758.82	26	29.7	22.7	85.5	------	1.4	7.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	147.5	

[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).[1]	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	758.75	26.6	29.8	20.2	80.2	NE, E	10.9	5	Ci.	Cu. ENE	0.2	Ω ☈ a.
2	59.23	26.9	30.5	20.5	82.7	NE, E	9.5	5.8	Ci.-S., Ci.	Cu. NE	------	≡ Ω² d ☈ a.
3	59.34	26.7	30	20.1	80.2	ENE	12.5	4	Ci.-S.	Cu.	------	≡ Ω² a.
4	59.24	27.2	30.5	22.9	79.2	E	10.6	5.2	Ci.	Cu. E, ENE	------	≡ a. ☈ p.
5	59.83	26.4	30.4	20.2	79.3	E	11.9	5	Ci.	Cu. NE, E	------	≡ Ω a.
6	59.68	27.1	30	20.2	76.3	NE	10.5	7	Ci.-S., A.-Cu.	Cu. NE	------	≡ ☈ a.
7	59.37	27.5	30	22.6	81.3	E	10.5	5	Ci.	Cu. ENE	------	Ω ≡ a. ☈ p.
8	58.95	26.6	29.5	22.9	80	E	9.8	6	Ci.	Cu. E	.5	≡ ☈ p a.
9	58.66	27	29.8	20	79.2	E	10.3	5	Ci., Ci.-S.	Cu. NE, ENE	2.8	≡° Ω a.
10	58.32	26.9	30.5	22.9	81.8	E	8.7	6	Ci. NE	Cu. ENE	------	⋓ d a. ☈ a. p.
11	57.92	26.3	29.4	20.9	80.8	E	9.3	6.5	Ci.-S.	Cu. ENE	2	Ω² ≡ a.
12	57.60	25.7	29.7	21.8	79.2	ENE	10.5	6	Ci.	Cu. E	------	Ω ●° ☈ a.
13	58.47	26.3	30	22	75.5	ENE	10.3	6	Ci.-S.	S.-Cu.	2.8	Ω ≡ a. ↙° ●° p.
14	59.06	26.2	30	22.3	76.5	N, ENE	11.7	6.8	Ci.	Cu. NE	------	Ω ≡ a. ☈ p.
15	59.50	26.3	29.7	23.5	75.2	E, NE	8.4	7.5	Ci.-S. E	S.-Cu. NE	------	Ω ≡ a.
16	59.17	25.2	29	22.9	80.7	NE	4.3	8	Ci.-S.	N. NE	8.6	Ω ≡ ● a. ● ∞ p.
17	58.59	26.1	30.1	21.4	75.8	E	11	6.5	Ci.-S.	Cu. NE	------	Ω ≡ a. ☈° p.
18	58.58	26.9	30.2	23.1	72.2	NE quad.	11.9	3	Ci.	Cu. NE, ENE	.5	Ω ≡ a. ☈ d p.
19	58.81	26.8	30.2	22.9	72	E	9.2	6.2	Ci., Ci.-S.	S.-Cu. ENE	------	Ω d a.
20	58.35	25	28.1	21.5	78.8	N, SE	4.9	8	A.-Cu. E	N. NE	1	Ω ≡ a. d p.
21	56.74	26.2	28.8	23.8	77.5	Variable	6.3	8	Ci.-S.	Cu.-N. N	6.1	d a.
22	56.65	26.4	30	23.1	83.3	S	5	8.2	Ci., Ci.-S.	Cu.-N. N, NW	11.4	● a. ☈ ● ↙° p.
23	56.96	25.2	29	23.5	90.1	SSW	5	9	Ci.-S.	Cu.-N. W, S	13.2	Ω a. ● ↙ ☈ p.
24	58.31	26.7	29.5	23.8	81.2	NE quad.	7.5	7.2	Ci.-S.	Cu. ESE, E	------	●° a. ↯ p. ◯
25	59.57	27.1	30.2	24	76	NE quad.	10.5	4.8	Ci.	Cu. ENE	------	Ω a. ☈ ↯ p.
26	60.42	26.9	29	23	75.8	E	11.6	4.5	Ci.	Cu. ENE	------	Ω ≡ a. ☈ d p.
27	60.78	26.4	29.8	24.1	77	NE, E	11	4.8	Ci.	Cu. ENE	.5	Ω p a.
28	60.74	26.8	29.5	23.4	76.8	ENE	14.4	4.5	Ci.	S.-Cu. ENE	------	Ω ≡ a.
29	60.43	27	30.1	23.9	74.3	NE quad.	10.6	4.5	Ci.	Cu. ENE	------	Ω ≡ a. ☈ p.
30	60.10	27.2	30.2	23.9	72.7	NE quad.	13.2	3	Ci.	Cu. ENE	------	Ω ≡ a.
31	59.84	26.8	30.1	22.3	72.3	NE quad.	10.7	2.5	Ci.	Cu. ENE	5.3	≡ a.
Mean	758.97	26.5	29.8	22.4	78.2	------------	9.8	5.8	------------	------------	------	
Total	--------	------	------	------	------	------------	------------	------------	------------	------------	54.9	

ILOILO.

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

Day.	Pressure (mean).	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).[1]	Clouds. Upper.	Clouds. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	758.43	26.8	31	23	72.5	ENE	16.8	5.7	Ci.-S.	Cu. NE	3.6	Ω a.
2	59.04	26.5	31.4	23	77.7	ENE, NE	15.7	5	Ci.	S.-Cu., Cu. ENE, NE	------	● ⌒ a.
3	58.87	26.8	31.8	23.4	71.2	ENE	16.2	8.3	Ci.-S.	Cu.	------	⋓ a.
4	58.96	26.9	31.5	23	70.2	ENE, N	14.9	4.7	Ci.	Cu.	------	Ω° a.
5	59.56	26.8	31.6	23.4	71.5	ENE	16.7	6.8	A.-Cu. E	S.-Cu. N	------	Ω° a.
6	59.57	27.3	32.4	23.7	69.3	ENE	14.6	4.3	Ci.	Cu.	------	
7	59.09	27.2	32.5	23.5	69.2	ENE, NNE	14.2	5	Ci.	Cu.	.2	∞ p.
8	58.38	26.7	31.7	22.4	74.6	ENE	15.5	6.7	Ci.	S.-Cu. ENE	.5	●° a.
9	58.30	26.8	32.1	22.9	70.5	ENE, N	13.1	6.8	Ci.-S.	Cu.	------	
10	58.04	27.3	32.5	23.6	71.7	ENE	16.4	7.7	Ci.-S.	Cu.	------	⋓ p.
11	57.82	26.3	30.5	23.5	73	NE	13.1	8.3	Ci.-S.	Cu.	------	d² a.
12	57.48	26.9	31.2	23.3	71	NNE	12.3	8	Ci.-S.	S.-Cu., Fr.-N. NE	------	Ω a.
13	58.37	26.6	31.7	23	73.1	ENE	14	7.2	Ci.-S.	Cu. NE	.2	d° ●° a.
14	59.36	26	32.1	23.2	77.9	NE quad.	16.7	8.7	A.-Cu.	Fr.-N. NE	.2	◯ d° a. ●° p.
15	59.36	26.9	31.8	23	74.2	NE quad.	14.6	8.2	A.-Cu.	S.-Cu.	------	Ω² a,
16	59.16	26.1	30	23.5	77.2	ENE, N	12.1	8	A.-Cu.	S.-Cu.	------	d ⊕ p.
17	58.62	27	32	23	75.7	NE	12.4	7.8	Ci.-S.	Cu.	1	Ω° a. ●° p.
18	58.56	27.3	32.1	23.1	70.8	NE quad.	16	4.5	Ci.	S.-cf. NE	------	
19	58.84	26.9	32.3	23.5	76.8	NE quad.	15.1	6.3	A.-Cu. ENE	Fr.-N. NE	1.3	d ●° a. p.
20	58.75	25.2	30.7	23	86.2	NE quad.	12.7	7.7	A.-Cu., Ci.-Cu.	N. NE	3.5	d° a. ● ↙° p.
21	57.46	25.9	30.3	22.6	78.6	NE	11.8	8.8	A.-Cu.	N. NE	12.2	●° a. ● ↙° p.
22	57.13	26.1	31.1	22.8	84.8	N	8.2	8	Ci.	S.-cf. NNE	2.5	● a. p.
23	56.78	25.2	27	24	91.3	ESE	4.6	9.8	A.-S.	N. SW	16.4	● a. p. ≡° a. ⊕ p.
24	57.84	26.9	32.9	23.5	82.3	NE	----------	8.5	A.-Cu. ESE	Fr.-N. ESE, S	------	↯ p.
25	59.42	27.2	31.6	23.5	77.7	N, E	12.5	7	Ci.-S.	S.-Cu.	------	
26	60.15	27.2	32.1	24.3	78.1	ENE	15.2	6.5	Ci.	S.-Cu. ENE	------	Ω° a. d° a. p.
27	60.54	27.5	32	23.9	70.8	ENE, N	16.9	3	Ci.	Cu.	------	d ⌒² a.
28	60.35	27.3	32	23.8	72.3	ENE, N	15.4	4.7	Ci.	Cu.	------	
29	60.16	27.5	32.3	23.5	73	N, ENE	15.3	6	Ci.	Cu. NE	------	d° p.
30	59.77	27.7	32.9	23.9	67	NE	13.9	3	Ci.	Cu.	------	
31	59.46	27.4	32.5	23.3	67.8	NE quad.	12.5	2.5	Ci.	S.-Cu. ENE	------	
Mean	758.83	26.8	31.6	23.3	74.8	------------	14	6.6	------------	------------	------	
Total	--------	------	------	------	------	------------	------------	------------	------------	------------	41.6	

[1]From four observations only.

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	758.72	26.2	32.5	19.6	70.2	ENE, NE	6.4	3.7	Ci.	Cu. E, ENE	------	d a.
2	59.15	25.2	30.5	21.6	81.7	Variable	5.4	5	Ci., Ci.-S.	Cu. E	3.6	d a. ● a. p.
3	59.19	26.5	32.4	21	67	ENE	6.6	3.5	Ci. SE	Cu. E	------	ϖ p.
4	59.19	25	30.4	19.2	72.3	E	7.2	5.7	Ci.	Cu. E, ENE	------	⌓ a. d p.
5	59.83	26.6	32.6	21.1	68.8	NE, ENE	6.9	5.2	A.-Cu.	Cu. E, ENE	------	d p.
6	59.79	26.6	32.2	23	66.6	ENE	6	2.7	Ci.	Cu. E	------	
7	59.17	25.5	31	19	73.8	NNE	6.6	3.7	Ci.	Cu. E	------	
8	58.50	24.7	30.3	20.6	82.6	N	5.8	5.3	Ci.	Cu. E	18.5	● p.
9	58.37	25.5	31	20.1	73.7	Variable	7.1	5.3	Ci.	Cu. E	------	⌓ a.
10	58.09	25.8	30.9	21.7	77.7	Variable	7.3	6	Ci. SE	Cu. E	------	●° ↯ p.
11	57.75	25.1	30.8	20	76.9	Variable	4.9	9.2	Ci.-S.	Cu. E	1.5	● p.
12	57.40	25.3	30.5	20.2	77	Variable	7	5.7	Ci. SE	Cu. ENE	------	
13	58.32	24.6	31.2	19.8	79.3	Variable	5.8?	8.2	Ci.-S.	Cu. ENE	2.8	⌓ a. ● p.
14	59.10	24.2	28.5	20.5	87.8	N	4.5	9.5	Ci.-S.	Cu. NE, E	.8	⊍ a. [↯° ● p.
15	59.31	25.6	30.7	21.8	76.8	Variable	4.6	8.3	Ci.-S.	Cu. E, ENE	2.8	● a.
16	58.98	25	29.7	22.4	84.7	SSE	5.5	8.8	Ci.-S.	Cu. E, ENE	2.8	● a. d p.
17	58.74	24	30	20.8	87.7	NW, SSE	4.6	7.2	Ci.-S.	Cu. NNW	5.6	⌓° a. ● p
18	58.68	25.2	31.2	20.3	75.5	Variable	6.5	4	Ci.	Cu. NE, ENE	------	⌓ a.
19	58.83	25.2	29.3	22.3	83.1	S	4.5	5.5	A.-Cu. SE	Cu. E, ENE	2.8	⌓° ● a. ⊤ ● ↯ p.
20	58.21	23.9	25.2	21	93.5	N, NNW	3.9	9	Ci.-S.	Cu.-N. ENE	13	⌓ a. ●° ≡ a. p.
21	56.38	25.1	29.5	22.3	86	NNW	6.6	8.3	Ci.-S.	Cu.	------	d a. p.
22	56.08	25.5	29	23	88	NNW, WNW	4.4	8.8	Ci.-S.	Cu. NW	20.3	● a. p.
23	56.98	25.3	27.7	23.7	91.1	S	7.2	9.3	Ci.-S.	Cu.	17	● a. p. ⊤ ↯ p.
24	58.01	26.3	30.7	22.6	78.2	SE	9.1	8.2	Ci.-S.	Cu. ESE	------	● a. ↯ p.
25	59.64	25.2	31.4	20.2	80.7	SE	5.8	4.5	Ci ESE	Cu. ESE	------	↯ ⌓ a.
26	60.48	25.6	30	22.6	82.7	S	5.1	5.2	Variable	Cu. E	1	⌓ d a. ● p.
27	60.72	26.1	32.2	22.5	70.6	Variable	7.9	3.2	A.-Cu. E	Cu. E	------	
28	60.58	25.4	32	20.8	79.9	NE, N	7.6	3.8	Ci.	Cu. E	2.5	⌓ a. ● ϖ p.
29	60.42	26	31.2	21.7	77.8	Variable	5.8	6.7	Ci. SE	Cu. E	------	● a.
30	60.07	25.7	32.	19.6	73.5	Variable	6.2	1.8	Ci.	Cu. E	------	⌓ a.
31	59.72	26.1	32.7	19.4	72	Variable	6.6	1.8	Ci.	Cu. E	------	⌓ a.
Mean	758.85	25.4	30.6	21.1	78.6	------------	6.1	5.9	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	95	

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.	Per ct.		0-12.	0-10.			mm.	
1	759.20	26.7	32	23	76	NE, SSE	0.8	6.7	Ci.	Cu.-N. ESE	5.6	● a.
2	59.71	26.7	32	23.4	80.2	Variable	1	7	A.-S., Ci.	Cu. E by N	1.3	● a.
3	59.74	26.8	32.7	22.2	75.2	ESE	.7	6	Ci. SW	Cu. ENE	------	⌓² a. ϖ² p.
4	59.71	26.2	32.5	22.3	80.2	NW	.5	6.5	Ci.-S. SSW	S.-Cu.	1	ϖ² a.
5	60.39	26.6	32	23.1	75.5	Variable	1.3	5.3	Ci.-S., Ci.	Cu. E	------	● a. ↙° p.
6	60.36	27	32.7	22.7	73.3	E quad.	.7	3.2	Ci.	Cu. E	------	ϖ² p.
7	59.54	26.7	33.2	22.5	73	NW, E	.8	5.7	Ci.-S. W	Cu. E	------	ϖ² ⌓² a.
8	59.07	25.6	32.1	23.3	81.7	NE quad.	1	6.5	Ci.-S.	S.-Cu. ENE	4.8	ϖ² ● a. ↙° d p.
9	58.78	26.4	32.2	22.1	75.6	N, ESE	.8	7.5	Ci. SSW	Cu. ENE	1	● ◯° a.
10	58.67	26	33.2	23	80.5	NNW	1	6	Ci., Ci.-S.	S.-Cu. ENE	------	ϖ² p.
11	58.06	26.8	32.3	22.3	75.8	N	.7	7	Ci. W	S.-Cu.	3.8	ϖ² ◯² a.
12	58.01	26.3	32.3	22.7	79.2	E	.5	7.5	Ci. W	Cu. ENE	------	● ⌒ ◯² a.
13	58.97	25.4	33	22.8	82.1	NW	.7	6.7	Ci.-S.	S.-Cu., Cu.-N. E	7.8	● p.
14	59.45	25.7	30.2	22.5	85.3	WNW, NNW	.8	8.2	Ci.-S.	Cu.-N. ENE	2.5	● a. d p.
15	59.83	26.1	30.5	23.4	80.7	Variable	.7	7.5	Ci.-S. SW	Cu.-N. ENE	14.5	
16	59.38	26.6	32	23.3	77.8	SSE	.8	8.2	A.-Cu. E	N., Cu. E	.5	● a. d p.
17	59.18	26	29.6	23.3	82.7	NNW	1	6.7	Ci.-S., A.-S.	Cu.-N. ENE	.5	d a.
18	59.09	26.8	32.2	23.2	75.3	NNW	1	6	Ci.-S., Ci.	Cu. NE	4.3	d a.
19	59.41	25.8	30	23.3	88.4	Variable	.7	6.5	Ci.-S. WSW	Cu.-N. NE	15.5	● a. p.
20	58.43	24.9	26.2	23.3	87.5	NW, NNE	1.2	9.5	------------	N. NE	27	●² a. p.
21	56.54	25.6	28.2	23.6	84.3	N	1.9	9.3	Ci.	Cu.-N. NE	------	
22	56.16	26.2	30.5	24	85.7	NNW	1.3	9.2	Ci. SSE	Cu.-N. N, NNW	4.3	◯² d [↯° p.
23	57.46	25.4	28	24.1	90.8	SSE	1.2	9.5	------------	N. S, SE	16.5	● ↯° a. ⊤° ● p.
24	58.76	27.1	30.5	24	78.2	SE	1	7	Ci. SW	Cu.-N. SE	5.6	◯² ● a. d p.
25	60.19	26.5	31.5	23	80	SSE	1	6	Ci.-S. SSW	S.-Cu. E	1	
26	61.08	26.2	30.2	23.6	82.2	ESE, E	.7	5.8	Ci.-S. SSW	N. SE	.5	● a. d p.
27	61.36	27.2	32.1	23.2	72.2	ESE	.7	5.8	Ci.	Cu. ESE	------	
28	61.21	26.8	32.2	23	76.7	E	1.2	4.8	Ci.-S.	Cu. E	5.3	● p.
29	60.92	26.8	31.8	23.8	77.8	E quad.	.7	4.5	Ci.-S.	Cu. E	8.4	● a.
30	60.62	26.6	32.2	22.6	75.9	ESE	.5	2.5	Ci.	Cu. E	1	⌓ a. ● p.
31	60.23	26.9	33.3	22.6	75.8	E	1	2.8	Ci.	Cu. E	------	⌓² a.
Mean	759.34	26.3	31.4	23.1	79.4	------------	.9	6.5	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	132.7	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.25	26.8	30.6	------	82.8	NE quad.	1	4.2	Ci.-S. E	S.-Cu. E	------	Ω° a.
2	59.67	26.9	29.3	------	83.5	E, ENE	.7	6.3	Ci.-S. SE	Cu.-N. NE	------	d° p.
3	59.58	27	30.6	------	85.5	NE quad.	.7	4.7	Ci.-S. ESE	S.-Cu., Cu.-N. E	------	
4	59.57	26.4	30.4	------	84.1	NE quad.	.5	2.3	Ci.-Cu. E	S.-Cu. ENE	------	Ω a. ⌽² p.
5	59.97	26.8	30.4	------	84.7	NE, E	.8	4.7	Ci.	Cu. NE, E	------	d° ⌽° ⊍° p.
6	60.12	26.8	31	------	86.8	NE, ENE	.3	3.5	Ci. SE	Cu. E	------	⌽² p.
7	59.57	26.9	30.9	------	85.2	SE	.3	2.5	Ci.	S.-Cu.	------	
8	59	27.2	30.2	------	84.5	E quad.	.5	8	Ci.-S.	Cu.-N. NE	0.8	⌒° d° p.
9	58.71	26.6	30.3	------	84.3	NE	.5	5.7	Ci.-S. E	Cu.-N. NE	------	
10	58.61	27.1	30.2	------	84.7	NE	.5	6.7	Ci.-S.	Cu.-N. NE	------	
11	58.35	26.1	29.9	------	86.2	NE	.3	9	Ci.-S. E	N. NE	------	⊍° ⌽° a.
12	57.95	26.6	29.7	------	84.8	NE	.7	7.7	Ci.-S. E	Cu.-N. NE	------	⊍° ⌽° a.
13	58.87	26.6	29.4	------	84.2	NE	.7	7.2	Ci.-S. NE	Cu.-N. E	.5	⊤° a. ●° p.
14	59.93	26.4	29.4	------	84.5	NE quad.	.7	8.8	Ci.-S.	Cu.-N. NE	10.4	d° a. ● p.
15	60.02	26.1	29.2	------	90.2	Variable	.8	9.5	Ci.-S.	Cu.-N. NE	------	d° a. p.
16	59.38	26.1	29.7	------	86.3	NE	.8	9.2	Ci.-S. NE	Cu.-N. NE	------	
17	59.13	26.5	29.2	------	87.8	NE quad.	.5	6.2	Ci.-S.	Cu.-N. NE	------	
18	59.18	26.9	30.2	------	87.8	NE	.7	5.7	Ci.-S.	S.-Cu.	------	Ω° a.
19	59.62	26.9	29.3	------	86.5	NE	.8	7.7	Ci.-S.	Cu.-N. NE, E	------	⋖° ⊤°
20	59.23	25.2	28	------	90	NE, N	.3	8.8	Ci.-S.	Cu.-N. E	6.4	●° a. d° p.
21	57.91	26.1	28.3	------	85.3	NE. NW	1.5	10	Ci.-S. ESE	N. NE	------	● a. p° p.
22	57.31	26.8	29.4	------	86.3	NW quad.	1.2	9.3	Ci.-S.	N. N, NW	18.5	●² p.
23	56.57	25.1	25.8	------	95.5	Variable	.7	10	------	N.	20.3	● ⌈⋖ a. ●² p.
24	57.94	27.3	30.4	------	87.5	E quad.	.5	7.7	Ci.-S.	Cu.-N. SE	4.8	● a. ⋖° p.
25	60.04	26.8	30.2	------	88	NE, E	.7	7	Ci.-S.	Cu.-N. SE, E	------	
26	60.79	26.8	29.9	------	89.2	NE quad.	.7	7.3	Ci. S	Cu. E, N	6.9	● p.
27	61.16	27.1	30.4	------	85.8	NE	.5	5.8	Ci.	Cu.-N., Cu. E	------	
28	60.89	27	30.7	------	86.8	NE	.5	4.8	Ci.-S.	S.-Cu., Cu. E	------	d° p.
29	60.84	27.5	30.5	------	85.3	E, NE	1	5.8	Ci.-S.	S.-Cu. E	------	
30	60.52	27.8	30.8	------	84	E quad.	.7	4.8	Ci.-S.	Cu. E	------	
31	60.19	27.5	30.4	------	83.8	NE	.5	3.2	Ci.-S. W	S.-Cu. E	------	
Mean	759.35	26.7	29.8	------	86.2	------	.7	6.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	68.6	

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. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.65	25.2	31.7	20	83.6	N	0.8	5.5	Ci.-S.	S.-Cu. E	------	d a. p. ⌽ p.
2	59.97	24.8	28.9	20.6	86.8	N	.8	6	Ci.-S.	S.-Cu. NE	5.8	●° a. p ⌽ p.
3	59.79	25.6	32.8	20.8	80.8	Variable	.7	4.5	Ci.	S.-Cf., Cu. E	------	Ω² ≡ a. ⊍ ⌽ p.
4	59.88	25.6	------	19.8	78.3	N	.8	4.5	Ci.-S.	Cu. E	------	⌽ Ω a. ⌽ p.
5	60.38	25.7	31.9	20.5	78.7	NE	1	4.2	Ci.-S.	Fr.-Cu., Cu. E, NE	------	⌽ p.
6	60.42	26.4	------	21.3	77.2	N	1	5.8	Ci.	S.-Cu. NE	------	⌽ p.
7	59.87	26.2	------	20.3	78	W, NE	.8	5.2	Ci.-S.	S.-Cu.	------	⌽ a. p. Ω ≡° a.
8	59.33	25	30	20.8	82	NE, N	1.3	6.7	Ci.-S.	S.-Cu. E	1.3	Ω p° a. ⌽ p.
9	59.08	25.6	31.5	20.3	79	N quad.	1	7	Ci.-S.	S.-Cu. E	7.1	Ω² p a. d° p.
10	58.97	25.9	32.2	22	81.3	N	1.2	6.2	Ci.-S.	S.-Cu. E	------	d ⋖ ⌽ p.
11	58.48	25.7	32.8	21.1	80.2	N	1.2	6.5	Ci.-S.	S.-Cu. E	2.8	⊍ a d p.
12	58.46	25.3	32.1	21.5	85.2	NE, N	.8	7.3	Ci.-S	S.-Cu. NE, E	.8	●° a. p° p.
13	59.33	24.2	31.5	20.7	85.5	NE	1.3	6.2	Ci.-S.	S.-Cu. NE	5.8	Ω ≡° a. p° ●° p.
14	59.99	24.4	29	21	89.5	N, NE	1.3	6.8	A.-Cu. E	S.-Cu. NE	7.6	≡° d a. p ⌒° p.
15	60.13	25.6	29.6	22.9	84	N	1.2	8.2	A.-Cu. SE	S.-Cu.	1.3	p° a.
16	59.48	25.2	31	22.3	84.4	NE	1	6.7	A.-Cu. SE	S.-Cu. E, NE	31	d p° ⊕ a. ●² ⌒° p.
17	59.25	25.5	31	21.4	82.5	N, NE	.7	5.3	Ci.-S.	S.-Cu. NE	------	Ω ≡ a. d p.
18	59.55	25.9	32.1	21.4	81.2	N, NE	1.3	5.3	Ci.-S.	S.-Cu. NE	.8	d° ⌒° a. p° p.
19	59.68	24.9	30.7	22.7	86.2	N, NE	1.2	5.2	Ci.-S., A.-Cu.	S.-Cu. NE	15	p° a. ● p.
20	59.01	24.2	28.8	21.4	90	NE	.8	9.3	A.-Cu.	S.-Cu. E	14.5	●° a. ● ⊤° p.
21	57.32	25	30.1	22.2	86.3	N	1.2	10	A.-Cu., Ci.-S.	S.-Cu. NE, N	2.5	●° a. d p.
22	56.38	25.7	29.9	23.7	90.3	N	.8	10	A.-Cu.	N. N	37.6	●° a. ● ⊤ ⋖ p.
23	57.65	24.6	28.5	23.2	92.7	SE	1.5	8.8	A.-Cu.	N. S	32.8	● a. p.
24	58.99	25.9	31.9	21.6	83.2	N, E	1.2	6.8	A.-Cu.	S.-Cu. SE	------	d a.
25	60.62	25	29.9	21.7	89.5	SE, E	.5	6.8	Ci.-S. S	S.-Cu. SE, E	10.7	p a. ●° p.
26	61.40	25.6	32.5	22.5	86.7	Variable	.8	6	Ci.-S., A.-Cu.	S.-Cu. E	1.3	p° ⊤ d p.
27	61.62	26.1	31.8	22.8	82.8	NE	1	5	Ci.-S.	S.-Cu. E	.8	Ω a. d ⌽ p.
28	61.46	26.6	33.6	21.6	80	N	1	3.2	Ci.	Cu. E	------	⌽ p.
29	61.18	26.5	32.5	21.5	82.5	N	1	4.3	Ci.-S.	S.-cf., Fr.-Cu. E	2	p° ⊍ ⌽ p.
30	60.81	25.2	------	20.5	83.7	N, NE	1.2	3.8	Ci.-S.	Cu. E	2.8	Ω ≡ a. p° d ⌽ p.
31	60.40	26.2	------	20.6	81	NE, N	1	2.3	------	Fr.-Cu., Cu. E	------	Ω² a. ⌽ p.
Mean	759.63	25.5	31.1	21.4	83.6	------	1	6.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	184.3	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	759.50	26.7	31.4	22.9	77.3	ENE	8.7	3.7	Ci.	Cu. ENE	------	≡ a.
2	60.10	27.5	31.8	24.4	73.2	ENE	12	2.8	A.-Cu. ESE	Cu. NE, ENE	0.5	≡ a.
3	59.93	27.2	31.2	24.5	75.5	NE	12	2.8	Ci., A.-Cu.	Cu. E	1.3	d ● a.
4	60.01	26.7	31.2	22	75.5	ENE, E	---------	3.2	Ci.	Cu. E	------	≡ a.
5	60.57	26.9	31.8	24.1	72.3	NE, E	12.8	2.3	Ci.	Cu.	1	d° a.
6	60.67	27	31.2	23.4	75.2	NE	10.1	1.8	Ci.	Cu. E, ENE	------	≡ a.
7	60.08	27.1	31.2	22.6	73.5	NE, E	8.8	1.8	------------------	Cu. ENE	------	≡ a.
8	59.45	27	31.9	24.2	70.8	NE quad.	10.7	3.3	Ci.	Cu. ENE	.5	● p.
9	59.32	27.5	31.9	24.1	72.2	ENE	10.3	2.2	Ci.	Cu.	------	≡ a.
10	59.06	27.4	32.1	24.5	73.3	NE	9.5	4.3	Ci. W	Cu. E	.2	d a.
11	58.51	27.3	31.2	24.7	72.7	ENE	11.4	5.2	Ci.	Cu. NE	6.6	d a. ○ p.
12	58.32	26.2	30.7	23	80.8	NE	8.9	5.8	Ci.-S.	Cu.-N. E	4.6	● a. p.
13	59.29	26.8	31.8	22.8	75.2	NE quad.	10.4	6.8	Ci.-S. W	Cu. E	5.6	● ○ a.
14	60.14	26.1	30.2	23.2	80.1	ENE, NE	---------	7.3	Ci.-S.	Cu.-N. NE	13.2	● p.
15	60.36	26.8	30.5	23.6	80.2	ENE	---------	7.3	Ci.-S.	Cu.-N. ENE	7.9	● a.
16	59.98	25.4	28.5	22.1	85.2	Variable.	7.6	8.5	Ci.-S.	Cu.-N. ENE	9.9	● a. p.
17	59.39	26.1	31.1	21.2	80.7	ENE	5.6	4.2	Ci.	Cu. NE	12.4	d² p.
18	59.64	26.1	31.1	23	80.8	ENE	10.6	3.5	Ci.	Cu.-N. ENE	1.3	● a.
19	59.96	26.3	28.7	22.4	80	ENE	11.8	5.2	Ci.	Cu.-N. NE	32.3	● a. p.
20	59.22	27.1	30.5	24	77.8	ENE	12.1	7.8	Ci.-S. SSE	Cu.-N. NE	4.6	d° a.
21	57.70	25.4	28.2	22.7	86	ENE	14.5	10	Ci.-S.	Fr.-N. NE	11.2	● d a. p.
22	56.87	25.9	28.1	24.1	86.3	NE quad.	14.9	9.7	Ci.-S.	Fr.-N. NE	31.8	● a. p. ↯ p.
23	57.44	25.2	26	23.5	90.2	E	17.1	10	Ci.-S.	Fr.-N. E, ESE	24.4	● a. p.
24	58.82	26.9	29.5	24.6	82.5	E	13.4	7.2	Ci.-S.	Cu.-N. ESE, SE	3	● p.
25	60.61	26.5	29.5	22.9	83.2	ENE	9.2	5.7	Ci.-S., Ci.	Cu.-N. ENE, E	22.9	● d a. p.
26	61.57	25.9	29.9	23.8	86.5	ENE	12.2	6.3	Ci.	Cu.-N. E	8.6	● a. p.
27	61.63	27.6	30.3	23.9	74.8	E, ENE	12.6	4	Ci., A.-Cu.	Cu. ENE, E	.5	●° a.
28	61.57	27.2	30.8	24.5	78.3	NE quad.	10.6	1.5	------------------	Cu. E	.5	d² a. ● p.
29	61.36	27.5	30.6	24.9	77.7	NE quad.	11.5	2.5	Ci.	Cu.-N. E	2.3	● a.
30	60.88	27.3	30.8	24.5	76.6	NE, E	10.3	2.2	Ci.	Cu.	------	≡° a.
31	60.57	27.5	31.4	24.4	75.3	E	10.7	1.3	------------------	Cu.	------	≡° a.
Mean	759.76	26.7	30.5	23.6	78.4	------------	11.1	4.8	------------------	------------------	------	
Total	-------	------	------	------	------	------------	---------	---------	------------------	------------------	207.1	

ATIMONAN.

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

	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	759.56	27.3	33	23.6	80.8	NE quad.	---------	5.8	Ci. E	Cu. NE	------	●° a. ϖ° p.
2	60.16	27.4	32	25	79.7	NE	---------	8.2	A.-Cu. E	S.-Cu. ENE	------	d a. p.
3	60.08	27.8	33	24.9	74.9	NE quad.	---------	3.8	Ci.	Cu. E, NE	------	ϖ° p.
4	60.02	27.2	31.8	24.8	79.7	N quad.	---------	7.2	Ci.	S.-Cu., Cu. E, NE	------	Ω° a. ϖ° p.
5	60.55	26.9	34.4	21.3	79.2	NE	---------	2.5	Ci.	Cu. NE	------	ϖ² Ω° a. ϖ° p.
6	60.74	26.3	32.3	20.6	80.8	NNE	---------	4.7	A.-Cu., Ci. SE, E	Cu. SE, E	------	Ω² ≡° a. d p. ϖ°.
7	60.16	27	33.2	22.1	80.5	N quad.	---------	5.2	Ci. SE	Cu. NE, E	------	ϖ² Ω° ≡° a.
8	59.40	27.7	34.3	23	74.7	NE quad.	---------	2.2	A.-Cu. ENE	Cu. NE	------	Ω° a. ϖ° a. p.
9	59.15	26.6	32.4	20.9	79.9	NE quad.	---------	3.3	A.-Cu. E quad.	Cu. E	------	ϖ² a. p.
10	59.17	26.7	33.7	21	79.1	NE	---------	6.7	Ci. SE, S	Cu. E	------	Ω² ≡° a. ϖ° a. p.
11	58.78	28.3	34.3	24.6	73.2	NE	---------	6.8	Ci. SE	Cu. E	------	ϖ° a.
12	58.52	27	31.5	22.5	80.4	N quad.	---------	7.2	Ci.	S.-Cu. E	------	ϖ° ⊥° a. d p.
13	59.34	27.6	31.5	24.6	74.5	NE	16	8.7	Ci. ESE	S.-Cu. NE	------	ϖ° a.
14	60.74	27.7	32.4	24.6	73	NE	26.4	8.5	Ci. E by S	Cu., S.-Cu. NE quad.	15.5	ϖ° ⊥° ● a. d p.
15	60.89	25.7?	30.8	22.4	86.8	NE	16.1	8	A.-Cu., Ci.-Cu. E	S.-Cu. E	10.4	↙° ● a. ●° d p.
16	60.20	25.9	31.8	23.5	86.4	NE	12.7	7.7	Ci.-Cu. E	S.-Cu. ENE	21.1	d a. p. ↙ ●° p.
17	59.49	27.2	32.7	23.5	83.1	NE	---------	7.7	Ci.	S.-Cu. NE quad.	------	d p.
18	59.68	27.2	32.5	24.5	79	NE	16.4	7	Ci. SE	S.-Cu. E	15.2	●° a. d a. p.
19	60.39	26.9	32	24.4	77.8	NE	20	6.8	Ci. E	S.-Cu. NE quad.	7.6	d ●° p.
20	60.06	27.4	31.3	24	79.5	NE	21.9	7.5	Ci. SE	S.-Cu. ENE	1.3	d a. p. ⌒° p.
21	58.73	27.3	32	24	80	NNE, NE	32.5	7.7	Ci.	S.-Cu. NE	15.8	● ↙° a. p.
22	58.52	25	27	23.1	93.5	N quad.	22.7	10	Ci.-S.	N. NE	54.4	● ↙° a. p.
23	57.66	25.8	30.1	23.7	90.4	NE	13.8	9.3	Ci.-S.	S.-Cu. E, ENE	6.8	d a. p. ●° p.
24	58.52	26.4	31.4	22.9	87.7	Variable	7.7	7.2	Ci.-Cu. SE	S.-Cu. E, ESE	20	Ω°≡°a. ⌈↯° ● p. ↯°
25	60.42	26.4	32.7	22.4	86.8	NNE	10.3	6.5	Ci.	S.-Cu. ENE	4.3	d a. p. ● p.
26	61.75	26.8	30.6	24.5	83.7	NE	---------	6.7	Ci.	S.-Cu. NE	3.3	d a. p. ● ↙° p.
27	61.82	26.2	32.2	23.1	84.2	ENE	---------	6.5	A.-Cu. E	S.-Cu. ENE	1	Ω° a. d p p.
28	61.71	26.3	31	21.4	83.2	NE quad.	11.8	4	A.-Cu. E	S.-Cu. NE	------	Ω° ≡° a. d a. p.
29	61.45	27.6	33.3	22.5	79	NE	12.4	3.8	A.-Cu. E	Cu. NE	------	ϖ² p.
30	60.71	27.8	32	24.7	78.9	NE quad.	11.3	6.2	Ci.	Cu. E quad.	.5	d a. ⌈↯° p.
31	60.38	26.8	32.8	22.2	80.8	N quad.	9.1	1.2	Ci.	Cu. NE, E	------	Ω² ≡² ϖ° p.
Mean	759.96	26.9	32.1	23.2	81	------------	16.3	6.3	------------------	------------------	------	
Total	-------	------	------	------	------	------------	---------	---------	------------------	------------------	177.2	

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. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force. (mean).	Clouds. Amount (mean).	Clouds. Upper.		Clouds. Lower.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.					mm.	
1	759.16	26.2	32.7	21.6	76.6	E	1.6	5.2	Ci.-S.		Cu.	E	------	Ω a. ∞² a. p.
2	59.62	27	33.6	20.5	70.9	NE	1.8	2.8	Ci.-S.		Cu.	ENE	------	Ω² a. ∞² a. p.
3	59.39	26.6	33.6	20.6	70.2	NE quad.	1.4	2.3	Ci.-S.		Cu.		------	∞ a. p.
4	59.60	26.2	32.5	20.6	75.1	NE quad.	1.4	7	Ci.-S.		Cu.	ENE	------	Ω² a. ∞ p.
5	59.78	26.5	32.9	20.4	69.7	E	1.8	6.7	Ci.-S.	W	Cu.	E	------	≡ a. ∞ p.
6	60.14	26.3	32.9	20.4	70.2	NNE	1.6	6.7	Ci.-S.		Cu.	E	------	◯° a. ≡ a. p.
7	59.54	26.2	33.5	22.2	76.9	NNE	1.7	5.7	Ci.-S.		Cu.	E	------	Ω² a. ∞ a. p.
8	58.71	26.8	33.4	21.6	71.5	NNE, E	1.3	3.2	Ci.-S.		Cu.	E, ENE	------	Ω² a. ∞ a. p.
9	58.46	27	33.5	19.8	69.2	NE, E	2	3.3	Ci.-S.		Cu.	ESE	------	Ω° a. ∞ a. p.
10	58.55	27	33.4	21.2	67	NNE	1.5	5	Ci.-S.		Cu.	E	------	Ω² a. ⊍° ≡² p. ∞
11	58.40	26.5	32.7	21.6	70.5	NNE	1.3	8.5	Ci.-S.		Cu.	ENE	------	⊍² a. ≡² p. ◯° ∞
12	58.06	26.1	34	20	69.2	NE	1.4	8	Ci.-S.	SSE	Cu.	E	------	Ω² ⊍ ◯° a. ∞
13	58.83	27.2	34.1	23	69.4	ENE	1.5	8.7	Ci.-S.	E, S	Cu.	ENE	------	Ω ⊍° a. ◯° p. ∞
14	60.42	25.4	33.2	20.1	69.7	NNE	1.8	8.5	Ci.-S.		Cu.	ENE	------	⊍° a. ⊕° p. ∞
15	60.55	25.3	30	20.7	73.8	E, ENE	1.6	8.8	A.-Cu.	E	Cu.-N.	ENE	------	d° a. p.
16	59.60	28.2	34.2	22.9	66.6	E	1.2	6	Ci.-S.		Cu.	E	------	∞² a. p.
17	59.06	27	32.7	23	75.8	NNE	1.8	5.7	Ci.-S.	E	cu., cu.-N.	E, NNE	------	⌒ < d° p. ∞²
18	59.30	27	33.1	22.6	74.2	ENE	1.3	6.2	Ci.-S., A.-Cu.		Cu.	E	------	∞ a. p.
19	59.89	27.6	34	23.2	60.3	E, ENE	1.8	3.2	Ci.-S.		Cu.	ENE	------	∞ a. p.
20	59.79	27.4	34.7	21.5	63.4	NNE	1.4	7.2	Ci.-S.	S	Cu.	E	------	◯° a. ∞ a. p.
21	58.79	27	35.4	20.5	67.7	NNE	1.4	6.5	Ci.-S.	SSE	Cu.	NE	------	Ω² ◯ a. ∞
22	58.53	27	33.4	21.8	69.8	NW	1.5	7.8	Ci.-S.		Cu.	NNE	------	≡° a. ◯² ∞ p.
23	58.09	26	31.4	22	77.3	NE quad.	1.3	8.5	Ci.-S.		Cu.-N.	ENE	0.6	d° p° a. p.
24	58.09	27.1	33.5	24.6	75.8	E quad.	1.3	9.7	A.-Cu.	SSE	Cu.-N.	E	16.8	d² a. p. ⌐<° ↙ ●° p.
25	59.94	27.2	32.9	23.2	74.2	NNE, ENE	1.2	8.2	Ci.-S.	NW	Cu.-N.	ENE	------	d² a. < p. ∞
26	61.04	27.5	34.4	22.3	66	NE quad.	1.8	6.3	Ci.-S.	WSW	Cu.	E	------	∞ a. p.
27	61.55	25.5	28.7	24.2	79.5	NNE, E	1.6	8.5	A.-Cu.	E	Cu.-N.	NE, ENE	2.5	≡ a. ●° p. d° a. p.
28	61.38	27.1	32.5	23.3	72.2	ESE	1.5	8	A.-Cu.		cu.-N., cu.	ENE, E	------	d° a.
29	60.78	28.4	34.5	23.4	65.7	E	1.7	3	A.-Cu.		Cu.	E	------	< p. ≡° a. p.
30	60.09	27.8	34	23.2	67.4	NE	1.8	2.7	Ci.-S.		Cu.		------	Ω a. ∞° p.
31	59.82	27.9	34.4	22.7	71.2	NNE, E	1.5	2.3	Ci.-S.		cu., cu.-N.	E, ENE	------	< p. ∞° a. p.
Mean	759.51	26.8	33.2	21.9	70.9	------------	1.5	6.1	------------		------------		------	
Total	------	------	------	------	------	------------	------	------	------------		------------		19.9	

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.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force. (mean).	Clouds. Amount (mean).	Clouds. Upper.		Clouds. Lower.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.					mm.	
1	759.25	26	32.4	19.5	62.5	NNW, ESE	0.8	2.8	Ci.	SSE	S.-Cu.		------	Ω a.
2	59.86	26	33.4	19.8	66	Variable	1.1	3.3	Ci.		S.-Cu.		------	Ω a.
3	59.57	25.5	31.6	19.5	67.8	E, NNW	1.2	2.3	Ci.		S.-Cu.		------	Ω a.
4	59.60	25.3	33.5	18	69.2	NNW	.8	4.5	Ci.	SE	Cu.	E	------	Ω a.
5	60.05	25.6	31	19.2	68.4	ESE, E	1.8	4	Ci.	SE	Cu.	E	------	Ω a.
6	60.25	25.6	32.5	18.5	68	E	1	3.5	Ci.	SE, S	Cu.	ESE, E	------	Ω a.
7	59.68	25.5	33.2	19.9	70.3	NNW	.8	4.3	Ci.	S	Cu.	E	------	Ω a.
8	58.88	25.7	31.5	19	65.3	E quad.	1.8	3.5	Ci.		Cu.	E	------	Ω a. ↙° p.
9	58.63	25.5	32.7	17.9	69.7	NNW, E	.8	3.5	Ci.		Cu.	ESE	------	Ω ≡° a.
10	58.67	25.8	32.7	18	66.4	E	.9	3.5	Ci.	SE	Cu.		------	Ω ≡² a. ϖ² p.
11	58.50	25.9	32.1	19.5	65.8	NNW, E	1.2	6	Ci.	S	S.-Cu.		------	Ω a. ⊍² p.
12	58.20	25.6	33	18.4	69.3	NNW	1	5.2	Ci.	S	S.-Cu.	E, ESE	------	⊍ ◯ Ω a.
13	59.06	26.8	32.5	21.7	62.6	Variable	1.3	4.7	Ci.	S	S.-Cu.		------	Ω a.
14	60.62	25.5	31.9	18.7	66.8	E	1.1	6.5	Ci.-S.	S	S.-Cu.		------	ϖ² Ω ≡° a. ◯° p.
15	60.97	24.7	28.4	22	75.9	Variable	.8	8.7	Ci.-S.		N.	E, ENE	0.8	d° a.
16	59.73	26	33.4	19.1	69.1	Variable	.8	5.2	Ci.		S.-Cu.		------	Ω a.
17	59.19	26.6	34.1	19.6	66	E quad.	.8	5.3	Ci.	S	S.-Cu.		------	Ω a.
18	59.38	26.4	32.3	21	70.8	E	1.3	5.7	A.-Cu.	SE	Cu.	E	------	Ω a.
19	60.06	26.6	33.4	20.6	65.5	NNW	1.3	3.7	Ci.		S.-Cu.		------	Ω a.
20	59.86	26.8	34.6	20.7	64.5	ESE	1.2	4.8	Ci.	S	Cu.	E	------	
21	58.73	26.8	34.3	19.6	63.8	NW, NNE	1.9	5.3	Ci.-S.	SE	Cu.	NE	------	Ω a. ↙°
22	58.61	27.5	32	23.4	62.2	NNE	2	6	Ci.		N.-cf.	NE	------	Ω a. ↙° a. p.
23	58.27	25.4	31	22.5	79.3	NW	.9	7.7	Ci.	S	N.	ENE, E	2.1	●° a. p.
24	58.55	26.4	31.2	22.6	76.7	Variable	1.4	8.2	A.-Cu.	SW	N.	ESE, E	2	d° a. ●° < ↙° p.
25	60.18	26.9	30.8	22.4	69.1	ESE	2.5	5.2	Ci.	S, SW	S.-Cu.	E	------	⊕² a. ↙° p.
26	61.42	26.3	33.9	20.6	70.3	ENE	1.5	4.5	Ci.	S, SSW	S.-Cu.		------	≡° Ω a. ↙° p.
27	61.62	26.2	30.7	22.7	74	ESE, NE	1.5	7.7	A.-S.		N.	ENE	.8	d° ↙° p.
28	61.46	26.9	33	22.1	71	E quad.	1.5	7	A.-Cu.	SE	N.	NE, E	------	d° a. p. ↙° p.
29	60.95	27.2	32.7	21.7	68.2	E quad.	1.8	3.5	A.-Cu., Ci.		Cu.	NE	------	Ω² a. ↙° p.
30	60.21	26.9	33.5	20.9	68.2	NNW	1.4	4.7	A.-Cu.	SE	Cu.	E	------	Ω² a. ϖ² p.
31	59.93	28.1	34	21.4	66	ENE	.9	5.2	A.-Cu.	E	Cu.	ESE, E	------	Ω a.
Mean	759.68	26.2	32.5	20.3	68.3	------------	1.3	5	------------		------------		------	
Total	------	------	------	------	------	------------	------	------	------------		------------		5.7	

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.			Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevaling direction.	Force (mean).	Amount (mean).	Prevaling form and its direction. Upper.	Lower.		
	mm.	°C.	°C.	°C.	Per. ct.		Km. p. h.	0-10.			mm.	
1	759.23	26.9	33.6	21.2	74.5	NE, NNW	11.1	3.3	Ci.	S.-Cu.	------	⊕ p.
2	59.65	27.2	33.4	21.2	73.2	NW, S	10.9	1.5	Ci.	S.-Cu.	------	⊕ p.
3	59.26	27	36.1	21.6	68.2	Variable	11.1	1.2	Ci.	S.-Cu., Cu.	------	
4	59.55	26.5	31.8	20.7	75	NW	10.3	3	Ci.	S.-Cu.	------	⊕ p.
5	59.66	27.9	35.7	21.8	59.2	SE	12.4	2.2	Ci.	Cu.	------	
6	60.19	26.7	35.5	18.3	66.2	SE, NW	8.3	1.3	Ci.	Cu.	------	
7	59.61	26.9	33.4	20.6	71.3	Variable	9.7	3.3	Ci.	Cu.	------	V p.
8	58.64	27.3	35.9	20.5	63.7	SE, S	10	2.5	Ci.	Cu.	------	
9	58.46	27.1	35.9	19.5	65.7	SE	11	1.3	Ci.	S.-Cu., Cu.	------	↙° a. p. ⊕ p.
10	58.52	27	35.3	20.1	72.3	NW	9.8	1.2	Ci.	S.-Cu., Cu.	------	⊕ a. p.
11	58.29	27.2	35.9	21.4	69.9	NW, SE	10.4	7	Ci.	S.-Cu.	------	↙° a. p.
12	58.13	26.9	33.9	21	68.8	NW, SE	10.8	3.3	Ci.	S.-Cu.	------	
13	58.67	27.6	36.9	22	73.3	Variable	10.6	4.7	Ci.	S.-Cu.	------	⊕ a.
14	60.26	26.4	34.6	20.5	62.4	Variable	9.8	5.8	Ci., Ci.-S.	S.-Cu.	------	⊕ a.
15	60.70	26.5	32.6	20.9	65.6	SE	10.1	7.7	Ci.-S., A.-Cu.	S.-Cu.	------	d° a. p. ↙° ⌒ p.
16	59.61	27.1	33.5	22.3	69.7	Variable	10.9	3	A.-Cu.	Cu.	------	
17	59.13	27.8	34.5	21.5	70.9	NW	10.9	1.7	Ci.	S.-Cu., Cu.	------	↙° ⊤ p.
18	59.08	27.9	35.1	23	65.6	S, NW	12.4	2.3	Ci.	Cu.	------	↙° ⟨ d° p.
19	59.81	27.9	35.2	22.4	66.2	NW, SE	10.5	1.7	Ci.	Cu., S.-Cu.	------	
20	59.77	27	34.5	20.7	69.3	NW, SE	9.6	2.7	Ci.	Cu.	------	
21	58.96	27	33.4	21.3	75.5	NW	9.6	3.8	Ci.-S.	Cu., S.-Cu.	------	d° a.
22	58.64	27.5	33.2	22.8	68.8	NW, S	9.2	4	Ci.	S.-Cu. E	------	
23	58.10	27.2	34.4	23.2	74.2	S, NW	9	6.2	Ci.	S.-Cu. E	7.4	● ⟨ p.
24	58.41	26.7	33.6	23.5	78.3	Variable	8.7	8.2	A.-Cu., Ci.	S.-Cu. SE	------	⟨° p.
25	59.87	27.7	35.8	23.5	71.1	SE, S	11.3	7.7	Ci.-S.	S.-Cu.	------	⟨ a. p. ⊤ p.
26	61.10	27.5	34.2	22.6	69	N, SSE	11.8	3.2	Ci.	S.-Cu.	------	↙° p.
27	61.16	28.2	35.9	23	62.8	SE, S	13	4.8	Ci.	S.-Cu. E	------	↙° a. d° ⊕ p.
28	61.32	27.9	35.8	22.4	70.2	S, NW	10.4	4	Ci.	S.-Cu. E	1.5	⟨ a. ● p.
29	60.71	28.2	36.4	22.7	71.6	SE, NW	10.8	5.8	A.-Cu.	S.-Cu. E	------	↙° ⌒ ⟨ p.
30	60.09	28.2	35.9	23.5	69.2	SE quad.	12.3	4.7	------	S.-Cu.	39.9	⌈⊠² ● p.
31	59.92	28.2	35.5	23.3	75.8	Variable	10.5	4.7	------	S.-Cu. E	------	⟨° ⊤ p.
Mean	759.50	27.3	34.8	21.7	69.6	------	10.6	3.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	48.8	

BOLINAO.

[ϕ=16° 21′ N; λ=119° 53′ E; barometer above sea, 8.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevaling direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rain.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	759.40	27.5	30.9	26	83.7	NNE	2.7	5.3	Ci.-S.	Cu.	------	Ω° ≡° a. ↙° p.
2	59.69	27.2	31	22.9	83	N	1.7	1.7	Ci.-S.	S.-Cu., Cu.	------	Ω ≡° a. ∞ p.
3	59.33	26.6	30.8	23.1	81.8	SE	2.5	1.8	Ci.-S., A.-S.	Variable	------	Ω ≡° ↙° ∞ p.
4	59.71	27.1	31	24.1	83.2	NNE	2.8	5.5	Ci.	Cu. N	------	Ω° ≡° a. ∞ p.
5	59.70	27.3	31.9	23.5	83.5	SE	2.2	3.5	Ci.	Cu.	------	Ω° ≡° a. ∞ p.
6	60.18	26.4	30.7	21.2	79.3	SE, E	2.2	2.5	Ci.-S.	Cu.	------	Ω² ≡° a. ∞ p.
7	59.75	27.5	30.6	25.8	82.7	NNE	2.2	6.5	Ci.	Cu. NE	------	≡° a. ∞ ⊕° p.
8	58.67	26.7	30.9	22.8	85	SE, W	2	4	Ci.-S.	Cu.	------	Ω° ≡° a. ∞ ⊕° p.
9	58.51	26.3	30.9	22.2	83.8	SE, WNW	2.2	1.3	Ci.-S.	Cu.	------	Ω° ≡° a. ∞ p. ↙°
10	58.69	25.8	30.5	21.5	84.7	SE, E	2.2	2.3	Ci.-S.	Cu.	------	Ω° ≡° a. ∞ p.
11	58.37	26.5	30.8	23.1	83	SE quad.	1.8	8.3	Ci.-S.	Cu.	------	Ω° ≡° a. ∞ p.
12	58.30	26.2	30.3	22.1	82.7	SE, NNE	2	9.2	Ci.-S.	S.-Cu., Cu.	------	Ω ≡° a. ∞ p.
13	58.81	27.5	32	23.2	82.8	N	1.5	8.5	Ci.-S.	Cu.	------	Ω° ≡° a. ∞ p.
14	60.31	26.2	30.4	20.7	82.3	SE	1.5	7.8	Ci.-S.	S	------	Ω ≡° a. ∞ p.
15	60.61	26.8	30.9	21.8	80.3	SE, E	1.7	7.5	Ci.-S.	Variable	------	Ω ≡° a.
16	59.77	27.7	30.4	24.8	79.7	SE, NNE	1.8	5.7	A.-Cu. S	S.-Cu.	------	≡° a. ∞ p.
17	59.35	27.1	30.5	23.2	86.5	Variable	2	3.3	Ci.-S.	S.-Cu., Cu.	------	Ω ≡° a. ∞ ⟨ p.
18	59.24	27.1	31	22.8	84.3	SE	1.8	2.7	Ci.-S.	S., Cu.	1	Ω ≡° ↙° a. ∞ p.
19	59.92	27.3	30.6	22.7	84.7	SE	1.8	5.7	Ci.	Cu., S.-Cu.	------	● ≡° a.
20	59.98	26.3	30.3	20.8	83	Variable	2	7	Ci.-S. SW	Cu.	------	Ω° ≡° a. ∞° p.
21	58.88	26.4	30.2	21.8	86.8	SE, N	1.5	8	Ci.-S.	Cu. N	------	Ω ≡° a. ∞ p.
22	58.74	26.6	30.6	21.1	86.3	SE, NNW	1.5	5.8	Ci.-S.	Variable	------	Ω° ≡° a. ∞ p.
23	58.03	26.8	30.7	22.7	83.7	SE	2.2	6.8	Ci.-S.	Cu.	------	Ω° ≡° a. d ⌒ p.
24	58.32	28.1	31	26.3	83.7	NNE	3	9.8	Ci.-S.	Cu.	------	d ↙° a. ∞ p.
25	59.94	27.9	31	25.5	85.3	SE, NNE	3	9.7	Ci.-S.	Cu.-N.	4.1	↙ p.
26	61.20	27.1	30.1	23.2	81.7	Variable	2.3	7.8	Ci.-S.	S.-Cu.	------	● ≡° a. ↙° ∞ p.
27	61.17	27	31	22.4	82.2	SE quad.	1.8	6.5	Ci.-S.	Cu.-N.	------	Ω° ≡° ∞ ⟨ p. ⌒
28	61.28	27.5	30.6	24.1	79.3	SE, NNE	2.7	6.3	Ci.-S.	S.-Cu.	------	≡° a. ∞ p.
29	60.81	27.8	31.5	23.7	79.7	SE, NNE	2.3	7	A.-Cu.	S.-Cu., Cu.	------	Ω° ≡° ↙° a. ∞ p.
30	60.15	28.2	31.9	24	77.5	Variable	2.8	4.5	A.-Cu.	S.-Cu.	------	≡° a. ∞ ⟨ p. ↙°
31	59.90	27.9	31.4	23.9	77.7	NNE	2.5	3.8	Ci.-S.	Cu.	------	Ω ≡° a. ∞ ⟨ p. ↙°
Mean	759.57	27	30.9	23.1	82.8	------	2.1	5.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	5.1	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.41	26.6	31.2	22.9	77.3	N, E	1.8	0	Ci.	Cu.	------	≡ Ω a. ↯° p.
2	60.02	26.7	31	22.5	72.5	Variable	.8	.2	Ci.	Cu. W	------	Ω ≡ a. ⊖ p.
3	59.57	26.8	31	23.9	71.3	SSW	.8	.3	Ci.-S.	Cu.	------	≡° a.
4	59.80	26.3	30	23.6	73.3	N, E	1.7	1.8	Ci.	Cu. NNE	------	
5	59.86	27	31.5	23.5	68.3	Variable	1.5	.2	Ci.	Cu.	------	
6	60.41	26.8	31.4	24.3	70.5	Variable	1	1.8	A.-Cu.	Cu.	------	
7	59.87	26.8	32.3	23.3	71.2	N	.8	1.2	Ci.	Cu.	------	≡ a.
8	58.78	27.4	31.4	24	68.2	Variable	1.3	1	A.-Cu.	Cu.	------	
9	58.74	26.7	32.2	23	74.7	Variable	1.2	0	Ci.	Cu.	------	≡ Ω° a.
10	58.91	26.5	31.4	22.9	68.8	Variable	1.2	0	Ci.	Cu.	------	≡° a.
11	58.54	27.1	31.7	23	67.8	Variable	1.3	.5	Ci.	Cu.	------	
12	58.42	26.9	31.5	23.5	72.7	N	1.5	0	Ci.	Cu. NE	------	Ω° a.
13	58.76	27.2	32	23	72.8	Variable	.8	1.5	Ci.	Cu.	------	
14	60.42	28.2	32.5	25.3	63.4	N, NE	1.3	1.5	Ci.-S.	Cu.	------	⊖ a.
15	60.72	28.1	32.5	24.4	64.7	Variable	1.3	1.5	Ci.-S.	Cu.	------	
16	60.01	27.3	32.5	23.5	74	Variable	1.3	1.8	Ci.-S.	Cu.	------	
17	59.41	27.8	31.1	24.9	68.9	NE quad.	1.7	.8	Ci.-S.	Cu.	------	↯° p.
18	59.36	28.4	31.6	24.5	63.3	NW	1.3	.2	Ci.-S.	Cu.	------	
19	59.95	28.1	32.6	25	69.3	NW	1.3	.5	Ci.	Cu.	------	
20	60.04	28.5	32.9	25.5	68.7	Variable	1.2	.2	Ci.	Cu.	------	
21	59.26	28.2	31.6	24	-------	Variable	2.5	2.2	Ci., Ci.-S.	Cu.	------	↯° p.
22	58.79	29.6	36.4?	24.8	-------	E	1.8	.8	Ci.	Cu. ENE	------	↯° p.
23	58	28.5	32.6	25	-------	SE	1.5	.5	Ci., Ci.-S.	Cu., S.-Cu.	8.1	[K ● p.
24	58.50	28	31.6	24.8	77.2	NNW	1.3	3.3	Ci.-S.	S.-Cu.	------	⊕ [K p.
25	60.19	26.7	31	24.1	78.6	N	2.3	6.7	Ci.-S.	Cu., S.-Cu.	------	≡ Ω a. ↯° p.
26	61.45	28.1	34	24.4	-------	NE quad.	4	4.2	A.-Cu.	Cu.	------	↯° a. p. ⊖
27	61.28	28.6	33.9	26	-------	NW, NE	2.8	.5	Ci.-S.	Cu.	------	↯° a.
28	61.36	28	32.5	24.3	70.7	Variable	1.2	.8	Ci., Ci.-S.	Cu., S.-Cu.	------	
29	61.10	28.1	33	25	74.5	Variable	.8	1.8	A.-Cu. S by W	Cu. E	2.8	d a. ● ⊖ p.
30	60.38	28	32.5	25.1	71.8	SE, S	1.5	0	Ci.-S., A.-Cu.	Cu.	------	‹ p.
31	60.16	27.8	32.5	23.5	72.5	N, NE	1.7	0	Ci.	Cu. NE	------	Ω ≡ a.
Mean	759.72	27.6	32.1	24.1	71	------------	1.5	1.2	------------------	------------------	------	
Total	--------	------	------	------	------	------------	------	------	------------------	------------------	10.9	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.64	26.6	34.4	22.2	73.2	NW	0.7	4.3	------------------	S E	------	Ω ≡ a.
2	60.39	26.2	33.4	21.3	73.2	N	.7	3.3	------------------	Cu. S	------	Ω a.
3	59.69	26.9	34.2	21.7	73.7	SE	.3	4	A.-Cu.	Cu.	------	Ω a. ∞ p.
4	59.84	26.1	33.1	20.3	78	NW, N	.8	3.2	------------------	Cu. NW	------	Ω a.
5	60.24	27.2	34.4	22.1	69.3	SE	.5	5.5	A.-S.	Cu. W, SW	------	Ω a.
6	60.42	26.4	34.3	18.8	61	SE, SW	.3	.3	------------------	S.	------	Ω a.
7	60.02	26.7	33.3	22.2	73.3	N	.5	5.8	A.-Cu.	Cu. SW	------	Ω a.
8	58.90	27.6	34.9	21.5	69.5	S, SE	.8	4.2	------------------	Cu. SE	------	Ω a. ∞ p.
9	58.49	27.4	35.4	19.3	65.7	SE	.5	.5	Ci.	Cu., S.	------	Ω a. p.
10	58.66	26.9	35.5	19.7	69	NW	.5	1.2	Ci.	S.	------	Ω² ≡° a.
11	58.48	27.4	35.3	21.2	66.2	SE	.7	2.8	Ci.	Fr.-Cu. SE	------	Ω² a.
12	58.33	26.5	35.5	18	71.3	SE	.7	3.8	Ci.	Variable	------	Ω a.
13	59.12	27.6	35.1	22.1	69.2	NE	.7	5.3	Ci.	Cu. S, E	------	Ω a.
14	61.57	26	33.5	19.1	70.7	NE	.3	6.2	Ci.	Cu. NW	------	Ω a. ⌒ p.
15	62.17	25.3	31.5	19.5	75.8	SE	.3	6.5	------------------	Cu.-N. SE	------	Ω ⌒ d a.
16	60.10	27.1	35.5	20.7	68	ESE	.5	6.2	A.-Cu. E	Cu. SE, E	------	Ω a.
17	59.52	27.1	35	20.9	72.3	NE	1	4.2	Ci. SE	Variable N	------	Ω a.
18	60.62	26.4	32.5	21.4	74.5	N quad.	.7	7.3	A.-Cu.	Cu.-N. NE	------	Ω a. d² p.
19	60.94	27.3	34.2	23	74.5	NW, S	.3	7.5	A.-Cu.	Cu. SW	------	d° a.
20	60.61	27.2	35.5	20.2	66.7	SE, NW	.3	4.2	Ci.	Cu. SE	------	Ω² a. ∞ p.
21	60.27	26.3	33.6	19.2	72.6	NW	1.2	6	Ci.-S.	Cu. E	------	Ω a. ↯° p.
22	60.39	25.3	30.4	22.1	87.2	Variable	.5	7.3	------------------	Cu.-N. Variable	5.1	Ω a. ● p.
23	59.39	26.1	32.7	22.5	84	NW, S	.3	7.7	------------------	Cu.-N. SE	6.6	d° a. ● ↯° [K p.
24	59.26	27.2	34.5	22.5	79	SSE, S	.3	6.8	Ci.-Cu. SE	Cu.-N. SE	6.4	● p.
25	61.82	24.5	28.4	22.4	90	NW	1.7	9.3	A.-Cu. NW	N.	18.3	● a. p.
26	63.85	23.6	26.4	21.5	90.2	NW	3.2	9	Ci.-S.	N. NW	1.3	● a. ●° ↯° p.
27	64.27	23.4	27	20	85.5	NW	1.7	8.2	Ci.	Cu.-N. N	3.3	d° p.
28	62.82	25.5	31.3	21.6	86.7	SW	.3	8.3	A.-Cu.	N.	5.8	●° a.
29	62.03	25.1	28.7	23	92.7	NW	.3	8.8	------------------	Cu.-N.	4.3	● a.
30	60.71	27	32.7	22.2	81.3	SE, NE	.3	6.2	Ci.	Cu. NW, N	------	Ω² ≡² a. [K p.
31	60.14	27.1	34.2	22.2	80.3	SE, N	.5	4	------------------	Fr.-Cu. SE	------	Ω a. [K ‹ p.
Mean	760.41	26.4	33.1	21.1	75.6	------------	.7	5.4	------------------	------------------	------	
Total	--------	------	------	------	------	------------	------	------	------------------	------------------	51.1	

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.			Rain, 24 hours beginning 6 a. m.	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	760.20	------	------	------	------	Variable	10.2	0.7	A.-Cu. S	Cu.-N.	------	Ω∞
2	61.03	------	------	------	------	NE	10.6	0	------	------	------	Ω∞
3	59.91	------	------	------	------	Variable	11.3	0	------	------	------	Ω∞
4	60.52	------	------	------	------	SW, NE	11.2	3.2	A.-Cu.	Cu.-N. NNE	------	∞
5	60.74	------	------	------	------	E	11.7	5.8	A.-Cu. E	S.-Cu. E	------	
6	60.64	------	------	------	------	S	13.4	2.5	A.-Cu. E	S.-Cu.	------	∞
7	60.53	------	------	------	------	W, NE	10.7	2	A.-Cu. NE	Cu.-N.	------	∞
8	59.16	------	------	------	------	Variable	10.7	0	------	------	------	∞
9	58.96	------	------	------	------	S, NE	9.5	0	------	------	------	∞
10	59.18	------	------	------	------	SW, NE	9.4	0	------	------	------	∞
11	58.71	------	------	------	------	Variable	10	0	------	------	------	Ω∞
12	58.78	------	------	------	------	S, N	12.8	0	------	------	------	Ω∞
13	59.72	------	------	------	------	SW, NE	10.8	1.8	Ci. W	S.-Cu.	------	Ω∞
14	62.28	------	------	------	------	S, NE	12.5	7.8	Ci.-S. SE, SW	S.-Cu. E	------	○∞
15	62.37	------	------	------	------	S, SE	8.1	6.7	------	S.-Cu. E	4.3	p a. ● p.
16	60.49	26.4	32	22.2	77.7	SE, E	10.7	5.2	A.-Cu. SE, N	S.-Cu.	------	∞
17	60.16	26.4	31	22.3	75.7	SE, NE	11.9	1.7	A.-Cu. W	S.-Cu.	------	∞
18	61.22	26.3	30.5	24.5	81.3	NE	17.8	4.7	Ci.	Cu.-N. NE	------	
19	61.27	25.9	31.5	23	82.5	S, SE	8.4	7.3	A.-Cu. SW, S	S.-Cu.	------	∞
20	60.99	26.4	31.6	22	77.3	SE, NE	13.5	1.2	Ci. S	Cu.-N.	------	∞
21	61.17	26.1	31	21	80.1	NE	14.7	2.2	Ci. S	Cu.-N.	------	∞
22	61.12	25.8	30.5	23.6	83.1	NE quad.	14.8	6.3	Ci. S	Cu.-N. E	6.1	● a. p. ↙°
23	59.80	25.3	30.6	22.8	87.2	S, E	7.4	7.7	------	S.-Cu. SE	------	
24	59.78	26.6	32	22.6	84.3	SE, NE	13.2	8.7	A.-Cu. SE, E	S.-Cu. W	12.4	⌈↯ ↙° ●° p.
25	62.73	23.5	25.7	22.2	92.2	NE	30.7	10	------	N. ENE	16.3	● ↙° a. p.
26	65.09	22.6	25.4	21.1	93.7	NE	31.3	10	------	N. NE	6.1	● ↙° a. p.
27	65.10	23.1	27	20.6	88.2	NE	21.2	9.8	------	N. NE	1.3	●° ↙° a. p.
28	63.17	25.1	28.6	22.5	93.7	NE quad.	16.3	7.2	A.-Cu. E	S.-Cu. E	3.6	◒
29	62.46	25.1	29.5	23	94.5	NE, E	12.1	9.7	A.-Cu. S	N. NE, ENE	3	● a,
30	61.14	25.8	30.6	22.5	91.8	S, E	6.6	1.8	Ci.	Cu.-N. E	------	⌈↯ p.
31	60.79	25.7	29.8	22.1	91.8	N, NE	8.8	2	------	Cu.-N. S, NE	------	Ω a. ⊤ ↯ p.
Mean	760.94	25.4	29.8	22.4	85.9	------	13	4.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	53.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.7	23.8	85	75	10	9	3	↙ ●° a.
2	31.7	20.9	96	72	9	8	------	Ω² a.
3	31.2	21.8	94	67	9	8	------	Ω a.
4	31.5	20.6	94	71	9	8	------	Ω° a. ↯ p.
5	31.6	21.8	95	85	7	8	7.9	Ω° d a. ● ⌈↯ p.
6	31.7	20.9	96	74	4	9	------	Ω² a.
7	31.9	21.4	95	69	4	7	------	Ω² ≡² a. ↙° ↯ p.
8	31.6	21.2	95	73	6	6	------	Ω² ≡² a. ↙° a. p.
9	32	21.6	97	65	7	5	------	Ω² ≡ ↙° a. ↙ p.
10	32.1	19.9	95	66	5	4	1	Ω² ≡² a. ●° p.
11	31.5	22.9	95	71	7	8	.8	Ω ≡ ●° a. ↙ p.
12	31.4	22.6	92	71	8	9	12.7	↙ ● p.
13	30.9	22.7	89	79	10	8	------	↙ a. p.
14	30.7	21.7	96	73	7	8	.5	⊖ Ω² a. d a. p.
15	31.2	22.9	95	72	9	7	------	⋓ Ω² ≡² a.
16	32	21.8	95	68	10	8	------	Ω ≡ a.
17	31.2	22.3	95	74	9	9	------	Ω° ≡ a.
18	32.1	22.6	88	67	9	7	------	Ω° ≡° a. ↙ p.
19	32.1	22	94	65	6	8	------	Ω ≡ a.
20	32.1	21.8	95	69	8	8	.5	●° Ω² ≡² a.
21	32.2	24.7	84	64	8	7	------	Ω² ≡ a. ↙ a. p.
22	33.1	22.6	86	68	9	6	------	↙° a. ↙ p.
23	33.7	23.1	92	67	8	8	4.1	↙ ⊤ ● p.
24	33	22.7	95	70	8	7	------	↙ p.
25	32.5	21.4	96	65	9	8	------	Ω² ≡ a.
26	33	20.7	96	68	3	7	------	Ω² ≡² a. ↙ p.
27	31	23.1	91	74	8	9	------	Ω d° a. d² p.
28	32.1	21.1	93	66	5	8	------	Ω° a. d° p.
29	30.8	21.6	91	82	8	9	4.8	Ω² a. ● ⊖ p.
30	32.1	20.7	93	71	9	6	------	Ω² a.
31	33.3	21	96	67	6	7	------	Ω² a.
Mean	31.8	21.9	93.2	70.6	7.5	7.5	------	
Total	------	------	------	------	------	-- ---	35.3	

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	31.3	22.5	96	65	10	10	------	Ω ↙ a.
2	32.5	20.4	95	61	10	10	------	Ω ↙° a.
3	32.3	20.5	95	65	10	8	------	Ω ↙ a.
4	32.3	20.4	91	74	10	8	------	Ω ↙° a.
5	32.3	22.2	88	71	10	8	------	Ω a.
6	30.8	21.6	96	75	8	10	------	Ω a.
7	29.8	21.5	96	76	7	10	------	Ω ≡° a.
8	33.9	21.3	96	70	2	7	------	Ω ≡° a.
9	33.8	21.8	96	60	0	8	------	Ω ≡° a. ↙ p.
10	31.8	20.4	95	74	1	7	------	Ω ≡ a.
11	31.8	22	95	70	1	6	------	Ω a.
12	31.3	22.2	96	71	10	8	------	Ω° a.
13	33.3	23.5	92	68	9	6	------	↙ a. p.
14	30.8	22.5	96	71	3	5	------	↙ a. p.
15	33.3	20.4	91	69	2	10	------	Ω a. ↙ ⊤ p.
16	32.7	22.5	96	68	4	10	------	Ω a.
17	30.8	23	96	71	10	10	------	d a.
18	33.8	22.2	96	65	1	9	------	Ω ↙ a. ↙ p.
19	32.8	20.6	95	72	1	9	------	Ω° ≡° a. ↙ a. p.
20	30.8	22	96	72	5	10	------	Ω ≡° a.
21	30.3	22.5	90	74	8	10	------	Ω° ↙ a. p° ↙ p.
22	29.8	22	96	85	10	10	2.3	↙° ● a. ↙ p.
23	30.2	22.5	96	74	10	10	5.8	d a. ↙° ● ↯ p.
24	30.3	23.4	96	75	10	10	.3	d ⊤ p.
25	31.3	22	96	81	0	2	------	Ω ≡° a.
26	32.3	22.2	97	83	9	10	2.8	Ω° ≡° a. ↙ ● ↯
27	30.3	23.5	96	84	10	10	14.2	● ↙ a. ⊤ p p.
28	32.8	22.4	96	74	8	6	------	Ω a.
29	33.8	23.3	87	69	3	9	------	Ω° a. ↙ a. p.
30	33.8	21.5	97	66	0	3	------	Ω ≡° a. ↙ p.
31	33.8	23	96	60	0	8	------	Ω° a. ↙ a. p.
Mean	32	22	94.7	71.4	5.9	8.3	------	
Total	------	------	------	------	------	------	25.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.1	22	96	52	4	10	------	≡ a. ○ ⋓ p.
2	31.5	20.7	88	64	8	9	------	Ω ≡ a. ∞ p.
3	31.8	21.9	96	71	3	5	------	Ω ≡ a.
4	31.6	21	83	66	3	4	------	Ω ≡ a. ○ p.
5	31.4	22.4	86	62	6	4	------	Ω ≡ a. ⋓ ⌈↯ p.
6	30.3	21.7	85	78	5	9	------	Ω° ≡ a.
7	30	21.6	88	77	4	9	------	Ω ≡ a.
8	31.2	19.8	86	69	2	7	------	Ω° ≡ a. ○ p.
9	31.5	21.4	91	64	2	9	------	Ω ≡ a. ○ p.
10	31	20.7	84	75	4	5	------	Ω ≡ a.
11	31.4	21.1	81	68	2	5	------	Ω ≡ a.
12	31.3	22	83	67	10	7	1	Ω ≡ a. d ⊤° p.
13	32.2	22.3	90	70	9	9	------	≡ a.
14	31.2	21.7	90	66	5	4	------	Ω ≡ a.
15	32.3	21	87	55	4	9	------	Ω ≡ a. ○ ∞ p.
16	31.2	21.4	86	58	9	9	2	Ω ≡ a. ○ ⊤ ●
17	30.4	22.3	83	70	10	9	------	≡ ⌒ a.
18	32.4	21.4	86	51	6	7	------	Ω ≡ a.
19	32.4	21.9	89	73	2	6	.8	Ω ≡ ○ a. ●° p.
20	30.9	20.7	84	71	6	10	------	Ω ≡ a. ○ a. p.
21	32	19.8	83	72	3	8	.5	Ω ≡ a. d p.
22	30.3	20.4	88	62	5	8	------	Ω ≡ a. ↙ a. p.
23	29.2	22.4	83	82	8	10	17.8	⊤ ● a. ○ p.
24	29.8	22.9	94	85	8	8	------	d ⊤ ≡ a. ○ a. p.
25	29.9	21.8	90	77	5	6	------	Ω ≡ a.
26	31.7	21.6	89	63	9	5	12.4	Ω ≡ a.
27	30.2	23	93	74	10	10	2.8	● a. d° ⊤ p.
28	30.7	21.7	86	76	3	8	6.9	Ω ≡ a. ○ a. p.
29	31.2	21.5	95	71	4	5	------	● ≡ ○ a.
30	31.2	23.2	95	58	8	5	------	≡ d° a.
31	31.4	23	79	71	3	5	------	Ω ≡ a.
Mean	31.1	21.6	87.6	68.3	5.5	7.2	------	
Total	------	------	------	------	------	------	44.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31	21.1	94	65	4	8	------	Ω² a. ○ ⊖ p.
2	32.5	20	86	56	5	8	------	Ω² ≡² ○° a. ↙ ⋓
3	32.8	20	87	65	2	6	------	Ω a. ↙ ⋓ p.
4	34.9	23.4	81	56	9	4	------	↙ ⊖ p.
5	34.9	22.6	78	50	3	2	------	↙ a. ⋓² p.
6	32.6	23.7	81	66	6	8	2.5	○ ↙ ● p.
7	33.3	22.2	80	59	3	3	------	↙ a. p. d p.
8	34.4	23.5	83	49	8	7	------	↙ p.
9	33	20.3	94	62	3	6	------	Ω a. ↙ ⊖ p.
10	34.3	22.1	83	63	4	2	------	Ω a. ↙ p.
11	33.9	23.3	81	63	8	6	------	↙ p.
12	33.3	22.6	83	59	6	10	2.5	↙ a. ● p.
13	33.1	21.2	91	54	6	8	------	Ω a. ↙ d p.
14	34	21.2	87	54	6	6	------	Ω ≡° a. ↙ p.
15	31.5	21.5	87	62	8	10	------	↙ p.
16	27.5	22.2	90	82	10	10	3.3	●° a. p.
17	31.2	21.1	96	60	10	6	------	↙ p.
18	33.2	20.5	95	59	2	3	------	Ω² ↙° a. ↙ p.
19	33.3	21.6	92	59	5	3	------	Ω² a. ↙ p.
20	31.5	21.7	91	70	6	9	------	≡° ○² a. ↙ p.
21	32.2	23	88	57	2	3	5.1	↙ a. p. ● ⌈↯ p.
22	32.1	22.4	92	61	4	3	------	↙ ⌈↯° p.
23	29	23.8	92	80	10	9	26.7	● a. ↙ ●² d ↯
24	33	21.7	97	63	8	5	6.4	≡° a. ↙ ⌈↯ ● p.
25	32.5	22.6	95	59	9	6	5.1	d a. ↯ ● p.
26	33.2	22.1	91	59	7	4	3.3	≡ a. ↙ ● ↯ p.
27	32.1	23	91	75	8	7	6.4	● ⋓ p.
28	33.2	22.4	91	61	2	8	12.7	Ω² ≡ a. ↙ ●² ⌈↯
29	32.7	21.1	96	62	3	8	------	Ω a. ↙ ↯ p.
30	32.1	21.2	89	65	2	6	------	Ω ↙ a. ⋓ p.
31	34	21.6	83	57	1	2	------	Ω a. ↙ p.
Mean	32.7	22	88.5	61.7	5.5	6	------	
Total	------	------	------	------	------	------	74	

METEOROLOGICAL DATA, ETC.—Continued.

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.2	18.3	88	58	7	9	------	↙° p.
2	33	18.7	80	54	7	6	------	↙° a.
3	31.7	18.2	85	63	8	9	------	Ω ≡^{2} a.
4	33.5	21.5	92	60	7	7	------	≡ a.
5	33.7	20.8	91	53	4	3	------	Ω^2 ≡ a.
6	34.3	21.8	90	55	4	7	------	Ω° ≡^{2} a.
7	32.8	20.1	88	56	4	4	------	↙ p.
8	33.8	21.2	91	59	8	8	------	Ω^2 ≡^{2} a. ↙ p.
9	33.4	18.9	78	55	4	7	------	Ω^2 ≡ a.
10	32.7	21.1	87	58	8	7	------	Ω° ≡ a. ↙ p.
11	32.4	21.2	85	60	10	9	------	≡^{2} a. ↙ p.
12	32.5	21.7	91	66	7	8	------	Ω° ≡^{2}a. ↙ ⎾ζ p.
13	33.1	20.6	91	58	6	6	------	
14	31.5	21.4	83	63	9	10	------	
15	30.4	22	89	71	8	10	0.3	Ω° ≡ a. d° ●° p.
16	29.1	22.7	92	63	10	10	.8	d a. ●° d° p.
17	32.2	20.4	88	67	7	9	------	Ω° ≡° a.
18	33.1	21.2	86	61	8	4	------	↙ p.
19	33.3	21.6	82	59	7	7	------	≡° a. ↙ p.
20	29	22.6	85	84	9	10	22.6	≡ d a. d ● p.
21	29.7	21.9	97	78	10	9	27.3	⎾ζ ● a. p. d p.
22	31.3	22.7	100	68	10	10	4.1	● a. p. ↯° p.
23	31.9	23.3	96	69	10	10	45.7	⎾ζ ●a. ⎾ζ^2 ●^{2} p.
24	31	21.9	96	77	10	10	34.3	● a. p.
25	31.2	22.6	97	76	10	9	7.6	● a. ⎾ζ d° p.
26	31.6	21.5	97	69	4	6	.5	Ω° ≡ a.
27	32.5	22.7	94	80	4	9	------	↯° ≡ ⎾ζ d ↙ ⊖
28	31.7	20.3	90	66	4	8	------	Ω^2 ≡ a. d° p.
29	32.4	21.9	88	65	7	7	------	Ω^2 ≡ a.
30	32.7	20.8	91	68	4	9	------	Ω^2 ≡ a. ⎾ζ p.
31	32.5	20.3	89	64	1	2	------	↙° p.
Mean	32.2	21.2	89.6	64.6	7	7.7	------	
Total	------	------	------	------	------	------	143.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.7	20.6	98	73	6	9	------	Ω a. d° a. p.
2	30.1	20.1	95	63	6	5	------	Ω^2 a. p° p.
3	29.2	20	96	66	8	9	------	Ω^2 a.
4	29.6	20.9	93	61	9	7	0.8	Ω a. ⎾ζ d p.
5	29.6	21.7	94	61	3	3	------	Ω^2 a.
6	30.1	20	95	66	7	6	3.8	Ω a. ↙ ● p.
7	29.3	20	95	57	1	6	------	Ω^2 a.
8	29.1	20.8	97	70	8	8	.3	Ω a. ●° ⊍ p.
9	29.2	21.1	95	65	8	7	------	Ω^2 a. d° p.
10	28.5	22.6	93	67	4	9	------	Ω a.
11	29.1	21.9	95	70	8	10	------	Ω a. d° p.
12	28.5	20.6	96	74	8	10	.5	Ω ≡ d° a. ●° d°
13	29.6	20.6	99	52	7	7	------	Ω ≡^{2} a.
14	28.1	21.7	97	72	10	10	.3	Ω ≡ a. d p.
15	26.7	22.2	97	79	9	10	1.3	Ω ≡ d a. ●° p.
16	27.1	21.5	96	80	10	10	2.5	Ω ≡^{2} ● a.
17	27.7	21.6	99	74	9	8	------	Ω ≡^{2} a.
18	29.8	22	96	66	7	6	------	Ω ≡^{2} a. ∩ p.
19	29.6	22.5	96	66	8	6	------	Ω ≡ a. ∩ p.
20	26.5	22.8	95	84	10	10	60.2	●° d° a. ↙ ● p.
21	27.2	23.1	95	80	10	8	9.7	● d° a.
22	28.5	24.2	-----	71	8	9	------	Ω a. ⊤ p.
23	31.8	23.9	------	69	10	9	3.6	Ω d a. ↙ ● ⎾ζ
24	30.1	23.2	92	83	9	7	7.9	Ω ↙ ● a. ⊤ ●°
25	32	22.9	93	67	6	8	.8	Ω a. ⎾ζ ●° p.
26	31.6	23.2	90	57	4	8	------	Ω a. ∩ p° p.
27	30	22.6	94	73	7	5	5.1	Ω d a. ● p.
28	------	------	------	------	------	------	2.5	Ω a. ● p.
29	------	------	------	------	------	------	10.9	● p.
30	29.8	22.4	97	63	9	5	------	Ω a.
31	31.9	22.2	93	62	1	7	------	Ω a. p° p
Mean	29.2	21.8	95.2	68.7	7.2	7.7	------	
Total	------	------	------	------	------	------	110.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32	21.7	91	82	10	8	7.1	Ω^{2}a. ⊍^{2} ⊖° ↯^{2} p.
2	31.4	22.5	95	67	8	7	------	● a. ∞^{2} ⊍° p.
3	30.9	21.6	91	54	10	10	------	↙ a. ∞^{2} ↯° p.
4	31	21.6	87	74	10	10	------	↙ ⊍^{2} p.
5	29.7	21.7	90	58	10	7	------	d° a. ↙° p.
6	31.2	23.7	83	59	6	4	------	↙° a.
7	31	21.7	92	75	10	8	------	d ⊍^{2} p.
8	30.9	22.1	82	77	10	8	------	Ω° ∩ d° ∞^{2} ⊍^{2} ⊖°
9	30	21.6	89	79	10	8	------	⊍° p.
10	30	22.4	91	76	10	8	------	Ω^2 a.
11	29.5	22	88	79	10	10	------	d° p.
12	29.6	22.1	90	88	10	5	------	d a.
13	29.5	22.2	88	71	10	10	------	
14	30.4	21.8	83	80	10	10	7.1	d a. ● ⊤^{2} p.
15	28.4	22.9	90	73	10	10	------	d° a.
16	28.8	22.8	95	66	10	10	45.5	●^{2} a. p.
17	29.5	22.3	87	74	10	10	------	
18	29.4	21.6	88	72	5	4	------	∞ ↯° p.
19	30	22.5	89	77	10	4	------	↯^{2} p.
20	30.1	22.9	88	87	10	10	16.3	Ω^2 ≡^{2} d a. ● p.
21	28.3	22.4	90	78	10	10	33	d a. p. ≡^{2} ↯^{2} ●
22	29.8	24	96	87	10	10	62	d ●^{2} a. p. ↯^{2} p.
23	28.4	23.4	88	81	10	10	24.6	d ≡^{2}a. ⎾ζ^2 ↙ ●^{2}
24	29	23.2	88	77	10	10	------	
25	29.8	22.6	90	68	10	10	------	↙ a. d^2 ≡^{2} p.
26	30.6	22.7	91	67	10	10	------	Ω^{2}a. ↙ ●° ↯^{2} ⊍°
27	30.4	23.3	82	58	6	8	------	Ω ↙ a. ∞^{2} ⊍° ↯
28	30.5	22.5	88	65	10	8	------	Ω^{2}a. ↙ ↯^{2} ⊍^{2} p.
29	31	23.4	94	84	10	9	24.4	↙ ● ∩ ≡^{2} ↯ ⍑^{2}
30	30.6	21.7	91	61	10	4	------	Ω^2 ↙°a. ⊍ ⊖^{2} ↯^{2}
31	31	21.7	86	65	10	5	------	d ∩^{2} ↙° a. ⊖ p.
Mean	30.1	22.4	89.1	72.9	9.5	8.2	------	
Total	------	------	------	------	------	------	220	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.8	20.2	75	50	2	3	------	
2	33.2	21.6	87	52	4	8	------	
3	33.9	21	85	60	8	8	------	⊖ p.
4	34	20.3	89	54	8	0	------	
5	34.5	19.5	86	55	0	4	------	
6	33.5	20.5	86	58	7	2	------	
7	34	20.2	79	54	4	2	------	
8	33.9	20.7	86	53	8	4	------	
9	34.9	20.1	81	54	7	4	------	
10	34.1	20.5	72	54	8	3	------	
11	33.3	21.1	86	57	9	10	------	
12	33.1	21.5	80	54	10	6	------	
13	34	21.6	73	54	8	10	------	
14	33.8	22	77	62	8	10	------	
15	33	21.6	82	58	2	10	------	
16	32.1	21.6	83	80	10	10	------	⊤ d° p.
17	32	21.5	86	60	4	6	------	
18	34	21.8	86	52	8	7	------	
19	32.9	21.8	81	63	2	10	------	d° p.
20	33.9	21	86	60	2	10	0.5	d p.
21	32.6	21.5	80	65	10	10	------	↙ a. p.
22	32	23.8	87	70	10	10	8.9	d° a. ↙ ● p.
23	27.5	23.2	94	94	10	10	32.8	d ●° a. ⊤ ● p.
24	33	23	90	67	10	10	.8	↙ a. p. d ⎾ζ p.
25	32.3	23.3	95	70	10	8	------	
26	32.3	22.3	91	63	7	8	------	
27	33.1	22.3	87	58	1	9	------	
28	33.4	20	91	57	3	8	------	
29	33.4	22.8	86	55	10	10	------	
30	35.2	21.9	86	54	0	0	------	
31	35.2	21.3	87	56	0	2	------	
Mean	33.3	21.5	84.5	59.8	6	6.8	------	
Total	------	------	------	------	------	------	43	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	20.5	92	66	8	6	------	⊕° p.
2	31.6	22.1	91	74	8	8	6.6	⌒ ● a. d p.
3	32	20.5	94	67	10	9	------	○ p.
4	32.9	20.3	94	58	9	8	------	Ω° a.
5	32.4	21.6	91	50	9	6	------	≡° a.
6	33.3	22	92	44	7	5	------	≡° a. ⦶° p.
7	32.1	21	91	61	8	4	------	≡^{2} a. d° p.
8	31.7	21.6	99	68	6	8	------	d a.
9	31.6	21.2	92	67	10	9	------	d a. ○ p.
10	33.6	21.6	93	63	9	7	2.3	p ⌈Ʒ° p.
11	32.4	21	95	62	10	9	------	○^{2} p.
12	30.6	22.1	93	70	10	9	------	p° a. ○^{2} p.
13	33.1	21.2	94	70	10	9	------	d p.
14	33.3	21.7	92	65	8	9	------	○° d p.
15	31.1	22.9	92	56	9	10	2.5	●° p.
16	29.5	23	93	74	10	9	------	d a. ○° p.
17	31.1	22.8	95	71	9	8	2	○^{2} a. ○° ●^{c} p.
18	33.1	21.4	95	64	8	6	------	
19	32.3	23.2	90	82	9	10	------	d ↯° p.
20	26.6	21.6	93	93	9	10	11.4	d a. p. ● p.
21	29.7	23.4	92	82	10	9	18.5	d a. ●^{2} p.
22	29.5	23.7	95	77	10	9	6.4	●° a. p.
23	26.1	23.9	96	94	10	10	8.4	●° ⊤^{2} a. ●^{2} ⌈Ʒ^{2}
24	30.1	23.9	89	75	10	9	------	↯^{2} p.
25	31.3	22.1	96	76	9	8	------	
26	32.8	23.3	94	76	7	8	------	
27	32.4	22.6	93	49	2	8	------	
28	32.4	21.5	93	67	9	6	------	
29	33	23.1	91	68	9	8	------	
30	33.8	22.6	90	43	2	2	------	
31	33.7	22	90	47	1	7	------	≡ a.
Mean	31.6	22.1	92.9	67.1	8.2	7.8	------	
Total	------	------	------	------	------	------	58.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.7	22.9	97	68	9	7	28.4	● a. ●° p.
2	29.6	23.4	91	76	10	6	8.4	↙ ● a. ↙ ●° p.
3	29.8	22.9	84	66	5	7	------	≡ a. ↙ p.
4	30	22	96	70	5	6	2	Ω ≡° a. ↙ p.
5	30	23.3	82	69	5	9	4.3	↙ ● a. ↙ ●° p.
6	30	24.4	78	67	4	6	?	↙ a. ↙ ● p.
7	31.9	23.2	74	63	5	4	.8	≡ ↙ a. ⌒ ↙ ● p.
8	28.8	23	94	72	10	8	10.7	≡ d ↙ a. ↙ ● p.
9	29.7	22.4	94	68	9	9	4.3	● ≡ ↙ ○ a. ●°
10	29.6	23	96	73	9	9	3.8	≡ a. ↙ ● a. p.
11	29.5	22.2	96	69	10	8	8.1	≡ a. ↙ ● a. p.
12	29.9	22.8	96	71	9	9	------	● ↙ a. ○ ↙ p.
13	29.7	22.7	93	70	8	10	------	≡ ●° a. ↙ p.
14	29.2	23.1	95	75	10	10	6.6	Ω ≡° a. ↙ ● p.
15	28.7	24.4	83	80	10	10	16.8	↙ ● a. p.
16	29.6	23.3	84	68	9	8	.5	↙ ● a. ↙ ●° p.
17	29.5	22.2	96	72	6	9	------	Ω ≡ a. ↙ ●° p.
18	30	22.4	96	68	4	8	6.9	Ω ≡ ●° a. ↙ ● p.
19	30.2	24.1	88	74	7	6	8.4	↙ ●° a. ↙ p.
20	27.8	23.3	86	85	10	10	54.9	● a. ●^{2} p.
21	27	22.3	96	80	10	10	1.8	↙ ●^{2} ↯ a. ● ⊤
22	30.8	24.4	91	68	10	10	17.3	≡ a.
23	27.2	23.6	93	88	10	10	31	↙ ●^{2} ⊤ a. ↙ ● p.
24	28.7	24.6	86	79	10	10	5.1	↙ ● a. p.
25	29.1	23.1	96	77	9	6	6.6	↙ ● a. ↙ p.
26	28.9	23.7	96	80	9	5	3.3	↙ ● a. p.
27	29.4	23.6	78	68	4	4	1.8	↙ ● a. ↙ p.
28	29.8	23.9	79	70	6	7	3.8	↙ ● a. p. ⌒ p.
29	29.7	25.1	85	73	8	6	1 3	↙ ● a. ↙ p.
30	29.9	24.2	76	75	5	7	------	↙ a. p.
31	30.1	22.8	95	70	8	4	1.5	Ω ≡ a. ↙ ● p.
Mean	29.5	23.3	89.4	72.6	7.8	7.7	------	
Total	------	------	------	------	------	------	238.4[1]	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33	24	92	65	8	8	------	
2	32.8	23.2	95	69	4	8	1.8	
3	32.8	24.2	96	67	10	8	1.5	
4	34	23.4	95	63	8	8	------	
5	32.6	23.4	96	64	8	6	2	
6	33.2	24.2	93	62	8	6	------	
7	33.8	24.4	92	------	8	7	------	
8	33.5	24	95	62	9	6	------	
9	33.5	23.6	93	64	7	8	------	
10	33.6	24.6	92	62	9	8	.5	
11	32.4	24	95	60	10	9	------	
12	30.8	24.2	96	79	10	10	2	
13	29.8	24.2	97	------	9	9	------	
14	30.5	23.6	86	86	8	10	.5	
15	32.2	24.2	93	67	9	9	4.8	
16	28.5	23.5	93	80	10	9	5.8	
17	30.6	24	98	85	9	10	.5	
18	32.5	23.4	96	64	9	6	.5	
19	31.5	23.8	95	81	8	8	1.3	
20	31.5	23.6	92	68	10	10	9.4	
21	26.2	23.2	92	96	10	10	18.3	
22	28.4	23.6	97	83	10	10	13.7	
23	25.2	24.6	98	98	10	10	11.7	⊤ p.
24	31.8	24.2	97	75	10	8	------	
25	------	24.5	94	------	9	------	0.3	
26	31.4	23.8	97	91	7	8	1.8	
27	32.4	24	95	69	8	4	1.5	
28	33.2	24.4	97	65	6	7	------	
29	33.8	24.5	95	67	8	8	------	
30	33.6	23.6	93	65	7	4	------	
31	34	24.4	95	65	8	4	------	
Mean	31.8	23.9	94.5	72.2	8.5	7.9	------	
Total	------	------	------	------	------	------	77.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	24.4	82	64	7	2	------	↙° a. p.
2	31.1	24.6	83	64	6	5	0.3	↙° a. p.
3	31.3	24.6	88	62	10	5	.3	●° ↙° p a. ↙ p.
4	31.8	24.5	88	65	6	7	------	↙° a. p.
5	34.4	24.3	84	63	7	3	------	↙ a. p.
6	31.5	24.5	88	64	8	7	------	↙° a. p.
7	32.3	24.7	91	60	8	7	------	↙° a. p.
8	32.3	24.1	86	60	6	7	------	↙° d° p.
9	32.5	23.9	90	62	5	4	------	↙° a. p.
10	32.5	24.6	89	62	7	7	------	↙° a. p.
11	31	24.4	84	66	7	9	------	↙° a. p.
12	30.7	23.7	89	64	10	7	3.3	↙° ● a. ↙ ●° p.
13	30.6	24.4	88	84	9	8	------	↙° a. p.
14	32.9	23.8	84	60	7	9	------	↙° a. ↙ p.
15	28.8	24.7	92	71	8	10	11.2	↙° ● a. ↙ ● p.
16	28.8	23.9	90	74	6	10	4.8	↙° d° a. p. ● p.
17	31	24	96	66	8	5	16	↙° a. p. ●^{2} p.
18	31	24.8	87	68	8	7	3.3	↙ d° a. ↙° ● p.
19	31.2	23.4	86	72	4	10	.5	↙° a. p. p ●° p.
20	31.4	24.3	85	71	5	9	------	↙ a. ↙° p.
21	27.9	24	92	86	8	10	9.7	↙ ● a. p. d° p.
22	28.3	24.2	92	82	10	10	.8	●° d° ↙ a. ↙ ● p
23	29	24.5	94	91	10	10	18.5	d° a. ↙ ● a. p.
24	30.9	23.7	97	72	9	5	------	↙° a. p. ⊤ p.
25	30	24.5	91	71	7	8	1	↙° a. p. p p.
26	31.5	24.4	95	71	8	5	10.2	↙° p a. ↙ ● p.
27	30.6	24.4	89	67	5	------	------	↙ a. p.
28	31.1	24.7	90	66	6	4	.3	↙ d° a. ↙° ●° p.
29	32.1	24.5	90	67	7	4	.5	↙° a. p. ●° p.
30	31.6	24.6	90	64	5	5	------	↙° a. ↙ ↯ p.
31	32.2	24.7	92	66	9	4	------	↙° a. p.
Mean	31.1	24.3	89.1	68.5	7.3	6.8	------	
Total	------	------	------	------	------	------	80.7	

[1] 30 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a.m.	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	20.6	96	75	10	8	8.4	
2	28.8	22.7	88	75	10	9	4.6	
3	29.9	22.5	95	68	4	5	2.5	
4	29.1	20.7	91	70	6	4	.3	
5	29.5	22.5	84	72	6	7	------	
6	29.6	22.7	88	68	6	5	------	
7	29.6	21.8	87	68	4	4	------	
8	29	22	93	69	8	7	7.4	
9	28.5	21.4	95	68	5	6	.3	
10	29.4	22.1	96	75	9	6	3	
11	29.5	21.8?	96	68	3	5	------	
12	28.6	22	97	77	8	7	15.5	
13	28.9	21.7	98	92	8	10	3.3	
14	28.5	23.2	85	82	7	10	8.9	
15	28	23.7	96	78	8	8	.5	
16	29.9	22.2	95	71	8	6	8.1	
17	28.9	21.2	96	73	4	6	4.3	
18	29.4	22.2	97	72	5	8	------	
19	29.1	23.2	93	73	8	5	7.9	
20	28.9	23.7	97	81	6	10	32.8	
21	27.7	22.4	91	88	10	10	13.2	
22	28	23.9	92	94	10	10	100.1	↯ p.
23	25.4	23.2	97	98	10	10	4.8	
24	28.8	23	95	74	9	7	2.8	
25	28.9	22.5	94	82	8	6	2.5	
26	29	23.1	91	76	7	5	------	
27	29	23.3	90	74	6	5	1.8	
28	29.3	22.2	97	71	6	5	2.8	
29	29.4	22.8	93	74	9	7	2.5	
30	29.3	21.5	92	71	4	4	------	
31	29	22.2	90	71	4	4	.3	
Mean	28.9	22.4	93.1	75.7	7	6.7	------	
Total	------	------	------	------	------	------	238.6	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a.m.	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	29.4	23	89	79	8	6	------	
2	28.9	22	91	83	5	4	------	
3	28.8	24.5	97	86	10	8	5.1	↙ ● a.
4	29.8	24	97	81	10	6	3	● a.
5	29.5	23.8	80	76	8	8	------	
6	30.1	24.2	85	77	10	5	------	
7	29.9	24.4	86	75	6	5	------	
8	29.5	24	85	76	10	8	5.8	↙ ●² p.
9	29.6	24	84	76	6	6	------	
10	29.8	24.1	84	75	7	7	2.5	↙ ● a.
11	29.5	24	83	74	10	8	10.4	● p.
12	28.3	23.8	85	85	8	10	2.5	● p.
13	29.1	24.1	85	78	8	6	2	● a.
14	28	24	88	95	6	10	35.1	↙ ● ↯ p.
15	28.2	24.5	88	84	10	10	4.6	↙ ● a.
16	28.2	23.5	96	94	10	10	38.4	● a. p. ⊤ p.
17	29	23.4	95	82	10	10	1.3	● p.
18	29	24.2	83	80	6	10	24.9	↙ ● a. p.
19	29	24.4	90	84	6	10	16.5	● a. ↙ ● p.
20	28.5	24	90	84	10	10	31.7	↙ ● a. ↙ ●² p.
21	28.5	23.2	88	94	10	10	59.9	↙ ● a. p.
22	27.5	24	96	94	10	10	68.6	↙ ● a. p.
23	27.4	24	91	97	10	10	50.5	↙ ● a. p.
24	29.1	24	93	82	10	8	2	● a.
25	28.6	24.6	90	84	7	6	15.2	● a. p. d ⌒ p.
26	28.6	24.9	92	85	6	7	3.6	p ● p.
27	29	24.2	86	75	8	5	------	
28	29.5	25	98	79	5	5	14	● a. ●² p.
29	29.6	25.8	88	82	6	5	1.3	p p.
30	30	24.8	89	79	6	5	------	
31	30	25.2	90	78	5	5	4.6	
Mean	29	24.1	89.1	82.4	8	7.5	------	
Total	------	------	------	------	------	------	403.5	

SUMAY, GUAM (Ladrones Islands).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a.m.	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	24.4	87	66	6	5	3.8	
2	30.6	24.2	85	56	1	5	------	
3	29	24	87	71	6	6	2	
4	28	24.2	83	70	10	7	.8	
5	28.4	24.8	79	73	10	10	------	
6	29.6	24	79	70	8	5	------	
7	29.6	24.6	83	60	10	3	------	
8	29.4	24.2	82	64	10	8	------	
9	28.6	24	84	66	8	5	2	
10	29.4	24.4	84	62	10	10	2.5	
11	29.6	24.8	84	64	2	3	2.5	
12	28.6	24.4	87	78	6	10	24.1	
13	28.6	23.4	92	70	10	10	2.5	
14	28.4	23.4	84	63	10	10	------	
15	28.2	24.6	79	71	10	10	------	
16	28.4	24.8	85	74	10	10	3.8	
17	28.4	23.4	84	73	10	10	------	
18	29	24.6	79	68	10	5	------	
19	29	24.8	87	70	8	8	7.6	
20	28.6	23.4	83	70	10	10	2.5	
21	28.4	23.8	88	71	8	10	------	
22	27.6	24	87	72	10	9	1.5	
23	28.6	23.6	83	68	10	6	2.5	
24	29	23.4	80	62	8	1	1.3	
25	30	23.8	79	64	2	3	3.8	
26	28.4	23.4	83	70	2	4	2	
27	28.4	25	88	80	4	6	5.1	
28	30	23.4	91	68	9	5	------	
29	28.4	23.2	84	70	8	8	------	
30	28.4	23.8	83	66	8	10	------	
31	29	23.6	80	68	10	10	------	
Mean	28.9	24	84	68.3	7.9	7.2	------	
Total	------	------	------	------	------	------	70.3	

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a.m.	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	24.5	85	61	8	4	------	⊕ p ⌣ p.
2	31.2	24.5	84	65	9	5	------	
3	30.5	25	84	62	7	6	3.6	↙° ⊖ p.
4	30.2	22.5	88	68	10	9	1	●° a. p p.
5	30.2	23.6	84	64	8	6	------	
6	30.5	21	87	59	10	9	1	
7	31	22.5	89	66	9	9	------	⌣ p.
8	31.5	23	88	57	8	2	------	⌣ p.
9	31.3	22.5	89	65	7	5	------	⌣ p.
10	31	------	84	58	9	8	------	
11	31.5	22.5	93	50	9	9	------	
12	31.5	22.5	91	62	9	9	9.7	↙ p.
13	31	22.5	94	59	10	10	------	↙ ● a. ↙ p.
14	31	24	91	64	9	7	1	↙ p.
15	30.6	23	93	75	10	8	------	p ↙ p.
16	30.1	24.3	90	68	9	10	1.5	p p.
17	31.5	23.2	96	71	10	3	2.5	d a.
18	30.5	25	88	62	10	8	------	
19	31.6	24.5	83	60	8	7	2	↙ ●° p.
20	31.8	23.9	90	66	8	9	------	●° p.
21	32.3	23.5	92	65	8	9	1.3	↙ ● ⌒° p.
22	29.2	23.2	96	75	10	10	11.2	d a. p. ● p.
23	28	23.2	94	84	10	10	10.9	d a. ↙ ● p.
24	30.1	23	85	71	10	9	13	↙ ●² p.
25	31.3	24	88	62	8	8	.9	⌒° a. ↙ d p.
26	30.8	23.5	84	76	8	7	1.3	d ↙ p.
27	30.6	23.5	92	77	9	9	.8	d p.
28	30.7	23.3	93	68	7	8	------	↙° p.
29	31.1	25	86	59	5	2	------	
30	31.2	24.5	88	59	9	7	------	
31	31.9	22.6	91	63	2	1	------	
Mean	30.9	23.5	89	65.2	8.5	7.2	------	
Total	------	------	------	------	------	------	61.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.7	20.8	92	73	8	5	------	d° a.
2	33.5	21.8	93	63	1	4	------	
3	31	23.6	80	65	2	7	------	⌒ p.
4	30	20.9	94	80	9	7	1.8	●° a. ϖ p.
5	31.7	21.1	91	63	7	7	.3	⌒ d a.
6	31.5	21.9	96	74	9	8	.5	●° ⌒ a. d p.
7	32	20.7	96	62	9	3	.5	⌒ d a.
8	32.5	20.3	95	64	7	8	------	●° ⌒ a. p. ϖ° p.
9	31.4	21.3	96	58	6	7	.3	ϖ° p.
10	31.2	21.3	92	63	8	8	.8	●° a. ϖ p.
11	31.2	21.1	89	66	9	8	1	●° a. ⊕ ◯ p.
12	30.1	21	96	81	9	9	2.8	●° ⌒ a. p.
13	32	21.3	96	65	8	8	------	d° ⌒ a.
14	33.5	22.3	86	67	8	10	38.1	d ↙ ●° p.
15	29.9	23.6	100	70	10	9	10.2	● ≡ a. ∞° p.
16	29	23.5	97	97	9	10	26.2	↙ ● a. ∞ ● p.
17	30.8	21.4	98	71	8	8	.5	●° a. d p.
18	31.9	21.4	90	65	8	8	------	⌒ a. d° p.
19	31.4	22.4	84	76	7	8	11.7	d ⌒ ↙ ● a. d ●
20	32.7	22.1	97	64	8	9	7.1	● ⌒² a. ⚡ p.
21	29.4	23.3	83	70	10	10	5.8	↙ ● d° a. ●° p.
22	34.6?	23.7	92	77	10	10	15.2	↙ ●° a. d° ↙ ≡ ⚡
23	28.4	23	95	89	10	10	37.3	d a. ↙ ●² a. p.
24	30.1	23.6	86	82	9	9	4.1	↙ ● d° a. ∞ p.
25	30	21.9	97	71	9	9	11.7	●° a. p. d° ⌒² p.
26	31.1	22.2	------	75	8	7	4.1	d ⌒² ● a. d° ⌒²
27	30.9	24.8	84	68	4	7	3.6	●° a. ● ⌒ p.
28	32	22.9	97	75	8	7	.5	●° ≡ ⌒ a. d p.
29	------	------	98	------	3	------	------	⌒ d a.
30	------	21.8	------	75	------	4	------	∞ p.
31	31	21.2	98	78	5	2	.8	
Mean	31.3	22.1	92.7	71.6	7.5	7.5	------	
Total	------	------	------	------	------	------	184.9	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	------	------	------	------	------	------	
2	------	------	------	------	------	------	------	
3	------	------	------	------	------	------	------	
4	------	------	------	------	------	------	------	
5	------	------	------	------	------	------	------	
6	------	------	------	------	------	------	------	
7	------	------	------	------	------	------	------	
8	------	------	------	------	------	------	------	
9	------	------	------	------	------	------	------	
10	32.8	17.3	94	68	7	7	------	
11	30.6	18.1	97	67	5	6	------	
12	32	18.8	98	67	7	6	1	●° p.
13	31	18	98	72	7	6	------	
14	31.2	20.1	96	74	7	6	13.5	↙° ● p.
15	31.7	21.2	100?	86	5	6	.8	d p.
16	31.1	21.1	99	89	8	9	------	●° a.
17	30	21.1	100?	78	9	6	------	≡° a. ⌒ p.
18	31.4	20.1	99	69	9	6	------	
19	29.6	18.1	98	90	5	9	11.4	↙° a. ●° p.
20	30.3	20.6	96	78	5	7	5.8	●° a. p.
21	27.4	22.5	92	87	10	10	23.4	● a. p.
22	29.1	22.6	97	87	9	9	2.8	●° a. p.
23	28	23.5	97	81	9	9	.8	●° a. p.
24	32.5	22.1	91	67	8	6	------	⌒ a.
25	32.2	21	97	79	7	9	2.5	●° p.
26	29.8	20.5	100	89	4	8	2.8	≡ a. ●° p.
27	32	19.9	98	76	3	7	------	
28	31.4	20	99	78	6	7	------	
29	31	19.5	98	85	3	6	3.8	●° p.
30	32.7	19.8	99	66	3	6	------	
31	33.3	19.1	100?	60	3	5	------	
Mean	31	20.2	97.4	77	6.3	7.1	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.7	22	93	50	4	4	------	
2	34.8	20.6	88	59	6	6	0.3	d° p.
3	34.7	20.4	93	49	2	4	------	
4	34.3	20.1	95	46	4	5	------	
5	33.8	19.4	91	47	3	3	------	
6	33.7	20.1	92	46	4	4	------	
7	34.8	20.7	93	41	3	6	------	⩛ p.
8	34.7	19.8	92	45	1	3	------	
9	34.8	19.7	88	42	2	3	------	
10	35.1	19.5	95	40	3	5	------	
11	34.8	20.1	87	41	6	6	------	↙° a.
12	34.8	19.4	88	55	4	6	------	
13	34.6	22.3	93	45	8	4	------	
14	34.8	20.4	86	51	7	7	------	d° a.
15	33.6	20.5	93	64	7	7	1.5	●° p.
16	34	19.3	95	69	4	7	1.3	↙ a. ●° p.
17	33.4	20.7	91	76	9	9	.3	●° ⊤ p.
18	34	21.2	94	71	7	6	------	
19	35.6	20.2	92	43	7	5	------	
20	33.8	20.9	93	53	6	7	------	
21	33.7	20.2	90	48	6	7	1	●° p.
22	31.5	21.3	93	62	9	10	3.6	●° p.
23	32.6	21.3	96	63	9	10	3	d° a. ● p.
24	33.8	22.3	90	66	8	9	------	⚡ p.
25	34.3	22.3	93	49	5	7	------	
26	34.6	21.8	88	51	3	7	------	
27	31.8	21.5	93	71	7	6	.5	d a.
28	32.8	20.3	96	69	3	9	.3	d° p.
29	35	20.9	93	46	1	3	------	
30	34.8	20.8	97	48	3	6	------	
31	35.1	21.6	94	45	2	4	------	
Mean	34.2	20.7	92.1	53.3	4.9	6	------	
Total	------	------	------	------	------	------	11.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	21	98	65	5	5	------	≡ a.
2	30.8	20.2	98	64	4	7	------	Ω ≡ a.
3	30.8	20.1	98	64	2	2	------	
4	30.4	20	98	64	7	5	------	Ω ≡ a. ⚡ p.
5	30.7	20	98	64	6	8	------	
6	31	20.8	98	63	5	2	------	≡ a.
7	30.9	20.6	98	64	7	8	------	⛈ p.
8	30.9	20.9	98	63	6	9	------	⚡ p.
9	30.6	20.5	97	64	5	8	------	≡ a.
10	31.1	19.5	98	63	5	5	------	≡ a.
11	31.6	19.8	98	63	7	2	------	≡ a.
12	31.6	19.1	98	63	5	8	------	⚡ p.
13	31	19.6	97	64	6	7	------	Ω ≡ a.
14	31	19.7	98	64	6	8	------	d p.
15	30.2	19.8	98	66	8	8	------	Ω ≡ a. d p.
16	30.8	20	98	64	7	8	------	d p.
17	31.5	20	98	64	8	8	1.3	Ω ≡ a.
18	30.3	19.7	98	65	8	8	------	●° a.
19	30	20.2	97	64	5	7	------	
20	30.1	19.8	98	65	7	8	------	d p.
21	30.2	20	99	65	3	6	------	⚡ p.
22	29.8	19.9	98	66	9	9	1.8	● a. d p.
23	28.2	20.3	98	66	10	9	29	●° a. ●² p.
24	27	20.3	98	72	9	10	55.9	● ⌒ a. ⛈ ● p.
25	30.6	20.8	97	64	5	7	------	
26	30	21	98	65	9	7	1.8	●° a.
27	30.1	20.5	98	65	7	5	3	● a.
28	30.8	21	98	64	3	8	------	≡ a. ⚡ p.
29	31	21	98	64	7	7	------	Ω ≡ a.
30	31	21.1	98	64	5	5	------	
31	31.3	21.5	98	64	3	7	------	⚡ p.
Mean	30.5	20.3	97.9	64.5	6.1	6.8	------	
Total	------	------	------	------	------	------	92.8	

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	20	98	62	2	3	------	
2	28	20.5	95	88	3	9	------	
3	29.5	20.6	96	63	2	2	------	
4	30.5	18.6	99	66	1	6	------	
5	28	17.8?	88	64	1	9	------	
6	28.9	20.4	92	61	7	2	------	
7	30	20.2	96	48?	9	4	------	
8	29	19.5	94	61	2	3	------	
9	30.5	19	91	65	2	1	------	
10	29.5	19	95	58	10	10	------	
11	29	20	96	58	9	10	------	
12	30	------	99	63	10	9	------	
13	29.9	18.1?	95	60	10	10	------	
14	28	20.6	89	68	10	7	5.1	
15	27	19.8	95	76	10	10	24.9	
16	28	20.4	89	79	9	10	24.1	
17	29.6	20.4	96	71	10	8	4.3	
18	27.8	20.7	95	79	10	10	6.9	
19	28	20.5	91	72	7	7	8.1	
20	28.6	21	96	68	10	7	------	
21	29	21	86	69	10	10	6.4	
22	26.4	20.7	91	78	9	10	19.3	
23	25.5	20.8	96	82	10	10	26.9	
24	29.4	21.6	98	74	10	8	43.7	
25	29	20.6	91	78	7	7	4.6	
26	28.1	21.1	93	81	10	7	8.9	
27	27.5	20.3	96	85	10	9	11.4	
28	28	20.8	96	81	6	9	6.1	
29	29	20.1	98	69	5	5	------	
30	29.8	20.5	92	71	2	9	1.3	
31	29.8	21.3	98	65	3	1	2.5	
Mean	28.7	20.2	94.2	69.8	7	7.2	------	
Total	------	------	------	------	------	------	204.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.3	19.6	93	37	2	1	------	Ω ≡ a.
2	35	19.6	95	40	0	4	------	Ω ≡² a. ∞ p.
3	34.9	19	92	38	0	1	------	Ω² ≡ a. ∞ p.
4	34.8	18	93	37	1	4	------	Ω ≡ ⊕ a. ∞ p.
5	33.8	19.2	93	40	2	2	------	Ω ≡ a. ↙ p.
6	34	18.7	92	47	4	4	------	Ω ≡ a. ⊕² p.
7	35	19.5	91	38	2	4	------	Ω ≡ ⊕ a.
8	34.3	18.5	92	44	1	5	------	Ω ≡ a. ⊕² ↙° p.
9	34.2	16.6	91	41	1	4	------	Ω ≡ a.
10	35	18.4	93	28	0	0	------	Ω ≡ a. ∞² p.
11	35.1	19.2	91	41	6	5	------	Ω ≡² a.
12	35.6	17.7	94	42	4	6	------	Ω ≡ a.
13	35.5	20.4	94	38	4	4	------	Ω ≡° a. ↙° p.
14	34.5	18.8	86	38	10	6	------	Ω ↙° a.
15	30.5	20.8	83	55	10	10	------	↙° a. d° a. p.
16	35	20	90	43	2	6	------	
17	36.2	19.7	92	40	0	6	------	Ω ≡² ⊕ a. T° p.
18	34.9	21.1	91	43	1	8	------	Ω ≡° a. ↙° ϟ° p.
19	35.5	20.9	89	38	0	4	------	Ω° ↙° a. ↙° ⊕² p.
20	35.5	20	87	29	0	4	------	Ω° ≡° a. ↙° p.
21	36.4	19.7	91	35	0	5	------	Ω ≡° ◯ a. ↙° p.
22	35.5	20.9	86	39	4	8	------	
23	33.5	22	87	53	3	10	0.3	↙° d° a. p.
24	33.5	22.8	88	87	10	9	6.1	d° ☈ ●° p.
25	33.5	22.5	96	57	8	7	------	≡ a. ↙° ϟ° p.
26	35	20.5	93	42	2	5	------	Ω ≡ a. ↙ d° ◒
27	31.9	23	79	70	3	9	------	Ω ≡ ↙° a. ↙ d°
28	35.5	21.5	93	41	4	8	------	↙° a. ◒° p.
29	35.7	22.5	92	43	3	5	------	Ω° ≡° a.
30	36.1	20.2	91	43	0	5	------	Ω ≡ a.
31	37.7	21.9	95	40	0	4	------	Ω ≡² a. ☈° p.
Mean	34.8	20.1	90.7	43.5	2.8	5.3	------	
Total	------	------	------	------	------	------	6.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	21.6	13.5	96	83	4	4	------	≡ p.
2	21.2	14.6	73	79	2	10	------	≡ p.
3	22.6	14.4	79	70	2	5	------	
4	22.9	13.9	90	76	3	10	------	
5	23.2	14.4	82	67	1	10	------	
6	23.5	14.4	79	72	1	5	------	
7	21.3	13.6	90	84	0	5	------	
8	23.2	14	99	66	3	8	------	
9	23.6	15.6	64	59	5	4	------	
10	23.5	15	61	71	3	7	------	
11	23	13.4	99	84	4	8	------	
12	22.7	12.4	98	78	3	7	------	Ω ≡ a.
13	22	15	84	80	3	9	------	
14	22.6	14	96	73	4	10	------	
15	21	13	68	93	7	10	4.3	d p.
16	21.9	13	98	83	6	8	------	
17	23	13.3	90	99	3	10	5.1	Ω ≡ a. ● p.
18	22	14.2	80	78	1	10	------	≡ p.
19	23.5	14	88	83	3	10	------	≡ a. p.
20	23.4	14.5	74	75	2	7	------	≡ a. p.
21	22.7	14.5	91	79	3	8	------	≡ p.
22	22	14.4	64	89	5	10	1	d p.
23	22.6	14.2	81	95	3	10	2.3	≡ a. p. d p.
24	23	13	88	78	7	7	------	
25	23.3	15.4	95	87	7	4	------	
26	22.6	14.6	93	89	2	6	------	≡ p.
27	23.2	14	84	67	3	10	------	
28	23	14.5	92	88	3	10	------	≡ p.
29	21.6	15	87	87	7	7	4.8	Ω ≡ a. ● p.
30	22.1	16	80	80	6	9	13.7	≡ ● p.
31	22.8	14.6	95	98	2	10	4.6	●° p.
Mean	22.6	14.2	85.1	80.3	3.5	8	------	
Total	------	------	------	------	------	------	35.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. c .	P. ct.	0–10.	0–10.	mm.	
1	32.4	21.5	93	58	4	2	------	Ω ≡ a.
2	33	21.4	93	58	2	1	------	Ω a.
3	33.4	21.9	89	52	0	2	------	Ω a.
4	32.4	21.3	93	58	4	3	------	Ω a.
5	33.6	20.9	91	50	4	3	------	Ω a.
6	32.6	21.7	88	58	7	2	------	Ω a.
7	32.9	22.5	86	57	5	2	------	Ω a.
8	34.6	20.9	91	47	9	4	------	Ω a.
9	34.3	21.6	91	47	1	2	------	Ω a.
10	32.2	20.9	91	54	1	1	------	Ω² a.
11	33.6	22	90	49	9	4	------	Ω° a.
12	33.3	22.1	89	56	2	3	------	Ω a.
13	32.5	21.9	90	62	2	6	------	Ω a.
14	32.2	21.5	83	58	4	7	------	Ω a.
15	32.6	20.9	89	51	4	9	------	Ω a.
16	33.1	21.7	90	59	9	7	------	Ω a. ⌒° p.
17	33	21.9	88	60	1	2	------	
18	33.5	22.2	88	52	1	2	------	
19	34.4	22	87	52	2	2	------	⌒° p.
20	33	21.4	86	58	3	5	------	Ω° a.
21	33.6	21	88	59	2	6	------	Ω° a.
22	33.2	23	88	52	7	4	------	
23	33.8	22.6	91	57	3	6	------	
24	32.8	23.3	84	67	9	8	------	
25	32.9	23.9	87	65	10	9	------	
26	33.5	23.6	83	60	9	2	------	d° p.
27	33.4	23	90	67	1	9	------	d° p.
28	32.9	23.9	88	57	6	6	------	
29	33.3	23.4	85	57	2	7	------	Ω° a.
30	34.4	22.9	85	55	2	3	------	ϟ° p.
31	34.6	23.6	87	55	1	2	------	
Mean	33.3	22.1	88.5	56.2	4.1	4.2	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	17.4	92	49	10	4	------	Ω ≡ a.
2	33.6	17.8	97	52	9	2	------	Ω² a. ↙° p.
3	33.5	16.6	98	49	9	4	------	Ω² ≡² a. ↙° a. p.
4	33.3	15	96	48	4	3	------	Ω² ↙° a. ↙° ϖ² p.
5	33.3	17.6	94	47	5	4	------	Ω° ≡ a. ↙° a. p.
6	33.5	13.2	93	45	4	3	------	Ω² ≡° a. ↙° a. p.
7	33.6	15.3	94	49	5	5	------	Ω² ≡ a. ↙° a. p.
8	33.6	17.6	93	46	10	4	------	↙° a. p.
9	33.5	15.4	92	46	3	2	------	Ω² ≡° a. ↙° a. p.
10	34.4	15.4	93	41	3	3	------	Ω² ≡² a. ↙° a. p.
11	34.3	16.1	91	42	6	7	------	Ω ◯ a. ↙° p.
12	33	13.9	93	48	5	4	------	Ω² a. ↙° a. p.
13	34.9	18.7	97	41	5	4	------	Ω² ◯ a. ↙° p.
14	32.5	15.2	95	47	7	9	------	Ω² ◯ a. ⌈ʒ ◯² ↙°
15	27.4	17.2	96	86	10	10	1.5	Ω° d² a. d° ↙° ϖ²
16	34.6	17.8	98	41	7	9	------	◯² ↙° a. p.
17	34.8	16.6	98	43	3	2	------	Ω² ↙° a. ⌈ʒ ↙° p.
18	35.4	17.7	95	46	6	6	.8	Ω² ↙° a. ⌈ʒ ↙° d²
19	34.6	18.4	96	41	9	4	------	Ω² ≡ a. ↙° a. p.
20	34.9	17.1	95	41	4	4	------	Ω² ◯ a. ↙° a. p.
21	35.7	17	93	46	4	9	.3	Ω² ⊕° a. ◯ ↙° p.
22	29.2	19.6	96	91	10	10	11.2	d² ↙° a. p. ● p.
23	30.6	20.1	97	83	10	10	2	d° ≡ d² a. d² ↙°
24	32.5	18.6	99	65	7	10	------	⊕² a. ⌈ʒ ⌒ p.
25	33.3	20.4	97	85	9	10	3.3	Ω° ≡² ⊕° ↙ ●° ⌈ʒ
26	28.2	19.3	96	94	10	10	8.9	≡ a. ↙ ●° a. p.
27	26.6	18	92	79	10	10	5.3	↙ d ≡ a. ●° ϖ°
28	32.9	19.2	98	59	10	4	3	d² ≡ d° a. ϖ° ●°
29	34	20.6	98	53	10	5	------	d° a. ⌈ʒ ↙° ⌒° ϖ²
30	33.2	18.6	99	56	4	5	------	Ω² ≡² ⊕° ↙° ⌈ʒ ϖ°
31	35.1	19.4	96	44	5	3	------	↙° a. p. ⌈ʒ p.
Mean	33	17.4	95.4	54.9	6.9	5.8	------	
Total	------	------	------	------	------	------	36.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	22.7	80	64	4	2	------	Ω² ≡² ⊕ a. ↙° p.
2	30.7	22.2	81	64	3	2	------	Ω² ≡² a.
3	30.4	22.1	80	54	0	0	------	Ω² ≡² a.
4	30.5	22.1	76	62	3	0	------	Ω ≡ a. ↙° ⊕ p.
5	30.4	22.2	77	61	2	0	------	Ω² ≡² a.
6	30.1	22.2	79	65	7	0	------	Ω° ≡° a. ↙° a. p.
7	31.1	23.1	78	55	7	0	------	Ω° ≡° a. ↙° p.
8	31.4	22.8	76	56	3	1	------	Ω ≡ a. ↙° p.
9	30.9	23.4	78	68	0	6	------	Ω² ≡² a. ↙° p.
10	30.5	22.4	79	64	1	0	------	Ω² ≡² a.
11	30.8	23	77	64	3	7	------	Ω² ≡² a.
12	30.4	23.2	80	64	3	2	------	Ω² ≡² a.
13	30.5	23.7	81	66	1	4	------	Ω² ≡² a. ⊕ ↙° p.
14	30.5	24.5	77	62	5	9	------	Ω ≡ ◯ a. ◯ ↙° p.
15	30.4	22.5	83	65	5	9	------	Ω² ≡² a. d p.
16	30.9	23.6	82	62	9	8	------	Ω ≡ a. ↙° p.
17	30.8	23.9	80	64	2	4	------	Ω² ≡² a. d p.
18	31.5	22.5	75	63	0	3	------	Ω ≡ a.
19	31.5	24.8	77	65	2	5	------	Ω ≡ a. ↙° ⊤° p.
20	30.9	24.1	82	62	4	6	------	Ω² ≡² a.
21	31.4	23	80	71	4	7	------	Ω ≡ a. ↙° p.
22	31.4	22.4	96	52	4	4	------	Ω° ≡° a. ↙° p.
23	31.4	22.4	75	53	2	5	1.3	Ω ≡ a. ↙° ⊤ ●° p.
24	32	24.2	81	66	9	7	------	Ω ≡ a. ⊤° d p.
25	31	25.5	80	63	9	8	------	Ω ≡ a. ⊤° a. p.
26	33.7	25.2	70	48	7	5	------	Ω ≡ a. ↙° p.
27	33.7	24.8	60	56	3	8	------	↙° a. p.
28	31.5	24.4	73	65	7	8	------	Ω° ≡° a. ↙° a. p.
29	30.4	24.2	82	67	0	8	9.1	Ω ≡ a. ⊤° ● p.
30	31.5	24.2	84	63	0	0	------	Ω ≡ a.
31	30.9	23	83	61	0	0	------	Ω² ≡² a. ↙° p.
Mean	31.1	23.4	78.8	61.8	3.5	4.1	------	
Total	------	------	------	------	------	------	10.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	19.7	97	58	0	1	------	Ω² ≡² a. ↙ p.
2	33.4	19.5	93	51	0	1	------	Ω ≡² a.
3	32.5	20	90	59	0	2	------	Ω ≡ a.
4	31.8	21.8	94	56	4	1	------	Ω ≡ a.
5	32.4	19.5	96	61	0	3	------	Ω ≡² a.
6	32.2	22	94	61	1	1	------	Ω ≡° a.
7	33.4	21	90	51	1	1	------	Ω° ≡ a. ↙ p.
8	33	21.2	88	59	0	1	------	Ω° a.
9	33.3	21.2	90	61	1	2	------	Ω a.
10	32.6	20.2	91	52	0	0	------	Ω ≡² a.
11	32.8	19.6	87	57	0	1	------	≡² a.
12	31.9	21.4	94	56	0	1	------	Ω ≡ a.
13	34.6	20.3	94	50	0	2	------	Ω ≡ a.
14	34.3	21.9	89	52	1	8	------	Ω° ≡ a.
15	35	19.7	88	45	1	3	------	Ω° ≡ a.
16	32.5	22.6	92	60	4	3	------	≡° a.
17	32.3	23.4	89	60	3	4	------	≡° a. ↙ p.
18	37.8?	20.7	90	44	0	0	------	Ω° ≡ a. ↙° p.
19	33.9	22.5	87	62	1	1	------	≡° a.
20	33.8	22.2	92	64	0	1	------	≡ a. ↙° p.
21	37.3?	21.6	93	51	0	3	------	≡² Ω a. ↙ p.
22	36.6?	22.2	64	43	0	1	------	↙ a. p.
23	35.3	21.4	85	50	0	1	------	≡ a. d ⌒ p.
24	33	23.6	87	65	6	5	------	⌈ʒ ↙ d p.
25	33.6	25	74	56	6	8	------	↙ a. p.
26	33.1	24.9	68	51	9	4	------	↙ a. p.
27	35.4	22.8	71	34	0	0	------	≡ a. ↙ a. p.
28	34.4	21.9	80	48	0	0	------	≡ a.
29	35.1	22.4	88	49	0	6	------	≡ a.
30	33.3	23	89	64	0	7	------	≡ a. ⌈ʒ p.
31	33.3	22.9	90	55	0	3	------	Ω ≡ a. ⌈ʒ p.
Mean	33.8	21.7	87.5	54.4	1.2	2.4	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.8	22.4	94	70	10	1	------	●° a. Ω² p.
2	28.1	19.9	91	73	7	4	39.9	
3	25.1	21.2	95	88	10	10	29.5	d° a. ●² a. p.
4	27.2	22.3	81	67	10	1	1.5	↙° a. p. ≡ d p.
5	26.6	21.5	78	76	10	8	.4	↙° a. p. d° p.
6	28.1	24.2	83	72	6	1	------	↙° p° a. ↙° ≡ Ω²
7	27.3	22.4	83	66	1	2	------	↙° a. ≡ a. p.
8	28.7	20.1	79	76	0	5	------	Ω² ↙° a. ≡ p.
9	29.7	25.1	82	71	8	2	------	d° a. ↙° ≡ Ω² p.
10	30.5	23.3	93	77	1	0	------	Ω² ↙ a. ≡ Ω² p.
11	29.7	22.7	90	71	2	8	------	Ω² v a. ↙° a. p.
12	30.1	24.4	78	67	3	0	------	↙° a. p. ≡ Ω² p.
13	27.8	20.9	90	77	0	3	17	Ω² ↙ p° a. ↙° ●
14	25.4	22.3	82	78	10	10	2.1	↙ d° a. p.
15	28.8	22.8	79	73	3	6	1	↙° a. ≡ ●° p.
16	29.4	22.8	90	75	6	6	------	p° a. d° p.
17	29.4	23.2	90	75	7	6	5.7	≡ d° a. ↙ ● ≡
18	24.6	20.8	80	74	10	10	5.7	↙ d° a. ↙ ● p.
19	26.4	21.8	84	90	10	10	17.7	● a. p. ↙ p.
20	28.8	23.1	85	78	8	7	------	≡ ↙ p.
21	28.6	23.1	86	74	2	8	------	d° ↙° a. p.
22	29.1	28.6	76	70	5	8	.3	↙° a. p. ≡ d° p.
23	28.9	23.3	84	73	4	6	------	d° ↙° a. ≡ ↙° p.
24	27.7	21.7	92	93	10	10	62.2	p° a. ↙ ●² a. p.
25	21.2	18.8	86	85	10	10	26.2	↙ ●° a. ↙ ● p.
26	22	18.8	85	79	10	10	9.9	↙ ●° a. ↙ ● p.
27	23.1	18.4	74	81	10	10	1	d° a. ↙° a. p.
28	27.1	20.4	84	82	10	10	2.7	p° p.
29	27.3	21.8	82	69	10	3	------	↙° ●° a. ↙° ≡ p.
30	27.7	22.7	83	87	10	10	6.6	↙° a. d ⌒ p.
31	27.4	22.3	94	78	10	10	------	● ⌒° a. ↙° Ω p.
Mean	27.4	22	84.9	76.3	6.9	6.3	------	
Total	------	------	------	------	------	------	229.4	

SEISMOLOGICAL BULLETIN FOR MARCH, 1909.

By Rev. Miguel Saderra Masó, S. J.,

Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

1, 6^h 35^m. **Ormoc** (W of Leyte). Earthquake of intensity II.

1, 16^h 7^m 25^s.* **Surigao** (NE of Mindanao). Oscillatory earthquake. Direction NE–SW; force III; duration 10^s.

4, 5^h 38^m. **Laoag** (NW of Luzon). Earthquake of force III and short duration.

7, 0^h 0^m. **Butuan** (N of Mindanao). Earthquake of force III. Two distinct sets of waves have been observed in the directions SW–NE and WSW–ENE respectively.

14, 18^h 45^m. **Nueva Caceres** (Camarines). Vertical shocks of force III.

17, 5^h 43^m 16^s.* **Jolo.** Oscillatory earthquake. Direction NW–SE; force III. The place of origin of this disturbance lay between Jolo Island and the northwestern part of the Celebes Group, where it was likewise felt and even with greater intensity.

18, 16^h 27^m 4^s.* **Eastern Mindanao.** Earthquake of force VII. The epicenter of this quake is to be sought in the eastern mountain range of Mindanao, or very close to it on the Pacific coast. The area of more pronounced intensity approaches the form of an ellipse whose major axis, starting from the Pacific Ocean, runs westward along the parallel of 8° 12′ N across the eastern mountains as far as the Agusan River. In some towns on the eastern coast the disturbance developed force VII–VIII, and VII, in those along the Agusan, 65 kilometers west of the coast. At Butuan, which lies about 100 kilometers to the northwest of the epicentric region (supposing the latter to have been on the coast), the force was VI; hanging lamps and other suspended objects oscillating in the direction SE–NW. The quake was perceptible neither at Surigao, nor at Davao, whose respective distances are 200 kilometers to the north and 150 to the south.

The microseismographs of Manila Observatory registered the phenomenon as an earthquake of moderate violence. The perturbation of the instruments lasted a little over one hour. This earthquake has also been recorded by the microseismographs at the observatories of Osaka, Japan, and Batavia, Java. The hours of the beginning and end of the microseismic perturbance at Manila, Osaka, and Batavia (reduced to the time of the one hundred and twentieth meridian) are as follows:

	Beginning.			End.	
	h.	*m.*	*s.*	*h.*	*m.*
Manila	16	27	4	17	34
Batavia	16	30	19	16	52
Osaka	16	31	27	17	00

In the seismological bulletins received from Europe no perturbation is mentioned corresponding to the earthquake of the 18th.

27, 8^h 45^m. **Talacogon** (Agusan). Earthquake of force III.

31, 22^h 57^m 37^s.* **Olongapo** (W of Luzon). Earthquake of force III and very short duration.

[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. s.*		
46	1	NNW-SSE	16 07 25	—	—	—	—	—	16 27	V. M.	Earthquake, III at Surigao (NE of Mindanao).
		WSW-ENE	16 07 25	—	16 09 04	16 09 22	0.03	2.6	16 27	V. M.	
		WSW-ENE	16 07 30	—	—	—	—	—	16 16	H. P.	
47	2	NNW-SSE	—	—	18 34 42	—	—	—	18 38	V. M.	
48	2	WSW-ENE	22 54 07	—	22 54 16	22 54 22	.02	2.4	22 57	V. M.	
49	7	NNW-SSE	5 23 53	—	—	—	—	—	5 39	V.M.	
		WSW-ENE	5 23 49	—	—	—	—	—	5 44	V.M.	
		WSW-ENE	5 24 00	—	—	—	—	—	5 41	H. P.	
50	8	WSW-ENE	4 14 44	—	—	—	—	—	4 40	V. M.	
		WSW-ENE	4 14 43	—	—	—	—	—	4 29	H. P.	
51	8	NNW-SSE	19 32 02	—	—	—	—	—	20 07	V. M.	
		WSW-ENE	19 31 58	—	—	—	—	—	20 07	V. M.	
		WSW-ENE	19 32 02	—	—	—	—	—	20 12	H. P.	
52	10	NNW-SSE	1 38 52	—	—	—	—	—	1 51	V. M.	
		WSW-ENE	1 38 50	—	—	—	—	—	1 53	V. M.	
		WSW-ENE	1 38 59	—	—	—	—	—	1 53	H. P.	
53	10	WSW-ENE	8 30 34	—	8 30 48	8 30 50	.05	2	8 33	V. M.	
54	11	NNW-SSE	7 59 20	8 02 35	8 06 27	8 06 47	.01	8	9 06	V. M.	Vertical Comp. 0.02 mm.
		NNW-SSE	7 59 19	8 02 37	8 06 28	8 06 48	.05	9	9 20	H. P.	
		WSW-ENE	7 59 16	8 02 37	8 06 19	8 07 00	.01	8.8	9 06	V. M.	
		WSW-ENE	7 59 15	8 02 38	8 06 26	8 07 00	.12	9	9 20	H. P.	
55	13	NNW-SSE	7 24 53	7 29 20	7 34 11	7 34 57	.02	8	8 53	V. M.	Earthquake, SE of Japan.
		NNW-SSE	7 25 00	7 30 14	7 35 28	7 38 08	.44	9.6	9 22	H. P.	
		WSW-ENE	7 24 49	7 29 14	7 34 36	7 35 15	.03	11.2	8 53	V. M.	
		WSW-ENE	7 25 00	7 30 13	7 35 31	7 36 28	.46	10.2	9 22	H. P.	
56	13	WSW-ENE	11 19 58	—	—	—	—	—	11 39	V. M.	N Celebes.
57	13	NNW-SSE	22 34 27	22 39 17	22 43 29	22 44 21	.03	5.2	0 09	V. M.	Earthquake, SE of Japan.
		NNW-SSE	22 34 50	22 39 11	22 43 30	22 44 07	.34	7.5	0 25	H. P.	
		WSW-ENE	22 34 25	22 39 06	22 43 27	22 43 31	.04	8	0 09	V. M.	
		WSW-ENE	22 34 50	22 39 11	22 43 00	22 43 51	.67	13.2	0 25	H. P.	
58	16	NNW-SSE	4 18 58	—	—	—	—	—	4 41	V. M.	
		WSW-ENE	4 18 56	—	—	—	—	—	4 41	V. M.	
59	17	NNW-SSE	5 43 16	—	—	—	—	—	5 59	V. M.	Earthquake, III in Jolo Island. Origin NW of Celebes.
		WSW-ENE	5 43 16	—	—	—	—	—	5 59	V. M.	
60	18	NNW-SSE	6 29 48	—	—	—	—	—	6 50	V. M.	
		WSW-ENE	6 29 48	—	—	—	—	—	6 52	V. M.	
61	18	NNW-SSE	6 57 22	6 59 30	7 02 14	7 02 26	.05	5.6	8 12	V. M.	Central and N Celebes.
		WSW-ENE	6 57 21	6 59 59	7 02 23	7 03 11	.06	6.4	8 12	V. M.	
		WSW-ENE	6 57 22	6 59 30	7 02 16	7 04 17	.89	11.1	8 38	H. P.	
62	18	NNW-SSE	13 42 27	—	—	—	—	—	14 13	V. M.	Palu, NW Celebes.
		WSW-ENE	13 42 29	—	—	—	—	—	14 13	V. M.	
63	18	NNW-SSE	16 27 04	—	16 29 16	16 30 11	.08	2.4	17 34	V. M.	Earthquake, VII E of Agusan River Valley.
		NNW-SSE	16 27 00	—	16 29 33	16 30 00	.33	7.2	17 33	H. P.	
		WSW-ENE	16 27 05	—	16 29 32	16 30 01	.10	2.4	17 30	V. M.	
		WSW-ENE	16 27 02	—	16 29 31	16 29 49	.36	7.7	17 37	H. P.	
64	19	NNW-SSE	4 43 35	—	4 43 49	4 43 51	.13	2.4	4 48	V. M.	
		WSW-ENE	4 43 34	—	4 43 48	4 43 50	.22	2.4	4 48	V. M.	
65	21	NNW-SSE	16 39 52	—	—	—	—	—	16 58	V. M.	
		WSW-ENE	16 39 48	—	—	—	—	—	16 58	V. M.	
		WSW-ENE	16 40 03	—	—	—	—	—	17 02	H. P.	
66	22	NNW-SSE	12 32 55	—	—	—	—	—	12 57	V. M.	
		WSW-ENE	12 32 51	—	—	—	—	—	12 57	V.M.	
		WSW-ENE	12 33 02	—	—	—	—	—	13 06	H. P.	
67	23	NNW-SSE	4 10 25	4 16 32	4 20 28	4 26 30	.01	14.4	4 42	V.M.	Earthquake in Japan.
		WSW-ENE	4 10 21	4 15 42	4 20 20	4 26 34	.01	16	4 46	V.M.	
		WSW-ENE	4 10 25	4 15 39	4 20 33	4 26 37	.07	15.2	5 02	H. P.	
68	25	NNW-SSE	1 53 08	—	—	—	—	—	2 19	V.M.	
		WSW-ENE	1 53 07	—	—	—	—	—	2 22	V.M.	
69	31	NNW-SSE	22 57 36	—	22 57 54	22 57 56	.84	2.4	23 05	V.M.	V. C. 0.62 mm. Earthquake, III at Olongapo (W of Luzon).
		WSW-ENE	22 57 37	—	22 57 53	22 57 55	.63	2.4	23 04	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=10.4 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, 6^h 35^m. **Ormoc** (W de Leyte). Temblor de tierra de intensidad II.

1, 16^h 07^m 25^s.* **Surigao** (NE de Mindanao). Temblor oscilatorio, dirección NE–SW, intensidad III, duración 10^s.

4, 5^h 38^m. **Laoag** (NW de Luzón). Temblor de tierra de intensidad III, duración corta.

7, 0^h 0^m. **Butúan** (N de Mindanao). Temblor de tierra de intensidad III; distinguiéronse varias vibraciones en las direcciones SW–NE y WSW–ENE.

14, 18^h 45^m. **Nueva Cáceres** (Camarines). Choques verticales de intensidad III.

17, 5^h 43^m 16^s.* **Joló.** Temblor oscilatorio, dirección NW–SE, intensidad III. El origen de este temblor se hallaba entre Joló y la parte NW de Célebes donde se sintió también con mayor intensidad.

18, 16^h 27^m 04^s.* **E. de Mindanao.** Terremoto de intensidad VII. El epicentro de este terremoto se hallaba en la cordillera oriental de Mindanao ó muy cerca de ella en la costa del Pacífico. El área donde tuvo mayor fuerza afecta la forma de una elipse cuyo eje mayor, partiendo del Pacífico se extiende en dirección al W á través de las montañas orientales hasta el Río Agusan, siguiendo el paralelo 8° 12′ latitud N. En algunos pueblos situados en la costa oriental tuvo fuerza de VII á VIII; fuerza VII en los del Agusan, situados hacia el W á 65 kilómetros de distancia de la costa. En Butúan, situado al NW y distante unos 100 kilómetros de dicha costa la intensidad fué VI: las lámparas y otros objetos colgados oscilaban en la dirección SE–NW. No fué perceptible ni en Surigao ni en Davao, distantes unos 200 y 150 kilómetros al N y al SW respectivamente, lo cual indica que las ondas séismicas perdieron muy rápidamente su amplitud, en las direcciones N y S.

Los microseismógrafos del Observatorio, en Manila, lo registraron como terremoto de mediana violencia; la perturbación duró poco más de una hora. Registráronlo también los microseismógrafos del Observatorio de Osaca (Japón) y de Batavia (Java). He aquí las horas de Manila, Batavia y Osaca correspondientes al principio y fin de la perturbación microséismica y reducidas al meridiano 120° E:

	Principio.			Fin.	
	h.	*m.*	*s.*	*h.*	*m.*
Manila	16	27	04	17	34
Batavia	16	30	19	16	52
Osaca	16	31	27	17	00

En los Boletines seismológicos recibidos de Europa, no aparece perturbación alguna correspondiente á este terremoto del 18.

27, 8^h 45^m. **Talacogon** (Agusan). Temblor de tierra de intensidad III.

31, 22^h 57^m 37^s.* **Olongapó** (W de Luzón). Temblor de tierra de intensidad III, duración muy 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.

EARTHQUAKES OF THE BATANES ISLANDS AND SOUTHERN FORMOSA.

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

At the end of the papers published in the Seismic Bulletins for December, 1908, and February, 1909, we promised to add some particulars concerning the seismicity of each of the different regions of the Archipelago in which are situated important seismic centers. We commence this month with the Batanes Islands, a group constituting the northernmost part of the Archipelago, not far from the Island of Formosa.

In the list of strong earthquakes published in the Bulletin for February, 1909, the Batanes Islands figure with only one earthquake, which occurred March, 1892. The data concerning same to be found in the archives of the Observatory are so deficient that not only is the hour unknown, but even the date is not quite certain. They were taken from a letter written at Santo Domingo de Basco and published in several Manila newspapers. Among other items concerning the said islands, the letter contained the following: "Between March 8 and 20, strong earthquakes have been felt which have damaged many buildings and destroyed others. There has been a panic among the inhabitants." From a laconic report like this nothing at all can be learned regarding the extension of the disturbance to other islands, the damage caused in the capital of Batan Island, the location of the epicenter, etc., and very little about the seismicity of the islands. For a knowledge of the latter we depend on data gathered by the meteorological station which during November, 1902, was established on Batan Island, the principal and most centrally situated island of the group. Table IV of the article on Philippine Earthquakes 1902–1908, published in the Monthly Bulletin for December, 1908, shows that Batan Island holds fourth place among the districts of maximum seismic activity in the Philippine Archipelago, and this although the records cover only the period 1903 to 1908.

The total number of quite perceptible earthquakes felt at Santo Domingo de Basco, where the meteorological station is located, was 49. As to intensity according to the scale of De Rossi-Forel these were distributed as follows: Intensity II–III, 34; IV, 13; V, 2.

Of these 49 earthquakes 8 had their origin in a southerly direction from the Batanes Group, not far from the northern coast of Luzon, where they were felt more intensely than at Santo Domingo. Hence there remain 41 disturbances belonging, properly speaking, to the Batanes district. Out of this number the microseismographs of Manila Observatory registered 10 of the more important.

The annual and monthly distribution of the 49 earthquakes mentioned is shown in the following table, from which it is seen that the greatest frequencies occurred during the months May, June, July, and December:

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1903	1	0	1	0	3	1	2	0	1	0	1	2	12
1904	2	0	1	2	0	0	2	0	1	1	1	1	11
1905	0	2	1	0	1	2	0	1	0	0	0	0	7
1906	0	0	0	1	1	4	0	0	1	0	0	1	8
1907	1	0	0	1	2	0	0	1	0	0	0	0	5
1908	0	0	0	0	2	1	1	0	0	1	0	1	6
Total	4	2	3	4	9	8	5	2	3	2	2	5	49

The peculiar location of the Batanes Islands between the large islands of Luzon and Formosa, and nearer to the latter than to the former, has given rise to the question among geologists and physiographers whether the Batanes Group belong to the Philippines or to Formosa. The matter has been discussed recently by Mr. Henry G. Ferguson, Bureau of Science, in an interesting paper on the physiography of the Philippines.[1] In this article the writer refers to a remark of mine,[2] in which I expressed the opinion that the earthquakes of the Batanes seem to be connected with those of the northeastern coast of Luzon rather than with those of the northwestern.

Having now to hand some seismological data concerning Formosa which I did not possess at the time of writing the paragraph referred to, it may not be devoid of interest to compare, in a summary manner, the earthquakes of Formosa with those of the Batanes Islands. For this purpose I shall confine myself to those which occurred in the south and southeast of the former island, since these are the only ones which can have any relation to those of the Batanes Group.

According to recent researches of Prof. F. Omori, there are on Formosa five principal centers or well-defined regions of seismic disturbances, which are named after the towns or chief districts which each incloses. They are: Kagi, Giran, Karento, Basshisho, and Garanbi. The seismic region of Kagi comprises the west-southwestern part of the island; the other four lie in the order in which they have been mentioned from north to south near the eastern coast. The last-enumerated region, that of Garanbi, is closest to the Batanes Islands, as it comprises the southeastern end of Formosa.

The following table shows the annual numbers of earthquakes which have been felt in the Batanes, compared with those of four stations in the south and southeast of Formosa, during the years 1903–1907:

Years.	Batanes.	Garanbi.	Koshun.	Kyuho.	Taito.
1903	12	--------	7	--------	[a]117
1904	11	30	4	2	8
1905	7	17	3	4	32
1906	8	12	[b]11	2	21
1907	5	11	6	0	6

[a] This number is due to the earthquakes and aftershocks during September.
[b] The greater frequency during this year is owing to the earthquakes and aftershocks in the seismic region of Kagi.

Although the decision of the question whether or not the earthquakes of the Batanes and the part of Formosa in question correspond to one and the same center would require a comparative study based upon data covering a longer period and upon a knowledge of the precise time of the Formosan earthquakes, still the evident discrepancy in the annual frequencies gives a sufficient foundation for denying interdependence. The only fact which might suggest a certain relation between the earthquakes of Garanbi and those of the Batanes is that both diminish gradually in numbers.

Desirous of supplying as much as possible the deficiency of the preceding data, I examined another general catalogue of earthquakes containing "621 Stronger Japan Earthquakes, 1902–1907" published likewise by Professor Omori.[3] This enumeration includes also the earthquakes of Formosa; but I have been unable to find a single coincidence as to the hour, and only one as to the date of Formosan earthquakes with those of the Batanes Islands.

In view of the short distance of the Batanes from Formosa—only some 200 kilometers—this fact is not without its significance, especially if we remember that during recent years (1904, 1906, and 1908) most violent earthquakes have taken place in Formosa, which have been quite perceptible toward the north and east to distances of more than 300 kilometers from the foci.

Though all the facts adduced probably do not suffice to constitute a rigorous proof, they nevertheless are useful, since, in agreement with those brought forward by geologists and physiographers,

[1] The Philippine Journal of Science (A. General Science), Vol. III, No. 1, Manila, 1908.
[2] Volcanoes and Seismic Centers of the Philippine Archipelago, page 73.
[3] Bulletin of the Imperial Earthquake Investigation Committee, Vol. II, No. 1, March, 1908.

they point to the conclusion that tectonically the Batanes Islands are related to the Babuyanes Group and Luzon rather than to Formosa.

Before concluding, I wish to call attention to an erroneous idea which is based on mere cartographic appearances and has still quite recently been voiced in excellent papers on seismology.

When treating of the circumpacific geosynclinal it is repeated again and again that the Philippine Archipelago with its volcanoes is a continuation of Formosa, from which island it is separated by a shallow sea dotted with islets; and that hence, Formosa and the Philippines constitute a single seismic district.

In order to dispel these notions and to enable the reader of these notes on the Batanes earthquakes to form a better idea of the situation and physiographic character of these islands, I may be permitted to quote the following paragraphs from the aforementioned paper by Mr. Ferguson:

> The Batanes Islands form the most northern portion of Philippine territory and consist of the islands of Y'Ami, Maysanga, Mabudis, Siayan, Isbayat, Inem, Batan, Sabtan, Ibujos, and Desquey, of which Isbayat, Batan, Sabtan, and Ibujos are inhabited. They lie between latitude 20° 16′ and 21° 05′ north * * * and between longitude 121° 49′ and 122° 02′ east. Y'Ami, the most northern island, is about 270 kilometers from Cape Engaño, the nearest point of Luzon, 107 kilometers from the Japanese island of Little Botel Tobago, and 160 kilometers from the southern point of Formosa. It is said that on a very clear day the Formosan mountains can be seen from the summit of Mount Iraya in Batan Island. The Bashi Channel with a minimum depth of 1,009 fathoms (1,845.5 meters) separates the islands from Formosa and the Botel Tobagos to the north, while on the south the Balingtang Channel (depth of 95 fathoms—173.8 meters—without bottom) lies between them and the Babuyanes. The Balingtang Islands, lone rocks rising perpendicularly from the sea, lie in the center of the Balingtang Channel and form a connecting link between the Batanes and the Babuyanes groups. (Pages 2 and 3.)
>
> There is not enough material on hand just now to enable us to determine the tectonic relations of the Batanes with Formosa and with the Babuyanes and northern Luzon. However, there are certain significant facts. First, the enormously deep Bashi Channel seems to trend in a northeasterly direction. If so, it may represent a geosyncline or trough, parallel to the tectonic lines shown by Von Richthofen along the southeast coasts of China and Cochin China and to the northwest coasts of Borneo and Palawan. This deep channel prolonged, would enter the 4,000+meter "deep" of the northwest coast of Luzon and follow the 2,000+meter "deep" to the southeast of the Riukiu Islands; hence, by inference, making the Philippines and Japan (including Formosa) separate geologic provinces. (Page 15.)

Mr. Ferguson also calls attention to the chain of active and extinct volcanoes which exist in the Batanes and Babuyanes groups of islands, closely aligned along the one hundred and twenty-second meridian east of Greenwich. They are: Y'Ami Island, 121° 58′; Mabudis Island, 121° 57′; Inem Island, 121° 57′; Mount Iraya, 122° 01′; Balintang Rocks, 122° 08′; Babuyan Claro, 121° 56′; Camiguin Volcano, 121° 52′; Didicas Volcano, 122° 09′, and Cagua Volcano, in northeastern Luzon, 122° 04′. It seems reasonable to infer with the author that this conspicuous chain of volcanoes indicates a fault or fissure in the earth's crust, where we probably have to look for the cause of the Batanes earthquakes.

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TERREMOTOS DE LAS ISLAS BATANES Y DE LA PARTE MERIDIONAL DE FORMOSA.

Al fin de los artículos ó notas publicadas en los Boletines séismicos de Diciembre de 1908 y Febrero de 1909 se promete añadir algunos datos sobre la seismicidad de cada una de las diferentes regiones del Archipiélago donde existen epicentros importantes. Se comienza pues este mes por el grupo de las Islas Batanes, situado en la parte más septentrional del Archipiélago cerca ya de la Isla de Formosa.

En la lista de los terremotos violentos publicada en el Boletín de Febrero se encuentra uno sólo de las Islas Batanes, occurrido el 8 de Marzo de 1892. Los datos existentes en el archivo del Observatorio son tan deficientes, que ni siquiera consta la fecha exacta ni la hora; fueron entresacados de una Correspondencia fechada en Santo Domingo de Basco y publicada en varios periódicos de Manila; en la cual, entre otras noticias referentes á aquellas islas, se daba la siguiente: "Entre el 8 y el 20 de Marzo se han sentido fuertes temblores de tierra que han cuarteado (agrietado) muchos edificios y derruído otros: pánico grande entre los vecinos." De datos tan lacónicos nada puede sacarse en claro, ni respecto de la extensión á otras islas, ni de los daños causados en la Capital de la de Batan, ni del epicentro del terremoto, y muy poco de la seismicidad de dichas islas. Esta la deduciremos de los datos recogidos desde el mes de Noviembre de 1902 en que se abrió una Estación meteorológica en la Isla de Batan, que es la principal y más céntrica del grupo. En la tabla IV del Artículo "Terremotos Filipinos 1902–1908" publicado en el Boletín Mensual de Diciembre de 1908 puede verse que la Isla Batan, á pesar de que sus registros comprenden solo los años 1903–1908, figura en el cuarto lugar entre las regiones del Archipiélago que han registrado mayor número de temblores de tierra.

El número total de temblores de tierra bien perceptibles sentidos en Santo Domingo, donde se halla establecida la Estación meteorológica, es de 49: repartidos en la siguiente forma con respecto á los grados de intensidad de la escala Rossi-Forel: II—III=34, IV=13, V=2. Es de advertir que ocho de estos temblores tuvieron su origen hacia el Sur de las Batanes no lejos de la costa Norte de Luzón, donde se sintieron con más fuerza que en Santo Domingo. Quedan por consiguiente 41 temblores de tierra pertenecientes propiamente á las Batanes: de estos 41 los microseismógrafos del Observatorio han registrado 10 de los principales.

Su distribución anual y mensual está detallada en la siguiente tabla; en la cual se ve que los números mayores se agrupan en Mayo, Junio, Julio y Diciembre.

Años.	Enero.	Febrero.	Marzo.	Abril.	Mayo.	Junio.	Julio.	Agosto	Septiembre.	Octubre.	Noviembre.	Diciembre.	Total.
1903	1	0	1	0	3	1	2	0	1	0	1	2	12
1904	2	0	1	2	0	0	2	0	1	1	1	1	11
1905	0	2	1	0	1	2	0	1	0	0	0	0	7
1906	0	0	0	1	1	4	0	0	1	0	0	1	8
1907	1	0	0	1	2	0	0	1	0	0	0	0	5
1908	0	0	0	0	2	1	1	0	0	1	0	1	6
Total	4	2	3	4	9	8	5	2	3	2	2	5	49

La situación especial de las Islas Batanes entre la grande Isla de Luzón y la de Formosa, y á menor distancia de ésta que de Luzón, ha suscitado entre Geólogos y Fisiógrafos la cuestión de si el grupo de las Islas Batanes debe considerarse como formando parte de Filipinas ó de Formosa. Ultimamente Mr. Henry G. Ferguson, comenzó á tratar de este asunto en un interesante artículo sobre la Fisigrafía de Filipinas:[1] en él se hace referencia á unas palabras mías en las que relacionó los terremotos de Batanes con la parte NE de Luzón mas bien que con la NW.[2]

Teniendo actualmente á mano algunos datos séismicos referentes á Formosa, que no poseía cuando escribí el párrafo de referencia, creo no será del todo inútil el hacer una comparación somera de los terremotos de Formosa con los de Batanes. Para esto tomaré solamente los pertenecientes á la parte Sud y Sudeste de la Isla Formosa: únicos que podrían tener alguna relación con los de Batanes. Según los recientes estudios del eminente Profesor F. Omori, existen en Formosa cinco principales centros ó regiones de actividad séismica bien definidas, que pueden distinguirse por las poblaciones ó distritos principales que encierran. Éstas son: Kagi, Giran, Karento, Basshisho y Garanbi: la región de Kagi comprende la parte WSW de la Isla, las otras cuatro, están situadas en orden de N á S cerca de la costa oriental. La última región Garanbi comprende el extremo SE de Formosa más cercano á las Batanes.

En la siguiente tabla se hallan ordenados los números anuales de terremotos sentidos en Batanes y en cuatro estaciones del extremo S y SE de Formosa durante los años 1903–1907:

Años.	Batanes.	Garanbi.	Koshun.	Kyuho.	Taito.
1903	12	-------	7	-------	[a]117
1904	11	30	4	2	8
1905	7	17	3	4	32
1906	8	12	[b]11	2	21
1907	5	11	6	0	6

[a] Este número es debido á los terremotos y aftershocks de Septiembre.
[b] La mayor frecuencia de este año es debida á los terremotos y aftershocks del centro de Kagi.

Aunque para un estudio comparativo de algún valor sería preciso mayor número de años y conocer las fechas todas de los temblores de Formosa, á fin de poder ver si corresponden á un centro común con los de Batanes, sin embargo, la sola discrepancia tan notable en el número da ya algún fundamento para determinarse á negar relación entre unos y otros. Tan sólo parece que podrá fundarse alguna correspondencia entre los de Garanbi y Batanes en la gradual disminución que presentan.

Para suplir en lo posible la deficiencia de los precedentes datos, hemos recorrido otro catálogo general de "621 Stronger Japan Earthquakes, 1902–1907," también publicado por Mr. Omori,[3] donde están incluídos los de Formosa y no hemos encontrado ni una sola coincidencia en la hora y muy pocas en la fecha entre los temblores de Batanes y de Formosa.

Esto no deja de tener alguna significación tratándose de tan corta distancia, unos 200 kilómetros, y teniendo en cuenta que estos últimos años 1904, 1906 y 1908 han ocurrido en Formosa terremotos violentísimos y bien perceptibles hacia el N y E á distancias de más de 300 kilómetros de centro.

Todos estos datos si no son suficientes para constituir una prueba serán siempre de alguna utilidad por estar acordes con los que prestan la Geología y Fisigrafía, para considerar á las Islas Batanes relacionadas tectónicamente con las Babuyanes y Luzón más bien que con Formosa.

Para terminar queremos llamar la atención sobre una idea errónea fundada en solas apariencias cartográficas y emitida aún muy recientemente en trabajos preciadísimos sobre seismología.

Repítese con frecuencia al tratar del Geosynclinal circumpacífico que el Archipiélago Filipino con sus volcanes es una continuación de Formosa, de la que está separada por una serie de islotes en mares poco profundos, de manera que viene á constituir con ella una misma provincia séismica.

Á fin de desvanecer esta idea y para que los lectores de esta nota sobre los temblores de Batanes

[1] The Philippine Journal of Science (A. General Science). Vol. III. No. 1. Manila, 1908.
[2] Volcanoes and Seismic Centers of the Philippine Archipelago pag. 73.
[3] Bulletin of the Imperial Earthquake Investigation Committee. Vol. II, No. 1, March, 1908.

puedan adquirir mejor conocimiento de la situación y caracteres phisiográficos de dichas islas séanos permitido copiar los siguientes párrafos del trabajo antes citado de Mr. Ferguson:

Las Islas Batanes forman la parte más septentrional del territorio Filipino y constan de las Islas Y'ami, Maysanga, Mabudis, Siayan, Isbayat, Inem, Batan, Sabtan, Ibujos y Desquey. Y'ami, la más septentrional, dista unos 270 kilómetros del Cabo Engaño, la punta más cercana de Luzón, 107 kilómetros de la isla japonesa Little Botel Tobago y 160 kilómetros de la punta S de Formosa. El canal de Bashi con una profundad mínima de 1,009 fathoms (1,845.5 metros) separa las Islas Batanes de las de Formosa y de los Botel Tobagos, por el norte, mientras que por el sur se extiende el canal de Balingtang (con una profundidad de 95 fathoms [174 metros] sin fondo) entre ellas y el grupo de las Babuyanes. Las Islas Balingtang, rocas solitarias que se levantan perpendicularmente del mar están situadas en medio del canal de Balintang y forman como un lazo de unión entre los grupos de Batanes y Babuyanes.

No existe aún bastante material disponible actualmente que nos ponga en disposición de determinar las relaciones tectónicas de las Batanes con Formosa y con las Babuyanes y parte norte de Luzón. Existen sin embargo algunos hechos significativos. En primer lugar el enormemente profundo canal de Bashi parece extenderse en dirección NE. Si así fuere puede representar un geosynclinal ó foso paralelo á las líneas tectónicas señaladas por Von Richthofen á lo largo de las costas sudeste de la China y Cochinchina y hacia las costas noroeste de Borneo y de la Paragua. La prolongación de este canal, comprendería las profundidades de más de 4,000 metros que se encuentran frente á la costa noroeste de Luzón y las de más de 2,000 existentes al sudeste de las Islas Liukiu, haciendo así por consecuencia de las Filipinas y de Japón (incluyendo Formosa) dos provincias geológicas separadas.

El mismo autor llama también la atención sobre la serie de volcanes activos y extintos existentes en las Batanes y Babuyanes y alineados cerca del meridiano 122° longitud E., que son: Isla Y'Ami, 121° 58′; Isla Mabudis, 121° 57′; Isla Inem, 121° 57′; Monte Iraya (Batan), 122° 1′; Rocas Balingtang, 122° 8′; Babuyan Claro, 121° 56′; Volcán Camiguín, 121° 52′; Volcán Didicas, 122° 9′; y Volcán Cagua, en el NE de Luzón, 122° 4′. Es razonable el suponer con el autor que esta notabilísima línea de volcanes indica una falla ó grieta en la corteza terrestre, donde debe probablemente buscarse el origen de los temblores de Batanes.

BULLETIN FOR APRIL, 1909.

METEOROLOGICAL BULLETIN FOR APRIL, 1909.

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 almost all the stations throughout the Philippines is a little above the mean for April of the preceding year. Yet that of Manila differs from the normal of this month by —0.48 millimeter. The 3d and 4th were the days of highest pressures in the Archipelago, while the lowest pressures were generally recorded on the last three days of the month.

The monthly mean temperature is very close to both the normal of this month and the mean of April, 1908. The extreme temperatures as observed in the park of the Central Station were 36.8° C. and 20.4° C., the former having been registered on the 21st and the latter on the 12th.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, APRIL, 1909.

Station.	Pressure.						Temperature.					
	Mean.	Departure from April, 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from April, 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	758.50	+0.53	759.48	4	757.69	30	27.4	0	33.8	27	21.2	22
Surigao	59.01	+ .58	60.06	12	57.96	30	26.5	— .2	31.8	29	21.1	25
Cebu	58.93	+ .62	59.93	4	57.94	30	27.4	+ .1	32.6	28	21.9	7
Iloilo	58.63	+ .37	59.84	3	57.90	20	28.1	0	35.1	28	22.5	22
Ormoc	58.86	+ .39	59.91	4	57.99	29	25.7	— .4	33.1	24	17.1	25
Tacloban	59.40	+ .55	60.52	12	58.35	30	27.5	+ .6	34.7	7	21.9	7
Capiz	59.47	+ .70	60.72	3	58.41	29	27.4	— .2	32.5	28, 29, 30	----------	----------
Calbayog	59.57	+ .48	60.70	4	58.49	29	26.3	+ .4	33.4	2	20.5	18, 22
Legaspi	59.41	+ .26	60.92	3	58.24	29	27.8	+ .5	33.5	30	21.4	7
Atimonan	59.19	+ .04	60.71	4	58.01	29	27.8	— .1	35.5	30	21.4	10
Manila	58.93	+ .18	60.45	3	57.91	28	28.2	+ .3	36.8	21	20.4	12
Olongapo	58.82	+ .40	60.27	3	57.89	28	27.7	— .6	35.9	25	20.7	7
San Isidro	58.81	— .03	60.33	3	57.70	28	28.4	— .1	38	25	20.9	14
Dagupan	58.78	+ .43	60.45	3	57.70	29	28.4	— .6	37.8	13, 17	21.4	12
Bolinao	58.97	----------	60.51	3	57.90	29	28.3	----------	34.3	18	21.9	6
Vigan	59.09	+ .44	60.73	3	57.98	29, 30	27.7	—1.1	34	29	22.5	10
Tuguegarao	59.02	----------	60.51	4	57.68	28	28	----------	36.8	18, 21	20.6	12
Aparri	59.57	+ .25	61.28	4	58.33	20	26.7	— .4	34	25, 26	20.1	8

Precipitation.—Almost all our stations in Mindanao, the Visayas, and southeastern Luzon have reported a total amount of rainfall below that of April, 1908. On the contrary, for a good number of stations in central and northern Luzon we find an amount of rainfall higher than that of the preceding year. The water collected during the whole month in the rain gauges of the Observatory is 35.4 millimeters above the total for April, 1908, and 5.6 millimeters above the normal of this month.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF APRIL, 1909.

Station.	Total.	Departure from April, 1908.	Rainy days.	Departure from April, 1908.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from April, 1908.	Rainy days.	Departure from April, 1908.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	156.6	+ 21.3	10	+ 1	54.4	9	Sumay, Guam	33.9	-------	6	------	15.2	28
Isabela, Basilan	29.9	— 89.3	8	— 2	22.9	16	Calapan	90.7	-------	8	------	29.5	17
Zamboanga	3.8	-------	3	------	1.8	27	Legaspi	37.7	—93.5	7	—9	14	3
Davao	86.6	—164.3	3	— 5	36.1	14	Virac	26.7	—46	10	—7	10.4	30
Cotabato	150	-------	12	------	35.6	17	Nueva Caceres	33.1	-------	4	------	17.3	29
Cagayan	19.9	-------	5	------	12.7	15	Batangas	.8	+ .8	2	+2	.5	8
Dapitan	27.4	-------	9	------	8.1	13	Atimonan	69.9	— .2	4	0	29.7	8
Butuan	66.9	— 55.3	9	— 6	21.1	18	Silang	80.8	+75.8	5	+3	53.8	23
Tagbilaran	15	— 14.8	6	+ 3	4.4	14	San Antonio, Laguna	15.5	—94.4	3	—9	8.4	22
Surigao	135.8	—137	8	—12	37.6	4	Manila	35.4	+35.4	4	+4	31.5	22
Maasin	99	— 27.4	6	+ 1	28.4	14	Olongapo	45.7	+42.1	3	+2	33.6	16
Cebù	3.5	— 40.5	3	— 5	2	12	San Isidro	23.6	—19.8	1	0	23.6	29
Iloilo	1	— 14.3	1	— 4	1	14	Tarlac	57.8	+ 7.3	8	+5	20.8	28
San Jose Buenavista	88.9	+ 79.5	3	+ 1	49.5	7	Dagupan	55.1	+13.7	5	—4	39.6	17
Tuburan	9.7	+ 5.1	2	— 1	6.4	14	Bolinao	48.1	+30.3	5	+2	34.8	25
Ormoc	23.4	— 12.1	4	— 2	19.6	14	Baguio, Benguet	160.4	+12.3	17	+3	39.1	17
Tacloban	69.5	— 22.5	9	— 6	18.3	28	San Fernando, Union	0	—44.7	0	—3	0	0
Capiz	31.7	+ 12.2	6	0	14.2	2	Candon	0	— 4.5	0	—3	0	0
Borongan	97.9	—110.1	12	—10	34	14	Vigan	.3	— 3	1	— 2	.3	7
Calbayog	20.8	—123	8	— 9	8.1	18	Tuguegarao	97.5	-------	5	------	65	24
Palanoc, Masbate	0	— 15.2	0	— 5	0	0	Laoag	1.3	— 4	1	—1	1.3	6
Romblon	18.4	-------	4	------	10.4	8	Aparri	36.8	+26.6	5	+1	12.2	6
Laoang	31.3	— 55.7	11	— 5	10.2	15	Sto. Domingo, Batanes Is.	169.7	—82.4	10	—3	64.5	12
Gubat	8.9	—137.8	3	— 8	5.1	2							

DEPRESSIONS AND TYPHOONS.

No depression or typhoon has been observed in the Philippines during this month. On the 7th, however, our weather maps seemed to indicate that a low-pressure area of hardly any importance came from the Pacific and crossed the Island of Luzon toward the China Sea. Yet the lowest pressures were registered in our stations, as stated above, toward the end of the month, when a continental depression was situated far away in southern China and in the neighborhood of Formosa, moving eastward.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes resulta para casi todas las estaciones de Filipinas algo superior á la de Abril del año próximo pasado. Sin embargo, la de Manila difiere de la normal en —0.48 milímetros. Los días de mayor presión fueron generalmente el 3 y el 4, y los de menor presión los tres últimos días del mes.

La temperatura media mensual difiere muy poco así de la normal como de la media de Abril, 1908. Las temperaturas extremas observadas en el parque de la Estación Central han sido 36.8° C. y 20.4° C., habiendo sido registradas los días 21 y 12 respectivamente.

Precipitación acuosa.—En casi todas las estaciones de Mindanao, Visayas y sudeste de Luzón hallamos este mes un total de lluvia inferior al de Abril, 1908. En cambio un buen número de las estaciones del centro y norte de Luzón dan un total mayor al del año pasado. La cantidad de agua recogida en Manila difiere de la normal de este mes en + 5.6 mm., y del total de Abril, 1908, en + 35.4 mm.

DEPRESIONES Y TIFONES.

No se ha observado este mes en Filipinas ninguna depresión ó tifón. Solamente indicaremos que el día 7 nuestros mapas del tiempo parecen indicar que un área dilatada de baja presión procedente del Pacífico cruzó la región central de la Isla de Luzón en dirección al mar de China, como se dijo en la nota ordinaria del tiempo del día 8. Con todo, las mínimas presiones, según queda indicado, se observaron en Filipinas hacia el fin del mes, ó sea, cuando una depresión continental se hallaba en el Sur de China y alrededores de Formosa, moviéndose hacia el este.

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.	Air temperature.[2]			Underground temperature.						Relative humidity, mean.	Vapor pressure, mean.	Evaporation.[2]	
		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	760.09	27.4	33.8	21.4	27.9	30.1	28.4	28.9	27.8	27.8	67.7	18	-------	4.4
2	60.24	27.4	33.7	20.8	27.4	30.1	28.5	28.9	27.8	27.8	69.6	18.4	-------	4.4
3	60.45	27.5	33.6	21.4	28	30.5	28.6	29	27.9	27.8	72.5	19.5	-------	3.4
4	60.26	27.7	34.3	21.9	28.1	30.7	29	29.2	27.8	27.8	73.4	19.9	-------	4
5	59.62	27.7	34.4	21.6	28.2	31.1	28.9	29.4	27.9	27.9	66.4	17.8	-------	4.6
6	58.76	27.3	33.2	21.3	28.5	31.1	29	29.6	28	27.9	74.1	19.9	-------	3.5
7	58.26	27.4	32.3	22.7	28.9	31.2	29.3	29.9	28	27.9	71.8	19.3	-------	3.6
8	58.90	27.5	33.5	24.1	29.2	31.1	29.6	29.8	28	27.8	73.2	19.8	-------	3.1
9	59.13	27.6	33.5	22	28.9	31.9	29.5	30	27.9	27.7	74.2	20.2	-------	2.8
10	59.30	28.6	34.3	23.6	29.4	32	29.7	30.2	28	27.9	69.4	19.7	-------	3.6
11	59.50	28	34.8	24.1	29.7	32.2	29.8	30.3	28.1	28	66.6	18.5	-------	4.4
12	60.13	27.1	34.3	20.4	29.1	31.7	30	30.3	28.1	27.9	66.1	17.3	-------	4.5
13	59.65	28.5	35.9	21.6	29	32.5	29.9	30.6	28.1	27.9	60.1	16.8	-------	5.7
14	59.25	27.5	34.2	21.8	29.4	31.8	30	30.4	28.1	27.9	71	19.2	-------	3.6
15	58.79	29.2	36.5	23.6	29.8	33.5	30.3	31	28.2	28	64	18.5	-------	4.4
16	58.55	27	34	23.3	30	31.8	30.3	30.8	28.2	27.9	76.7	20.2	-------	2.4
17	58.69	28	35.2	21.5	29.5	32.7	30.5	30.8	28.1	27.9	67.1	18.3	-------	4.7
18	59.04	28.9	35.6	22	29.8	33	30.4	31	28.5	28	64.4	18.4	-------	5.8
19	58.49	28.9	36.2	22.4	30.1	33.3	30.8	31.3	28.4	27.9	64.8	18.8	-------	4.8
20	58.05	28.9	36.6	21.7	30.2	33.9	31	31.5	28.5	27.9	60.6	17.3	-------	5.2
21	58.48	29.1	36.8	23	30.8	34	31.1	31.7	28.6	27.9	65.6	19.2	-------	4.2
22	58.45	29.2	35	24	30.8	34	31.3	31.8	28.6	28	68.7	20.2	-------	4.2
23	58.31	28.7	33.6	24.5	30.8	33.1	31.3	31.9	28.8	28	74.2	21.4	-------	3.3
24	58.09	28.6	34.2	23.9	30.5	32.9	31.1	31.4	28.8	28	73.5	21.1	-------	3.3
25	58.59	28.8	35.2	23.4	30.1	33	30.9	31.4	28.9	28	67	19.2	-------	4.5
26	58.52	28.9	35.3	22.7	30.2	32.9	30.8	31.2	28.9	28	60.6	17.4	-------	5.4
27	58.33	28.7	34.4	23	30.7	33	31	31.3	28.8	28	65.2	18.7	-------	4.3
28	57.91	29	34.6	23.3	31	33.5	31	31.5	28.9	28	71.2	21	-------	3.7
29	57.98	27.4	32.3	24.5	31.2	31 6	31.2	31.4	29	28	80.5	21.6	-------	1.9
30	58.05	28.1	33.4	23	30.2	32.4	30.8	31.1	29	28	71.7	20	-------	3.4
Mean	758.93	28.2	34.5	22.6	29.6	32.2	30.1	30.6	28.3	27.9	69.1	19.2	-------	4
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	121.1
Departure from normal	—0.48	0	+0.7	—0.2	-------	-------	-------	-------	-------	-------	—0.5	—0.3	-------	-------

Date.	Wind.				Clouds.					Sunshine.		Rainfall, 24 hours beginning midnight.	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	E quad.	246.5	22.5	E	3.8	A.-Cu.	E by N	Cu.	E	8	10	-------	≡° ⊕ a. ↙° p.
2	ESE	255	25	ESE	2.3	Ci.-Cu.		Cu.	E by S	10	00	-------	Ω° ≡^{2} a. ↙° ⊕ p.
3	SE, W	179.5	17	W	2.9	Ci.		Cu.	E	10	15	-------	≡ ∞ a.
4	ESE	208.5	18	WNW	1.6	-------		Cu.		10	30	-------	≡° a.
5	ESE	248.5	23.5	SE by S	.5	Ci.-S.		Cu.		10	35	-------	≡° a. ↙° ∞ ϟ p.
6	WSW	262	31	WSW	1.9	Ci.-S.		Cu.	NE by E	10	00	-------	≡° a. ⊤° ↙° p. ∞
7	N	350	21.5	W	1	-------		Cu.		10	30	-------	≡ a. ϟ ↙° p. ∞
8	Variable	143.5	16	ESE	8.6	A.-Cu.		Cu.	E by S	4	30	-------	
9	SW quad.	195.5	19	SW	2.3	Ci.		Cu.	SE	10	05	-------	Ω° ≡° a. ⊤° p.
10	SSE, WSW	156.5	14.5	WSW	2.6	Ci.		Cu.	ESE	8	00	-------	∞^{c} p. ≡° a. p.
11	SE	239.5	25	SE	3.5	Ci.-S.		Cu.	E	9	50	-------	≡ a. ↙° p. ∞ a. p.
12	ENE, SSE	222.5	17	SE	4.2	Ci.	SW	Cu.	E	9	20	-------	≡ a.
13	SE	286	23.5	SE	2.3	Ci.		Cu.	E	10	55	-------	≡° a. ↙° ∞ ϟ p.
14	E, ESE	181.5	17	NNW	4.8	A.-Cu.	E	Cu.	E	8	00	-------	≡ a. d° ⊤^{2} ϟ° p.
15	SE quad.	177.5	15	SSE	4.5	Ci.-S.		Cu.		10	05	-------	≡ a. ⊤° ϟ p.
16	NE	177	21	NE by N	6.2	Ci.-S.		Cu.-N.	ESE	7	25	-------	≡ ∞ a. d° p. ☈
17	ESE	247	25.5	SE	6.2	Ci.	NNE	Cu.	E	10	00	-------	≡° ↙° ∞ a.
18	SE	286.5	25	SE	4.4	Ci.		Cu.	E	9	55	-------	≡° a. ↙° a. p.
19	SE	192.5	17	SE	3.4	Ci.		Cu.	E	10	20	-------	≡° a. ϟ p.
20	SE	155	16	ESE	3.1	Ci.-S.		Cu.	E	9	20	-------	≡ a.
21	SW quad.	161	17	WSW	3.8	Ci.-S.	NNW	Cu.	E	10	00	-------	≡° a. ○° p.
22	SE, SW	207	19	W	5.1	A.-Cu.	ENE	Cu.	E	9	55	31.5	≡° ∞ a. ☈ ●^{2} p.
23	SW quad.	217.5	21	WSW	5.8	Ci.-S.	NW	Cu.	E	7	25	.3	●° ≡° a. ∞ ⊤° ϟ
24	ESE	179.5	15.5	SE	4.3	Ci.-S.		Cu.	E	8	25	-------	≡ a. ⊤ p.
25	SE	164.5	16	SE	4.9	Ci.		Cu.	E by N	10	15	-------	Ω° ≡ a.
26	SE	262.5	24	SE	4.7	Ci.		Cu.	E	10	00	-------	↙° ⊕ p.
27	W	199.5	18.5	W	2	Ci.		Cu.		11	10	-------	≡ a. ↙° p.
28	SW quad.	188.5	21.5	SW	2.9	A.-Cu.		Cu.		10	10	-------	≡ a.
29	Variable	117	20.5	SE	8.1	Ci.-S.		Cu.	E	4	40	1.3	≡° ☈ a. ● ☈ p. ↙°
30	N	132.5	13.5	SE by S	3.6	Ci.-S.		Cu.	E	9	45	2.3	≡ a. ● ☈ p.
Mean	-------	208	19.9	-------	3.8	-------		-------		9	19	-------	
Total	-------	-------	-------	-------	-------	-------		-------		279	30	35.4	
Departure from normal	-------	—30.9	-------	-------	—0.1	-------		-------		+11	24	+5.6	

[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.

[$\phi=9°\ 38'$ N; $\lambda=123°\ 51'$ 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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	759.26	26.3	29.7	22.1	78.4	NNE	1.8	6	Ci.-S.	S.-Cu. E	0.3	d° a. ↙° d p.
2	59.19	27	31.5	23	74.2	NNE, SE	2.2	4.2	Ci.-S.	S.-Cu. E	------	↙° p.
3	59.41	27.3	32.4	22.5	72.8	SE	2	3.7	Ci.-S.	Cu. NE	------	
4	59.48	27.3	30.5	23.6	80.1	NNE, SE	1	8.7	----------------	Cu.-N. E	3.6	☈° ● p.
5	59.17	26.9	31.3	24	82.9	Variable	1.5	6.7	A.-Cu.	Cu.-N. E	2.8	● a. ⊕ p.
6	58.49	27	32.9	22.3	75.8	N quad.	1.7	4	A.-Cu.	Cu. NE, NW	------	
7	57.98	27	33.2	22.5	79	NNE, SE	1.5	3.3	Ci.-S.	Cu. NE, W	------	
8	58.55	27.1	33	22.5	74.2	Variable	1.8	2.8	Ci.-S.	Cu., Cu.-N. NE	------	≡° a.
9	59.04	26.6	32.3	21.5	73.7	NNE, SE	2	2.3	Ci.-S.	Cu. NE	------	
10	58.99	27.1	32.7	22.3	70.2	Variable	1.3	3	Ci., Ci.-S.	Cu. NE	------	
11	59.04	27.6	32.9	22.6	68.6	NNE, SE	1.8	4	Ci.-S.	Cu. E	------	
12	59.43	28	32.8	23.1	66.7	SE	1.5	3	Ci.-S.	Cu. E, NE	------	
13	58.77	27.6	31.4	22.3	70.2	SE	1.7	5.8	Ci.-S., Ci.	Cu., Cu.-N. NE	------	d° p.
14	58.38	26.8	31.4	23.5	81.3	Variable	1.5	6.8	A.-Cu.	Cu.-N., N. NE, E	4.4	● p.
15	58.12	27.1	31	23.8	80.2	NNE	1.8	8.7	Ci.-S.	Cu.-N. E, NE	3.6	d° ☈° ⚡ p.
16	57.90	27.6	31.6	23.9	79.2	Variable	1.8	7.8	Ci.-S.	Cu.-N. E	.3	● a.
17	57.93	27.8	30.6	24.2	72.8	NNE, SE	2.2	6.7	Ci.-S.	Cu.-N. E, NE	------	d° a.
18	58.83	27.2	32.2	21.8	71	NNW, WNW	1.8	3.5	Ci.-S.	Cu. E, NE	------	
19	58.42	27.4	33.2	23	74.1	N quad.	1.8	2.8	Ci.-S.	Cu. E	------	☈ p.
20	57.99	27.1	32.9	21.9	73.3	SE	2.2	2.8	Ci.-S.	Cu. NE, N	------	
21	58.24	27.7	33	22.7	73	N, SE	1.8	3.3	Ci.-S.	Cu.-N. NE	------	
22	58.44	27.2	33	21.2	75.8	Variable	1.8	5	Ci.-S.	Cu. E	------	
23	58.16	27.9	32.4	23.2	75.3	NNE, SE	1.5	4	Ci.-S.	Cu. NE, N	------	
24	58.08	27.2	33	22.1	71.5	WNW	1.7	3.8	Ci.-S.	Cu. NE, E	------	
25	58.40	27.5	31	22.8	71.2	SE	2.2	3.8	Ci.-S. W	Cu. NE, E	------	
26	58.24	28	33	23.1	74.5	Variable	2.8	4.8	Ci.-S.	Cu. E, NE	------	↙° p.
27	57.91	27.8	33.8	23.3	74.7	NNE, SE	1.8	3.5	Ci.-S.	Cu. E, NE	------	⊤° ⊕° p.
28	57.75	28	32.8	23.6	73.8	SE	2	5.3	Ci.-S.	Cu. E	------	
29	57.72	22.9	33	23	73	NNE, SE	2	4	Ci.-S.	Cu. NE	------	
30	57.69	27.8	30.1	23.8	74.2	SE	1.8	4	Ci.-S.	Cu. E	------	
Mean	758.50	27.4	32.2	22.8	74.5	------------	1.8	4.6	----------------	----------------	------	
Total	--------	------	------	------	------	------------	------	--------	----------------	----------------	15.0	

SURIGAO.

[$\phi=9°\ 48'$ N; $\lambda=125°\ 29'$ 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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	759.83	26.2	29.5	22.8	85.7?	E, ENE	1.5	7	A.-Cu. NE	Cu. E	4.6	●° ↙ a. d p.
2	59.62	27.3	30.7	23.5	81.3	E quad.	1.7	5.5	A.-Cu. NE	Cu. E	------	d° ●° ≡° a. Ω° p.
3	59.92	27	31.1	22.3	81.8	NE	1	4	A.-Cu. SE	Cu. ENE	2.8	Ω^{2} ≡ a.
4	59.77	26.3	30.5	24	88.3	E, NE	1.5	8.5	----------------	Fr.-N. E	37.6	≡° ●° a. ●^{2} p.
5	59.63	26.6	30	24.1	88.5	NNE, E	1.5	7.8	A.-Cu.	N. ENE	5.1	●^{2} ⊤° a. Ω ●^{2} p.
6	58.85	26.4	31.4	22.5	86.2	NNE, E	.5	1.5	----------------	Cu.		Ω^{2} a.
7	58.40	26.5	31.2	22.5	83.3	ESE	.8	2.3	Ci., Ci.-S.	Cu.	------	Ω^{2} a. p.
8	59.24	26.1	30.9	21.9	82.6	ESE	1	2.7	----------------	Fr.-Ci., Cu. ESE	------	Ω^{2} a. p.
9	59.78	26.2	30.2	21.2	80.3	E, ENE	.8	2.8	Ci., Ci.-S.	Cu. ESE	------	Ω^{2} a. p.
10	59.52	26.6	31	21.5	80.7	ENE, ESE	1.3	3.2	Ci.	Cu. E	------	Ω^{2} a. p.
11	59.58	26.5	31.1	22.1	82.2	NE quad.	1.2	5.3	Ci., A.-Cu.	Cu. E	------	Ω^{2} a. Ω° p.
12	60.06	26.8	31.2	22.2	81.3	NNE, ENE	1.7	3.3	Ci., Ci.-S.	Cu. NE	------	Ω^{2} a. Ω° p.
13	59.27	26.2	29.6	23	86	Variable	1	5	Ci. NE	N.-cf. ENE	29.2	Ω^{2} ●^{2}a. ●° p.
14	59.09	25.1	30	23.5	91.8	E quad.	1.2	9.5	Ci.-S. N	Fr.-N. E	16.8	●^{2} a. p.
15	58.52	26.2	30	23	84.7	E	1.5	7.5	Ci.-S. N	Cu. E	23.4	Ω° a. ●° p.
16	58.49	26.3	30.5	23.5	87.1	E quad.	1.8	8.3	Ci.-S. NE	Fr.-N. ENE	11.2	●^{2} a. ☈ ⊤° ●° p.
17	58.63	26.4	30.7	22.9	83.8	NNE, SSE	1.5	5.2	Ci. NE	Cu. ESE	------	Ω^{2} ≡° a. ⊤° ●° p.
18	59.21	26.4	30.5	21.5	83.3	NE quad.	.8	5.2	Ci. NE	Cu. SE	------	Ω^{2} a. p.
19	58.76	26.2	29.5	22.8	85.2	NNE	.8	4.2	Ci., A.-Cu.	Cu. N	------	≡ a. Ω^{2} a. p.
20	58.43	26	30	21.5	83.3	Variable	1	3.5	A.-Cu. E	Cu. NE	------	Ω^{2} a. Ω p.
21	58.84	27.2	30.8	23.1	81.2	ENE	1.3	3.5	----------------	Cu. E	------	Ω^{2} a. Ω p.
22	58.86	26.6	30.8	24.1	85.2	E quad.	1	3.8	----------------	Cu. E	5.1	Ω ●° a. Ω^{2}p.
23	58.78	27	30.7	23.1	79.7	E, SSE	1.2	2.5	Ci.	Fr.-Cu.	------	d° Ω^{2} a. Ω ⚡ p.
24	58.76	26.4	30.9	22.2	80.8	E, ESE	1.2	4	Ci. N	Cu. E	------	Ω^{2} a, Ω° ⚡ p.
25	58.88	26	30.5	21.1	82.4	E	.8	4.3	Ci. N	Cu. E	------	●^{2} a. Ω° p.
26	58.72	26.2	30.8	23	85	SE	.8	5.3	A.-Cu. S	Cu. E	------	Ω^{2} a. d° Ω° p.
27	58.39	26.5	31.3	22	85.1	Variable	.8	3.2	Ci. NE	Cu.	------	Ω^{2} a. Ω° p.
28	58.28	26.8	31.1	22.9	83.8	E, SSE	.8	3.8	Ci. NE	Cu. E	------	Ω^{2} ≡ a. Ω° p.
29	58.10	26.8	31.8	21.8	82.8	ENE	.8	1.7	Ci.	Cu.	------	⚡ a. Ω^{2} a. p.
30	57.96	26.8	31.1	22.4	83.3	Variable	1	3	Ci.	Cu. N	------	Ω^{2} a. Ω p.
Mean	759.01	26.5	30.6	22.6	83.9	------------	1.1	4.6	----------------	----------------	------	
Total	--------	------	------	------	------	------------	------	--------	----------------	----------------	135.8	

[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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	759.84	26.9	30	22.9	77.2	NE quad.	12.8	4.3	A.-Cu. E	Cu. ENE	------	↙° ● a.
2	59.86	26.5	29.4	24.2	77.3	N, ENE	11.8	4.2	Ci.	Cu., S-Cu., NE, ENE	------	≡ Ω a. ∞ ⊕ p.
3	59.92	27.4	31	23.7	74.2	NE, E	11.2	3.2	A.-Cu. NE	Cu. ENE, E	------	≡ Ω a.
4	59.93	27.4	30.5	24.3	77.8	ENE	11.7	4.8	A.-Cu. ENE	Cu. ENE, E	1.5	≡ Ω a. ●↙° ⩽ p.
5	59.43	27.4	30.2	24.6	77.1	NE quad.	10.8	4.3	Ci.	Cu., S-Cu. E	------	≡ Ω a. ⌈ζ p.
6	58.88	27.3	32	23.9	78.6	E, ESE	6.3	2.3	Ci.	Cu. E	------	≡ Ω² a. ∞ p.
7	58.35	26.9	31.1	21.9	75.5	Variable.	7.5	2.3	Ci.	Cu. E	------	≡° Ω² a.
8	59.07	26.8	30.2	23.4	75	E	9.2	2.5	Ci.	Cu. E	------	≡° a. ∞ ↙° p.
9	59.61	26.8	30.5	22	73.2	E quad.	8.9	2	Ci.	Cu. E	------	≡ Ω a ↙° ∞ p.
10	59.53	26.8	30.9	22.4	71.8	NE quad.	9.9	2	Ci.	Cu. ENE	------	≡ a. ∞ p.
11	59.72	27.5	30.9	24.4	70.3	NE quad.	10.6	2.5	Ci.	Cu. E	------	≡ a. ∞ p.
12	59.89	27.6	30.3	23.5	71.8	NE quad.	12.7	2.8	Ci.	Cu. ENE	2	≡ Ω a. ∞ ⌈ζ p.
13	59.28	28	31.5	24.4	73.8	NE quad.	11.6	4.2	Ci.	Cu., N-cf. ENE	------	≡ ●° ⌒ a. ⩽ p.
14	59	27	30.5	24.6	79.3	E quad.	11.5	5.3	Ci.	Cu., Cu.-N. E	------	Ω² a. ⩽ p.
15	58.66	27.4	30.9	24.8	76.6	NE quad.	10.6	5.5	Ci., Ci.-S.	Cu., Cu.-N. E	------	≡ a. ⌈ζ ⩽ p.
16	58.33	28.1	31	25.4	74.5	E quad.	10.9	6.3	Ci.	Cu. E	------	≡° a. ⌈ζ ⩽ p.
17	58.58	27.6	30.5	24.4	70.9	E	10.1	4.2	Ci., Ci.-S.	Cu. E	------	≡ Ω° a. ∞ p.
18	59.13	27.4	30.5	23.3	75.8	NE quad.	10.1	3.3	Ci.	Cu. E	------	≡² Ω² a.
19	58.69	27.4	31	23.4	75.8	ENE	9	3.2	Ci.	Cu. E	------	≡ a. ⌈ζ p.
20	58.24	27.4	30.6	23.4	73	E	8.8	2.5	Ci.	Cu. ENE	------	≡ Ω a. ⌈ζ p.
21	58.68	26.9	30.9	23.4	67.3	ENE, E	8.7	2.7	Ci.	Cu. E	------	≡a. ∞ p.
22	58.76	27.1	30.8	23.4	74.9	ENE	8.9	2.5	Ci.	Cu., S.-Cu. E	------	≡° Ω a.
23	58.55	27.4	30.5	24.9	72.5	E	8.6	3.5	Ci., Ci.-S.	Cu., S.-Cu. E	------	≡ a. ⩽° ∞ p.
24	58.57	27.1	31	23.5	71.5	E	9.2	2.5	Ci.	Cu. E	------	≡° Ω a.
25	58.72	27.6	31	23.7	68.2	NE quad.	11.2	2.5	Ci.	Cu. E	------	≡ a. ∞ p.
26	58.51	28.3	32.5	23.9	71.3	E quad.	9.3	3	Ci.	Cu. E	------	Ω° a. ∞ p.
27	58.26	28	31.4	23.9	74.5	E	9.6	2.3	Ci.	Cu. E	------	≡° a. ⩽ p.
28	58	28.4	32.6	25	74.2	ENE	6.6	2.8	Ci.	Cu. E	------	≡° Ω° a. ⌈ζ° ⩽ p.
29	58.05	27.8	31.8	24.5	72.2	ENE	8	2.8	Ci.	Cu. E	------	≡ a. ⊤ p.
30	57.94	28.2	32.3	23.9	70.2	Variable.	8.3	3	Ci.	Cu. NE	------	≡ Ω a. ⌈ζ° ⩽ p.
Mean	758.93	27.4	30.9	23.8	73.9	------------	9.8	3.3	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	3.5	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	759.39	27.5	32.5	24	68.8	N, ENE	14.8	2.7	Ci.	Cu.	------	
2	59.60	27.6	32.5	24	70.2	NE quad.	14.5	3	A-Cu.	Cu. ENE	------	∞² p.
3	59.84	27.9	33.5	24.1	72.5	NE quad.	12.7	2.7	Ci.	S.-cf. NNE	------	∞ p.
4	59.72	28.2	33.4	24.5	71.5	N, ENE	15	4.5	A.-Cu.	Cu.	------	
5	59.38	28	33.6	24.5	70.2	N, ENE	14	4.7	Ci., A-Cu.	S.-Cu. NE	------	
6	58.72	27.6	33.6	23.4	71.7	NE quad.	9	3.2	Ci.	Cu. N	------	∞ p.
7	58.21	27.4	33.8	22.9	74.7	Variable	6.8	4.3	Ci.-S.	S.-cf.	------	Ω² ≡a. ∞² ⊕² ⊤°p.
8	58.63	27.7	34	23.6	75	Variable	8.5	3.2	Ci.	Cu.	------	Ω ≡² a. ⩽ p.
9	59.06	28.3	31.8	24.1	65.2	NE quad.	8.3	3.5	Ci.	Cu.	------	∞² p.
10	59.04	27.9	33.6	23	64.2	NE quad.	10.7	1.3	Ci.	Cu.	------	
11	59.23	27.8	33.4	23.8	64.1	N, ENE	11.8	2.3	Ci.	Cu. NE	------	∞ p.
12	59.64	27.8	33.5	23.6	63.2	N, ENE	13.1	2.2	Ci.	Cu.	------	
13	59.09	28.1	33.5	24.5	70.8	NE quad.	14.6	3.5	A.-Cu.	Cu.	------	⩽ p.
14	58.58	28.5	33	25.1	72.8	N, ENE	11.4	6.8	Ci.-Cu. SSE	S.-Cu. NE	1	d° a. ⩽ ● p.
15	58.36	27.8	32.5	24.5	74.8	N, NE	10.3	7.7	A.-Cu., A.-S.	S.-Cu. NE	------	⊤° ⩽ p.
16	57.96	28.4	33.5	25	74.8	N, NE	9.6	6.7	A.-Cu. E	S.-Cu.	------	
17	58.19	28.4	33.5	24.9	68.5	ENE	11.6	4.7	A.-Cu. E	S.-Cu., Cu.	------	
18	58.70	28.1	33	24.5	69.3	ENE	11.6	4.7	Ci., Ci.-S.	Cu.	------	
19	58.34	28.5	34.1	24.6	65.3	NE quad.	10.4	3.5	A.-Cu.	Cu.	------	
20	57.90	28.5	34	24.6	66.1	N, ENE	10.4	3.3	Ci.	Cu.	------	
21	58.24	28.4	34.6	23.9	62.3	N, E	8.6	2.8	Ci.	Cu.	------	∞ p.
22	58.43	28.2	35	22.5	60.7	N, E	6.9	1.7	Ci.	Cu.	------	Ω° ≡° a. ∞ p.
23	58.33	28.2	34.1	24.2	67 8	NE quad.	7.4	4	Ci.	Cu.	------	∞ ⊤ ⩽ p.
24	58.06	28.6	34.2	23.5	62	ENE	9.4?	2.5	Ci.	Cu.	------	Ω° a.
25	58.33	28.3	34	24	61.2	N, E	10.5?	3.8	Ci.	Cu., S.-Cu.	------	
26	58.23	28	34.2	23.4	61.2	N, ENE	10.3?	4.3	Ci.	Cu.	------	
27	58.02	29	34.5	24.6	64.2	N, E	9.7	2.8	Ci.	Cu., S.-Cu.	------	⩽ p.
28	57.94	28	35.1	25	70.7	Variable	6.6	3.2	Ci.	Cu.	------	Ω° a. ⌈ζ ⩽ p.
29	57.91	27.6	33.6	24	74.5	NW	7.5	4.2	Ci.	S.-cf.	------	⩽ Ω a. ⊤ d° p.
30	57.92	27.5	34.4	23	74	Variable	6	4	Ci.	Cu.	------	Ω a.
Mean	758.63	28.1	33.8	24	68.4	------------	10.4	3.7	------------	------------	------	------------
Total	--------	------	------	------	------	------------	------	------	------------	------------	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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	759.74	26.2	32.4	21.8	70.2	E quad.	6.5	1.3	Ci.	Cu. E	------	Ω a. ∞ p.
2	59.84	25.6	30.7	20.1	76.1	Variable	6	3	Ci., A.-Cu.	Cu. E	------	Ω d a. ⊤ ⚡ p.
3	59.83	25.8	32.3	21	77.7	N, SSW	6	2.5	A.-Cu.	Cu. E, ENE	------	Ω a.
4	59.91	26.7	31.7	22.1	74	Variable	6.7	4.3	A.-Cu. E	Cu. E	------	Ω a. ⚡ p.
5	59.49	26.2	31.5	20	73.5	NNE, S	6.4	2.2	A.-Cu. ENE	Cu.	------	Ω a.
6	58.75	25.4	30.3	19.9	79.8	Variable	6.6	2	Variable	Cu.	------	Ω a.
7	58.39	25.1	30.5	19.9	80.8	NE	6.6	2	A.-Cu. NNE	Cu.	------	Ω a. ∞ p.
8	58.86	25.1	30.8	20.1	75.7	E, SSW	8.9	1.2	Ci.	Cu. NE	------	Ω a.
9	59.46	25.7	32.7	18	69.2	S	9.7	.3	Ci.	Cu.	------	Ω a.
10	59.46	24.7	33	18	71.7	N, SE	8.3	2.8	A.-Cu. NE, E	Cu. E	------	
11	59.54	25.2	31.9	18.3	74.7	N, SSW	7.1	2	Ci.-S.	Cu. ENE	------	Ω a.
12	59.82	26.3	31.2	20.2	70.4	Variable	7.4	2	Ci.	Cu. ENE	------	⚡ p.
13	59.14	26.2	30.8	22.7	76.5	SSW	6.2	5	A.-Cu.	Cu. E	0.5	⚡ p.
14	58.81	26.1	31.7	22.2	79.9	Variable	8.3	7	A.-Cu. E	Cu. E quad.	19.6	● a. p. d ⚡ ⊤ p.
15	58.62	26.2	31.2	22.5	79.7	ESE	7.3	6.5	A.-Cu. SE	Cu. ENE	------	● a. ⚡ p.
16	58.25	25.4	31.3	21.3	83.5	NNE, S	6.8	3.5	A.-Cu. E	Cu. E	2.8	⊤ d ● ⚡ p.
17	58.42	26.3	32.9	20.8	71.3	Variable	6.7	2.8	Ci. NE	Cu. E	------	Ω a. ⚡° p.
18	59.18	24.8	30.5	19.3	80	NNE	5.2	3.2	Ci.	Cu. E	.5	Ω a. d ● p.
19	58.72	25	30.5	19.8	80	SSE	7	2.7	A.-Cu.	Cu. E	------	Ω a.
20	58.14	26.4	31.3	20.3	71.2	N, SSW	7.5	2.2	Ci., A.-Cu. E	Cu. E	------	Ω a. ⊤ p.
21	58.66	25.7	30.5	19.6	72.5	Variable	9.3	.7	Ci.	Cu.	------	Ω a.
22	58.55	25.4	31.5	17.8	72.3	Variable	8.7	2.3	A.-Cu. SSE	Cu.	------	Ω a.
23	58.48	25.2	31.1	19.5	75	Variable	8.1	2.2	Ci.	Cu. NE, E	------	Ω a.
24	58.39	25.9	33.1	19	68.6	S	8.9	1.8	Ci.	Cu. ENE	------	Ω a.
25	58.71	24.4	31.2	17.1	75.7	N, SSW	7.3	1.3	Ci. E	Cu.	------	Ω a.
26	58.49	25.9	31.7	19.7	73.7	Variable	7	2	Ci.	Cu. E	------	Ω a.
27	58.13	26.2	31.5	21	77.8	SSW	6	3.2	Ci.	Cu.-N. NE	------	Ω a. d ⚡ p.
28	58.06	26.1	31.7	20.8	77.5	Variable	6	2.5	Ci.	Cu. ENE	------	Ω a.
29	57.99	26.2	31.2	21.9	76.1	S	6.7	2.5	A.-Cu.	Cu. NE	------	Ω a.
30	58.01	25.3	31.4	20.5	81.5	Variable	5.8	4	A.-Cu. SE	Cu. E	------	Γ↘ ⚡ d p.
Mean	758.86	25.7	31.5	20.2	75.6	------------	7.2	2.7	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	23.4	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	760.22	27.2	33	22.9	72.3	E quad.	0.5	3.8	Ci.-S.	S.-Cu. ENE	------	Ω² a.
2	60.33	27.4	32.8	23.2	75	SE quad.	.7	4.7	------------	Cu. E	------	Ω² a.
3	60.40	27.5	32.5	23.7	73.8	Variable	.7	4.5	Ci.-Cu. ENE	Cu. E quad.	------	Ω² a.
4	60.42	28.1	33.2	23.7	73.2	E	.7	6.5	Ci.-Cu. E	Cu. E	------	Ф² a.
5	60.06	27.3	33.5	23.3	74.8	Variable	1.2	3.3	A.-Cu. E	Cu. E, ENE	------	
6	59.27	27	33.2	22.5	75.2	SE quad.	.7	1.7	------------	S.-Cu.	------	Ω² a.
7	58.62	27.4	34.7	21.9	75.2	SSE	.5	4.2	------------	S.-Cu. NE	------	Ω² a.
8	59.42	28	33	23.7	72.7	SSE	1.2	4	Ci.	Cu. ESE	------	
9	60.12	28.2	33.1	25.2	67.6	SE quad.	1.5	2.5	------------	Cu. ESE	------	
10	59.96	27.9	32.5	23.8	70.8	S	.8	1.8	------------	Cu. SE	------	
11	59.94	27.8	33.5	23.8	73	ESE	.8	2.7	------------	Cu. ESE	------	Ω² a.
12	60.52	27.3	33.5	23.1	75.2	SSE	.8	3.2	Ci., Ci.-S.	Fr.-Cu. E	2.3	Ω a. ⌒ ● p.
13	59.72	26.5	32.5	23.8	81.1	E quad.	1.2	6.3	Ci., Ci.-S.	Cu.-N. E	5.6	●° a. ↙ ● p.
14	59.28	27.8	33.5	24.3	78.2	SE quad.	.8	6.3	Ci.	Cu. ESE	15.8	⊤ p.
15	59.21	26.6	31.2	23.8	84.5	SE quad.	.8	8.2	Ci.-S. SW	Cu.-N. E	4.1	● a. p. ⌒ p.
16	58.83	27.2	32	24.1	80	SE quad.	.5	5.8	Ci. SW	Cu. E, ESE	6.9	●° a. p. ⊤ p.
17	59.10	27.8	32.5	24.4	74.2	SE quad.	.5	5.2	Ci.-S. SSW	Cu. E	------	◯° ⊕° a. p.
18	59.66	26.6	31.5	23.8	79.2	E quad.	.3	5	Ci.-S. SW	Cu.-N., Cu. E	1.8	Ω² ● Γ↘° a.
19	59.23	27.1	32.1	23.8	78.3	SSE	.7	5.2	Ci.-S. SW	Cu. ESE	10.4	Ω ⌒ a. ● p.
20	58.73	27.4	32.7	23.2	74.9	SSE	1	3	Ci.-S.	Fr.-Cu. ENE	------	Ω² a.
21	59.30	27.6	32	24	68.7	SE quad.	1.2	1.8	------------	Fr.-Cu. ESE	------	Ω² a.
22	59.16	28.2	32.7	24.2	68.7	E, SSE	.7	3.2	Ci.	Cu. SSE	------	Ω² a.
23	59.14	28	33	24.5	70.5	SE quad.	.8	3.2	Ci.	Fr.-Cu. SSE	------	Ω² a.
24	59.03	28.3	33	24	69.8	SE, SSE	1.2	4.8	Ci.-S. SW	Cu. SE quad.	------	Ω² a. Ф² p.
25	59.24	27.3	32.5	23.7	76	SE	.8	5.5	Ci. W	Cu. ESE	------	Ф² p.
26	59.10	27.9	34	23	74	ESE	.7	4.5	Ci. SW	Cu. SE	3	Ω² a.
27	58.79	27.8	32.2	23.9	77.5	SE	.8	5	Ci.-S. SW	Cu. SE	------	●⌒° a. ⊤ p.
28	58.54	28.1	32.7	24.1	74.7	SE	.5	5	Ci.	Cu. E	18.3	Ω² a. ⚡ ●² p.
29	58.36	27.6	32	24	78.3	SE quad.	.5	3.3	Ci., Ci.-S.	Fr.-Cu. E,SEbyE	------	Ω² a. ⊤ p.
30	58.35	27.1	32.5	24.5	81.3	Variable	.5	5.3	Ci.-S. SW	Cu. SE	1.3	Ω² a. ● p.
Mean	759.40	27.5	32.8	23.7	75	------------	.8	4.3	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	69.5	

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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	760.50	27.5	31.5	------	83.3	NE quad.	0.7	5	Ci.-S., Ci.	S.-Cu., cu.-N. NE	------	
2	60.40	27.2	31.2	------	82.6	NE quad.	.8	5.8	Ci.	Cu.-N. NE	14.2	●² K p.
3	60.72	27.2	30.4	------	84.2	NE quad.	.3	3.7	Ci.	Cu.-N. NE	------	
4	60.59	27.8	31.4	------	84.5	N quad.	.3	3.5	Ci.	S.-Cu.	------	
5	60.32	27.2	30.9	------	86.2	ESE, NE	.3	1.2	Ci.-S., Ci.	s.-cu., cu. NE, SE	------	
6	59.30	26.7	31.3	------	85.8	Variable	.5	2.3	Ci.-S.	Cu. SE	------	⌓° a.
7	58.86	27	32.4	------	85.3	NW, N	.3	3	Ci.	Cu.	------	⌓ a. ≡ a. p.
8	59.25	27.2	32.4	------	85	NE quad.	.2	4.2	Ci.-S., Ci.	Cu.-N. E	------	≡ ⌓ a. ≡° p.
9	59.71	27.2	32.4	------	86	NE	.3	2.8	Ci.	S.-Cu.	------	⌓° a.
10	60.03	26.7	31.5	------	83.3	NE quad.	.3	2	Ci.	Fr.-Cu. E	------	⌓° a.
11	60.02	27.3	31.7	------	86.2	ENE, N	.3	1.5	Ci.	Cu. E	------	⌓° a.
12	60.58	27.6	31.4	------	85.3	NE	.5	3	Ci.	S.-Cu.	------	
13	60.21	28.1	31.9	------	84.5	NE quad.	1	5.2	Ci.	Cu. E	------	ϟ ⊤° p.
14	59.58	28.3	31.7	------	82.8	NE quad.	.7	4.8	Ci.	Cu. E	2	ϟ ● p.
15	59.34	27.4	30.7	------	87.2	Variable.	.5	7	Ci.-S. SW	Cu.-N. E	------	p° K° a.
16	58.93	27.6	31.7	------	86.7	NE	.3	5.7	Ci.-S. SW	Cu. E	8.4	d° p.
17	59.18	27.6	31.7	------	87.3	E	.5	4.5	Ci.	Cu. E	1.8	●² a.
18	59.58	27.7	30.9	------	84.9	NE quad.	.7	4.5	Ci.	Cu. E	1.5	● a.
19	59.44	27.9	31.8	------	83.8	NE	.5	4.2	Ci.-S. NW	Variable. E	------	● a.
20	58.83	27.7	31.2	------	83.5	NE	.5	3.5	Ci.	Cu. E	2.8	
21	58.94	27.2	31.2	------	84.7	NE	.5	3.2	Ci.	Variable. E	------	● a.
22	59.26	26.8	31.9	------	84.7	NE	.3	2.5	Ci.	Variable. E	------	d° a.
23	59.07	27.3	32.1	------	85.7	ESE, NE	.3	3.3	Ci.	S. E	------	
24	58.92	26.9	32.2	------	86.3	NE	.3	4	Ci.-S. SE	Variable E	------	≡° ⌓° a.
25	59.28	26.5	31.9	------	85.5	NE quad.	.3	3.2	Ci.	S. E	------	⌓° ≡° a.
26	59.05	26.8	31.8	------	86.7	NE	.7	5.5	Ci.	S.-Cu. E	------	
27	58.71	27.7	32	------	83.7	NE	.3	4	Ci.	S.-Cu. E	------	ϟ° p.
28	58.66	27.7	32.5	------	83.7	NE	.3	3.2	Ci.	Cu.-N. SE	------	≡° a. ⊤ p.
29	58.41	28.1	32.5	------	85.2	NE	.3	3.3	Ci. S	Cu.-N. E	------	
30	58.53	28	32.5	------	85.3	NE	.3	4.5	Ci.	S.-Cu. E	1	ϟ° p.
Mean	759.47	27.4	31.7	------	85	------	.4	3.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	31.7	

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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	760.46	26	30.7	22.2	------	------	------	------	------	------	------	● ≡° a. ⊕ p.
2	60.52	26.6	33.4	21.2	79	N	.8	2.7	Ci.-S.	Cu., Fr.-Cu. E	------	≡° a. ϟ ⊕ p.
3	60.69	26.7	32	22.4	80.7	NE quad.	1.2	5.5	Ci.-S.	S.-Cu. E	1.5	⌓ a. p° ⊕ p.
4	60.70	27.3	32.9	22.8	80.3	N quad.	1.3	3.7	------	S.-Cu. E	------	≡ a. ⊕ p.
5	60.34	25.8	31.5	21.4	84.7	N	1.2	4	Ci.	S.-Cu. E	------	⌓² a. ⊕ p.
6	59.42	25.8	31.5	21	82	Variable	.8	1	------	S.-Cu.	------	⊕ p.
7	58.82	26	31.4	20.9	81.2	Variable	.8	2	Ci.-S.	S.-Cu. NE	------	⊕ ≡° a.
8	59.50	26.8	31.6	21.6	78.2	Variable	1.5	2.8	Ci.-S.	S.-Cu. SE	------	d ϟ p.
9	60.28	26.4	31.5	21.5	78.7	Variable	1.3	1.3	Ci.-S.	S.-Cu.	------	⊕ a.
10	60.23	26.5	32	21.5	79.8	NE, W	1.2	1.8	------	S.-Cu. E	------	
11	60.36	26.6	32.1	21.5	79.7	N	1.2	2.3	Ci.	S.-Cu. E	------	
12	60.69	26	31.9	20.9	79.9	N	1.3	2.7	------	S.-Cu.	------	⊕ a. ϟ p.
13	59.98	27	31.9	23.2	82	NE, E	1	5.7	Ci.-S.	S.-Cu. E	1	p° a. d ϟ p.
14	59.56	25.9	31.5	22.9	86.2	N, NE	1	5	A.-Cu.	S.-Cu. SE, E	5.6	⊕ a. p K° ϟ p.
15	59.34	26.3	31.1	22.9	84.8	Variable	1	6.8	Ci.-S.	S.-Cu. SE	1.3	⊤° p p.
16	59.02	25.9	31.3	22.2	86.1	N, NE	.8	4	Ci. N	S.-Cu. SE, E	------	⌓² a. ⊤° ϟ p.
17	59.20	26.5	32.1	21.1	81.7	NE	1.3	3.5	Ci.	Cu. E, SE	------	
18	59.92	24.3	30.9	20.5	91	N	1	4	Ci.	S.-Cu. SE	8.1	≡ a. ● ⊤ ⌒ d p.
19	59.34	25.6	31.5	21.5	86.8	N	.5	3.3	A.-Cu., Ci.	S.-Cu.	1	⌓² a. d ⊤ p.
20	58.81	25.7	31.9	21.3	85.5	N	1.3	3.2	------	S.-Cu. E	------	⊤ ϟ p.
21	59.20	26.2	31.5	21.2	81.5	SW	1.2	2	Ci.	S.-Cu. E	------	
22	59.29	26.4	32.4	20.5	80.4	N	1	.7	Ci.	S.-Cu., Cu.	------	
23	59.10	26.4	32.1	21.4	81.5	N	1	.8	Ci.-S., Ci.	Cu.	------	⊤ ϟ p.
24	59.05	26.7	31.7	21.3	79.3	Variable	1.5	2.7	Ci.	S.-Cu. E	1.8	p p.
25	59.34	26.3	31.7	20.8	81.2	NE	1	5	Ci.	S.-Cu. E	------	⊤ p.
26	59.12	26.6	32.1	21.2	78.7	N, NE	1.2	2.3	Ci.	Cu. E	------	⊕ p.
27	58.92	27	32.5	21.9	81.2	NE, S	1	4	Ci.-S.	S.-Cu. E	------	⊤ ϟ ⊕ p.
28	58.68	26.6	32.6	22.3	84.4	NE	1.2	2.7	Ci.	S.-Cu. E	.5	⊤° d° ⌒ ⊕ p.
29	58.49	27	32.4	21.5	75.7	Variable	.8	1.7	------	S.-Cu. E	------	⊤ ⊕ p.
30	58.74	26.4	32.4	22.2	82.8	N	1.2	4.7	Ci.	S.-Cu. E	------	⊤ ϟ ⊕ p.
Mean	759.57	26.3	31.9	21.6	81.9	------	1.1	3.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	20.8	

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.			Rain, 24 hours beginning 6 a. m.	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	760.66	27.2	30.9	25.2	77.4	E	11.2	4.5	A.-Cu. ENE	Cu. E	2	d ● a.
2	60.64	27.7	31.1	24.6	76.8	E, ENE	12.9	1.8	A.-Cu.	Cu. E, NE	.3	● p.
3	60.92	27	30.6	23.3	82.8	E	10.6	6.2	Ci., A.-Cu.	Cu.-N. E, NE	14	●^{2} a.
4	60.80	27.7	31.3	23.9	78.7	E	8.2	1.5	A.-Cu.	Cu. ENE, NE	------	d a.
5	60.22	27.7	31.8	23.7	75.7	E quad.	6.8	3.3	------	Cu.-N. NE	------	≡ a.
6	58.94	26.7	32.3	21.6	76.2	E, ENE	3.1	.3	------	Cu. SE	------	≡ a.
7	58.28	26.6	32.1	21.4	79.8	E	5.5	1.7	Ci.	Cu. S	------	≡ a.
8	59.14	27.6	32	23.9	74.8	E	6.4	1.7	Ci.	Cu.	------	⚡ p.
9	59.77	27.8	32	22.6	74.5	E	7.2	.2	------	Cu.	------	≡ a.
10	59.93	28	32.1	25	73.2	E	10.9	.3	Ci.	Cu.	------	≡ a.
11	60.14	28	31.5	25.3	71	E	9.9	1.5	A.-Cu. NNE	Cu.-N. E	------	d a.
12	60.65	28.3	32	25.4	71.8	E	10	.8	Ci.	Cu.	.3	≡ a.
13	60.11	27.2	31.4	24.5	80.3	E quad.	10.3	3.8	Ci.	Cu.-N. E, ENE	7.9	d a. ● p.
14	59.52	28	32	25	78.8	NE quad.	9.2	3.5	Ci., A.-Cu.	Cu. E	12.7	d a. ⚡ p.
15	59.20	28	31.5	23.6	77.5	E quad.	9.7	3	Ci. W	Cu.	------	○ a. ⚡ p.
16	58.94	28.2	31.9	26	71.6	E quad.	10.9	3.8	Ci. W	Cu. E	------	⚡° p.
17	59.20	28.2	31.9	25.6	73.5	E quad.	9.3	2.5	Ci. W	Cu. E	------	d^2 a. ⚡ p.
18	59.67	27.9	31.9	25	76	E	8.4	1.8	Ci.	Cu. E	------	≡ a.
19	59.12	27.8	31.9	24.9	75	E	7.9	1.8	Ci.	Cu.	.5	≡ a.
20	58.74	28.3	32.7	25.1	70	NE quad.	6.6	1.8	Ci.	Cu.	------	≡° a.
21	59	28.2	32.2	25.9	72.8	ENE, E	9	1.5	Ci.	Cu.	------	≡ a.
22	59.07	28.1	31.9	24.7	69.2	E quad.	7.1	.5	Ci.	Cu.	------	≡° a.
23	58.83	28	32.5	21.5	70.9	E	6.4	1.2	Ci.	Cu.	------	≡ a.
24	58.91	28.3	32.1	25.6	69	NE quad.	9.9	1.7	Ci.	Cu.	------	≡ a.
25	59.17	27.9	32.2	23.1	72.7	E	9.4	.8	Ci.	Cu.	------	≡ a.
26	59.14	28.4	32.2	25.4	70.3	E quad.	9.8	1.5	Ci.	Cu. ENE	------	≡ a.
27	58.69	28.3	32.3	25.5	75.5	E, SE	8.4	3.8	Ci.	Cu. E	------	⚡° p.
28	58.29	28.2	32.8	23.5	74.7	ESE	7.2	2	Ci.	Cu.	------	≡ a.
29	58.24	28.3	32.5	24.1	72	E	6.3	1	Ci.	Cu.	------	≡ a.
30	58.38	27.6	33.5	22	75.8	E	6	1.8	A.-Cu.	Cu. ENE	------	≡ a. ⚡ p.
Mean	759.41	27.8	32	24.2	74.6	------	8.5	2.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	37.7	

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.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	760.51	26.9	33.2	22	82.4	NE	------	3.3	Ci.-Cu. ENE, E	Cu. E	1.3	Ω° a. d p ϖ^2 p.
2	60.56	28.7	33.5	24.6	73.3	NE quad.	11.4	4.2	A.-Cu., Ci.-Cu. E	S.-Cu. ENE	------	ϖ° p.
3	60.61	28	33.9	23.1	79.1	NE quad.	8.8	2	Ci. E	Cu. NE	------	Ω° ≡° a. ϖ° a. p.
4	60.71	27.2	33	22.5	82.3	NE, NNW	9.9	.8	Ci.	Cu. NE	------	ϖ° Ω° ≡° a. ϖ^2 p.
5	60.02	27.2	33.2	22.7	79.7	NE quad.	8	2.2	A.-S.	Cu. NE	------	ϖ° a. ϖ^2 Ω^2 ≡° p.
6	58.64	27.3	34.5	21.7	82.3	WSW	8.9	1.2	Ci. ESE	Cu. S	------	Ω^2 ≡ ϖ° a. ϖ^2 p.
7	58.06	27.6	33.9	22.4	78.1	Variable	10.9	3	Ci.	Cu. SW	9.4	Ω^2 ≡ a. ⚡° ☈ p.
8	59.04	26.4	32.4	23	88.2	N	11.3	9.5	Ci.-Cu. S	N., S.-Cu. N	29.7	☈ ● a. ϖ^2 ● p.
9	59.30	26.9	33.3	22.3	83.2	N, W	7.9	6.7	A.-Cu. E	S.-Cu. Variable	------	☈ ●° a. ϖ° p.
10	59.47	27.3	34.8	21.4	80.8	Variable	8.5	3.2	A.-Cu. ENE	Cu. E, SSE	------	ϖ° a.
11	59.85	27.2	33	22	81.6	NE quad.	10.2	1.7	Ci.	Cu. E	------	Ω° ≡^{2} a.
12	60.38	27.6	32.8	22	78.5	N quad.	10.2	2.5	Ci.	Cu. E	------	Ω° ≡^{2} ϖ° a.
13	60.06	27.9	33.4	21.9	78.2	NE quad.	10.8	3.2	Ci.	S.-Cu., Cu. NE	------	ϖ° Ω^2 ≡^{2} ⊕° a. ⚡° p.
14	59.54	28	32.3	25.7	83.2	NE, NNW	13.3	6.8	Ci.	S.-Cu. NE	3.3	☈° ● d ⚡° p.
15	59.03	28.2	32.4	24	83.1	N quad.	10.9	5.3	Ci. SW	Cu., S.-Cu. SE	------	⚡° a. ⚡^{2} p.
16	58.73	27.5	32.9	24.2	86.3	NE quad.	9.3	7.5	Ci. SW, WSW	S.-Cu. NE	26.2	Ω° ⊤° a. ☈° ● p.
17	59	27.9	32.5	23.6	81.5	NE quad.	10.8	6.2	Ci. W	Cu. ESE	------	⊕° a. ⊤° ⚡° p.
18	59.58	28.5	34	23.9	78.4	NE quad.	10	4.3	Ci. NW	Cu. NE, ESE	------	⚡° a.
19	58.96	28.7	32.6	25.7	75.7	NE quad.	11.2	1.7	Ci.	Cu. ENE	------	
20	58.40	28.2	32.8	23.7	76.6	NE quad.	9.3	1.3	Ci. N	Cu. E	------	
21	58.62	27.6	34.8	22.9	79.8	WSW	6.8	2.7	Ci.	Cu. SE	------	
22	58.68	27.6	34.6	22.7	80.8	SW	7.5	3	Ci.	Cu. SE	------	Ω° a.
23	58.48	28.1	35.3	23.1	79.3	SW quad.	7.9	4.5	Ci.	Cu. S	------	☈° p.
24	58.38	28	34.4	23.1	80	W	8.2	4.5	A.-Cu. E	Cu. SE	------	☈° a. p. ϖ° p.
25	58.95	28.2	32.9	23.9	74.9	N quad.	8.6	4.5	Ci. N, E	Cu. SE	------	☈° ● d ⊕° a. ϖ° p.
26	58.92	28.3	34.8	22.9	77.2	NE quad.	9.2	1.8	Ci.	Cu. Variable	------	Ω° ⊕^{2} a. ϖ° p.
27	58.61	28	34	22.4	77.2	Variable	9	.5	Ci.	Cu. SE	------	ϖ° p.
28	58.20	27.7	34	22.5	78.3	Variable	8.4	2.5	Ci. NE	Cu. E	------	≡° a. ϖ^2 p.
29	58.01	27.6	34	23	82.2	N	7.9	4.2	Ci. N	Cu. NE	------	⚡° ϖ^2 p.
30	58.30	29.6	35.5	24.4	72.3	NE quad.	10.8	2.5	Ci.	Cu. NE	------	⊤° ⊕° a. ⚡° ϖ^2 p
Mean	759.19	27.8	33.6	23.1	79.8	------	9.5	3.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	69.9	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	759.87	28.5	34.4	23.5	67.6	N	1.3	3.2	A.-Cu.	Cu. E	------	Ω ≡ a. ∞° p.
2	60.07	28.4	33.9	22.6	67.2	NNE, E	1.6	4	A.-Cu.	Cu. ENE, E	------	≡° a. ↯ ∞ p.
3	60.27	27.4	34.2	23.2	74.7	N quad.	1.8	2.5	Ci.-S.	Cu. E	------	≡ ∞ a. p.
4	60.12	27.7	32.8	24.3	77.2	Variable	1.6	2.5	Ci.-S.	Cu.	------	∞ ≡ a. p.
5	59.53	27.9	34.2	24.4	74.3	NNE, NE	1.6	1.8	Ci.-S.	Cu.	------	∞ ≡ a. p.
6	58.84	26.8	31.2	23	78	N, SSW	1.8	3.2	Ci.-S.	Cu.	------	∞ ≡ a. p.
7	58.31	26.4	31.1	20.7	75.8	Variable	1.5	2.7	Ci.-S.	Cu.	------	Ω^2 a. ∞ ≡ a. p.
8	58.74	27.4	33.4	24.2	77.3	NNE, SW	1.7	6.3	A.-Cu. SSE, SE	Cu. E	------	∞ ≡ a. p. ↯ p.
9	59.05	26.6	29.4	23.6	82.9	NNE, SSW	1.6	2	Ci.-S.	Cu.	------	Ω^2 ↯ ∞ ≡
10	59.35	26.9	30.7	22.9	78.4	Variable	1.5	2.8	Ci.-S.	Cu. ESE	------	≡ a. ∞ ↯ p.
11	59.33	27.5	33.3	24.6	77.4	Variable	1.7	6.3	A.-Cu. NE	Cu. E	------	∞ ≡ a. p. ⌈↯ p.
12	59.96	27.9	33.9	23.7	68.3	NE quad.	1.5	5	Ci.-S.	Cu. E	------	≡° Ω^2 ⊕ a. ∞°p.
13	59.59	27.9	34.6	22.7	69.8	NNE	1.8	3.7	Ci.-S.	Cu. E, ESE	------	≡ a. ∞ p.
14	59.10	27.8	35.1	22.4	74.5	NNE, ESE	1.4	4.3	A.-Cu.	Cu., Cu.-N. E	------	≡°Ω^{2}a.∞° ⊤d°p.
15	58.72	28.8	34.2	25.7	76.6	N quad.	1.3	7.7	Ci.-S.	Cu.-N.	------	⌈↯ p.
16	58.34	26.9	32.9	22.7	83.3	N quad.	1.5	8.3	Ci.-S.	Cu. E, ENE	33.6	≡°a.p.↙ ●^{2}⌈↯^{2}p.
17	58.44	27.5	33.3	22.3	76.2	NNE	1.5	8.2	Ci.-S. W	Cu. E	------	≡° a. ∞° ↯^{2} p.
18	58.88	28.7	34.8	23.8	72.2	NE quad.	1.6	7.7	Ci.-S. WNW	Cu. NE, ESE	------	≡° ↯ a.
19	58.43	28	34	24.3	81.1	Variable	1.6	5.7	Ci.-S.	Cu. ENE	------	≡° ↯ a.
20	57.93	28.2	34.3	24.5	77.2	NNE	1.9	3.7	Ci.-S.	Cu. ENE	------	Ω a.
21	58.35	27.6	31.4	24.1	81.7	SW	1.6	4.2	Ci.-S.	Cu. ENE, NNW	------	≡° a. ↯ p. ∞
22	58.32	28.6	33.9	25.4	77.5	NNE, E	1.8	5.8	Ci.-S.	Cu. ENE	------	≡° a. ∞ ⊤ p.
23	58.26	27.9	32	24.5	80.7	NNE	1.4	6.7	Ci.-S.	Cu.-N. ESE	------	≡°a.d°⌈↯↯p.∞
24	58.03	27.8	32.7	23.7	82.1	NNE	1.8	5.2	Ci.-S.	Cu. NE	------	∞^{2} a. p. d° ⌈↯ p.
25	58.38	28.4	35.9	24.5	76.5	N quad.	1.5	7.5	Ci.-S.	Cu. E	------	≡ a. p.
26	58.52	29.2	35.2	25	67.2	NNE	1.4	6.2	Ci.-S.	Cu. E	------	≡° a.
27	58.24	27.8	32.3	23.7	74.8	NNE	1.4	6	A.-Cu. NE, ENE	Cu.	------	≡° a. d° ∞ p.
28	57.89	27.6	30.6	24.5	77.8	Variable	1.7	5.7	Ci.-S.	Cu.	------	∞ a. p. ⊤^{2} p.
29	57.92	27.2	31.8	24.4	81.9	N quad.	1.2	7.2	Ci.-S.	Cu, Cu.-N. E, WSW	4.2	Ω ⊤ a. ⌈↯ ● p. ∞
30	57.93	26.9	33.3	23.6	82.5	NE quad.	1.8	7.3	Ci.-S.	Cu. E	7.9	∞ ● ⌈↯^{2} p. ≡°
Mean	758.82	27.7	33.2	23.8	76.4	------------	1.6	5.1	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	45.7	

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	760.07	27.6	33.9	22.5	66.8	ENE, SE	2.0	3.7	A.-Cu. E	Cu.-N. E	------	Ω° a.
2	60.31	27.4	33.1	21.7	68.1	E quad.	2.1	3.3	A.-Cu. SE	S.-Cu.	------	Ω° a.
3	60.33	28.7	35.5	22.6	66	Variable	.7	5.3	A.-Cu. E	Cu.-N. ESE	------	Ω a.
4	60.03	28.8	36.8	22.7	64.9	E quad.	.8	4.1	Ci.	S.-Cu.	------	
5	59.50	29.2	36.5	22.7	61.6	ESE, NE	.8	4.3	Ci. SE	Cu.-N. ESE	------	Ω° a. ⊔° ↯ ⊤ p.
6	58.55	28.5	36	21.2	64.5	Variable	1	4.8	Ci.-S.	Cu.-N. NW	------	Ω° a.
7	57.96	27.8	35.9	22.2	65.8	N quad.	1.1	5.2	A.-Cu.	N.-cf. W, WNW	------	Ω^2 ∞^{2} a.
8	58.82	26.6	32	23.5	72.7	ESE	1.2	7	A.-Cu. SE	N.-cf. SE, S	------	↯ p.
9	58.88	28.9	36	23.7	68.4	NNW, SW	.7	6	Ci.-S. NW	Cu.-N. SW	------	Ω° ∞° a.
10	59.15	29.2	36.5	24.2	65.4	NNW, NNE	.8	6.3	Ci.	Cu.-N. S, WNW	------	Ω° a. ↯ ⊤ p.
11	59.36	27.6	33.9	24.1	70.2	E, NNW	1.2	7.5	A.-Cu. S	Cu.-N.	------	↯ ⊤ p.
12	60	27.8	34.9	21.5	65.2	ESE	1.3	4.8	Ci.	Cu.-N. SE	------	Ω° ≡° a.
13	59.59	28	34	22	62.5	ENE	1.6	4.2	A.-Cu. SE	S.-Cu.	------	Ω a.
14	59.19	28	34.4	20.9	64.4	E quad.	1.3	4	A.-Cu. SE, E	Cu. ESE	------	Ω^2 a.
15	58.82	28.4	37	23.6	67.8	Variable	.9	5.5	Ci.	Variable SE	------	↯ ⊤ p.
16	58.51	26.6	33.7	22.7	76.7	NE quad.	1	6.3	A.-Cu. E	Cu. SE	------	≡ Ω° a. ⊤ p.
17	58.73	27.2	32.9	21	70.7	E	1.9	4.2	Ci. S	S.-Cu.	------	≡°Ω ° a. ↯ p.
18	59.07	28	33.9	22.4	64.9	N, E	1.8	5.2	Ci. S	S.-Cu.	------	Ω° a.
19	58.39	29.5	36	23.6	61.7	E quad.	.9	4.8	Ci.-S. N	S.-Cu. E	------	↯ ⊤ p.
20	57.86	29.2	37	23.5	63.4	NE quad.	.6	5	Ci.	S.-Cu.	------	
21	58.18	29.7	37.6	23.8	61.5	Variable	.6	5.3	Ci., A.-Cu.	Cu. E	------	⊤ ↯ p.
22	58.34	29.2	36.2	24.4	66.8	ESE	.8	5.5	Ci., Ci.-S.	Cu.-N. SE, E	------	↯ ⊤ p.
23	58.13	29.3	36.4	24.7	64.5	NW quad.	.6	7.2	A.-Cu.	N. N, W	------	↯ p.
24	58.06	28.5	35.5	23	70.7	E quad.	1.1	5.3	Ci.-S.	Cu.-N. E	------	Ω^2 ≡ a. ↯ ⊤ p.
25	58.26	29	38	23	67.3	NNW	.9	5	Ci.	Cu. SE	------	Ω^2 a. ⊤ p.
26	58.52	29.1	35.5	24.5	61.1	E quad.	1.3	4.5	A.-Cu.	Cu. E	------	⊔^{2} p.
27	58.12	29.6	37.4	23	62.4	ESE, NW	.7	5.8	A.-Cu.	Cu. E, NE	------	Ω° a.
28	57.70	29.7	37.6	25	66.8	Variable	.8	5.8	A.-Cu.	N.-cf. N, WNW	------	⊤ ↯ p
29	57.92	27.9	37.3	23.4	75.4	NNE, ESE	.7	7.3	A.-Cu. SE	Cu.-N. NE	23.6	Ω a. ↯ ⌈↯ ●^{2} p.
30	58.03	27.7	34	23.3	73.7	NNW	1	6	A.-Cu. SE	Cu.-N. E	------	Ω° ≡ a. ⊤ p.
Mean	758.81	28.4	35.5	23	66.7	------------	1.1	5.3	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	23.6	

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.			Rain, 24 hours beginning 6 a. m.	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	759.76	28.6	37.4	23	71.8	Variable	11.6	4.3	------	S.-Cu. E	------	⌒ ⊤ d ⚡² p.
2	60.12	29	37.5	22.8	70.2	SE, NW	10.7	3.5	------	Cu.	------	d° ⚡ ⊤ p.
3	60.45	27.9	34.2	23.3	76.2	Variable	11.1	2.8	Ci.	Cu.	------	⊤ a. ⚡ a. p.
4	60.06	28	35.1	23.9	78.8	SE, NW	11.5	2.8	Ci.	Cu., S.-Cu.	------	⊕ p.
5	59.36	29	35.7	23.8	75.3	S, NW	11.3	1.5	Ci.	S.-Cu.	------	⊕ a. ⚡° p.
6	58.85	28.2	32.8	24	73.3	NW	16.3	2.8	Ci.-S.	Cu.	------	↙° ⊕° p.
7	58.12	28	33.2	23.8	73.4	NW, NNW	12.6	4.3	------	S.-Cu. N, NW	------	⚡° p.
8	58.57	27.9	35.8	23.5	70.8	Variable	11.7	7.5	------	S.-Cu. S	------	↙° a. d° ⚡ ⛈ p.
9	59	27.9	34.2	23.8	75.3	NW	11.4	3.8	------	S.-Cu. S	------	⚡ p.
10	59.31	28	32.6	24.7	72	NW	13.4	3.7	------	S.-Cu. S	------	⚡° ⊕ p.
11	59.32	28.2	37.1	22.2	76.3	NW, SE	9.5	3	Ci.	Cu.	1.3	⚡ ⛈ ● p.
12	60.02	28	36.4	21.4	70.2	NW, SE	11.6	1.5	Ci.	Cu.	------	⊕ a.
13	59.58	29.2	37.8	23.6	70.6	Variable	12.5	3	Ci.	S.-Cu.	------	⚡° p.
14	59.21	28.4	35.6	22.4	68.3	Variable	12.8	1.7	------	S.-Cu. E	------	⚡° p.
15	58.81	28.2	35	23.4	76	Variable	12.6	3.2	Ci.	S.-Cu.	------	⚡° p.
16	58.48	27.2	36.4	23.2	79.5	Variable	7.2	4.8	Ci.	S.-Cu. SE	4.6	⛈ ⊤ ● p.
17	58.40	28.2	37.8	21.8	74.8	SE	12.5	4.3	Ci.	Cu.	39.6	⚡ ⊤ ⌒ ⛈ ● p.
18	58.86	29	37.3	23.8	73	Variable	9.7	6.3	Ci.	S.-Cu. SE	.5	⛈ ● a. ⛈° d p.
19	58.32	28.8	35.4	23.7	74.5	NW, SE	13.1	3.7	Ci.	S.-Cu. SE	------	↙° ⚡° ⊤ p.
20	57.76	28.5	36.5	24	76	NW, SE	12.4	3	Ci.-S.	Cu.	------	↙° ⚡ ⊤ p.
21	58.24	28.8	35.7	24	75.2	Variable	12.9	3.3	Ci.-S, Ci.	S.-Cu. SW	------	⚡ p.
22	58.24	28.9	35.5	24	76.5	NW	12.2	3.5	Ci., Ci.-S.	S.-Cu.	------	↙° ⚡ ⛈° d° p.
23	58.14	28.7	33.8	23.9	73.5	NW	12.6	2.5	Ci.-S.	Cu.	------	⚡° p.
24	57.88	28.2	35.2	22.6	74.2	NW, S	10.4	3	------	Cu.	------	↙° ⚡ ⊤ p.
25	58.42	28.3	36.5	23.3	78	NW, S	12.1	4.5	Ci.	Cu.	9.1	● ⊤ ⊕ p.
26	58.43	29.2	36.8	23.8	72.3	NW, S	12	3.3	Ci.	Cu.	------	⊤ a. ⚡° p.
27	58.22	28.8	35.1	23.8	72.8	SE, NNW	12.1	3	Ci.	Cu.	------	⚡° ⊕ p.
28	57.76	28.7	33.6	25	77.5	NW	12.5	3.5	Ci.-S.	S.-Cu. SE	------	⊕° p.
29	57.70	29.1	33.2	24.1	72.8	NW, NNW	11.4	4.2	Ci., Ci.-S.	S.-Cu. E	------	⚡ ⊎ p.
30	57.86	28.4	36.2	24.8	75.5	NNW, SE	8.2	7.8	Ci.-S.	S.-Cu. S, ESE	------	⊤ ⚡ p.
Mean	758.78	28.4	35.5	23.5	74.2	------	11.7	3.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	55.1	

BOLINAO.

[ϕ=16° 24′ 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.	0-10.			mm.	
1	759.87	28.7	32.2	25.2	73.2	SE, WNW	2.3	4.5	Ci.	Cu.	2.3	Ω° ≡ a.
2	60.15	28.8	32.9	25.1	71	Variable	1.8	6.5	A.-Cu.	Cu.-N. NNE	9.7	● ≡ a. ⚡ ⊕° p.
3	60.51	28.2	32.1	24.9	78.8	NNE	2.8	7	Ci.	Cu. N	------	● a. ⊕° p.
4	60.34	27.8	30.5	26.2	80.3	NNE	2.7	5	Ci.-S., Ci.	Cu. NE, N	------	⚡ p.
5	59.57	27.6	32	23.2	78.9	SE, W	2	2.5	Ci.	Cu.-N. S	------	Ω° ≡ ⚡
6	59.26	26.8	30.8	21.9	79.5	SE, NW	2.5	3.2	A.-S., Ci.-S.	Cu. NW	------	Ω ≡ a. ⊕° p.
7	58.40	27.9	31	25.4	77.7	NW quad.	2.8	7.3	Variable	Cu. NNW, NW	------	↙° p.
8	58.69	26.8	29.9	23.2	80.2	NW quad.	2	6.2	A.-Cu., Ci.-S.	Cu.-N. S	------	Ω° ≡ a. ⚡ p.
9	59.30	27.2	31.9	22.7	76.4	Variable	1.8	2.8	A.-S.	Cu.	------	Ω ≡ a. ⚡ p.
10	59.68	27.8	31	25.1	77.3	NE quad.	3	4.7	Ci.	Cu. N	------	≡ a. ↙° p.
11	59.51	28.4	31.9	25.9	78.2	NE quad.	2.3	6.5	Ci.	Cu.	------	⚡ p.
12	60.01	27.2	31.3	22.6	81.2	SE, W	2.3	3.7	Ci.	Cu.	1.3	Ω° ≡ a. ● p.
13	59.71	27.7	32	22.4	81.3	Variable	2.5	4.2	Ci.	Cu. WNW	------	Ω° ≡ a.
14	59.44	27.8	31.5	23.2	78.2	NE quad.	1.8	2.2	Ci.	Cu. ESE	------	Ω° ≡ a. ⚡ p.
15	59.14	28.4	32	25.5	79.5	NE quad.	3	9	Ci., Ci.-S.	Cu. NE	------	
16	58.69	28.4	31.9	26.9	78.8	N quad.	2.3	6.3	Ci.-S.	Cu.	------	
17	58.50	28.4	32.7	24.3	79.7	Variable	2	7.8	Ci.-S.	Cu.-N.	------	Ω° ≡ a.
18	58.97	29.5	34.3	25.6	78.9	E quad.	2	8.3	Ci.-S.	Cu.-N.	------	Ω° ≡ a. ⚡ p.
19	58.47	29.5	32.4	27.5	79.2	NNE, N	3.2	7.5	Ci.-S.	Cu. NE	------	⚡ p.
20	57.99	29.3	32.9	26.4	79.5	NW	2.3	4.3	Ci.-S., Ci.	Cu.	------	⛈ p.
21	58.43	28.7	32.5	24.8	82.5	Variable	2.2	6.2	Ci.-S., Ci.	Cu.	------	Ω ≡ a. ⚡ p.
22	58.49	28.6	32	25.4	82.8	N quad.	2.5	6.5	Ci.-S.	Cu.	------	≡ a. ⛈ p.
23	58.50	28.7	31.9	26.5	81.5	N quad.	2.2	5	Ci.-S.	Cu. NNE	------	⛈ a. ⚡ p.
24	58.11	28.7	31.5	26	80.8	N quad.	1.8	3.8	Ci.-S., Ci.	Cu. NNE	------	⚡ p.
25	58.46	28.1	31.8	25.2	87.5	Variable	2	6.7	Ci.-S.	Cu.-N. S	34.8	Ω° ≡ ⛈² a. ⚡ p.
26	58.65	28.4	32.6	24.2	83.8	SE, NNE	2.3	3.5	Ci.	Cu.-N.	------	● ↙° a.
27	58.30	28.9	32	26	83.2	NNE	2	4.7	Ci.-S.	Cu.-N.	------	≡ a. ⚡ p.
28	57.94	28.4	31.7	24.5	82.3	N quad.	2	4.5	Ci.-S.	Cu.-N.	------	Ω ≡ a. ⛈ p.
29	57.90	29.1	32	26.9	80.5	N quad.	2.5	5.3	Ci.-S.	Cu. NNE	------	⊕ ⚡ p.
30	57.99	28.6	31.3	25.8	82.8	N quad.	2.2	9.2	Ci.-S., A.-Cu.	Cu.	------	⊤ p.
Mean	758.97	28.3	31.9	25	79.8	------	2.3	5.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	48.1	

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.			Rain, 24 hours beginning 6 a. m.	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	760.12	28	33.8	24.7	70	N quad.	1.3	0	Ci.	Cu.	------	
2	60.38	28.1	32.9	24.6	71.7	Variable	1.5	1.5	A.-Cu.	Cu. N	------	≡ a. ⌈ζ p.
3	60.73	27.6	32.1	25.1	75.5	Variable	1.7	.5	Variable	Cu. N	------	ζ p.
4	60.43	27	31	23.1	73.4	NW	1.7	.2	Ci.	Cu.	------	≡ a. ↙° p.
5	59.67	27.1	33	22.6	74.8	Variable	1.5	0	Ci.	Cu.	------	Ω° ≡ a. ζ° p.
6	59.40	27	31.9	23.3	72.2	N	1.8	0	Ci.-S.	Cu.	------	Ω a. ↙° p.
7	58.40	26.4	30.5	24	71.8	NE quad.	1	5.3	Ci.-S.	S.-Cu.	.3	d² a.
8	58.71	27.2	33.6	24	------	SW	1.8	4.7	Ci.-S.	Cu. SSW	------	d² a. ↙° ζ° p.
9	59.53	27	32	23.9	71	Variable	1.5	.2	Ci.-S.	Cu.	------	Ω ≡ a. ζ° p.
10	59.83	26.7	31.2	22.5	71.9	N, NE	1.8	0	Ci.	Cu.	------	Ω ≡ a.
11	59.60	27.2	33.4	22.9	72.4	Variable	1.2	0	Ci.	Cu.	------	Ω ≡ a. ζ° p.
12	60.12	27.7	33.4	23.4	71.1	SE quad.	1.3	0	Ci.	Cu.	------	≡ a.
13	59.96	28.1	33.8	24.5	73.6	SSW	1.3	1.5	Ci.	Cu. SW	------	Ω ≡ a. ζ° p.
14	59.64	28	32	24.5	69.5	Variable	1.2	.2	Ci.	Cu. N	------	≡ a. ζ° p.
15	59.29	27.6	31.6	23.7	67.5	N	2.2	0	Ci., Ci.-S.	Cu.	------	≡ a. ↙° ζ° p.
16	58.41	28.4	32.6	23.8	65.9	W	1.5	.2	Ci.	Cu.	------	≡ a. ζ° p.
17	58.74	28.7	32.5	25	68	Variable	1.7	.8	Ci.	Cu.	------	≡ a. ⌈ζ p.
18	58.99	28.6	33.5	24.9	66.3	Variable	1.2	.3	Ci.	Cu., S.-Cu.	------	ζ a.
19	58.72	28	32.4	25	72.8	Variable	1.8	0	Ci.	Cu.	------	≡° a. ↙° p.
20	58.11	28.2	33.2	24.8	73.5	Variable	1.2	.2	Ci.	Cu.	------	≡ a.
21	58.58	27.7	33.9	24.5	73.6	Variable	1.7	0	Ci.	Cu.	------	Ω ≡ a. ζ° p.
22	58.66	27.7	32.5	24.2	71.2	N quad.	1.3	0	Ci.	Cu.	------	≡ a. ζ° p.
23	58.65	28	32	24	66.6	NNW	1.2	.8	Ci.	Cu.	------	ζ p.
24	58.10	27.7	33.1	23.1	67.2	W, E	1.2	0	Ci.	Cu.	------	
25	58.58	27.8	32.6	24.7	71.2	Variable	1.3	1	Ci.-S.	Cu.	------	ζ p.
26	58.86	27.9	32.5	24.6	74.8	Variable	1.3	.3	Ci., Ci.-S.	Cu. WNW	------	≡° a.
27	58.48	27.7	32.1	24.5	76	N quad.	1.7	.2	Ci.	Cu.	------	Ω ≡ a.
28	58.08	27.8	33.1	23.8	71.6	NNW	1.3	.3	Ci.	Cu.	------	Ω ≡° a.
29	57.98	28.4	34	24	65.3	N quad.	2.3	.2	Ci.	Cu.	------	Ω ≡ a. ↙° ζ p.
30	57.98	28.4	33.4	23.6	67.1	Variable	1.2	1	Ci.	Cu.	------	≡ a. ⊍ p.
Mean	759.09	27.7	32.7	24	70.9	------	1.5	.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	.3	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	760.32	27.9	34.4	23.2	74	SE, SW	.3	5.7	Ci., Ci.-S.	Cu.-N. Variable	------	Ω a.
2	60.35	28.1	34.7	22	70.5	S	1	1.7	Ci.	Cu. S	------	Ω a. p.
3	60.35	28.3	36	22.1	75.2	Variable	.8	3	Ci.	Variable NW	------	Ω a. ⊤ ζ p.
4	60.51	28.4	35	23.7	73.3	Variable	.7	4.8	Ci.-Cu.	Cu. NE	------	Ω a.
5	59.26	28.8	35.4	23	71	SE	.5	6.2	------	Cu. SW ,SE	------	Ω a.
6	58.20	27.6	35.6	21.6	76.2	NE	.7	.7	------	Fr.-Cu.	------	Ω a.
7	59.38	23.5	26.3	21	84.3	N, NW	2	9.3	------	Cu.-N. N, NE	------	
8	59.74	24.7	30.4	20.8	79.9	N	.2	7.3	------	Cu.-N.	------	
9	58.54	27.6	36.1	21	71	N	1	3.5	Ci.-S.	Cu. S	------	⌈ζ ζ p.
10	59.54	27	35	23.2	80	NW	1	5.7	Ci.-S.	Cu. S, NE	------	⌈ζ ζ p.
11	59.96	27.8	36.5	22.5	77	Variable	1	8	------	Cu. NE	8.1	Ω a. ● ⌈ζ² ζ p.
12	60.44	27	34.9	20.6	78.3	Variable	.7	3.5	Ci.-S.	Cu.-N.	------	Φ² ≡² a. ζ p.
13	59.79	27.9	36.1	23.7	78	SW	.8	3.3	Ci.-S.	Cu. SW	12.7	ζ Ω a. ● ⌈ζ p.
14	59.41	28.6	35.7	23.7	70.7	S, NW	.8	3.8	A.-Cu. SE	Cu.-N. SW	------	⊤ p.
15	59	28.3	35.1	23.6	74.7	NW	1	5.7	Ci.	Cu. SE, S	------	⌈ζ ζ ↙° p.
16	58.99	27.8	33.8	23.9	75	N, SE	1	7.7	Ci.	Cu.-N. E	------	⌈ζ d ζ p.
17	59.02	28.5	35.2	23	71	SE	.5	5.8	Ci.	Cu. SE	------	⌈ζ ζ p.
18	59.04	30	36.8	24.4	67.3	SW	.2	6.5	Ci.	Cu. SE	------	⌈ζ p.
19	58.40	29.3	36.7	24.9	73	Variable	.7	6	Ci.	Cu. SE	------	ζ a. p.
20	57.82	28.6	36.6	23.7	73.6	SE, NW	.8	5.5	Ci.-S.	Cu. SSW, S	------	d ⌈ζ p.
21	58.20	28.6	36.8	23.6	75.9	NW	1	6.5	Ci.-S., Ci.	Cu. SW	------	Ω a. ⌈ζ ↙° p.
22	58.38	27.9	36.3	24.2	79	SE	1	6.5	Ci.	Cu.-N. SE	11.7	● ↙ ⌈ζ p.
23	58.30	28.1	34	23.3	78.1	NW	.8	6.8	Ci.	Cu. SE,NW	------	○² a. ζ p.
24	58.12	28.4	36	23	78	SW, SE	.5	6	Ci.	Cu. NW, SE	65	●² ↙ ⌈ζ² p.
25	58.54	28.2	35.2	23.2	74.8	N	.8	5.3	Ci.	Cu.-N. NW	------	●² a. ⊤ ζ p.
26	58.60	28.8	36.2	23.6	75.3	SE	.8	3.2	A.-Cu. SE	Cu.	------	Ω² a.
27	58.12	28.7	35.5	23.3	76.8	SE, NE	.3	2.3	Ci.	Fr.-Cu. S	------	Ω a. ζ p.
28	57.68	28.5	36	23	75.8	Variable	1	4	Ci.-S.	Cu. SE	------	Ω a. ζ p.
29	57.83	28.9	35	23.6	76	NW	1	6.8	Ci.	Cu. N, NW	------	Ω a. ζ p.
30	58.70	27.8	34.3	24	73.6	NW	1.5	7.2	Ci.	Cu. E, N	------	Ω a. ↙° p.
Mean	759.02	28	35.1	23	75.2	------	.8	5.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	97.5	

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.			Rain, 24 hours beginning 6 a. m.	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	760.69	26.2	31.5	22.6	88	SW, NE	11.7	2.2	Ci.	Cu.-N.		⌓ a. ∞ p.
2	60.53	27.2	31.7	23.1	85.2	Variable	12.2	0				⌓ a. ∞ p.
3	61	26.6	30	23	90.5	S, N	10.3	.8	A.-Cu. N	Cu.-N. S		⌓ a. ∞ p.
4	61.28	26	29.5	22.2	85.2	N	6.3	.2		Cu.-N.		∞ p.
5	59.77	27	31.5	23.4	87.8	NE	8.4	2.3		Cu.-N. E, SE		⌓ a. ∞ p.
6	58.89	26	29	22.1	86.2	NW	16.1	0			12.2	⌓ a. ∞ p.
7	60.36	22.2	26.2	20.4	91.3	NE	19.8	10		N. NE	9.4	● ↙° a. p.
8	60.20	23.6	26.5	20.1	87.2	E quad.	7.6	10		S.-Cu. E, W		● a
9	59.12	25.9	29.5	21.4	83.7	Variable	13.9	2.3	A.-Cu. W	S.-Cu. NE		∞ ↯ p.
10	60.45	26	29.8	22.6	84.3	NW, N	8.6	2.2	Ci.-S.	S.-Cu. NE		↯ p.
11	60.56	25.9	30.5	22.6	89.2	NE	10.2	6.5	Ci.-S.	Cu.-N. E	6.6	●° a. p. ⊤ ↯ p.
12	60.68	25.7	31.4	21	88.6	S, NE	11.7	.2		Cu.-N.		⊤ ↯ p.
13	60.16	27	32.9	21.7	86.7	SW, SE	13.8	1.2	A.-Cu. W	S.-Cu.		⌓ a. ∞ ⊤ p.
14	59.81	27.7	33	23.5	83.7	Variable	12.1	1.7	A.-Cu. NW	S.-Cu.		⌓ a. ∞ ⊤ ↯ p.
15	59.81	27.1	31	23	83.2	N	9.1	2.7	Ci. W	Cu.-N.	2.5	⌓ a. ↯ p.
16	59.68	27.2	30.8	24	84.3	NE	13.8	6.7		Cu.-N. NE, E	2.3	● a. ⊤ ↯ p.
17	59.29	27.6	32	24.5	84.7	NE	11.3	3.3	A.-Cu. SE	Cu.-N. S		
18	59.39	27.6	33	23.6	86.2	S, NE	9.2	1.5	Ci. N	Cu. SE		⌓ a. ⊤ ↯ p.
19	59.07	27.7	32.1	23.9	82.8	SW, N	9.1	.8	Ci.	Cu. E		⌓ a. ↯ p.
20	58.33	27	32	23	84.5	Variable	9.7	2.7	Ci.-S.	Cu.-N. S, N		⌓ a. ⊤ ↯ p.
21	58.73	27.2	33.1	22.8	83.5	SW, N	9.8	2.2	Ci.-S.	Cu.-N. SE, NW		⌓ a. ⊤ ↯ p.
22	58.87	27.4	32	23.1	82	Variable	8.6	2.3	A.-Cu., Ci.-S.	Cu.-N. S		↯ ⊤ p.
23	58.89	27	32	22.6	81.8	NW, NE	8.6	3	A.-Cu. W	S.-Cu.		⊤ p.
24	58.54	27.2	32.4	22.8	85.1	Variable	10.5	1.3		S.-Cu.		⌓ a. ⊤ ↯ p.
25	58.78	28.1	34	24	80.5	Variable	13.9	2.8	Ci.-S. N	Cu.-N., S.-Cu.		⊤ p.
26	58.97	27.6	34	24	84	S, NW	14.6	.5	Ci. NW	Variable		∞ ⊤° p.
27	58.71	27.2	31.5	23.6	85	SW, N	8.3	.2		Cu.-N. S		⌓ a. ∞ p.
28	58.37	27.8	32.5	23	79.8	NE, N	7.8	.3	A.-Cu.	Cu.-N. S		⌓ a. ∞ p.
29	58.56	27.8	33.9	23	77.7	N	9	3.3	Ci. E	S.-Cu.	3.8	⌓ a. ∞ ↯ p.
30	59.60	25.8	29.3	23.8	88.3	NE	20	8		Cu.-N. E, NE		● a.
Mean	759.57	26.7	31.3	22.8	85		11.2	2.7				
Total											36.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.7	21.1	95	67	9	4	------	Ω^2 a.
2	33	21.2	96	65	9	5	------	Ω^2 a. ↙ p.
3	32.5	22	94	71	8	5	------	↙ p.
4	33.3	21.7	94	68	8	7	------	d° p.
5	30.7	23.8	90	66	9	8	24.9	⊤ ●° a. ⛈ p.
6	31.5	22.2	95	76	9	7	9.7	Ω^2 a. ⛈ p.
7	31.6	21.9	97	74	8	6	------	Ω^2 a.
8	32.3	21.7	97	70	8	8	------	Ω^2 a.
9	32	21.9	96	87	8	9	54.4	Ω^2 ≡^{2} ●^{2} a. ⛈ p.
10	32	21.3	96	74	9	7	------	Ω^2 a.
11	32	21.2	95	70	8	6	------	Ω^2 ≡ a.
12	31.9	21.1	97	69	8	6	------	Ω^2 ≡^{2} a. ↙ p.
13	32.4	21.3	94	73	9	8	------	Ω^2 a.
14	32	21.6	96	71	8	8	------	Ω^2 a. ↯ p.
15	32.7	22	94	74	7	8	------	Ω^2 a. d° p.
16	32.8	22.1	94	79	7	9	13.7	● ⊤ a. d ⊤ p.
17	33.5	21.8	91	84	8	10	10.2	Ω^2 a. ●^{2} d^2 ↯ p.
18	30.8	22.1	96	76	9	8	------	Ω a.
19	32.5	21.3	95	68	7	3	------	Ω^2 ≡^{2} a. ↯ p.
20	32.1	21.6	94	67	7	8	------	Ω° a.
21	30.1	21.9	95	83	8	10	6.4	Ω^2 a. ●° a. p.
22	31.9	21.6	93	71	8	9	15.2	Ω^2 a. ● p.
23	31.5	20.9	97	75	8	7	3.6	Ω^2 a. ● p.
24	32	21.3	96	76	8	8	------	Ω^2 a. ⊤ d^2 p.
25	32	21.6	97	87	8	8	17.5	Ω^2 a. ●^{2} d^2 p.
26	32.1	21.3	94	73	9	9	------	Ω^2 a.
27	31.5	21.8	96	72	8	8	------	Ω a. ⊍ ⊖ p.
28	32.4	22.3	93	77	8	9	1	Ω a. ⊤ ●° ↙ p.
29	32.3	22.6	94	70	8	7	------	Ω^2 ⊤ a.
30	32.8	21.9	93	69	9	7	------	Ω^2 a. ⊤ p.
Mean	32.1	21.7	94.8	73.4	8.2	7.4	------	
Total	------	------	------	------	------	------	156.6	

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	34.3	22	91	52	2	2	------	Ω ≡° a. ↙ p.
2	34.1	21.5	96	60	2	1	------	Ω° ≡° a.
3	32.8	21.5	96	60	0	3	------	Ω° ≡ a.
4	33.3	22.1	96	64	3	9	1.8	≡° a. ↙ p p.
5	31.7	23.8	96	69	10	8	.8	d a. ↙ p° ⊍ p.
6	31.3	22	96	90	10	10	.5	Ω° ⛈ a. d ⊤ p.
7	31	22	96	67	3	6	------	Ω a. ⊤ p.
8	32.8	22	96	69	9	8	------	≡° a.
9	32	22.5	96	75	8	9	------	≡° a.
10	31.3	22	92	74	0	8	------	≡° a.
11	30.7	20.5	95	73	0	4	------	Ω° a.
12	32.9	21.5	97	66	0	2	------	Ω a.
13	31.5	21.6	96	73	2	8	------	≡° a.
14	31.4	21	98	75	4	10	------	Ω ↙ a. ⊤ ↙ p.
15	29.5	22.3	98	85	10	10	------	Ω a.
16	31.3	21.5	98	84	3	10	22.9	Ω° a. ● p° p.
17	30.8	20	97	78	8	10	.5	d ≡° a. ↙° p.
18	33.3	23	97	69	10	6	.3	Ω d a.
19	30.5	22.2	97	72	1	5	------	Ω a.
20	31.3	23	98	68	2	10	------	Ω a.
21	31.8	22	95	77	2	7	------	Ω a. p° p.
22	30.5	21.6	96	72	0	10	------	Ω a.
23	29.8	22.3	96	78	3	8	------	Ω ≡° a. ↙ p.
24	31.3	23	97	75	10	5	------	Ω ≡ ⊤ a.
25	30.9	22	96	74	4	7	------	Ω a.
26	30.8	21.5	97	77	3	7	------	Ω ≡° a.
27	30.3	22	94	75	10	5	2.8	Ω ● a. ⊤ p.
28	30.1	23.5	97	74	10	10	.3	d a. ⊤ p.
29	30.5	21.5	96	69	10	10	------	Ω a.
30	30.8	22	98	76	4	10	------	Ω ≡° a. ↙° ⊤ p.
Mean	31.5	22	96.1	72.3	4.8	7.3	------	
Total	------	------	------	------	------	------	29.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	22.4	81	59	8	4	------	Ω ≡ a.
2	32.7	22.2	86	72	3	3	------	Ω ≡ a.
3	30.7	21.9	84	71	2	4	------	Ω ≡ a.
4	32.1	24.5	82	73	9	8	------	Ω ≡ a. ⛈ p.
5	31.2	24.3	92	74	10	7	------	⛈ d ≡ ○ a. ⊤
6	29.7	24.5	88	78	10	9	------	≡ ⊤ a.
7	29.9	23	90	82	3	4	------	Ω ≡ ⊤ d a.
8	32.2	22.4	84	71	4	7	------	Ω ≡ ◯ a.
9	30.2	22.4	83	76	6	5	------	⊤ Ω ≡ ○ a.
10	30	21.6	------	75	2	8	------	Ω ≡ a.
11	30.1	22.2	83	75	3	2	------	Ω° ≡ a. ⊤° p.
12	32.8	20.9	------	71	2	4	------	Ω ≡ a.
13	30	22.4	79	74	4	4	------	Ω ≡ a.
14	28.8	23.4	85	76	4	9	------	Ω ≡ ○ a. ⊤ p.
15	28.4	23.4	82	74	9	9	1	d ⊤ p° a.
16	30.9	23.3	87	73	4	9	------	Ω° ≡ a. ⊤ ○ p.
17	31.7	22.9	87	68	6	4	------	Ω° ≡ ○ a. ⊤ a. p.
18	31.3	23.7	89	63	10	9	------	d° ≡ d a.
19	30	22.2	91	74	4	4	------	Ω ≡ a. ⛈ p.
20	29.3	23.5	92	78	3	8	------	Ω ≡ a. ○ a. p.
21	30.2	23	85	74	3	4	------	⛈ Ω ≡ a.
22	30.2	22.9	86	78	4	4	------	Ω° ≡ a. ↯ p.
23	29.6	22.8	84	74	2	6	------	Ω° ≡ ⛈ a. ∞ p.
24	31.8	23.4	83	65	8	9	------	⛈ Ω ≡ a. ↯ p.
25	29.7	23.5	87	76	5	6	------	Ω° ≡ a. ∞ ↯ p.
26	31.1	22.9	83	73	3	7	------	Ω° ≡ a. ○ ∞ ↯
27	29.3	22.9	80	81	10	6	1.8	⛈ Ω° ≡° p° d° ⛈°
28	29.2	23.4	93	84	10	10	1	⛈ d° ⊕ a. d ⛈
29	29.9	23.2	90	76	9	9	------	⛈ Ω° ≡° a. ○ ∞
30	30	23.7	89	77	6	8	------	⛈ Ω° ≡° a. d° ⊖°
Mean	30.5	23	85.9	73.8	5.5	6.3	------	
Total	------	------	------	------	------	------	3.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.8	21	93	62	6	6	------	
2	34.7	20	94	52	5	7	------	
3	34	22.3	96	52	5	6	------	
4	31.1	22.5	91	72	6	8	------	⊤ ↯ p.
5	32.5	22.8	96	68	5	6	------	≡ a.
6	34.2	23.8	92	61	7	5	17	
7	33.3	23.5	96	66	7	5	------	● a.
8	34.6	22.9	95	48	6	7	------	
9	33.8	21	96	71	5	7	------	
10	34.8	20.6	92	65	5	6	------	
11	35.3	21.6	97	56	7	7	------	
12	35.7	21	93	50	5	6	------	
13	35.8	21.5	87	53	5	7	------	⊤ p.
14	28.1	22.8	91	92	7	10	36.1	● a. p.
15	33.3	22.6	97	60	7	5	------	⛈ p.
16	33.9	21.5	96	63	5	5	------	⛈ d p.
17	32.9	22.9	96	76	7	8	------	⊤ p.
18	33.7	21	98	67	6	5	------	⛈ p.
19	34.2	21.8	96	63	5	5	------	⛈ p.
20	33.5	21	97	53	5	7	------	≡ a.
21	33.8	20.8	95	60	6	6	------	≡ a.
22	34.8	23.2	96	58	5	7	------	
23	34.3	23.5	97	58	5	5	------	⛈ p.
24	34.6	22	95	60	6	5	------	
25	34.7	22.3	95	61	7	6	------	
26	35	20.5	92	63	7	6	------	⛈ p.
27	34.4	20.4	93	56	5	6	------	d ⛈ p.
28	34.6	22.9	97	62	5	7	------	
29	34.9	23.1	93	51	5	5	------	
30	34.7	22.6	95	56	5	7	33.5	⊤ ● ↯ p.
Mean	34	22	94.6	61.2	5.7	6.3	------	
Total	------	------	------	------	------	------	86.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34	21.5	83	48	1	3	------	Ω° a. ↙ a. p.
2	34.5	20.5	96	57	1	7	------	↙ a.
3	32.6	21.2	86	58	8	5	3.3	↙ ● ☇ p.
4	33.4	23.1	95	62	6	7	8.9	●° a. ↙ ● d p.
5	34.5	23	95	60	1	5	2.5	↙ a. ● ⛈ p.
6	32	21.5	97	59	8	9	------	Ω^{2} ≡^{2} a. ↙ p.
7	32.6	22.5	96	71	8	2	------	Ω a. ↙ p.
8	33.9	19.2?	93	63	9	4	7.6	↙ p.
9	34.4	22.5	87	62	3	2	------	●^{2} ≡° a. ↙° p.
10	34.9	20.8	81	53	1	1	------	Ω ↙ a.
11	33.4	21.2	89	58	1	3	------	Ω a. ↙ a. p.
12	34.4	21.6	90	54	1	3	------	Ω ≡° a. ↙ a. p.
13	33.8	21.1	84	58	4	5	17.8	Ω a. ↙ ●^{2} ⛈ p.
14	30	19.8?	95	74	8	10	20.3	≡° a. ●^{2} ⛈ p.
15	31.3	22.5	95	75	10	9	3.8	d ● p.
16	32.5	21.5	96	64	3	4	------	Ω ↙ a. ☇ p.
17	33.8	23.6	90	56	5	9	35.6	Ω° a. ⛈ ●^{2} p.
18	34	21.6	93	56	8	3	------	⊤ p.
19	32.5	22.8	87	63	6	3	------	↙ p.
20	32.6	22.1	91	67	1	3	------	Ω° a. ↙ p.
21	34.6	21.8	91	53	2	3	------	Ω a. ↙ p.
22	34.6	21.2	92	68	2	6	------	Ω a. ↙ p.
23	33.4	23.2	85	57	10	5	27.9	○^{2} a. p. ●^{2} ⛈ p.
24	33.8	22.6	96	55	8	7	------	↙ p.
25	33.2	22.8	92	63	5	3	------	↙ a. p.
26	35	23.4	86	54	3	3	2	↙ a. p.
27	33.1	23.4	93	63	6	3	5.6	● a. p. ↙ d ☇ p.
28	33.4	23.9	92	72	2	3	2	≡ a. ↙ ● ⛈ p.
29	31.4	23.4	84	64	8	4	------	↙ ⛈° p.
30	32.1	23	90	64	6	4	12.7	Ω a. ↙ ●^{2} ⛈ p.
Mean	33.3	22.1	90.7	61	4.8	4.6	------	
Total	------	------	------	------	------	------	150	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	20.1	88	57	1	3	------	Ω^{2} ≡ a. ↙° a. p.
2	33.6	20	89	56	4	2	------	Ω^{2} ≡^{2} ↙° a.
3	33.1	20.4	88	60	2	4	------	Ω^{2} ≡° a.
4	32.7	22.6	89	74	4	8	0.3	Ω ≡° a. ●° p.
5	32.9	22.4	90	70	4	9	------	↙° a.
6	33.1	22.7	89	59	4	5	------	Ω° ≡ ⛈ a.
7	33	21.3	90	56	4	3	------	Ω ≡ a.
8	32.7	19.8	87	59	3	4	------	Ω ≡^{2} a.
9	33.5	20.4	94	66	4	2	------	Ω^{2} ≡^{2} a. ↙° p.
10	33.2	20.5	89	59	2	1	------	Ω ≡^{2} a. ↙° p.
11	33	20.3	87	58	1	4	------	Ω^{2} ≡° a. ↙° p.
12	32.5	20.3	85	64	0	4	------	Ω ≡^{2} a. ↙ p.
13	32.9	20.4	88	59	1	3	.8	Ω^{2} ≡ a. ↙° ●° ☇°
14	33.2	22	93	87	8	10	2.3	●° ⊤ ☇° p.
15	33.3	22.7	92	76	8	10	12.7	↙ ⛈ ● p.
16	34.4	21.9	95	67	5	4	3.8	⛈ ● p.
17	33.3	23.2	97	58	8	8	------	☇^{2} p.
18	34.1	22.8	95	58	7	8	------	Ω° ≡^{2} a. ☇° p.
19	34	21.7	89	58	4	4	------	Ω^{2} ≡° a. ↙° ☇° p.
20	32.4	20.5	84	59	1	3	------	Ω^{2} ≡ a. ↙° p.
21	32.5	20.7	86	57	4	2	------	Ω^{2} ≡^{2} a. ↙ p.
22	33	21.2	87	63	2	7	------	Ω° ≡^{2} ↙° a. ↙ p.
23	33.4	24.2	88	55	4	4	------	≡^{2} a. ↙° p.
24	33.7	22.2	85	56	8	8	------	Ω° ≡^{2} a. ↙° p.
25	33.4	21.7	87	58	8	4	------	Ω° ≡^{2} a. ↙° p.
26	32.8	21.2	84	69	3	9	------	Ω ≡^{2} a.
27	33.7	22.3	90	62	4	5	------	Ω ≡^{2} a. ↙ a. p.
28	34.3	23.3	91	60	8	5	------	Ω° ≡^{2} a.
29	34.6	22.2	90	66	3	4	------	Ω° ≡ a. ↙ ⊖ p.
30	34.2	19.9	80	61	1	4	------	Ω° ≡^{2} a. ☇ p.
Mean	33.3	21.5	88.9	62.2	4	5	------	
Total	------	------	------	------	------	------	19.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P.ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	24.2	82	63	7	4	------	
2	32.7	23.6	81	60	8	3	------	Ω ≡ a.
3	33.6	24.9	84	55	6	0	------	
4	33.4	24.7	87	53	7	7	------	☇ p.
5	33.1	24.9	87	53	8	4	1.3	●° ⊤ a. ☇ p.
6	33.4	24.4	84	56	9	5	?	≡ ● a.
7	34.3	22.7	92	54	6	3	------	Ω ≡ a.
8	34.5	22.2	89	60	8	4	------	Ω ≡ a.
9	33.7	22.2	93	58	7	4	------	Ω a. ☇ p.
10	33	23.5	79	63	6	4	------	Ω a.
11	33.2	24.7	87	65	6	0	------	Ω a.
12	32.8	23.8	83	64	8	5	------	☇ p.
13	33.8	24.1	79	61	8	8	8.1	● ⛈ p.
14	32.6	24.3	83	57	9	6	?	● ∩ a. ☇ ● p.
15	29.9	24	81	61	9	8	4.3	● a. ○ ⛈ p.
16	32.6	22.8	85	63	8	9	------	○ ⛈ p.
17	31.4	23.3	85	63	10	6	------	d a. ⊤° p.
18	32	23.5	95	63	4	5	------	Ω a.
19	33.4	24.2	88	64	8	3	------	Ω a. ☇ p.
20	33.8	24.2	88	59	8	5	------	d° a. ☇ p.
21	33.6	24.1	88	58	6	4	------	Ω a. d° p.
22	33.4	23.8	92	68	7	7	3.8	Ω a. ⛈ p.
23	33.7	23.7	84	56	10	8	------	● ⊤ a. ☇ p.
24	33.5	23.4	85	60	9	7	2.8	Ω ● a. ⛈ p.
25	------	23.9	85	63	8	3	2	● a.
26	33.5	23.4	89	63	9	4	3.3	● ⊤ a. ☇ p.
27	33.1	23.7	91	65	6	10	1.8	● ☇ p.
28	33.4	24.5	90	64	8	3	------	≡ a. ☇ p.
29	33.9	24	88	60	7	5	------	☇ p.
30	34.3	23.6	92	60	6	2	------	d a. ☇ p.
Mean	33.2	23.8	86.5	60.4	7.5	4.9	------	
Total	------	------	------	------	------	------	27.4[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	32.2	21.9	95	67	1	5	------	Ω a.
2	32.1	21.2	95	47	2	4	------	Ω ≡ a.
3	31.1	21.2	96	58	1	8	------	Ω ≡ a.
4	31.1	23.4	93	82	7	9	6.6	Ω a. ⛈ ● p.
5	30.8	23.6	96	87	6	8	7.4	Ω ↙ ● a. ⛈ a. p.
6	31.5	22.4	94	61	6	3	------	Ω a.
7	30.2	22.5	96	63	0	2	------	Ω a.
8	32.3	22.1	96	63	5	4	------	Ω ≡^{2} a. p° p.
9	32.5	22.1	93	57	2	3	------	Ω a.
10	32.7	22.2	93	60	0	5	------	Ω a.
11	31.7	21.1	93	53	1	4	------	Ω a.
12	30.5	20.7	94	54	1	3	------	Ω a.
13	30.6	21.2	95	73	3	8	.8	Ω a. d° ●° p.
14	29.6	22.8	96	84	9	9	13.2	● ∩ a. p.
15	31.5	23.3	92	76	7	8	8.6	Ω ≡ a. ↙ ● p.
16	30.8	23.1	92	86	8	9	3.6	↙ Ω a. ● ⛈ p.
17	30.5	20.9	92	57	9	7	5.1	● ≡ a. ● ☇ p.
18	32	21.7	94	56	6	8	21.1	Ω a. ↙ ● p.
19	32	21.8	96	54	0	5	------	Ω^{2} a.
20	32	22.3	95	53	4	4	------	Ω^{2} a.
21	32.7	23	90	60	2	3	------	Ω^{2} a.
22	32.8	23.2	92	68	7	6	------	Ω a.
23	33.1	23.1	92	60	2	2	------	Ω^{2} a.
24	32.8	22.9	89	56	6	8	------	Ω a. ⊕ p.
25	33	21	95	55	7	5	------	Ω a.
26	29.3	23.2	90	80	4	10	------	Ω ≡° a. d° ☇ ⊖
27	33.5	22.6	90	68	3	8	.5	Ω a. ⛈ ●° p.
28	33.2	22.8	97	51	4	5	------	Ω a.
29	33.5	23.1	90	54	2	4	------	Ω a.
30	34.1	23.2	95	63	3	3	------	Ω a. ⊤ p.
Mean	31.9	22.3	93.5	63.5	3.9	5.7	------	
Total	------	------	------	------	------	------	66.9	

[1] 28 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.8	22.7	84	69	10	4	------	d ⌒° a. ⏝° p.
2	30.4	22.9	90	68	10	8	------	↙° p.
3	31.8	22.7	90	52	3	3	------	∞ ⚡ ⏝ p.
4	32.4	23.6	86	74	10	10	------	d° a. d ⏝² ☈² p.
5	30.6	23	92	80	10	7	------	
6	29.5	21.9	94	73	2	1	------	⏝ ⚡² p.
7	29.5	22.6	91	77	2	3	------	d° ⊕° p.
8	29.4	21.9	93	63	4	2	4.1	● ↙° p.
9	30.5	22.8	85	58	8	6	------	↙ ∞² p.
10	31.5	24.4	76	58	2	3	------	
11	32.5	22.8	86	43	0	2	------	⚡² p.
12	32.5	23	88	53	2	1	------	
13	32.2	23.2	80	74	10	8	9.7	⌒° d° ● a.
14	30.4	22.6	92	74	9	10	28.4	p a. ↙ d ≡² ⚡² ●
15	29.9	23.6	88	68	10	7	------	d° a. p. ⚡° p.
16	30	24.1	91	76	8	10	26.9	d° a. p. ↙ ●² ☈²
17	30.2	23.5	83	60	10	7	------	↙° a. ◯° p.
18	31.6	21.8	85	74	10	8	------	∞² p.
19	31	22.8	91	81	4	10	17.5	d ● p.
20	30.5	21.4	91	70	10	4	12.4	⌓ a. ● ⚡° p.
21	31.5	21.9	83	70	2	1	------	⌓ a.
22	31	24	86	71	2	2	------	⚡° p.
23	31	24.4	83	69	7	3	------	∞² ⏝° p.
24	33	22.5	82	75	10	3	------	⌓² a. ⏝° p.
25	31.3	22.8	79	65	10	7	------	↙° a. ∞² p.
26	30.6	23.4	86	71	10	9	------	⌓ a. ⚡² ⏝° p.
27	31.5	23.3	87	67	10	2	------	⌓² ≡° a. ⏝° p.
28	33	23.2	90	74	10	5	------	↙° a. ⚡² p.
29	31.5	23.3	82	69	8	8	------	⌓ ≡° a.
30	32	23	88	72	10	6	------	⌓° a. ⚡² p.
Mean	31.1	23	86.7	68.3	7.1	5.3	------	
Total	------	------	------	------	------	------	99	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.4	21.5	88	57	0	2	------	
2	32.9	21.2	87	55	0	4	------	
3	34.1	22	89	57	0	2	------	
4	33.9	22	82	59	4	7	------	
5	34	22.3	83	60	0	2	------	
6	34	23	83	58	0	0	------	
7	33.3	23.7	86	63	3	3	49.5	● ⊤ p.
8	32.4	22.6	93	68	10	3	------	⊤° a. ☈ d p.
9	32.8	23.5	90	58	2	0	------	
10	32.9	21	76	60	0	0	------	
11	32.8	20.5	87	60	3	2	------	
12	33.3	21	82	57	0	1	------	
13	33.9	21.5	82	62	0	10	------	⚡ p.
14	33.4	22.8	90	63	1	10	1.3	d ☈ p.
15	33	23.4	89	76	10	10	38.1	d a. ● ☈ p.
16	32.5	22.6	96	61	4	6	------	⚡ p.
17	33	23.8	87	69	7	6	------	
18	32	22.6	87	62	0	4	------	
19	32.6	22.9	86	61	4	3	------	
20	32.7	22	94	59	2	1	------	
21	33.1	22.3	84	62	4	4	------	
22	33.2	21.9	77	57	1	0	------	
23	33.1	22.9	84	69	0	10	------	
24	33.4	22.8	82	62	0	1	------	
25	33	22.2	76	57	6	3	------	
26	33.9	21.3	74	51	1	2	------	
27	34	22.5	83	60	2	3	------	
28	35.1	23.9	84	63	1	5	------	⊤ d p.
29	34.1	24.3	84	70	7	8	------	⊤ a.
30	34.5	22.8	81	72	1	10	------	⊤ p.
Mean	33.3	22.4	84.9	61.6	2.4	4.1	------	
Total	------	------	------	------	------	------	88.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.6	21.9	89	44	2	4	------	≡² a.
2	33.1	22.1	91	65	1	8	------	≡² a. ⚡² p.
3	33.8	22.1	91	63	0	7	------	≡² a.
4	34.4	22.5	92	64	1	8	------	≡² a. ☈² d p.
5	33.1	22.9	92	61	8	8	------	
6	33.9	22.6	91	65	1	3	------	≡² a. ∞° p.
7	33.9	21.9	90	61	2	3	------	≡² a. ∞² p.
8	32.8	22.1	89	59	2	3	------	≡² a. ⚡² p.
9	33.4	21.2	90	65	2	4	------	≡° a. ∞² p.
10	33.9	20.4	89	65	1	4	------	≡° a. ∞² p.
11	33.8	21.1	90	60	1	3	------	∞² p.
12	35.1	22.7	90	54	1	2	------	∞² p.
13	33.1	22.6	90	66	2	8	------	≡° a. ⚡² p.
14	31.6	23.4	89	74	2	8	6.4	●² a. d ⌒° ☈² p.
15	32.5	24	92	57	10	8	------	⚡² p.
16	31.4	22.7	92	71	8	9	------	⚡² p.
17	35	22.8	92	41	9	4	------	∞² ⚡° p.
18	33.7	22.3	89	59	1	7	------	≡° a. ∞² p.
19	33.4	22.9	90	60	2	7	------	≡° a. ⚡° p.
20	33.6	22.9	90	60	2	2	------	∞² p.
21	33.1	22.8	90	57	2	2	------	≡² a. ∞² p.
22	33.1	21.5	88	61	2	2	------	≡² a. ∞² p.
23	35.2	23.9	83	61	8	3	------	∞° ⚡² p.
24	33.7	22.1	88	55	2	2	------	≡² a. ∞² p.
25	34.7	21.2	88	56	9	3	------	≡° a. ∞² p.
26	34.4	22.5	90	59	9	3	------	
27	34.4	22.8	89	63	2	3	------	≡² a. ⚡² p.
28	35.7	24.1	87	59	10	4	------	∞² p.
29	34.1	23.1	88	79	2	9	3.3	≡² a. ⊤² ●° p.
30	33.4	22.2	90	57	3	5	------	≡² a. ⚡² p.
Mean	33.7	22.4	89.6	60.7	3.8	4.9	------	
Total	------	------	------	------	------	------	9.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30	24.2	79	67	5	6	4.8	↙ a. ↙ ● p.
2	29.9	24.3	77	78	9	8	10.2	↙ ● a. ↙² ●² p.
3	30.2	23.2	97	71	6	4	------	⌓ ≡ a. ↙ p.
4	30.1	26.0?	79	69	7	6	.3	↙ ●° a. ↙ p.
5	30.3	21.6	94	68	5	2	------	⌓ a.
6	30.2	21.3	98	71	4	2	------	⌓ a.
7	30.1	21.7	97	73	3	4	------	⌓ a.
8	30	21.8	96	67	4	3	------	⌓ a.
9	30.3	21.3	97	63	5	2	.8	⌓² ≡ a. ↙ p.
10	30.1	22.4	96	64	6	3	------	● ≡ a.
11	30.2	23.2	96	66	6	5	------	⌓ a.
12	30.6	21.3	96	69	5	6	7.6	⌓² a. ↙ ● p.
13	29.8	23.2	80	93	9	10	22.4	↙ ● a. p.
14	30.3	23.6	86	71	8	6	34	↙ ● a. ↙ ●² p.
15	30	22.7	95	76	9	8	10.2	●² ☈ a.
16	30.2	23.4	87	70	8	6	------	↙ ● a.
17	30.3	22.4	96	71	6	5	.3	⌓ ≡ a.
18	29.8	22.1	92	76	3	6	------	≡ ↙ ●° a.
19	30.3	22	97	69	4	3	------	⌓ ≡ a.
20	30.3	21.4	96	66	6	3	------	⌓ ≡ d ⌒² a. ⚡
21	30.3	20.9	96	62	4	2	------	⌓ ≡ a. ⚡ p.
22	30.2	20.6	96	61	3	3	------	⌓² ≡ a.
23	30.5	21.2	97	62	3	2	------	⌓² ≡ a.
24	30.7	21.1	95	66	3	3	------	⌓² ≡ a.
25	30.7	21	96	66	5	5	------	⌓ ≡ a.
26	30.2	20.6	95	69	4	4	5.8	⌓² ≡ ↙ ● a.
27	30.6	23.2	97	71	9	5	------	● a. ⚡ p.
28	30.8	22.3	93	70	6	2	------	⌓² ≡ a.
29	31	22.5	94	67	2	4	------	⌓² ≡ a.
30	31.2	23.3	93	68	8	6	1.5	⌓ ≡ a. ⚡ p.
Mean	30.3	22.3	92.8	69.3	5.5	4.5	------	
Total	------	------	------	------	------	------	97.9	

METEOROLOGICAL DATA, ETC.—Continued.

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.4	24.8	92	60	8	6	------	
2	34	24.6	93	70	8	8	------	
3	33.6	25.6	95	------	9	7	------	
4	34.4	25.2	94	------	8	4	------	
5	34	23.8	95	------	8	4	------	
6	33.6	23.8	93	60	8	4	------	
7	32.5	23.5	91	81	6	8	------	⊤ p.
8	32.5	24.2	97	79	8	7	------	⊤ p.
9	33.6	24.5	91	64	8	6	------	
10	33.8	24.2	93	58	7	4	------	
11	------	25	92	------	6	------	------	
12	34.8	24.6	88	58	8	4	------	
13	34.6	25.2	93	64	7	8	------	
14	35.6	25.2	94	------	8	6	------	
15	34.6	25.2	95	------	9	9	------	
16	35.5	25.5	93	59	9	8	------	
17	34.6	24.8	92	64	9	7	------	
18	34.8	24.2	92	61	9	8	------	
19	34.6	25.2	93	------	7	4	------	
20	34	24.5	92	58	6	6	------	
21	34.2	25.2	92	57	6	4	------	
22	33.8	24.6	92	------	8	6	------	
23	34	24.6	94	65	8	8	------	
24	33.5	24.8	97	56	8	7	------	
25	------	24.4	92	------	8	------	------	
26	32.6	24.6	88	51	8	6	------	
27	33.8	24.6	93	57	7	6	------	
28	------	25	94	------	8	------	------	
29	34	24.2	98	49	8	7	------	
30	33.8	25	93	53	8	7	------	
Mean	34	24.7	93	61.2	7.8	6.3	------	
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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	24.6	93	63	9	1	------	↙° a. p.
2	32.3	24.7	92	61	10	2	0.8	↙ a. p.
3	32.8	23.7	97	70	9	7	------	p●° a. ↙° a. p.
4	32.8	24.8	93	62	10	0	------	↙ a. ↙° p.
5	32.5	24.8	90	56	6	0	------	↙° a. p.
6	33	24.5	95	58	7	4	------	↙° a. p.
7	32.8	23.4	98	58	9	4	------	⊤ a. ↙° a. p.
8	31.7	23.8	93	84	6	7	10.4	↙° a. p. ● ↯ p.
9	32.5	24.6	98	66	8	5	------	p d° a. ↙° a. p.
10	32.5	22	94	66	1	6	------	Ω ≡ a. ↙ p.
11	32.5	23.9	96	60	8	3	------	↙° a. ↯ ↙ p.
12	33.2	24.5	93	59	6	4	------	↙° a. p.
13	33	24.7	94	65	8	4	------	↙ a. p. ↯ p.
14	32.6	24.5	97	66	7	5	------	↙° ●° a. ↙ ↯ p.
15	33	24.7	98	67	7	7	------	↙ a. p. ⌈↯ p.
16	33.8	24.6	99	62	8	8	------	↙° a. ↙ d° p.
17	33.4	24.5	92	60	8	6	------	↙° a. p.
18	33 3	24.7	93	63	7	4	------	↙° a. p.
19	34	24.6	99	62	6	4	------	↙° a. p.
20	34.1	24.2	97	53	6	4	------	↙° a. p.
21	34.3	22.4	98	60	7	7	------	↙° a. p.
22	34.2	24	96	48	4	3	------	↙° a. p.
23	33	23	94	60	4	5	------	↙° a. p. ↯ p.
24	34.1	22.4	95	59	6	5	------	↙° a. p.
25	34.3	24.4	92	52	8	8	------	↙° a. ↙ p.
26	34	24.7	92	55	6	6	------	↙° a. p.
27	34.8	24.4	97	60	5	5	------	↙° a. p.
28	33.5	24.5	93	68	4	7	------	d° a. ↙° p.
29	33	23.8	92	63	8	8	3.6	⊤ a. ↙° p.
30	32.6	23.9	97	62	8	5	3.6	↙● a. p. ⊤ p.
Mean	33.2	24.1	94.9	61.6	6.9	4.8	------	
Total	------	------	------	------	------	------	18.4	

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	29.8	22.2	93	71	6	5	0.3	●° a.
2	29.4	22.8	92	77	6	6	2.5	● a.
3	29.3	23.6	96	86	4	7	1.8	● p.
4	29.7	23.7	95	72	2	4	.5	●° a.
5	29.5	21.8	99	70	4	3	------	
6	30.7	21.2	96	69	5	3	------	
7	30.6	21.5	97	65	3	3	------	
8	31.6	22.3	91	66	3	4	------	
9	32.6	21.5	96	52	3	2	------	
10	31.7	22.2	92	69	3	7	------	
11	31.2	22	97	68	4	5	------	
12	30	22.5	95	71	4	4	5.1	●² p.
13	29.8	22.9	94	74	6	4	2.5	● p.
14	30.4	23.5	96	74	7	4	3	
15	30.4	22.8	------	76	7	8	10.2	●² a.
16	30.6	22.3	------	71	6	7	------	
17	30.6	22.3	------	67	7	6	.3	
18	29.6	21.6	------	79	6	5	4.8	● p.
19	30.1	22.2	------	73	4	5	------	
20	20.4	21.5	------	68	2	6	------	
21	32.3	21.8	------	55	4	4	------	
22	32.2	21.1	------	63	3	2	------	
23	30.9	21.8	------	65	4	5	------	
24	32.6	21.4	------	64	3	3	------	
25	31.4	21.7	------	59	4	2	------	
26	31.9	20.9	------	74	3	5	------	
27	31.6	22.9	------	70	6	7	.3	
28	31.4	22.4	------	50	2	4	------	
29	31.1	21.4	------	65	2	4	------	
30	30.7	22.4	------	68	4	8	------	
Mean	30.8	22.1	94.9	68.4	4.2	4.7	------	
Total	------	------	------	------	------	------	31.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.1	24.4	86	79	6	6	------	●² a.
2	30.2	24.8	86	76	5	6	5.1	● p.
3	30.1	24.8	88	92	10	10	3.8	● p.
4	30.2	24.8	87	75	5	5	------	
5	30.4	25	92	73	8	6	------	
6	30.4	23.2	97	74	5	5	------	
7	30.5	23	91	75	6	4	------	
8	30.5	24.2	86	72	6	5	------	↯ p.
9	30.8	24.8	85	75	6	5	------	
10	31.1	23.2	88	69	8	5	------	
11	31.2	24.1	84	71	8	5	------	
12	31.1	24.8	86	73	6	5	------	
13	31.1	25	87	81	6	8	------	d a.
14	31.2	25.2	90	72	6	8	------	
15	31.1	24.8	90	74	8	5	------	
16	31.1	25	86	72	6	5	------	
17	31.3	24.8	84	72	6	6	------	
18	31.5	23.2	88	71	5	6	------	
19	31.4	25.1	84	69	6	5	------	
20	31.1	24.8	86	69	6	4	------	
21	31.1	24.9	86	67	8	5	------	
22	31.2	24	83	66	8	4	------	
23	31.5	23.1	83	67	6	5	------	
24	31.3	25	94	67	4	5	------	
25	32	23.2	85	66	8	5	------	
26	31.3	23.6	77	65	6	5	------	
27	31.2	24.2	86	70	8	5	------	d a.
28	31.9	24.3	83	69	6	5	------	
29	31.8	24.1	82	62	6	4	------	
30	32.5	23.2	83	71	6	4	------	
Mean	31.1	24.3	86.4	71.8	6.5	5.4	------	
Total	------	------	------	------	------	------	8.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	23	84	64	2	4	------	
2	30.2	24	84	64	3	1	------	
3	29.6	24.8	84	64	3	3	------	
4	31.4	24.4	84	63	3	3	------	
5	30	24.4	87	64	2	2	------	
6	29.4	24.4	88	67	3	3	------	
7	29.6	22.6	87	75	2	4	------	
8	30	24.2	85	71	2	5	1.3	
9	30	25	84	58	3	1	------	
10	30.6	24.8	81	60	3	3	.8	
11	29.4	24	83	65	8	8	1.3	
12	30.8	25.2	78	62	4	6	------	
13	30.6	25.2	84	61	3	9	------	
14	31	25	82	68	6	8	------	
15	31.4	25.2	79	51	4	6	------	
16	30.4	25	80	70	2	5	------	
17	30.6	24.4	79	60	2	5	------	
18	31	25	79	56	8	3	------	
19	31	24.6	79	53	8	6	------	
20	29.4	24.4	82	74	2	5	------	
21	30.4	24.2	84	61	1	4	------	
22	30.4	23.6	84	70	6	6	------	
23	30.4	23.4	90	71	10	4	------	
24	31.8	23.4	87	65	2	4	------	
25	31.4	25.4	81	62	2	6	------	
26	31.4	25.4	83	77	2	10	1.3	
27	28	23.8	81	93	2	10	14	↙° ⊤ a.
28	29.4	23.4	84	89	10	10	15.2	↙° a. ⊤² p.
29	31.6	23.8	92	59	10	6	------	
30	31.6	25.4	84	62	6	8	------	
Mean	30.5	24.4	83.4	66	4.1	5.3	------	
Total	------	------	------	------	------	------	33.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	23.5	93	61	6	2	------	p a.
2	31.5	25.1	88	63	9	1	------	
3	32.5	23.5	94	53	9	2	------	p a.
4	32	25.6	86	55	9	3	------	p a.
5	32	23.1	91	56	8	1	------	
6	32.2	21.1	84	69	8	2	------	
7	30	22.5	89	72	7	3	------	⊤ p.
8	32.2	22.2	90	67	8	6	4.3	⊤ p.
9	31.7	22.1	93	71	7	3	------	●° a.
10	32.2	22.1	96	64	4	2	------	
11	32.2	21.9	91	66	9	4	------	⊕ p.
12	32	22	80	63	8	4	.5	●° p.
13	32.5	23.4	92	62	4	2	------	⊤ p.
14	32.8	24.9	91	61	7	4	2.5	⚡ p.
15	33	24	93	64	9	8	23.4	⌒° a.
16	32.4	23.6	97	65	10	9	11.7	● ⊤ p a. p° p.
17	32.2	24.4	92	60	8	6	29.5	⌈⚡ p.
18	31.8	23.1	96	63	9	7	16.5	●² a.
19	31.5	22.5	93	69	9	7	1	⊕ p.
20	31.5	23	92	69	9	3	.5	d° ●° a. d p.
21	33	22.5	79	58	9	5	------	⚡ p.
22	32	22.1	82	61	6	3	------	⌓ a. ⌈⚡ p.
23	32.4	21.9	88	63	2	4	------	⌓ a. ⌈⚡ p.
24	32.1	22.5	84	63	3	3	------	
25	31.6	22.5	81	64	8	8	.8	
26	31.8	22.4	90	50	9	3	------	
27	32.8	22.5	89	54	4	3	------	
28	32.6	23	85	65	4	3	------	
29	33.2	23.6	88	71	8	9	------	⚡ a.
30	33	22.9	91	58	9	4	------	
Mean	32.2	23	89.3	62.7	7.3	4.1	------	
Total	------	------	------	------	------	------	90.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	22.3	92	67	5	6	1.3	●° ≡° a. ∞ p.
2	31.4	22.4	82	70	8	7	1.8	d a.
3	31.8	22.4	96	69	7	5	------	d° a. ∞ p.
4	32.1	21.6	95	78	2	7	------	∞ p.
5	31.7	21.4	96	74	2	5	------	d° a.
6	31.2	21	95	70	1	1	------	≡° a.
7	31.9	21.9	98	78	2	4	------	⚡ p.
8	32.6	22.7	96	78	9	8	------	d a. ∞ ⚡ p.
9	32.8	25.8	80	76	9	1	------	
10	33	25.4	92	75	4	3	------	
11	31.5	21.5	96	73	2	2	------	
12	31.8	21.9	97	78	6	1	.3	
13	32.2	25	90	74	8	4	4.1	●° ⌒² a. ⚡ ● p.
14	31.6	23.1	93	83	9	6	2	●° ⌒ a. d° ⚡ p.
15	32.4	23.7	97	79	8	3	.8	●° ⌒² a. ⚡ p.
16	32.8	25	90	79	8	8	------	
17	32.4	22.4	99	74	7	8	1.5	≡ ●° ⌒ a. ⚡ p.
18	32.2	22	97	80	9	6	.5	● a. ●° d° ⌒² p.
19	32.8	22.1	98	76	2	4	------	⚡ p.
20	31.1	21.9	98	75	2	1	------	
21	31.7	22.2	97	82	4	3	------	
22	31.2	22	96	74	4	4	------	
23	31.8	20.3	98	81	7	1	------	
24	31.6	21.6	97	78	4	3	------	ᗜ° p.
25	33.2	22.1	98	75	7	3	------	ᗜ° p.
26	32	21.5	98	78	4	2	1.5	ᗜ° p.
27	31.6	------	98	79	9	4	2.5	●° ⌒² a. ∞ ⚡ p.
28	31.8	22.6	96	70	4	6	------	●° a.
29	32	22.1	96	71	7	3	------	
30	32.1	22	96	78	4	8	10.4	●° a. p. ● ⌒ ∞ p.
Mean	31.9	22.5	94.9	75.7	5.5	4.2	------	
Total	------	------	------	------	------	------	26.7	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	19	98	81	3	8	------	
2	33	20.1	99	------	3	7	------	
3	31.2	20.1	98	78	3	7	------	
4	31.3	20.9	99	80	3	7	------	≡° a.
5	31.8	19.9	99	79	3	8	------	≡° a.
6	33	20.2	99	71	3	5	------	
7	33.7	20.6	98	------	5	8	------	⊤ p.
8	33.3	20.9	98	81	6	8	3.3	d p.
9	33.6	21.1	98	69	3	7	------	≡° a.
10	33.6	21.1	98	69	3	8	------	
11	32.5	19	98	71	2	6	------	
12	33.4	18.7	98	61	3	6	------	
13	32.6	19	98	86	3	7	------	
14	32.4	20.3	98	79	5	10	6.9	●° p° ⊤ p.
15	33.4	20.7	100?	------	4	8	5.6	≡° a. ⊤° ●° p.
16	33.8	21.5	99	58	8	8	------	
17	33.7	19.1	98	71	4	7	------	
18	32.3	19.3	98	------	6	6	------	
19	33.1	19.2	98	------	3	7	------	
20	33.5	19.6	98	75	4	7	------	
21	33.6	19	98	------	2	8	------	
22	33.5	20	98	------	3	8	------	
23	33.8	19.7	98	66	3	8	------	
24	33.3	20.1	98	63	3	9	------	
25	33.6	18.4	98	75	6	8	------	
26	33.5	18.2	98	68	3	8	------	
27	34.9	19.4	96	72	6	9	------	
28	33.7	20.3	99	74	2	8	------	
29	34.3	21.1	99	92	3	8	17.3	●² ⊤° p.
30	33	20.4	99	71	3	8	------	
Mean	33.1	19.9	98.3	73.5	3.7	7.6	------	
Total	------	------	------	------	------	------	33.1	

METEOROLOGICAL DATA, ETC.—Continued.

BATANGAS.

[ϕ=13° 45′ N; λ=121° 03′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	35.8	21.6	95	45	2	4	------	
2	34.8	21.4	95	47	2	4	------	
3	35.2	21.6	92	54	2	6	------	
4	35.3	21.5	91	45	1	5	------	
5	36	20.5	92	43	1	3	------	
6	34.8	20	93	51	2	2	------	
7	34.3	21.9	89	54	5	2	------	
8	34.4	22.3	89	54	7	7	0.5	● ⊤ p.
9	36.3	21.6	92	47	3	5	------	
10	35.4	20.6	89	44	3	4	------	
11	35.2	21.4	90	41	4	3	------	
12	36.4	20.9	93	37	2	3	------	
13	36.5	22.3	93	44	2	5	------	
14	36.3	23.1	87	48	2	4	------	
15	36.4	23.3	85	44	5	6	------	
16	35.5	23.2	85	58	7	7	------	p a. ⊤ p.
17	35.6	21.5	93	50	7	6	------	↯ p.
18	35.7	22.3	89	52	6	4	------	⊰ a.
19	36.7	22.3	87	46	1	4	------	
20	37	22.2	88	48	6	4	------	
21	35.4	23.3	89	50	2	4	------	
22	36.6	21.4	89	48	3	3	------	
23	36.3	20.3	87	50	2	5	------	⊤ p.
24	36.2	22.3	85	50	2	6	------	
25	36.4	22.2	88	47	3	6	------	
26	35.3	22.3	91	49	2	4	------	
27	35.4	21.2	80	50	2	4	------	
28	35.9	21.6	88	48	1	5	------	
29	34.6	23.3	91	77	6	6	.3	⊤ p a. p.
30	34.8	21.1	93	58	3	7	------	
Mean	35.7	21.8	89.6	49.3	3.2	4.6	------	
Total	------	------	------	------	------	------	.8	

SILANG.

[ϕ=14° 14′ N; λ=120° 58′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	21	97	62	9	5	------	d a.
2	31.8	21.5	98	61	7	6	------	⊰ p.
3	31.6	21.4	98	62	5	5	------	≡ a. ↙° p.
4	31.6	21.5	98	61	7	7	------	↙° a. ⊰ p.
5	31.4	21	97	61	3	8	------	≡ a. ⊤° p.
6	31.8	21.2	97	61	7	3	------	
7	31.8	21.8	98	60	5	7	------	
8	31.5	21.5	98	61	7	8	1.8	↙° a. ●° ⊤ p.
9	30.8	21.3	98	64	8	8	3.6	Ω ≡ a. ●° ⊤² p.
10	31.5	22	98	60	7	5	------	↙° a.
11	31.2	21.6	97	61	5	6	------	⊰ p.
12	31.6	21.9	98	60	4	5	------	↙° a.
13	31.8	22.1	98	61	2	2	------	
14	31.3	21.5	98	61	4	8	------	⊤ p.
15	31.7	21.6	97	59	8	8	------	↙° ≡ a. ⊤ p.
16	31.2	21.4	97	61	7	9	20.8	↯ ↙ ● p.
17	31.6	21.8	98	60	5	3	------	⊰ p.
18	31.8	22.1	98	60	3	3	------	
19	31.5	21.8	98	60	7	2	------	
20	31.5	22.1	98	61	4	7	------	↙° p.
21	32	22.2	98	60	7	8	------	⊤° ⊰ p.
22	32.1	22	98	60	7	7	------	↙° p.
23	31.7	22.1	98	59	7	9	53.8	↙° a. ↯ ●² p.
24	31.8	21.9	98	59	4	8	------	⊤° p.
25	31.8	21.6	98	60	5	7	------	↙° a.
26	31.5	22.2	98	60	6	6	------	≡ a. ↙° p.
27	31.8	22.1	98	60	2	3	------	
28	31.8	22.3	98	60	3	7	------	Ω ≡ a. ↯ p.
29	31.2	21.8	98	60	8	9	.8	Ω ●° ⊤ a.
30	31.6	22	98	59	5	3	------	≡ a. ↙° p.
Mean	31.6	21.7	97.8	60.5	5.6	6.1	------	
Total	------	------	------	------	------	------	80.8	

SAN ANTONIO.

[ϕ=14° 22′ N; λ=121° 32′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	30.1	21.3	96	75	9	8	------	
2	30.2	21.4	94	73	3	7	------	
3	31	20.4	99	72	5	2	------	
4	30.4	20.5	95	54	8	6	------	
5	32.1	18.2	95	67	10	8	------	⌒ a.
6	32	18.4	98	67	6	9	------	
7	27.4	20.8	95	69	9	9	4.3	● a. ⌒ p.
8	31.4	20.4	98	66	6	1	------	
9	31	17.8	99	77	9	8	------	
10	30.8	19.2	98	76	7	8	------	
11	31.1	19.7	97	59	6	6	------	⌒ a.
12	30.5	20.9	94	66	1	7	2.8	● a. ⌒ a. p.
13	29.5	21.2	97	82	8	5	------	⌒ a.
14	31.5	21.3	97	63	6	4	------	⌒ a.
15	30.8	21.5	97	65	5	6	------	
16	30.4	21.5	94	63	8	1	------	⌒ a.
17	30.3	21	96	58	10	2	------	
18	31.3	21.4	94	58	4	1	------	
19	31.5	18.7	98	50	4	3	------	
20	32.5	19.9	98	59	2	6	------	
21	33	19	99	51	8	7	------	
22	33.6	20.4	97	66	9	8	8.4	
23	33.8	20.5	98	60	5	5	------	
24	31.9	20.5	89	52	6	2	------	
25	32.2	20.6	97	48	7	1	------	
26	34.3	19.2	95	46	3	5	------	
27	33	18.4	99	56	1	5	------	
28	32.5	19.7	98	61	8	6	------	
29	31.8	18.9	99	65	10	5	------	
30	31	21.1	94	64	1	6	------	
Mean	31.4	20.1	96.5	62.9	6.1	5.2	------	
Total	------	------	------	------	------	------	15.5	

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	35.7	22.5	92	48	0	5	------	Ω ≡² a. ⊰° p.
2	36	21.6	89	42	0	4	------	Ω ≡ a. ∞ ⊖² ⊰°
3	37.1	22.4	87	38	8	5	------	∞ p.
4	37.5	23.2	95	37	9	2	------	Ω ≡ a. ∞ ⊕² p.
5	37.1	23	97	41	1	5	------	Ω ≡² a. ∞ ↯² d°
6	36.6	23.5	91	42	5	1	------	≡ a. ∞² p.
7	35.7	20.5	90	41	0	4	12.2	Ω ≡² a. ∞ ↯ p.
8	33.3	23	91	52	5	4	.3	↯ ● a. ↯ ●° p.
9	36	24	91	44	6	4	.5	∞ ↯ ●° p.
10	35.8	22.5	93	44	4	2	------	≡² a. ∞² ⊕² ↯ p.
11	35.9	23.5	92	45	6	4	------	Ω ≡² a. ∞ ↯ p.
12	36.3	21.5	95	40	0	4	------	Ω ≡ a. ⊕ p.
13	35.6	22.3	91	43	0	6	------	Ω ≡ a.
14	36	20.5	93	48	0	8	------	Ω² ≡° a. d° p.
15	38.1	23.5	91	39	0	6	------	Ω ≡ a. ↯ p.
16	35.5	23.5	93	62	1	8	------	Ω ≡ a. ↙° d° p.
17	35.4	21	95	50	2	4	------	≡² a. ↙° ⊰° p.
18	35.6	22.9	92	48	2	6	------	Ω ≡ a.
19	37.7	22.9	90	41	2	4	2.8	Ω ≡ a. ↯ ●° p.
20	36.6	23	96	40	0	4	------	≡² a. ∞ ↯ p.
21	37	23.4	89	43	7	4	------	∞ p.
22	37.3	22.9	94	40	2	4	------	Ω ≡ a. ∞² ↯ p.
23	37.1	23.8	91	44	10	5	2.5	↯ ● p.
24	37.7	22.5	96	44	0	4	15.7	≡ a. ∞ ↯° ● p.
25	35.3	23	96	52	2	2	------	≡ a.
26	35.7	23.2	96	46	2	4	------	Ω ≡ a.
27	36.8	23.7	96	42	0	4	------	Ω ≡ ↙° ⊰ ᴗ° ⊖
28	37.2	25.3	89	48	8	4	20.8	↯ ● p.
29	36.5	24.3	94	47	4	5	2	≡² a. ↯ ●° p.
30	35.5	24.4	95	56	10	6	1	↯ ●° ᴗ p.
Mean	36.3	22.9	92.7	44.9	3.2	4.4	------	
Total	------	------	------	------	------	------	57.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	23	14.5	90	76	1	8	2.8	● p.
2	23	15	85	80	1	5	------	
3	23.5	14.3	93	85	3	8	14	● p.
4	23	16	90	90	2	10	2.8	
5	23.1	16	98	89	1	10	------	≡ a. p.
6	23	14.8	70	72	3	7	------	
7	22.4	14.5	89	82	3	10	------	≡ p.
8	22.6	14.5	89	71	9	7	10.7	● p.
9	23.1	14.4	90	90	2	10	------	≡ p.
10	24.2	15	98	74	3	7	------	
11	24	16.1	84	86	2	10	10.7	● ⌒ p.
12	23	14.6	77	72	2	9	------	
13	22.6	15	96	81	1	8	------	
14	23	15	79	88	4	10	------	
15	22.7	15.2	94	91	3	10	2	d p.
16	21.8	15	92	95	9	10	10.7	● p.
17	22.3	15	85	91	4	10	39.1	≡ ● p.
18	22.5	13.6	88	92	4	10	1.5	d T p.
19	23.5	15.3	95	91	2	10	------	≡ T p.
20	23	15.4	94	85	2	9	1.8	● p.
21	23	15.4	95	81	2	9	18	● p.
22	22.5	15.3	88	97	2	10	1.8	≡ a. d p.
23	22	15.4	94	82	2	10	------	
24	22.5	15.5	94	87	2	7	------	
25	23.1	15.2	98	85	3	10	10.2	≡ a. ● p.
26	22.4	15.2	90	92	3	10	1.8	d p.
27	20	15	88	91	2	7	4.3	≡ ● p.
28	22.5	16.4	85	93	4	10	1.5	≡ d p.
29	23	15.3	94	97	4	10	------	≡ p.
30	22.5	13.7	98	89	10	10	26.7	● a. p.
Mean	22.8	15.1	90	85.8	3.2	9	------	
Total	------	------	------	------	------	------	160.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	35.9	24.2	80	51	0	3	------	∞° a.
2	35	23.6	87	50	4	4	------	Ω° a. ↙° p.
3	34.9	24.7	88	61	5	2	------	
4	33.8	23.5	89	61	5	2	------	↙° p.
5	35.6	23.1	91	50	1	2	------	
6	33.6	21.6	93	58	1	1	------	Ω° a. ↙° p.
7	34.1	21.6	88	53	2	3	------	
8	35.6	23.4	84	58	5	2	------	
9	34	24	87	57	1	2	------	Ω° a.
10	33.2	22.3	88	54	1	1	------	Ω° a.
11	34.9	22.2	79?	61	1	3	------	Ω° a.
12	35.6	22.1	87	42	5	2	------	∞° a.
13	35.3	24.6	84	61	4	7	------	≡° a.
14	33.7	24.3	85	60	6	2	------	↙² p.
15	33.4	23.5	84	58	1	4	------	
16	34.5	23.1	85	58	9	5	------	⌒° T° p.
17	35.6	23.6	84	57	4	5	------	⌒° T° p.
18	35.1	25	80	56	4	7	------	
19	34.3	25	84	58	2	6	------	
20	35.1	24.3	83	57	2	3	------	
21	35	23.6	86	60	1	4	------	
22	34.5	23.5	82	59	2	4	------	
23	34.5	23.6	89	59	2	3	------	
24	33.7	22.4	87	51	1	1	------	↯° p.
25	35	24.2	84	60	5	7	------	T° ⌓° p.
26	35.3	24.3	86	52	2	3	------	
27	35.5	25	84	55	1	1	------	↯° p.
28	34.1	23.5	87	60	1	3	------	Ω° a.
29	34.2	25.1	88	53	2	2	------	Ω° a.
30	33.4	25.1	68	55	9	8	------	d° a.
Mean	34.6	23.7	85	56.2	3	3.4	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.3	19.9	97	59	8	7	------	d² ≡² a. ⌈↯ ↙° p.
2	33.9	18	96	53	3	8	------	Ω² ↙° a. ⌈↯ ↙ p.
3	35.7	19.1	96	42	3	2	------	Ω² ≡ a. ⌈↯ p.
4	35.5	20.7	93	47	10	2	------	⌈↯ ⌓² p.
5	35.4	20.8	92	48	4	3	------	↙ ⌈↯° p.
6	36.6	19.1	93	45	2	2	------	↙° p.
7	31.4	20.6	91	60	10	10	------	↙° a. p. d° p.
8	31.8	18.2	92	60	10	8	------	≡ ⊕° a. ↙° ↯° p.
9	36.5	18.6	98	46	6	3	------	Ω² a. ⌈↯ d° ↙° p.
10	35.2	21.5	91	47	10	2	0.3	T° a. ⌈↯ ↙° d° p.
11	33.9	21.7	93	54	10	7	------	d° ⌒ a. ⌈↯ ⌓° p.
12	35.5	18.9	98	41	9	2	------	Ω² ≡° ↙° a. ⌈↯ ↙°
13	34.1	19.3	95	54	4	9	------	Ω° ↙° a. ⌈↯ ↙° p.
14	35.9	16.4	91	40	2	2	------	Ω° a. ⌈↯ ↙° p.
15	36.7	20.6	90	46	5	7	13.5	⌈↯ ↙° d° ●° p.
16	31.9	19.8	96	68	10	6	.3	d² d° a. ⌈↯ ↙° p.
17	34.7	20.5	97	56	10	7	------	Ω° ≡ a. ⌈↯ ↙° p.
18	34.5	19.8	94	55	8	6	------	Ω° a. ⌈↯ ↙° p.
19	36.2	20.3	89	43	6	4	------	↙° a. p. ⌈↯ d° p.
20	35.6	21.4	95	45	9	3	------	⌈↯ ↙° p.
21	36.4	19.3	91	44	3	4	------	↙° a. ⌈↯ p.
22	36.2	22.2	91	40	10	5	.3	↙° a. ⌈↯ d° p.
23	35.3	21.3	94	53	10	4	2	⊕° a. ⌈↯ d² p.
24	35.6	21.4	94	48	10	5	------	⌈↯ ↙° p.
25	36	19.6	94	40	5	7	2.8	Ω° ⊕² ⌈↯ ↙ ⌣ d²
26	36.7	20.3	96	42	4	3	------	≡ a. ⌈↯ ⌣² ↙° p.
27	36.6	21.7	88	46	9	4	7.4	⌈↯² ↙ d² p.
28	36.7	21.2	96	51	7	3	------	⌈↯ ↙° p.
29	37.4	22.6	88	47	10	5	------	T° a. ⌈↯ ↙° p.
30	36.5	21.4	90	45	8	5	19	≡ ↙ ⌈↯ ⌒° d² ⌓
Mean	35.3	20.2	93.3	48.8	7.2	4.8	------	
Total	------	------	------	------	------	------	45.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.5	23	82	55	0	0	------	Ω² ≡ a. ↯ p.
2	31.4	23.7	75	65	1	3	------	Ω² ≡² a. ↙° ⌈↯ p.
3	31.5	25.4	80	63	3	2	------	Ω ≡ a. ↙ ↯ p.
4	30.7	24	82	63	3	0	------	Ω² ≡² a.
5	31.4	22.2	84	66	4	0	------	Ω ≡ a. ↙° p.
6	30.5	23.6	83	62	0	0	------	Ω² ≡² a. ↙° p.
7	29.5	22.8	83	68	4	9	------	Ω ≡ T° a. d a. p.
8	30.7	22.8	79	66	9	5	------	≡ a. d ↙° p.
9	30.5	22.7	83	64	0	0	------	Ω² ≡ a. ↯ p.
10	31.4	22.4	82	57	2	0	------	Ω² ≡² a. ↙° ↯ p.
11	31.6	22.2	82	62	5	2	------	Ω² ≡² a. ↯ p.
12	31.9	23.2	83	58	3	0	------	Ω ≡ a. ↙° p.
13	31.6	24.5	81	60	4	1	------	Ω ≡ a. ↙° p.
14	31.6	24.6	78	60	2	2	------	Ω° ≡° a. ↯ p.
15	31.5	23.7	81	58	4	3	------	Ω ≡ a. ↙° p.
16	32.2	24	79	52	2	0	------	Ω ≡ a. ↯ p.
17	32	24.9	77	66	3	2	------	Ω ≡ a. T° p.
18	32.4	24	76	60	5	4	------	Ω ≡ a. ↙° a. p.
19	32	24.5	73	63	0	4	------	Ω° ≡° a. ↙° p.
20	32.2	25	88	62	0	1	------	Ω° ≡° a. ↯ p.
21	31.9	23.6	80	62	0	1	------	Ω ≡ a. ↯ p.
22	31.8	23.6	78	58	1	3	------	Ω ≡ a. ↙° ↯ p.
23	31.9	23.5	80	57	4	5	------	Ω ≡ a. ↯ p.
24	32.1	23.2	78	48	3	0	------	Ω ≡ a. ↯ p.
25	32.1	24.5	80	63	5	7	------	Ω ≡ ↙° a. ◯ ⌈↯ p.
26	32.1	24.5	79	61	5	2	------	Ω ≡ ↙° a. T° p.
27	32.1	25.1	72	57	0	1	------	Ω ≡ a.
28	32.2	24.5	75	53	0	0	------	Ω ≡ a.
29	33	24.5	79	52	2	0	------	Ω ≡ ↙° a. ↙° ↯ p.
30	31.7	25.2	75	53	7	9	------	Ω ≡ a. T° ↯ p.
Mean	31.6	23.8	79.6	59.8	2.7	2.2	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct	0–10.	0–10.	mm.	
1	33.2	21.5	88	58	0	2	------	Ω ≡² a.
2	32.3	22.6	92	60	0	2	------	Ω ≡ a. ⊕ p.
3	32.6	23.1	93	62	0	1	------	Ω ≡ a.
4	33.3	20	90	43	0	1	------	Ω² ≡ a.
5	33.7	19.6	88	62	0	0	------	Ω² ≡ a.
6	32	20.6	92	61	0	1	1.3	Ω² ≡ a.
7	30.3	22.9	93	54	9	10	------	● a.
8	32.5	21.7	76	57	8	7	------	≡ a.
9	32	22.4	90	59	0	2	------	Ω ≡° a.
10	32.3	21.3	90	57	0	1	------	Ω ≡ a. ⊕ p.
11	34.6	21	91	44	0	1	------	Ω ≡ a.
12	33.8	22.4	85	52	0	1	------	≡ a.
13	33.3	22.6	90	60	0	2	------	Ω° ≡ a.
14	33.8	22.7	92	59	0	1	------	Ω ≡ a. ⚡ p.
15	32.8	21.6	91	55	1	3	------	Ω ≡ a. ⚡ p.
16	34.7	21	92	43	1	1	------	Ω ≡ a. ⚡ p.
17	32.8	23.4	85	57	0	1	------	≡ a.
18	34.3	23.5	86	54	0	1	------	≡ a.
19	33	23.4	89	52	0	1	------	≡ a. ↙° p.
20	33.6	22.4	89	56	0	1	------	≡ a.
21	33.3	22.5	92	54	0	1	------	Ω ≡ a. ⚡ p.
22	33.1	21.6	88	53	0	1	------	Ω ≡ a. ⚡ p.
23	33.5	22.1	84	50	1	1	------	Ω ≡ a.
24	35.2	21.5	87	41	0	0	------	≡ a.
25	32.9	21.4	89	59	0	6	------	≡ a. ↙° ⊤ p.
26	32.8	23	89	62	0	3	------	≡ a. ⛈ p.
27	33.3	22.6	89	53	0	1	------	Ω ≡ a. ⚡ p.
28	34.6	21.4	88	51	0	0	------	Ω ≡ a. ↙ p.
29	34.8	21.7	87	50	0	1	------	Ω ≡ a. ↙ ⚡ p.
30	35.6	21.7	84	43	0	1	------	≡ a. ⊤ ↙ p.
Mean	33.3	22	88.6	54	0.7	1.8	------	
Total	------	------	------	------	------	------	1.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28	22.3	86	89	3	10	0.7	↙° a. p. d p.
2	28.6	23.4	91	80	10	8	5	●° a. p. ↙° p.
3	28.1	25.2	89	74	8	9	------	↙° a. p. Ω p.
4	28.5	21.2	89	76	3	1	------	↙° ≡² Ω² p.
5	29.2	20.6	94	70	2	1	------	Ω² ↙ a. ≡² ↙° p.
6	28.5	23.1	77	84	2	10	14.7	↙ ● p.
7	23.4	17.8	65	60	10	9	1.8	d a. Ω p.
8	23.9	16.2?	62	64	9	10	6.9	↙° a. p.
9	28.9	22.3	91	78	10	4	14.7	● ⛈° a. ⚡² ↙ ●
10	28.1	22	87	73	2	0	------	↙° ≡ a. p. Ω p.
11	27.3	21.8	92	79	1	10	43.9	Ω a. ● a. p.
12	28.5	21.5	93	77	10	5	64.5	d ●² a. ↙° a. p.
13	29.9	24.9	84	74	3	6	------	↙° p.
14	30.2	25.4	81	78	1	3	------	↙° a. ≡ Ω p.
15	29.8	23	85	71	4	10	------	↙° a. ≡ ↙ p.
16	27.5	22.7	85	76	10	3	.5	↙° d a. ↙° ≡ Ω²
17	28.5	21.3	93	70	1	1	------	Ω² a. ≡ p.
18	29.7	24.3	84	78	1	4	------	≡ ↙° a. ≡ Ω p.
19	30.3	24.9	88	77	1	2	------	Ω² ↙° a. ≡ Ω² p.
20	30	22.3	94	72	1	4	------	Ω a. ≡ Ω² p.
21	30.2	22.5	94	73	0	1	------	Ω² v a. ≡ Ω p.
22	29.9	24.1	83	71	8	5	------	↙ a. ≡ ⚡ p.
23	29.8	23.8	85	67	8	9	1.3	●° p.
24	29.2	22.7	88	70	8	2	------	Ω p° a. ↙° p.
25	31.4	24.8	79	72	9	9	------	d° a. ⛈ p.
26	31.6	26.4	79	70	2	1	------	↙ a. ≡ Ω p.
27	30.7	23.1	95	74	2	0	------	Ω v a. ≡ p.
28	30.4	23.1	94	69	8	1	------	Ω v a. ≡ Ω p.
29	30.8	22.5	80	70	6	3	11.6	↙° a. ≡ ↙ ● ⊤ p.
30	23.6	21.2	83	76	10	10	4.1	●° a. ↙ a. p.
Mean	28.8	22.7	85.7	73.7	5.1	5	------	
Total	------	------	------	------	------	------	169.7	

SEISMOLOGICAL BULLETIN FOR APRIL, 1909.

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

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

4, 5^h 33^m 22^s.* **Northern Luzon.** Earthquake of intensity V. The origin lay toward northeast, probably near Camiguin Island of the Babuyanes group, some 450 kilometers from Manila. The disturbance was perceptible in all the provinces north of parallel 17° N latitude. At Aparri (NE of Luzon) where the force reached V, it lasted 50 seconds; in Manila, the agitation of the microseismographs persevered for about 20 minutes.

5, 13^h 15^m. **Valley of the Agusan River** (Mindanao). Earthquake of intensity IV, perceptible in Talacogon and Butuan. The focus appears to have been in the northern part of the valley, in the neighborhood of Talacogon, where three perfectly distinct shocks of force IV have been felt. The intensity was smaller at Butuan, situated some 50 kilometers to the north of the former place. The phenomenon was probably due to the same center which caused the earthquake of March 18 of the current year.

6, 6^h 1^m. **Aparri** (NE of Luzon). Slight earthquake of intensity III.

12, 8^h 35^m. **Borongan** (E of Samar). Seismic oscillations of intensity IV; duration 4 seconds.

14, 6^h 37^m 19^s.* **Southeastern Luzon.** Earthquake of force VI. It displayed the greatest violence east and northeast of Mayon Volcano, and was quite perceptible to a distance exceeding 100 kilometers, in the Province of Ambos Camarines and on Masbate Island. The center lay probably to the southwest of Catanduanes Island. The perturbation of the microseismographs at Manila lasted about half an hour. The preliminary tremors of 48 seconds' duration correspond to a distance of the center from Manila of roughly 350 kilometers. The disturbance was likewise registered by the microseismographs at Osaka, Japan, where the preliminary movements lasted 4 minutes and 15 seconds, indicating a center at a distance of 2,700 kilometers. A second shock of force III, felt on Catanduanes Island at 6^h 11^m, has not been registered at Manila Observatory.

16, 6^h 9^m. **Butuan** (N of Mindanao). Oscillatory earthquake of intensity III. Direction NE–SW. A repetition at 19^h 21^m had the same direction, but force IV; duration about 30 seconds.

17, 10^h 47^m. **Laoag** (NW of Luzon). Earthquake of intensity II.

18, 7^h 58^m 40^s.* **Butuan** (N of Mindanao). A slight oscillatory earthquake. Direction SSW–NNE; intensity III. Its focus must probably be sought in the southern part of the Agusan River Valley.

19, 13^h 7^m. **Ormoc** (W of Leyte). Earthquake of intesity II.

25, 12^h 07^m 30^s. **Santo Domingo** (Batanes Islands). Earthquake shocks of intensity III.

25, 22^h 45^m. **Cotabato** (SW of Mindanao). Earthquake of force IV; duration 20 seconds.

30, 9^h 46^m. **Virac** (Catanduanes). Oscillatory earthquake. Intensity III; direction SE–NW; duration 4 seconds.

[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. 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.*		
70	2	NNW-SSE	12 43 27	----	----	----	----	----	13 04	V. M.	
		WSW-ENE	12 43 31	----	----	----	----	----	13 02	V. M.	
		WSW-ENE	12 43 47	----	----	----	----	----	13 04	H. P.	
71	3	NNW-SSE	----	----	13 36 17	13 36 21	0.03	1.8	13 39	V. M.	Vertical component 0.11 mm.
		WSW-ENE	----	----	13 36 19	13 36 26	.03	1.2	13 39	V. M.	
72	3	NNW-SSE	13 40 07	----	----	----	----	----	13 57	V. M.	
		WSW-ENE	13 40 06	----	----	----	----	----	13 57	V. M.	
		WSW-ENE	13 40 06	----	----	----	----	----	14 02	H. P.	
73	4	NNW-SSE	5 33 14	----	5 34 04	5 34 19	2.02	2	6 08	V. M.	V. C. 0.46 mm. Earthquake, III in the northern part of Luzon.
		NNW-SSE	5 33 22	----	5 34 19	5 34 42	1.24	9	5 57	H. P.	
		WSW-ENE	5 33 13	----	5 34 02	5 34 50	1.96	2.2	6 08	V. M.	
		WSW-ENE	5 33 23	----	5 34 15	5 36 24	1.68	10.2	5 57	H. P.	
74	6	NNW-SSE	----	----	1 31 13	1 31 23	.02	2.4	1 34	V. M.	
75	8	NNW-SSE	15 19 04	----	15 19 20	15 19 22	.08	2.4	15 22	V. M.	V. C. 0.05 mm.
		WSW-ENE	15 19 04	----	15 19 19	15 19 33	.13	2.8	15 22	V. M.	
76	8	NNW-SSE	----	----	20 01 28	20 01 30	.05	2.4	20 05	V. M.	V. C. 0.02 mm.
77	10	NNW-SSE	13 38 34	13 49 06	13 59 45	14 04 13	.01	20.2	15 16	V. M.	
		NNW-SSE	13 38 33	13 48 52	13 59 39	14 04 04	.05	22.5	15 23	H. P.	
		WSW-ENE	13 38 34	13 49 07	13 59 51	14 04 08	.01	23.2	15 16	V. M.	
		WSW-ENE	13 38 37	13 48 54	13 59 18	14 03 53	.05	23.7	15 23	H. P.	
78	11	NNW-SSE	3 43 57	3 54 40	4 05 12	----	----	----	----	V. M.	
		NNW-SSE	3 44 04	3 54 46	4 05 20	4 06 35	.01	15.6	4 51	H. P.	
		WSW-ENE	3 44 01	3 54 30	4 05 18	4 07 20	.01	17.6	5 13	V. M.	
		WSW-ENE	3 44 06	3 54 54	4 05 29	4 06 50	.01	17.4	4 51	H. P.	
79	12	WSW-ENE	9 14 53	----	----	----	----	----	10 00	V. M.	
		WSW-ENE	9 15 03	----	----	----	----	----	10 33	H. P.	
80	14	NNW-SSE	6 37 19	----	6 38 07	6 38 55	5.60	8.1	8 15	H. P.	V. C. 0.96 mm. Earthquake, VI SE of Luzon.
		WSW-ENE	6 37 16	----	6 37 59	6 38 23	1.80	2	7 50	V. M.	
		WSW-ENE	6 37 18	----	6 38 12	6 38 43	3.60	9.9	8 15	H. P.	
81	14	WSW-ENE	----	----	12 39 07	12 39 09	.07	1.8	12 41	V. M.	V. C. 0.02 mm.
82	15	NNW-SSE	3 56 28	----	3 58 58	3 59 16	.13	2.4	4 52	V. M.	V. C. 0.04 mm. Earthquake, N of Formosa.
		NNW-SSE	3 56 30	----	3 59 03	3 59 15	.54	8.7	5 07	H. P.	
		WSW-ENE	3 56 26	----	3 58 55	3 59 15	.38	2.4	5 00	V. M.	
		WSW-ENE	3 56 30	----	3 58 50	3 59 12	1.23	9.6	5 03	H. P.	
83	18	NNW-SSE	7 58 40	----	----	----	----	----	8 28	H. P.	Earthquake, III at Butuan (N of Mindanao).
		WSW-ENE	7 58 42	----	----	----	----	----	8 28	H. P.	
84	21	NNW-SSE	6 26 50	----	6 27 06	6 27 24	.08	2	6 31	V. M.	V. C. 0.15 mm.
		WSW-ENE	6 26 52	----	6 27 07	6 27 14	.11	2.8	6 31	V. M.	
85	23	WSW-ENE	----	----	12 55 00	12 55 05	.04	2.4	12 58	V. M.	V. C. 0.01 mm.
86	26	NNW-SSE	5 50 34	5 53 17	5 55 37	5 56 13	.31	7.2	----	H. P.	
		WSW-ENE	5 50 36	5 52 56	5 55 30	5 55 54	.04	6.4	----	V. M.	
		WSW-ENE	5 50 36	5 53 18	5 55 36	5 56 55	.37	11.1	----	H. P.	
87	26	NNW-SSE	6 38 14	6 41 02	6 43 32	6 46 12	.59	9	8 10	H. P.	
		WSW-ENE	6 38 41	6 41 10	6 43 58	6 47 03	.53	10	8 16	H. P.	
		WSW-ENE	6 38 45	6 41 16	6 43 21	6 46 50	.03	11.2	8 00	V. M.	
88	26	WSW-ENE	8 17 00	----	8 17 40	8 17 50	.06	2.4	8 22	V. M.	
89	27	WSW-ENE	5 41 36	----	5 41 52	5 42 48	.31	2.4	5 46	V. M.	V. C. 0.10 mm.
		NNW-SSE	5 41 34	----	5 41 51	5 42 27	.17	2.4	5 46	V. M.	
90	27	NNW-SSE	20 48 50	20 52 47	20 55 42	20 59 27	.05	10	22 22	V. M.	
		NNW-SSE	20 48 55	20 52 22	20 55 27	20 59 36	1.53	9.6	22 30	H. P.	
		WSW-ENE	20 48 50	20 52 46	20 55 25	20 58 25	.04	8	22 22	V. M.	
		WSW-ENE	20 48 55	20 52 26	20 55 31	20 58 55	1.47	10.2	22 30	H. P.	
91	30	NNW-SSE	6 53 33	----	----	----	----	----	8 05	V. M.	
		WSW-ENE	6 53 27	----	----	----	----	----	8 05	V. M.	
		WSW-ENE	6 53 36	----	----	----	----	----	8 28	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=10.4 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, 5^h 33^m 22^s.* **Norte de Luzón.** Temblor de tierra de intensidad V: el origen estaba al NE, probablemente cerca de la Isla Camiguin del grupo de las Islas Babuyanes, á unos 450 kilómetros de Manila. Fué perceptible en todas las provincias del N hasta el paralelo 17° latitud N. Duró cerca de 50^s en Aparri (NE de Luzón) donde tuvo fuerza V: la perturbación producida en los microseismógrafos del Observatorio duró unos 20 minutos.

5, 13^h 15^m. **Valle del Agusan** (Mindanao). Temblor de tierra de intensidad IV. Fué perceptible en Talacogon y Butúan; el origen probablemente estaba en la parte N del Valle á poca distancia de Talacogon donde se distinguieron perfectamente tres series diferentes de sacudidas de intensidad IV: En Butúan, situado á unos 50 kilómetros al N de Talacogon tuvo menos intensidad. Es probable que procedió del mismo origen del terremoto de 18 de Marzo último.

6, 6^h 01^m. **Aparri** (NE de Luzón). Ligero temblor de tierra de intensidad III.

12, 8^h 35^m. **Borongan** (E de Sámar). Oscilaciones séismicas de intensidad IV, duración 4^s.

14, 6^h 37^m 19^s.* **SE de Luzón.** Temblor de tierra de intensidad VI. Tuvo su mayor fuerza al E y NE del volcán Mayón, y en Catanduanes; fué bien perceptible á una distancia de más de 100 kilómetros, en Camarines y en Masbate. El origen se hallaba probablemente hacia el SW de Catanduanes. La perturbación registrada por los microseismógrafos del Observatorio duró cerca de media hora y los movimientos preliminares 48^s; esta duración coloca el centro á unos 350 kilómetros de Manila. Registráronlo también los microseismógrafos de Osaka (Japón) donde los movimientos preliminares duraron cuatro minutos y quince segundos, correspondiendo el origen á 2,700 kilómetros de distancia. En Catanduanes se sintió una réplica de intensidad III á 6^h 41^m; que no registraron los microseismógrafos del Observatorio.

16, 6^h 9^m. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección NE–SW, intensidad III. Repitió á 9^h 21^m con la misma dirección, intensidad IV y duración de unos 30^s.

17, 10^h 47^m. **Laoag** (NW de Luzón). Temblor de tierra de intensidad II.

18, 7^h 58^m 40^s.* **Butúan** (N de Mindanao). Ligero temblor oscilatorio, dirección SSW–NNE, intensidad III. Probablemente el origen se hallaba en la parte S del Valle del Río Agusan.

19, 13^h 07^m. **Ormoc** (W de Leyte). Temblor de tierra de intensidad II.

25, 12^h 07^m 30^s. **Santo Domingo** (Islas Batanes). Temblor rotatorio, de intensidad III.

25, 22^h 45^m. **Cotabato** (SW de Mindanao). Temblor de tierra de intensidad IV, duración 20^s.

30, 9^h 46^m. **Virac** (Catanduanes). Temblor oscilatorio, dirección SE–NW, intensidad III, duración 4^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.

THE SEISMIC CENTERS IN NORTHERN LUZON.

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

In 1903 I expressed the opinion that the most northern part of Luzon contained two different seismic epicenters: one near the northeastern end of the island, the other to the west of, but very close to, the "Cordillera Central," which latter is sometimes also called the Western Cordillera.[1] A closer study of the earthquakes experienced in this part of the island seems to corroborate the statement, but with a correction as to the position of the epicenter of the Cordillera, as will appear in the course of the present discussion.

The existence and position of this latter center seems to be established with sufficient precision by the data concerning the intensities and meizoseismic areas of the most violent earthquakes which occurred in northern Luzon during the last fifty years. Probably all of these proceeded from the focus which we supposed to lie west of the Central Cordillera, while in reality it seems to include the mountain range itself. The epicentric region of this focus, a somewhat elongated area with its major axis in the direction WNW–ESE, lies between the central part of Ilocos Norte and southern Cagayan.[2] The earthquakes in question occurred September 9, 1862, October 9, 1904, and May 25, 1907.

THE EARTHQUAKE OF SEPTEMBER 9, 1862.

This earthquake took place at 3 a. m. It damaged buildings in various towns of Ilocos Norte and the southern part of Cagayan Province. In Ilocos Norte, the town which suffered most, and where the force must have reached VIII, was Piddig, situated west of, and not far from, the Central Cordillera on one side and about 20 kilometers from the coast on the other. As to southern Cagayan, east of the Cordillera, it is said that the quake damaged some churches—hence must have exceeded force VII—but it is not stated which, though it is quite natural to suppose that they were those of the towns closest to the mountain range. At any rate, the disturbance was of violent character and long duration in Tuguegarao and Cabagan, which are situated about 80 kilometers from the Cordillera. In Ilocos Norte, as well as in the towns of Cagayan just mentioned, the principal oscillations were in the direction E–W. In northern and northeastern Cagayan the shocks hardly reached force VI; in Ilocos Sur and Union Province they did not exceed V, and the seismic waves seemed to come from a northerly direction. In the other provinces of central Luzon the earthquake was felt likewise, but with decreasing force. Thus in Manila, at a distance of some 360 kilometers, only slight shocks were perceptible. It is quite probable that the waves were still faintly perceptible when they reached the Batangas coast and eastern Tayabas, thus covering an area which, in the direction from north to south, had a radius of approximately 500 kilometers. During the first hour after the quake followed countless aftershocks; at 9 a. m. occurred one of considerable intensity which was perceptible throughout a large part of Luzon, as far down as the parallel of Manila.

All these facts seem to indicate that the origin of the disturbance lay really within the northern section of the central Cordillera, in the portion which separates Ilocos Norte from southern Cagayan. The meizoseismic area or region of greatest violence must have had an approximate extent

[1] "Volcanoes and Seismic Centers of the Philippine Archipelago," page 72.
[2] See areas II and III in the map published in the Bulletin for February, 1909.

of 100 kilometers in the direction WNW–ESE, and 70 kilometers from NNE to SSW. Though large, this area comprises for the most part regions which are but sparsely populated and hence it is not surprising that so little information is available. The center of the disturbance may be placed near 121° east longitude and 18° north latitude, to the southeast of Mount Pagsan. This peak is remarkable for its height (2,213 meters=7,260 feet) and the fact that it constitutes one of the principal centers of this section of the Cordillera, from which radiate secondary ranges, one toward southwest, the other toward northeast; from which we conclude that this region has suffered the greatest upheavals and dislocations which have occurred in this part of Luzon.

THE EARTHQUAKE OF OCTOBER 9, 1904.

This earthquake took place at $2^h\ 36^m$. To judge from the observations received from the two Ilocos, to the west of the Cordillera, and from Cagayan Province, to the east thereof, the area within which the quake assumed intensities VII and VIII extended across the mountain range in an approximately WNW–ESE direction, from Ilocos Norte to the southern part of Cagayan. Both to the east and west of the Cordillera, the shocks were accompanied by subterraneous rumblings which seemed to come from the direction of the mountains. The elongated form of the meizoseismic area and its orientation may reasonably be deduced from the notes received from the provinces mentioned. From these we learn that west of the Cordillera the earthquake was of intensity VII in Laoag and the villages in the neighborhood of the mountains, while the same intensity was displayed by it also on the eastern side of the range, in Tuguegarao and the villages situated between this town and the Cordillera. The distance between Laoag and Tuguegarao is about 130 kilometers, the latter place lying east-southeast of the former. At Vigan and Aparri, which are separated from each other by a distance of about 150 kilometers in a SW–NE direction, the force of the phenomenon barely exceeded V. From the interior of the Cordillera we have no data whatever, nor is it possible to obtain such, since in 1904 this was still one of the least known and least inhabited regions of Luzon. But if by induction we arrive at the conclusion that the focus of this earthquake lay within the Cordillera, it must be sought south or southeast of, but very close to, Mount Pagsan.

The seismic waves were felt and registered in Manila; whence it follows that they were of sufficient amplitude to be perceptible at a distance of over 360 kilometers. The seismogram traced by the Vicentini microseismograph of Manila Observatory shows that the perceptible movements were preceded by two kinds of preliminary tremors: the first series, of some forty-five seconds' duration, being made up of rapid undulations having a very small and constant amplitude, while the other consisted of equally rapid tremors, which, however, increased in amplitude until, after the elapse of eight to twelve seconds, the latter was sufficiently large to render the disturbance perceptible. In the record of the quake four principal shocks are discernible. The vertical component was very strong, showing in the seismogram the same amplitude as the horizontal components, both, in the trace of the principal shocks and in those of the weak aftershocks which were registered at $2^h\ 58^m$, $3^h\ 5^m$, and $3^h\ 14^m$. Hence the focus must have been at a great depth. The aftershocks did not allow the pendulums to come to a perfect rest until an hour after the earthquake.

In order to find the distance of the epicenter from Manila, we take the forty-five seconds during which lasted the weakest and most uniform movements as the duration of the *first preliminary tremors* and apply the well-known formula of Professor Omori: $x^{km}=7.27y^{sec}+38^{km}$, which gives 365 kilometers as the distance sought. This is the distance of the place whose geographical position we indicated before, where we deduced the same from the different intensities which the earthquake of September 9, 1862, exhibited in Ilocos Norte and the southern part of Cagayan Province. If we take the time at which the microseismograph at Manila began to be agitated, viz, $2^h\ 36^m\ 36^s$ $(=T)$, and with the same value of forty-five seconds for "y" apply the other formula of Professor Omori, which serves to determine the time when the disturbance commenced at the origin, viz, $T^o=T-1.165y^{sec}$, we obtain $T^o=2^h\ 35^m\ 44^s$, the time of the beginning at the focus, and the waves traversed the distance of 365 kilometers in about 52.4 seconds, which corresponds to an average velocity of 7 kilometers per second. This is precisely the velocity of seismic waves usually found for distances between 300 to 400 kilometers.

Outside of the Archipelago this earthquake was registered in twenty-five different seismological stations, whose distances from Manila varied between 3,200 (Batavia) and 12,000 kilometers (San Fernando, Spain).[1]

We select a few of those stations which offer the most complete data in order to determine the velocities with which the different classes of waves were propagated, supposing that the time at which the earthquake began at the point of origin was $2^h\ 35^m\ 44^s$ ($=18^h\ 35^m\ 44^s$ of October 8, Greenwich time).

Station.	Distance.	V_1.	V_2.	V.
		Km. p. s.	*Km. p. s.*	*Km. p. s.*
Batavia	3, 200	8. 7	4. 9	3. 4
Irkutsk	4, 100	9. 3	5. 3	3. 3
Tashkent	5, 600	9. 9	5. 8	3. 6
Tiflis	7, 700	10. 5	6. 3	3. 6
Strassburg	10, 300	12. 9	7. 1	4. 3

THE EARTHQUAKE OF MAY 25, 1907.

This earthquake occurred at $23^h\ 52^m$, May 25. Its intensity was VIII in Ilocos Norte and VII in southern Cagayan, but only V in the northern part of the latter province and in Ilocos Sur. The meizoseismic area had, therefore, the same shape and orientation as in the earthquake of 1904, but its extent was somewhat greater in the direction WNW, since at Laoag the intensity was VIII. The area within which the disturbance was perceptible extended likewise as far south as parallel 14°. There were no perceptible aftershocks; but on May 4 there had been experienced four slight shocks of intensity III between $4^h\ 36^m$ and $6^h\ 36^m$ and a fifth at $22^h\ 0^m$: all of which, beyond doubt, proceeded from the same focus.

The seismograms traced by the various instruments of Manila Observatory show that the perceptible waves were preceded by rapidly increasing undulations for the space of forty-three seconds. These, if regarded as preliminary tremors, locate the origin at a distance of only 343 kilometers from Manila, which does not quite agree with the value found before. The perceptible movements had a much greater amplitude than in the earthquake of 1904; but the difference between the amplitude of the—relatively small—vertical component and those of the horizontal components was much greater than in the latter. This circumstance, together with the fact that the perceptible movements came more suddenly, without having been preceded by first preliminary tremors like those of 1904, appears to indicate that the focus of this earthquake was at a less depth than that of the former, while the epicenters were probably identical.

This would also explain why, despite the greater intensity displayed, both in the epicentral region and in Manila, the waves propagated themselves less easily outside of the Archipelago. However, though not so great as in the earthquake of 1904, the depth at which the disturbance of 1907 originated can not have been quite so small as I indicated in the Seismological Bulletin for May, 1907. There, relying on the fact that neither the Seismological Bulletin of Zikawei nor the few received from Europe mentioned the disturbance, I assigned to it an origin lying very close to the surface and believed that the phenomenon was of almost purely local character. But when more foreign publications arrived, I found that the earthquake had been registered at great distances. However, only the seismograph at Göttingen, at a distance of 10,000 kilometers, had registered the *preliminary* and *principal* movements; a few observatories obtained records of the principal waves; the rest nothing at all. Even at Batavia and Calcutta, though distant only 3,000 and 4,000 kilometers, only the principal phase was registered.

[1] "Katalog der im Jahre 1904 Registrierten Seismischen Störungen"; von Elmar Rosenthal, page 26.

There appears to be no possible doubt that the three earthquakes described had a common origin and that the latter is situated on the southern and southwestern slopes of Mount Pagsan.

Owing to the peculiar conditions prevailing in that region, very little is known of seismic movements of less importance and of the frequency of their occurrence. From the Catalogue published in the BULLETIN for 1908 we can cull only 38 earthquakes which in all probability had their origin in the center under consideration. The following table shows them arranged according to the scale of De Rossi-Forel:

Years.	II–III.	IV.	V.	VI.	VII.	Total.
1890–1898	5	8	8	2	0	23
1902–1908	6	6	1	0	2	15
Total	11	14	9	2	2	38

As there never has existed a meteorological station either within or close to the Central Cordillera, the origin of these earthquakes has been deduced from the notes received from the stations at Aparri, Tuguegarao, Laoag, and Vigan. These four stations, of which the first two are east, the last two west of the mountain chain, form the corners of a quadrilateral which includes the system of Mount Pagsan.

The approximate distances and bearings between these stations are: Vigan–Tuguegarao, direction nearly W–E, distance 135 kilometers; Tuguegarao–Aparri, direction SSE–NNW, distance 80 kilometers; Aparri–Laoag, direction ENE–WSW, distance 105 kilometers; Laoag–Vigan, direction NNE–SSW, distance 75 kilometers.

According to our statements regarding the situation of the seismic center, same would lie very close to the diagonal which joins Laoag and Tuguegarao. Laoag is the station nearest to the supposed position of the focus, but is still 50 kilometers from it. Hence we may safely infer that the list given includes only the stronger shocks due to this center, and that, consequently, seismic disturbances must be much more frequent in this part of Luzon than the said list would lead one to believe. Toward the same conclusion seems to point likewise the fact that the frequency of earthquakes of intensities II and III results about equal to the number of earthquakes of intensity IV, while everywhere else it is found to be much greater.

We believe that—as far as the data at present available make it possible—we have proved the existence and whereabout of a seismic center in the northern part of the Central Cordillera of Luzon. Everything tends to show that the same is situated between Tuguegarao and Laoag. As stated before, the air line between these two towns passes very close to, and south of, the towering masses of Pagsan, which is the highest peak in the northern section of the Central Cordillera. Unfortunately, precise physiographic and geological information is wanting, from which we might infer the upheavals and displacements which have taken place in this region. What calls the attention even in ordinary maps is the fact that, while the general orientation of the main mountain range is south to north, precisely south of Pagsan two ranges branch off. On the western side of the Cordillera we find a range, showing the considerable heights of 1,890, 1,460, and 1,280 meters (6,200, 4,800, and 4,200 feet), which, running in a southwesterly direction, separates Ilocos Norte from Ilocos Sur and Abra and penetrates as far as the coast of the China Sea. The range branching off on the eastern side of the Cordillera is of less importance; after recurving it assumes a northeasterly direction, its total length being more than 50 kilometers.

NOTA SOBRE LOS EPICENTROS SEISMICOS DE LA PARTE NORTE DE LUZON.

En 1903 apuntamos la idea de que en la parte más septentrional de Luzón existían dos diferentes epicentros: uno hacia el extremo NE de la Isla y otro al W, pero muy cerca de la Cordillera Central, llamada también del W.[1] Un estudio más detenido de los temblores sentidos en esa parte de la Isla confirma al parecer esta idea, pero con una corrección con respecto á la posición del epicentro de la Cordillera; según se verá en el decurso de esta nota.

Parecen determinar con precisión la existencia y posición de este epicentro los datos referentes á la intensidad y al área meizoséismica de los tres terremotos más violentos sentidos en el N de Luzón durante los últimos 50 años. Probablemente todos tuvieron su origen en el foco que suponíamos estar al W de la Cordillera Central, cuando en realidad parece comprender la misma Cordillera. Su área epicéntrica, de una forma algo prolongada con el eje mayor dirigido de WNW á ESE, está situada entre la parte media de Ilocos Norte y el S de Cagayán.[2] Estos terremotos ocurrieron el 9 de Septiembre de 1862, el 9 de Octubre de 1904 y el 25 de Mayo de 1907.

TERREMOTO DEL 9 DE SEPTIEMBRE DE 1862.

Este terremoto tuvo lugar á 3^h a. m. Causó algún daño á los edificios en varios pueblos de Ilocos Norte y de la parte S de la Provincia de Cagayán. En Ilocos Norte el pueblo más castigado, donde la intensidad debió llegar á VIII, fué Piddig, situado al W no lejos de la Cordillera Central y á unos 20 kilómetros de la costa. De la parte S de la Provincia de Cagayán, al E de la Cordillera, se dice que causó daños en algunas Iglesias, pasaría de fuerza VII, pero no se expresa en cuales: es probable fueran las de los pueblos próximos á la Cordillera: fué violento y tuvo larga duración en Tuguegarao y Cabagán que distan unos 80 kilómetros de ella. Tanto en Ilocos Norte como en los pueblos citados de Cagayán las oscilaciones principales fueron en el rumbo E–W. En la parte N y NE de Cagayán apenas llegaron las sacudidas á fuerza VI: en Ilocos Sur y en la Unión su intensidad no pasó de fuerza V, y las oscilaciones parecían proceder de hacia el N. En las otras provincias del centro de Luzón se sintió también el temblor, pero con fuerza decreciente, de manera que en Manila, distante unos 360 kilómetros, solo se percibieron débiles sacudidas. Es muy probable que las ondas llegasen á ser perceptibles hasta las costas de Batangas y la parte oriental de Tayabas, comprendiendo así, en la dirección N–S un área de un radio de cerca de 500 kilómetros. Hubo innumerables aftershocks durante la primera hora después del terremoto: á 9 a. m. ocurrió uno muy intenso, perceptible en gran parte de Luzón, hasta el paralelo de Manila.

Todos estos datos parecen persuadir que el origen del terremoto se hallaba realmente en la sección norte de la Cordillera Central y en la porción de ella situada entre Ilocos Norte y la parte S de la Provincia de Cagayán. El área meizoseísmica ó de mayor violencia debió tener una extensión de unos 100 kilómetros en la dirección WNW–ESE y de unos 70 kilómetros en la de NNE–SSW. Esta área, aunque grande, estuvo en su mayor parte comprendida en la región menos habitada del N de Luzón y así no es extraño no existan más datos; su centro puede colocarse hacia los 121° longitud E y 18° latitud N, situación que corresponde al SE de la montaña Pagsan, característica por su altura (2213 metros ó 7260 piés) y por constituir un centro principal de esta sección de la Cordillera, de donde arrancan otras secundarias que se dirigen una al SW y otra al NE, siendo así la región más accidentada de esa parte de Luzón.

[1] "Volcanoes and Seismic Centers of the Philippine Archipelago," pag. 72.

[2] Areas II, III; mapa publicado en el Boletín de Febrero, 1909.

TERREMOTO DEL 9 DE OCTUBRE DE 1904.

Tuvo lugar á 2^h 36^m. Á juzgar por las observaciones enviadas de las provincias de ambos Ilocos, situadas al W, y de la de Cagayán, situada al E de la Cordillera, el área de intensidad VII y VIII se extendía á través de la misma en dirección próximamente de WNW á ESE, desde la Provincia de Ilocos Norte á la parte sur de Cagayán. Tanto en las estaciones del E como en las del W de la Cordillera acompañaron al terremoto ruidos subterráneos procedentes al parecer de hacia ella. La forma prolongada del área de mayor intensidad, así como su dirección, parece deducirse racionalmente de las notas recibidas de las provincias citadas. De ellas consta que al W de la Cordillera el terremoto tuvo fuerza VII en Laoag y en los pueblos situados cerca de la Cordillera, mientras que al E de la misma la fuerza VII se encuentra en Tuguegarao y pueblos situados hacia la misma Cordillera: Laoag y Tuguegarao distan entre sí unos 130 kilómetros en línea recta que corre en dirección WNW–ESE. En las estaciones de Vigan y Aparri distantes entre sí unos 150 kilómetros en línea de SW á NE, la intensidad escasamente pasó de V. Del interior de la Cordillera no hay dato ninguno, ni es posible obtenerlo por ser aún en 1904 una de las regiones más desconocidas y deshabitadas de Luzón: mas suponiendo por inducción que el foco de este terremoto estaba en la Cordillera, su situación debe colocarse hacia el S ó SE pero á poca distancia de la montaña Pagsan.

Las ondas séismicas fueron sentidas y registradas en Manila, de manera que conservaron suficiente amplitud para ser perceptibles hasta una distancia de más de 360 kilómetros. En el seismograma trazado por el microseismógrafo Vicentini se ve que á los movimientos perceptibles precedieron movimientos precursores de dos clases: una primera serie de movimientos rápidos de poquísima amplitud pero uniforme, que duraron unos 45 segundos, y otra de movimientos igualmente rápidos pero de amplitud creciente, por espacio de 8 á 12 segundos, hasta que adquirieron la suficiente para ser perceptibles. En éstos se distinguen como cuatro choques principales. La componente vertical tuvo gran intensidad, presentando en el seismograma casi la misma amplitud que las horizontales, y esto ocurrió tanto en el terremoto principal como en los débiles aftershocks registrados á 2^h 58^m, 3^h 5^m, y 3^h 14^m: el origen por consiguiente se hallaba á gran profundidad. Estos aftershocks hicieron que el movimiento de los péndulos no cesase del todo hasta una hora después.

Respecto de la distancia del epicentro á Manila, si tomamos los 45 segundos que duraron los movimientos más débiles y uniformes como duración de los *primeros* movimientos *preliminares,* y aplicamos la conocida fórmula de Omori: $x^{km}=7.27y^{sec}+38^{km}$ hallaremos la distancia de 365 kilómetros, que es lo que dista el punto cuyas coordenadas dimos más arriba, determinándolo allí por medio de las diferentes intensidades observadas en las estaciones de Ilocos Norte y de la parte S de Cagayán. Si tomamos la hora en que empezaron á agitarse los microseismógrafos de Manila, es á saber, 2^h 36^m 36^s (=T), y con el mismo valor de 45 segundos para "y" aplicamos la otra fórmula de Omori: $T^o=T-1.165y^s$, que sirve para determinar la hora del terremoto en el origen, resultará la hora 2^h 35^m 44^s. De manera que el movimiento empleó 52.4 segundos para salvar la distancia de 365 kilómetros, lo cual representa una velocidad de 7 kilómetros por segundo; que es precisamente la que suele encontrarse para distancias de 300 á 400 kilómetros.

Fuera del Archipiélago este terremoto se registró en 25 diferentes estaciones seismológicas situadas á distancias variables entre 3,200 (Batavia) y 12,000 kilómetros (San Fernando, España).[1]

Escogeremos los datos más completos de algunas de estas estaciones para determinar la velocidad de propagación de las diferentes clases de ondas, tomando como hora del terremoto en su origen la calculada más arriba: 2^h 35^m 44^s (=18^h 35^m 44^s del 8 de Octubre, tiempo de Greenwich).

Estación.	Distancia.	V_1	V_2	V.
		Km. p. s.	*Km. p. s.*	*Km. p. s.*
Batavia	3,200	8.7	4.9	3.4
Irkutsk	4,100	9.3	5.3	3.3
Tashkent	5,600	9.9	5.8	3.6
Tiflis	7,700	10.5	6.3	3.6
Strassburg	10,300	12.9	7.1	4.3

[1] "Katalog der im Jahre 1904 Registrierten Seismischen Störungen"; von Elmar Rosenthal, pág. 26.

TERREMOTO DEL 25 DE MAYO, 1907.

Este terremoto ocurrió á 23^h 52^m del día 25. Tuvo intensidad VIII en Ilocos Norte, VII en la parte S de Cagayán y tan solo V en la parte N de esta provincia y en Ilocos Sur. El área de mayor intensidad tuvo por consiguiente la misma forma y orientación que en el terremoto de 1904, pero su extensión era algo mayor hacia el WNW, puesto que tuvo intensidad VIII en Laoag. El área de movimientos perceptibles se extendió también hacia el S hasta el paralelo 14°. No fué seguido de aftershock ninguno perceptible; el día 4 del mismo mes se habían experimentado en la misma región, entre 4^h 36^m y 6^h 36^m, cuatro temblorcitos de intensidad III y otro á 22^h 0^m, procedentes sin duda del mismo origen.

En los seismogramas trazados por los diferentes seismógrafos del Observatorio se ve que antes de los movimientos perceptibles precedieron ondulaciones rápidamente crecientes por espacio de 43 segundos; las cuales si se tomaran como movimientos preliminares colocarían el origen á solos 343 kilómetros distante de Manila, lo cual no concuerda con los otros datos. Los movimientos perceptibles tuvieron mucha mayor amplitud que en el terremoto de 1904, pero la diferencia entre la amplitud de la componente vertical, relativamente pequeña, y la de las componentes horizontales fué mucho mayor que en aquél. Este dato y haber sido más súbitos los movimientos perceptibles sin preceder la serie de primeros movimientos preliminares registrada en 1904 parecen indicar que el origen de este terremoto era más superficial que el de aquél, siendo probablemente el epicentro el mismo.

Esto explicaría también porque habiendo desarrollado mayor intensidad que aquél tanto en la región epicéntrica como en Manila, sin embargo, no se propagó tan fácilmente fuera del Archipiélago. No debió ser con todo este terremoto de origen tan superficial, como indicamos en el Boletín Seismológico de Mayo de 1907. Allí por no verlo registrado en el Boletín Seismológico de Zi-ka-wei, ni en algunos pocos recibidos de Europa, lo consideramos de carácter muy superficial y local; mas luego que fueron llegando más publicaciones del extrangero reconocimos que se había en efecto registrado á grandes distancias. Sin embargo, solamente los seismógrafos de Göttingen, á 10,000 kilómetros de distancia, registraron los diferentes *movimientos preliminares* y *los principales;* en algunos otros Observatorios se registraron tan solo los *movimientos principales* y en otros nada. En Batavia y Calcutta, que distan del epicentro de 3,000 á 4,000 kilómetros tampoco se registraron más que los movimientos de la parte principal.

No parece poder dudarse de que los tres terremotos descritos tuvieron el mismo epicentro y que éste debe situarse en las vertientes S y SE de la montaña Pagsan.

Debido á las condiciones especiales de esa región son pocos los datos disponibles referentes á los movimientos séismicos de menor importancia y que con frecuencia deben afectarla. Del Catálogo publicado en el Boletín de 1908, solamente pudimos entresacar 38 temblores de tierra originados con toda probabilidad en dicho centro. En el siguiente cuadro están ordenados según los grados de la escala Rossi-Forel.

Años.	II-III.	IV.	V.	VI.	VII.	Total.
1890–1898	5	8	8	2	0	23
1902–1908	6	6	1	0	2	15
Total	11	14	9	2	2	38

No habiendo existido nunca ni en la misma Cordillera Central ni cerca de ella estación meteorológica, el origen de estos temblores se ha deducido comparando las notas recogidas en las estaciones de Aparri, Tuguegarao, Laoag y Vigan. Estas cuatro estaciones, situadas las dos primeras al E y las dos segundas al W de la Cordillera, forman un cuadrilátero que encierra el sistema montañoso de Pagsan.

Las distancias aproximadas que separan estas estaciones entre sí son: 135 kilómetros de Vigan á Tuguegarao, en dirección próximamente de W á E; 80 kilómetros de Tuguegarao á Aparri, dirección SSE–NNW; 105 kilómetros entre Aparri y Laoag, dirección ENE–WSW; 75 kilómetros entre Laoag y Vigan, dirección NNE–SSW. El centro séismico, según se indicó más arriba parece estar muy cerca de la línea diagonal que une los vértices Laoag y Tuguegarao. Laoag es la estación más próxima al supuesto centro pero dista aún unos 50 kilómetros. De todo esto es prudente deducir que la lista anterior solo contiene los temblores principales originados en dicho centro y por consiguiente deben ser en esta parte de Luzón mucho más frecuentes de lo que representan las sumas. Á esta misma conclusión parece conducir el hecho de que el número de temblores de los grados II y III, no resulte mucho mayor, como sucede en todos los países, que el de los de intensidad IV.

Con lo dicho creemos quedar demostrada, en cuanto es posible con los datos actualmente disponibles, la existencia y situación de un centro séismico en la parte norte de la Cordillera Central de Luzón. Todo parece probar que está entre Tuguegarao y Laoag. Según se indicó antes, la línea imaginaria que une Laoag y Tuguegarao pasa á poca distancia por el sur del macizo montañoso Pagsan el más elevado de la sección N de la Cordillera Central. Faltan datos tanto fisiográficos como geológicos precisos para indicar los accidentes y dislocaciones de esa región. Lo que llama la atención en los mapas ordinarios es ver que precisamente de la parte sur del Pagsan, arrancan de la Cordillera principal, cuya direción general es de S á N, dos ramificaciones singulares. Del lado W parte en dirección al SW una serie de macizos montañosos de bastante altura (1,890, 1,460 y 1,280 metros ó sea 6,200, 4,800 y 4,200 piés) la cual se alarga hasta la costa del mar de la China, separando Ilocos Norte de Ilocos Sur y de Abra. Hacia el E arranca otra cordillera, de menos importancia que la del W, la cual recurvando acaba por dirigirse al NE, con un desarollo total de 50 kilómetros.

BULLETIN FOR MAY, 1909.

METEOROLOGICAL BULLETIN FOR MAY, 1909.

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

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure for this month is generally somewhat higher than that for May, 1908, especially in northern Luzon, where the differences are more pronounced. The monthly mean for Manila differs from the normal by —0.28 millimeter, although it is 0.32 millimeter above the monthly mean for May, 1908. The highest pressures were observed in all our stations on the 23d, whereas the lowest readings were generally recorded on the 30th.

The monthly mean of temperature does not differ much from both the normal and the monthly mean of last year. The absolute maximum for Manila has been 35.8° C. and the absolute minimum 21.9° C. The former was registered on the 7th and the latter on the 1st and 21st.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS MAY, 1909.

Station.	Pressure.						Temperature.					
	Mean.	Departure from May, 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from May, 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.98	+0.15	759.63	23	756.77	30	28.0	0	34.3	5	23.2	15
Surigao	58.26	+ .19	59.96	23	56.68	30	26.9	— .8	32.5	25	22.1	17
Cebu	58.19	+ .18	59.78	23	56.62	30	28.3	+ .4	33	15, 25	23	17
Iloilo	58.12	— .06	59.76	23	56.67	30	28.1	+ .4	35.4	2	22.6	21
Ormoc	58.17	— .03	59.70	23	56.48	30	26.5	0	34.4	19	19.7	15
Tacloban	58.61	+ .31	60.13	23	57.05	30	28.1	+ .3	35	24	23.9	1, 17
Capiz	----	----	----	----	----	----	27.9	+ .3	33.4	21	----	----
Calbayog	58.73	+ .34	60.26	23	57.20	30	26.4	— .6	33.9	24	21.8	20
Legaspi	58.44	+ .29	60.10	23	57.10	8	28.4	+1	34.1	27	21.6	16
Atimonan	58.22	+ .26	60	23	57	30	28.1	+ .2	35	15	23	20
Manila	58.11	+ .32	59.72	23	56.94	30	28.2	+ .9	35.8	7	21.9	1, 21
Olongapo	58	+ .47	59.58	23	56.69	31	27.7	+ .5	36.6	7	22.4	1
San Isidro	58.02	+ .21	59.70	23	56.87	8	28.1	+ .7	36.6	5, 7	22.1	13
Dagupan	57.95	+ .62	59.57	23	56.75	30	28.5	+ .5	38.4?	19	21.1	24
Bolinao	58.04	----	59.67	23	56.77	30	28.3	----	33.7	26	23.3	1
Vigan	58.09	+ .77	59.73	23	56.67	30	28.3	— .3	34.5	6, 8	21.4	22
Tuguegarao	58.13	+ .83	59.61	23	56.93	8	28.4	— .1	38.1	22	21.8	5
Aparri	58.49	+ .80	59.93	23	57.24	26	27.4	+ .2	35.5	19	22.6	5

Precipitation.—As shown by the following table, 25 stations have reported a total amount of rainfall below that of the preceding year, while only 16 appear with a monthly amount above it. The quantity of water collected by the rain gauges at the Central Observatory differs from that of May, 1908, by —9 millimeters and from the normal of this month by —12.4 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF MAY, 1909.

Station.	Total.	Departure from May, 1908.	Rainy days.	Departure from May, 1908.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from May, 1908.	Rainy days.	Departure from May, 1908.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	103.7	− 88.4	15	+ 1	21.8	21	Sumay, Guam	60.3	-------	13	-----	14.0	22
Isabela, Basilan	142.8	+ 43.2	21	+12	37.1	25	Calapan	297.7	-------	17	-----	114.3	9
Zamboanga	97.6	-------	11	-----	41.4	21	Legaspi	86.3	− 55.4	12	− 6	16.8	5
Davao	337.8	+ 75.8	15	+ 6	33.8	20	Virac	151.7	+ 67.7	23	+10	26.2	9
Cotabato	165.8	-------	12	-----	38.1	28	Nueva Caceres	133.1	-------	10	-----	30.5	30
Cagayan	76.6	-------	16	-----	19.6	25	Batangas	185.1	− 42.8	13	− 2	41.4	17
Dapitan	23.1	+ 9.7	6	− 1	8.9	9	Atimonan	262	+ 52.9	12	− 6	50.6	17
Butuan	97.6	+ 36.3	16	+ 5	25.1	8	Silang	260.8	− 15.9	10	−12	44.2	26
Tagbilaran	56.9	+ 9.5	7	− 2	21.3	6	San Antonio, Laguna	121.9	− 39.1	12	− 1	27.9	1
Surigao	83.3	+ 15.7	15	+ 3	19.3	11	Manila	98	−378.5	12	− 9	58	10
Maasin	69.6	− 3.5	5	+ 3	32.3	7	Olongapo	183.6	−254.5	17	− 1	45.5	10,27
Cebu	42.5	− 20.8	7	− 3	17.8	7	San Isidro	122.7	−281	15	− 6	22.6	7
Iloilo	170.1	− 51.8	17	0	33.5	28	Tarlac	243.3	−103.2	20	− 1	61	5
San Jose, Buenavista	290.9	− 22.5	22	+ 4	45.5	30	Dagupan	206.1	−134	15	− 5	46	24
Tuburan	40.7	− 15.5	5	0	17.3	16	Bolinao	339.4	+ 12.2	16	− 1	76.5	12
Ormoc	56.7	− 7	9	− 6	22.9	8	Baguio, Benguet	471.7	−113.9	21	− 2	141.7	14
Tacloban	106.1	− 12.9	16	+ 2	43.4	29	San Fernando, Union	264.4	+ 49.4	13	0	35.6	28
Capiz	244.1	+ 97.1	17	+ 2	52.3	9,23	Echague	219.4	+ 1.9	15	− 3	45.5	25
Borongan	195	+ 39.5	17	+ 6	36.1	20	Candon	264.7	− 2.6	17	+ 7	67.8	14
Calbayog	188.8	+ 54.3	18	+ 3	31.2	9	Vigan	156.2	−177.1	15	+ 3	26.9	14
Palanoc, Masbate	84.4	+ 1.8	9	− 4	41.9	9	Tuguegarao	128.7	+ 86.8	14	+ 7	29	25
Romblon	129.6	−130.1	18	+ 2	55.4	26	Laoag	145.3	−152.6	12	+ 1	37.3	26
Laoang	95.3	+ 21.3	22	+11	18	21	Aparri	171.1	−167.4	14	+ 1	28.2	1
Gubat	105.5	− 33.7	8	− 5	54.1	9	Sto. Domingo, Batanes Is.	180.3	−209.2	16	− 2	44.7	27

DEPRESSIONS AND TYPHOONS.

No depression or typhoon has crossed the Philippines during this month; and those low-pressure areas which moved at some distance from the Archipelago had very little influence upon the weather conditions in our stations. Two of these acquired some importance by their subsequent development prior to crossing Japan or passing closely to it. These appeared in the early morning of the 15th over the Eastern Sea and in the neighborhood of Formosa, respectively. Both moved northeastward with great rapidity and increasing intensity. The tracks of these depressions or cyclones have been published in the "Journal of the Meteorological Society of Japan" for June, 1909.

Toward the end of the month there were signs of another depression over the China Sea in the neighborhood of the Paracels and the coast of Annam; but the few data which we possess are not sufficient to ascertain the existence of a true cyclonic depression, much less to draw its path.

From Hongkong Observatory we received on the 30th and 31st the following depression or typhoon warnings:

May 30, 7.30 p. m.: Typhoon (or depression) E of Paracels; direction of motion unknown.

May 31, noon: Typhoon (or depression) SW of Paracels, moving W.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes es generalmente algo mayor que la de Mayo 1908, especialmente en el norte de Luzón donde las diferencias son más pronunciadas. La de Manila, aunque es también mayor que la del año pasado en 0.32 mm., con todo, difiere de la normal de Mayo en —0.28 mm. El día de mayor presión en Filipinas fué el 23. Las menores presiones se observaron en la mayor parte de nuestras estaciones el día 30.

La temperatura media mensual se diferencia muy poco así de la normal de este mes como de la media mensual de Mayo 1908. La máxima absoluta de Manila ha sido 35.8° C., y la mínima absoluta, 21.9° C., habiendo sido registrada aquella el día 7 y ésta los días 1 y 21.

Precipitación acuosa.—Examinando el cuadro que como de costumbre acompaña el texto inglés, hallamos 25 estaciones con un total mensual de lluvia inferior al del año pasado, y solas 16 con un total superior. La cantidad de agua recogida en los pluviómetros del Observatorio Central difiere en —9 mm. de la de Mayo 1908 y en —12.4 mm. de la normal de este mes.

DEPRESIONES Y TIFONES.

Durante este mes no se ha observado ninguna depresión ó tifón que cruzase las Filipinas; y aun las depresiones que han aparecido á alguna distancia, han afectado muy poco las condiciones del tiempo en nuestro Archipiélago. Las más importantes, por haber llegado á adquirir notable desarrollo cuando se hallaban en Japón ó no lejos de él, fueron las dos que aparecieron en las primeras horas del día 15, una en el Mar del Este y otra en los alrededores de Formosa. Ambas se dirigieron hacia el NE. con gran rapidez, aumentando al propio tiempo notablemente en intensidad. Véanse las trayectorias de ambas depresiones ó ciclones en el "Journal of the Meteorological Society of Japan" para el mes de Junio 1909.

Á fines de este mes hubo indicios de otra depresión en el mar de China en los alrededores de Paracels y de la costa de Annam; pero los datos que poseemos no son bastantes para asegurar que fué una verdadera depresión y menos para trazar su trayectoria. Del Observatorio de Hongkong recibimos los siguientes anuncios de tifón ó depresión los días 30 y 31:

Día 30, 7.30 p. m.: Tifón (ó depresión) al E de Paracels; dirección desconocida.
Día 31, 12 mediodía: Tifón (ó depresión) al SW de Paracels, moviéndose al W.

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.	Air temperature.[2]			Underground temperature.						Relative humidity, mean.	Vapor pressure, mean.	Evaporation.[2]	
		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	757.96	27.7	33.7	21.9	30.4	32.5	30.9	31.1	29	28.1	70.4	19.2		3.5
2	58.27	28.9	35.7	23	30.3	33.6	30.7	31.5	29	28.1	64	18.4		4.4
3	58.45	28.7	35.3	22.6	30.4	33.4	30.8	31.4	29	28	66.5	19.2		4.2
4	58.43	28.1	35.2	23.2	31	33.6	31	31.5	29.1	28.1	70.5	19.7		3.3
5	57.73	28	35.3	22.5	30.9	33.9	31.1	31.7	29.1	28.1	74.5	20.6		2.7
6	57.39	28.2	35.1	23.3	30.8	33.8	31.3	31.7	29.1	28.1	76.4	21.5		3.1
7	57.36	28.3	35.8	23.6	31.1	33.8	31.2	31.8	29.3	28.2	75.2	21.2		3.2
8	57.02	28.8	33.8	23.3	31.1	33.5	31.3	31.7	29.3	28.2	73.6	21.4		3.3
9	57.54	27.6	34.9	23.8	31.2	34	31.3	31.9	29.3	28.4	78.7	21.3		3
10	58.70	25.6	31.5	23.3	30.5	30.8	31.1	31.2	29.3	28.2	90.9	22		.6
11	59	27.6	34.3	22.8	29.4	32	30.5	31	29.3	28.2	82.8	22.4		2.1
12	58.75	27.7	33.4	23.9	30.2	32	30.6	31	29.3	28.3	80.7	22		2.4
13	58.03	27.4	32.9	24	30.2	31.7	30.8	30.9	29.3	28.3	80.4	21.7		1.7
14	57.92	28.3	34.9	23.6	29.9	32.4	30.6	31	29.3	28.3	76.5	21.6		2.5
15	57.99	28.6	34.6	23.6	30.1	32.6	30.7	31	29.3	28.3	77.2	22.1		3.5
16	58.43	28.8	34.6	24.4	30.8	32.7	31	31.3	29.3	28.6	76.3	22.1		3
17	58.75	27.4	32.1	24.2	30.8	32.1	31	31.2	29.4	28.3	84.2	22.7		1.6
18	58.99	28.5	33.8	24.1	30.1	32.3	30.7	31.1	29.3	28.3	81.2	23.2		2.7
19	58.72	28.5	33.8	24.3	30.8	32.9	30.9	31.1	29.4	28.4	78.4	22.4		2.9
20	58.02	28.5	35.4	23.4	30.8	33.2	31	31.5	29.4	28.6	70.5	20		4.1
21	58.13	29	35.4	21.9	30.9	33.1	31.1	31.5	29.5	28.5	65.6	19.2		4.6
22	58.88	29	35.3	23.8	31.4	33.2	31.6	31.9	29.5	28.5	70.2	20.5		3.9
23	59.72	29.1	35.7	23.6	31.3	33.4	31.3	31.8	29.6	28.7	75	22.1		3.6
24	58.64	29	34.7	23.5	31.2	33.3	31.4	31.6	29.5	28.6	71.5	21		3.6
25	57.68	28.9	34.3	24	31.4	33.1	31.5	31.8	29.6	28.6	74.8	22.1		2.7
26	57.66	28.4	32.6	24.6	31.3	32.3	31.5	31.6	29.7	28.7	81.9	23.4		2
27	57.74	28.7	33	24.4	31	33	31.4	31.6	29.7	28.8	78.1	22.6		3.1
28	57.53	27.8	33.4	24.1	30.6	33	31.3	31.6	29.7	28.7	78.9	21.8		2.3
29	57.86	27.1	32.8	24	31	32.8	31.4	31.8	29.8	28.8	82.4	21.8		1.3
30	56.94	26.9	31.3	23.4	30.3	31.4	31	31.3	29.8	28.8	80.8	21.1		2.7
31	57.03	28	34.7	22.9	29.4	32	30.6	31	29.6	28.7	72.9	20.1		3.9
Mean	758.11	28.2	34.2	23.5	30.7	32.8	31.1	31.4	29.4	28.4	76.2	21.3		3
Total														91.5
Departure from normal	—0.28	—0.3	+0.8	—0.5							+0.1	—0.5		

Date.	Wind.				Clouds.					Sunshine.		Rain, 24 hours beginning midnight.	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	NE quad.	148	18.5	NNE	5.8	Ci.-S.		Cu.	ESE	8	20		≡ a. ⊕ ☈ ⌽° p.
2	ESE	152.5	18.5	ESE	5.5	Ci.-S.		Cu.	E by S	9	45		≡° a. ⊤ ⌽ p.
3	W	193	18	W	4	Ci.		Cu.	E	10	45		≡° a. ☈ p.
4	NE quad.	172	19	NW	5.6	Ci.-S.		Cu.		8	20	.3	≡° a. ☈ ⌒ ●° p.
5	Variable	171.5	17	NW	4.7	Ci.-S.		Cu.		9	40	5.1	≡° a. ☈ ⌒° ● p.
6	Variable	145.5	14.5	SSW	5.8	Ci.-S.		Cu.		10	00		≡° a. ☈° p.
7	N	185.5	17	W	6.2	Ci.-S.		Cu.		8	25		≡° a. ☈^{2} ●° p.
8	N, SSE	177	15.5	W	6.1	Ci.-S.		Cu.	E	9	45	.5	≡° ● a. ☈° ⊤ p.
9	W NNE	233.5	26.5	E	6	Ci.-S.		Cu.		9	20	3.5	≡° a. ☈^{2} ● d p.
10	NNW	147	25	NE	9.4	Ci.-S.		N.	E	2	25	58	● a. p. ☈ p.
11	Variable	116.5	16	S	7.3	Ci.		Cu.	E	4	45		≡° a. ☈ p° p.
12	E, N	143.5	15.5	SW	8.3	Ci.-S.		Cu.	ESE	6	55	5.3	≡° a. ☈ ● p.
13	WNW	134.5	15.5	SSE	7.8	Ci.-S.		Cu.	SE	4	50	.7	≡° a. ☈° ● p.
14	Variable	131	15	W	6.6	Ci.-S.	S	Cu.	E	6	45		≡° a. ☈ p.
15	SW by W	193	20	SW by W	5.5	Ci.-S.	NE	Cu.-N.	SE	8	40		≡° a. ∞ p.
16	WSW	161.5	15.5	WSW	8	Ci.	NE by N	Cu.	NW by N	7	25	7.5	Ω° ⌒ a. ● p. ◯°
17	N	151.5	13	N	7.5	Ci.	E	Cu.	NNE	4	50	4.8	≡° ∞ a. ● ☈° p.
18	W quad.	189.5	18	WSW	8.7	Ci.-S.	ENE	Cu.	SE by E	5	50		≡° a. ⊤° p.
19	E, WNW	137	16	NW	5.1	Ci.-S.	E by S	Cu.	E	9	00		≡° a. ∞^{2} < p.
20	ESE, W	183	16.5	SE by E	2.4	Ci.		Cu.	E	9	55		Ω ≡° a.
21	SE	198.5	15.5	ESE	2.1	Ci.		Cu.		11	10		≡° a. ⌒ ⊤° p.
22	SE	237.5	20.5	SE	3.4	Ci.		Cu.		9	15	4.8	≡° a. ☈ ● p.
23	SSE	201.5	22.5	SE	4.8	Ci.-S.	SW	Cu.	ESE	8	10		≡° a. ☈ p.
24	ESE, NW	182.5	16.5	NW	5.3	Ci.-S.	E	Cu.	E	7	45		≡° a. ☈ p.
25	N, SSW	215	17	WNW	8.6	Ci.-S.	NNW	Cu.		4	30		≡° ◯^{2} a. ☈ p.
26	WSW	199.5	22	SW	9.4	Ci.-S.	ESE	Cu.-N.	SW	3	45	1.4	≡° ☈ a. ● ⊤ p.
27	SW	257	31.5	WSW	7.6	Ci.-S.	NE	Cu.		6	25		≡° ◯^{2} a. ☈ p.
28	NW, SSE	167	20	NW	8.2	A.-Cu.	W	Cu.-N.	SE	3	05		≡° d° a. ☈ p.
29	Variable	137.5	20.5	SSW	9.7	Ci.-S.	E by N	Cu.	SE	3	10	6.1	≡° ◯ a. ● p. ☈
30	NE, ESE	155.5	17	E by S	7.7	Ci.-S.	NW by N	S.-Cu.	SE	0	30		≡° a. d ⌽ < p. ◯
31	ESE	181	16	SE	7.7	Ci.-S.	NW	Cu.	ESE	6	15		≡° ⊕ a.
Mean		174.2	18.4		6.5					7	05		
Total										219	40	98	
Departure from normal		—56.1			+0.9					—14	19	—12.4	

[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. 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	757.44	28.1	32.9	23.3	73	NNE, WNW	1.8	6	Ci.-S SW	Cu. NE, E	------	⊍ p.
2	57.89	28.2	34.2	24.1	73.8	Variable	1.3	6	Ci.-S.	Cu. E	------	↯ p.
3	57.75	28.8	33.7	24.4	71.8	Variable	1.8	4.5	Ci.-S. WSW	Cu. E, NE	------	⊕° p.
4	57.70	28.9	34	24.4	72.2	Variable	2	3.8	Ci.-S.	Cu. E	------	⌈↯ a.
5	57.22	29	34.3	24.3	74.4	SE	1.7	5.8	Ci.-S.	Cu. E	------	⌈↯° a. ⊍² p.
6	56.81	28.9	33	24.1	75.8	SE	1.5	8	Ci.-S. S	Cu., Cu.-N. E	21.3	⌈↯² ↯ ⊍ p.
7	56.95	27.8	30.5	24.4	82.7	SE	1.2	10	A.-Cu.	Cu.-N., N. NE	.3	⌈↯ ●² a. ●° p.
8	57.01	27.7	29.8	24	81.7	SE	1.5	9.7	A.-Cu.	Cu.-N. S, E	3.6	⊤° a. d ⌈↯° ↯ p.
9	57.82	27.8	32.2	24.3	81.7	SE	1.5	9.5	A.-Cu. E	Cu.-N. S, SE	------	d² a. ⊤° p.
10	58.68	27.5	30.4	24.4	81	N quad.	1.5	7.7	Ci.-S.	Cu.-N. SE, ESE	------	
11	58.86	27.7	33.6	23.8	79	N quad.	1.2	7.8	Ci.-S.	Cu., Cu.-N. SE, E	3.6	● p.
12	58.33	28.1	32	24.2	81.2	NNE, WNW	1.7	6.8	Ci.-S.	Cu.-N. E	------	⌈↯°
13	57.82	27.9	30.8	24	76.2	SE	2	6.5	Ci.-S.	Cu. E	------	↙ a.
14	57.80	27.6	30.5	23.3	77	SE	1.7	5	Ci.-S.	Cu. E	------	
15	58.06	28	30.9	23.2	73.8	SE	2.2	3.3	Ci.-S.	Cu. E, N	------	↯² p.
16	58.87	27.4	30.5	23.4	78.8	SE	1.3	9.2	A.-Cu.	Cu.-N. Variable	10.4	⊤ ● p.
17	58.97	27.8	30.3	23.3	79.7	SE	2	7.5	Ci.-S.	Cu. WSW	15.5	⊤ ↯² p.
18	59.01	27	30.7	23.3	83	Variable	2.2	6.5	Ci.-S.	Cu. E	.8	● a. p. ⌈↯² p.
19	58.56	27.6	33	23.5	78	Variable	2	5.2	Ci.-S.	Cu. E	------	↯ p.
20	57.96	27.8	32.2	24.1	78.1	SE	1.8	7.5	Ci.-S.	Cu.-N. ENE	------	↯² p.
21	58.02	28.1	30.7	24	74.5	SE	2.3	7.2	Ci.-S.	Cu. E	------	⊤ ↯ p.
22	58.69	28.3	32.3	24.5	76.8	SE	2	4.7	Ci.-S.	Cu. ENE, E	------	↯° p.
23	59.63	28.3	32.4	23.9	75.8	NNE, SE	1.7	4.5	Ci.-S., A.-Cu.	Cu. SE, NE	------	
24	58.49	28.4	32.1	23.9	77.3	SE	1.8	6.7	Ci.-S.	Cu.-N. E, NE	------	⊤° a.
25	57.84	28.5	31.9	24.3	79	SE	2.3	6.8	Ci.-S.	Cu. E	------	⊤° p.
26	58.04	28.3	30.7	25.8	79.3	SE	1.8	6.5	Ci.-S.	N., Cu. E	1.4	●° a.
27	57.98	27.9	30.7	24.8	82	NNE, SE	1.7	6.8	Ci.-S.	Cu.-N. E, WSW	------	● a. ⊤ p.
28	57.76	27.8	33.9	23.9	78.8	NNE, SE	1.5	7.8	Ci.-S.	Cu. E	------	⌈↯ d° ↯² p.
29	57.46	28.3	31.2	24.5	77.2	NNE, SE	1.7	8.8	Ci.-S.	Cu., Cu.-N. NE, E	------	⊤° p.
30	56.77	27.4	31.9	23.7	79.5	NE quad.	1.8	8	Ci.-S.	Cu. E	------	⌈↯ p.
31	57.16	27.9	31.4	24.2	78.4	SE	1.7	7	Ci.-S.	Cu. E quad.	------	⌈↯ ↯² p.
Mean	757.98	28	31.9	24	77.8	------------	1.7	6.8	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	56.9	

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. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	757.88	27	31.5	22.8	82.8	ENE	1.5	4.7	Ci. N	Cu. E	------	Ω² d° a. Ω² p.
2	58.43	26.3	30.2	23.5	87.3	NNE	.7	7.2	A.-Cu. NW	N.-cf. E	1.5	Ω° ≡ d. a. ⌈↯ ↯° p.
3	58.28	27.2	30.9	23.2	85.3	NE quad.	1.7	4	Ci. N	Cu. E	4.3	Ω² a. ●° Ω p.
4	58	27.4	31.2	24	86.7	N, NE	.8	4.7	Ci. N	Cu. E	1.3	●° a. Ω° p.
5	57.54	27 4	31.9	23.5	86.3	NE	.8	4.5	Ci. N	Cu. NE, NNE	3.6	Ω² ●° a. Ω° p.
6	57.21	27	31.5	24.6	89.7	ENE, NNE	.3	7.5	Ci. NE	Cu.-N NW	1.5	●° ≡ a. ⌈↯ ⊍ Ω² p.
7	57.12	26.6	30.4	23.9	88.7	Variable	.5	8.8	Ci. NE, N	C.-N N	------	Ω² ⌈↯ a. d° ↯ p. ⊍
8	57.12	26.6	31.1	23.4	88	N, ENE	.5	8	Ci. NW	Cu.-N. S	13.2	Ω² ⊍ a. ●² p. ○
9	58.03	26.2	31.4	23.6	89.8	E, SE	.3	8.5	A.-Cu. W	S.-Cu.	2.3	↯ a. d° p. Ω²
10	58.94	26	30.3	23.5	91.2	S, ENE	.3	6.2	Ci. N	Cu., N.-cf. NE	2.5	Ω² a. p. d° p.
11	58.99	26.8	31	23	88.3	NE	.8	4.7	Ci. NW	Cu. NE	19.3	Ω² a. ●° ↯² ⊤ p.
12	58.70	27.4	31.4	23	85.5	NE quad.	1	6.5	Ci.-S.	Cu. ENE	------	●² a. Ω p.
13	58.22	27.3	32	23.3	82.7	ENE	1	4	Ci. NE	Cu.	------	Ω² a. Ω° p.
14	58.17	27.2	31.1	23.5	83.9	E quad.	.7	4.2	Ci. NE	Cu. E	------	Ω² a. Ω° ↯ p.
15	58.23	26.8	31	22.7	86	Variable	.7	4.5	Ci.-Cu. ESE	Cu., S.-Cu	------	Ω² ↯ a. Ω° p.
16	58.88	25.2	29	23.8	91.5	S, ESE	.3	7.7	A.-Cu. SE	S.-Cu., N.-cf.	16.5	●² a. d° p. Ω
17	59.08	26.6	31.6	22.1	83.6	Variable	.5	2.2	Ci. E	Cu.	------	Ω² a. Ω° p. ↯ a. p.
18	59.27	27	32.1	23	85.8	S	1	4.2	Ci.	Cu. E	1.8	Ω² a. d° Ω° ↯² p.
19	59.10	26.5	31.2	23	85.2	E	.7	5.7	Ci. NE	Cu. E	3.3	d° a. ●° ↙° p. Ω
20	58.29	26.7	30.8	23.3	86.7	NE quad.	.8	5	Ci.-S. NE	Cu. SE	1.5	●² a. d° p.
21	58.45	27.3	31.1	23	81.3	E	1.2	4.5	A.-Cu. SE	Cu. E	------	p² a. Ω° ↯ p.
22	59.30	27.1	31.3	22.5	82.2	E	1.3	3	Ci. SE	Cu. E	------	Ω² a. Ω ↯² p.
23	59.96	27	31.2	23.5	85.2	S, ENE	.5	5.3	Ci.-S.	Cu. E	------	Ω² ↯² a. d° Ω° p.
24	58.96	26.7	30	23.9	87.7	NNW	.7	5.2	Ci.-S. SE	Cu. E	------	Ω² ↯² a. ○ ⊍ ↯ p.
25	58.21	27.7	32.5	24	82.7	Variable	.5	3	Ci.-S. NE	Cu.-N. E	------	d° Ω² a. ⌈↯ Ω° ⊽ p.
26	58.22	26.3	31.1	23.2	87.1	W, SSW	.5	3.3	Ci.-S. NE	Cu. E	1.3	Ω² a. ⌈↯ d. Ω° p.
27	58.23	27.2	31.1	23.5	84.3	NNW	.8	2.7	Variable E, NW	Cu. SW	------	Ω² a. Ω° p. ↯² a. p.
28	57.85	27.5	32.1	23.7	84.8	E	1	4.5	Ci., Ci.-S. NE	Cu.-N. E	1	Ω² a. ↯² Ω° p.
29	57.75	26	31.3	23.5	87.2	E, S	1.2	6.7	Ci.-S. NE	N.-cf., Cu.-N E	8.4	↯ Ω² d. a. ● p.
30	56.68	27.1	31.7	22.7	83.8	ENE, SE	1.2	5.7	Ci.-S. NE	Cu. E	------	≡° Ω² a. Ω° p.
31	57	27.4	32.4	23.6	82.2	E, SE	1.3	3.2	Ci.	Cu. NE	------	Ω² a. Ω° p.
Mean	758.26	26.9	31.2	23.3	85.9	------------	.8	5.2	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	83.3	

[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.			Rain, 24 hours beginning 6 a. m.	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	757.88	28.5	31.8	25.4	72.4	NE quad.	10.4	3	Ci.	Cu. ENE	------	Ω ≡° a. ⊍° p.
2	58.30	28.7	32.2	24.5	69.8	ENE	11.1	4.5	Ci.	Cu. E	------	Ω ≡° a. ☈ Ф p.
3	58.16	28.6	32.2	25.5	70.5	NE quad.	11.4	2.3	Ci.	Cu. ENE	------	≡° a.
4	57.96	28.8	32.5	25.7	69.4	E	10.1	2.8	Ci.	Cu. ENE	------	≡° a.
5	57.50	28.9	32.9	25.9	72.7	Variable	6.4	3.8	Ci.	Cu. E	------	⊍ ☇ p.
6	57.06	28.4	32.5	25.5	76.3	Variable	6.6	5.8	Ci.-S.	Cu. E, N	------	Ω° ≡° a. ☈ ☇ ⊍ p.
7	57.23	27.7	30.6	24.8	83.2	SSE	4.8	8.3	Ci.-S.	Cu.-N. ENE, NE	17.8	☈ a. p. ● ↙° p.
8	57.20	27.5	31.1	25.1	82.7	SSW	5	6.5	Ci.-S.	Cu.-N. ENE	1	☈ a. ☇ p.
9	58.10	26.9	31	25.3	82.2	S	4	7.3	Ci.-S.	Cu.-N. SSE	------	☈ ●° ≡° a. T ☇ p.
10	58.91	27.8	31.9	24.1	79.2	E	5.4	5.2	Ci.-S., Ci.	Cu.-N. SSW	------	Ω ≡° a.
11	58.91	28.4	31.9	24.9	77.2	SSE, E	7.9	4	Ci.	Cu. E	------	Ω² ≡° a. ☈ p.
12	58.65	28.2	31.9	25.7	75.7	ENE	6.6	4.7	Ci.-S.	Cu. E	------	≡° a. ∞ ☇ p.
13	58.07	28.4	31.8	24.7	74	NE quad.	9.3	3.8	Ci.	Cu. ENE	------	Ω° ≡° a. ☇ p.
14	58.02	28.4	32	24.5	74.3	ENE	8.2	3.5	Ci.	Cu. E	------	Ω° ≡° a.
15	58.16	29	33	24.8	70.5	SE, E	6.9	3	Ci.	Cu. NE	------	Ω° ≡° a. ☇ p.
16	58.97	27.1	30	24.6	81.2	SSW, E	5.5	8.3	Ci.-S.	Cu.-N. E	1.3	☇ ≡° a. d a. p.
17	58.98	27.4	31.9	23	79	SSE	5.7	5.7	Ci.	Cu., S.-Cu. E	------	☇ ≡° a. ☇ p.
18	59.16	28.2	32.7	24.3	76.3	Variable	7.1	4.2	Ci.	Cu. ENE	1.5	☈ a. p. ≡° a.
19	58.95	28.5	31.9	25.3	74	E	9.5	3.3	Ci.	Cu. ENE	------	☈ ● ≡° a.
20	57.98	28.2	31.7	24.8	73.8	E	9.5	4.2	Ci.-S.	Cu. ENE	------	Ω ≡° a. ☈ p.
21	58.39	28.7	31.7	26.4	72.5	E	10.6	4.8	Ci.	Cu. E	------	☇ ≡° a. ☈° p
22	59.10	28.4	32.2	24.8	69.1	ENE, E	9.3	2.7	Ci.	Cu. E	------	Ω ≡° a. ☇ p.
23	59.78	28.5	32.3	24.9	68.8	E	9.8	3.5	Ci.	Cu. ENE	------	≡° a. ∞ ☇ p.
24	58.58	28.7	32.2	25.4	68.2	S, E	7.7	3.3	Ci.	Cu. NE	------	≡° a.
25	58.04	29	33	25.5	69.8	E	6.8	4.7	Ci.	Cu. E	------	≡° a. ☇ p.
26	58.32	28.6	31.8	26	73.7	S	7.2	3.8	Ci.	Cu. E	9.9	Ω° ≡° ⌒ a. ☇ p.
27	58.17	28.6	32	25.1	74.3	Variable	6.8	4.7	Ci.	Cu.-N. WSW	------	☈ ● ≡° a. ☇ p.
28	57.82	28.9	32.5	23.8	71.9	E	8.5	6.3	Ci.-S.	Cu.-N. NE	6.9	☈ ⌒ a. ☈ ● ↙° p.
29	57.84	28.5	32.1	24.2	72.9	E	8.2	7	Ci.	Cu. E	------	☇ ≡° a.
30	56.62	27.5	30.8	24.9	76	NE	5.5	6.2	Ci.-S.	Cu., Cu.-N. E	4.1	☇ ≡° ● a. T p Ф p.
31	57	28.3	32.8	25	70.8	NE quad.	8.1	4	Ci.	Cu. E	------	Ω ≡° a. ☇ p.
Mean	758.19	28.3	32	25	74.3	----------	7.7	4.7	----------	----------	------	
Total	------	------	------	------	------	----------	------	------	----------	----------	42.5	

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 direction.	Force (mean).	Clouds amount (mean).	Upper.	Lower.	Rain.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	757.48	29.1	34.3	24.1	64.3	E	10.5	3.5	Ci.	Cu.	------	Ф a.
2	57.90	29.4	35.4	24.5	63.8	NE quad.	10.4	5.2	Ci.	Cu.	------	☇ p.
3	57.86	29.8	34.7	26.1	66.5	NE quad.	13.8	3.5	Ci.	Cu.	9.4	d° a. ☇ p.
4	57.79	29.4	34.2	25.1	67	NE quad.	10.8	6.8	Ci., Ci.-S.	Cu.	------	● a. ☇ a. p.
5	57.35	28.8	35	25.5	71.2	E, NW	7.3	7.5	Ci.-S.	Cu.	------	T° ☇ p.
6	57.14	28.8	35.2	25.4	73.8	N, E	6.5	8.8	Ci.	Cu.	------	Ф a. ☈ d p.
7	57.36	27	33	24.4	80.2	Variable	5.6	9.3	Ci.-S.	Cu., Fr.-N.	------	Ω° ☈ a. ☇ p.
8	57.23	27.2	33.4	24	81.6	N quad.	6.3	8.8	Ci.-S.	Cu.-N.	13.7	Ф a. ☈ ● p. ☇
9	57.99	26.6	30.8	24.5	86.2	WSW	6.3	9.3	Ci.-S.	N.	2	☈ a. p. ● p.
10	58.85	27.2	32.2	23.5	79.7	N quad.	4.3	6.3	Ci.-S.	Cu.	------	d a. ☈ p.
11	59.02	28.2	33.9	24	76.9	E	6.7	8.2	Ci.-S.	Cu.	20.6	Ω a. ● ☈ d p.
12	58.66	26.8	31.9	24.8	85.2	E	5.2	8.8	Ci.-S.	Fr.-N.	8.6	Ф ⊕ T a. ☈ p. ●
13	57.89	28.3	33.4	24.5	77.2	NW, SW	5.4	7.3	Ci.	Variable	1.5	● p.
14	57.92	28.7	34.6	24.5	66	E	6	6.7	Ci.	Cu.	------	☈ d° p.
15	58.08	29	34	25.4	75	SW, E	6.7	4.7	Ci.	Cu.	------	☇ p.
16	58.74	28.1	32.6	25	76	Variable	5.7	6.7	Ci.-S.	Cu.	------	
17	58.92	27.4	30.8	24.6	78.5	S, SW	8.4	7.7	A.-Cu.	S.-Cu., N.	3.3	●° a. ● ☇ p.
18	59.23	27.8	32.4	23.6	78.3	SW	5.7?	4.7	Ci.	Cu.	.3	≡ a. ●° ☇ p.
19	58.72	28.6	33.7	24.1	69.1	E, SW	7.7	3.8	Ci.	Cu.	------	
20	57.93	28.8	34.2	24.6	65.8	E, NE	7.6	5.8	A.-Cu.	Cu.	------	T° p.
21	58.14	27.8	34.1	22.6	76.3	Variable	8.2	7.5	Ci.	N, Cu.	22.6	☈ ● p.
22	58.93	28.5	34.1	23.4	74.7	E, NW	7.9	5.3	Ci.	Cu.	------	T a. ☇ p.
23	59.76	28.9	33.8	24	69.7	E, NW	6.4	5.5	Ci.	Cu.	.3	☇ a.
24	58.66	28.8	33.8	25.4	73.5	E	7.4	7.2	A.-Cu.	S.-Cu.	------	☈ ●° ⌒ a.
25	58.04	28.3	33.3	25.1	78.2	SW	8.4	5.7	Ci.	Cu.	4.3	Ω a. ● T ☈ p.
26	58.36	27.8	31	25.1	79.5	SW	9.8	8.1	Ci.-S.	Fr.-N.	7.9	● d a. ☈ p. ☇
27	58.27	28.1	31.5	24.6	77.7	WSW	8.1	8.3	Ci.	S.-Cu.	------	● a.
28	57.83	28	33.4	24	74.9	NW, E	5.2	8.2	Ci.-S.	Cu.	33.5	Ω a. ●² ☈ p.
29	57.75	27	30.5	24.4	83.3	Variable	6.2	9.5	Ci.	Fr.-N.	25.1	●² a. ☈ p.
30	56.67	26.2	32.4	23.4	85.8	E	7.1	7.2	Ci.	N. N	15.2	Ω° a. ● a. p.
31	57.13	26.8	31.5	23.4	84.7	Variable	5.2	6.8	Ci.	Cu.	1.8	☈ ☇ T ● p.
Mean	758.12	28.1	33.2	24.4	75.5	----------	7.3	6.9	----------	----------	------	
Total	------	------	------	------	------	----------	------	------	----------	----------	170.1	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	757.81	26.6	33.1	20.5	71.5	Variable	9.1	2.8	Ci.	Cu.	------	Ω a.
2	58.20	26.7	31.5	21.2	76	NNE, ENE	5.4	3.5	A.-Cu.	Cu. E	------	Ω d a. T p° ϟ p.
3	58.10	27.8	34	22.3	69.2	E quad.	6.9	2.8	A.-Cu. E	Cu. E, SE	------	ϟ a. p.
4	57.99	26	31.5	21.4	81.7	Variable	5.2	4.8	Ci., Ci.-S.	Cu. E	5.3	☈ ● p.
5	57.44	26.4	32	21.6	83.2	Variable	5.5	4.7	Ci. SE	Cu. E	3.8	Ω a. ☈ ● p.
6	57.18	26.1	31.4	22.3	82.8	Variable	6.2	5.7	Ci. ESE	Cu. E	4.1	☈ ● ϟ p.
7	57.38	24.4	30.9	22	91.2	Variable	4.8	7.8	Ci. SE	Cu. ENE	14	Ω a. ☈ ● ϟ ≡° p.
8	57.20	26	30.2	21.8	86.6	S	5.4	6.7	Ci.	Cu.	22.9	ϟ a. ☈ ● p.
9	58.08	26	30.4	23.4	86	SE quad.	4.6	9.3	Ci.-S.	Cu.	------	☈ a. T ϟ p.
10	58.96	25.5	30.2	21.9	88.2	S	4.4	6.5	Ci. S.	Cu.	------	☈ a. d ϟ p.
11	58.89	26.6	32	21.9	84	N quad.	4.7	4.7	Ci. SE	Cu. NE	2.8	☈ a. p. ● ϟ p.
12	58.77	26.3	31	22.7	84.7	Variable	5.3	7.2	Ci. SE	Cu.	2	Ω ● a.
13	58.03	26.3	31.9	21.3	76.2	N, SSW	5.9	3	Ci. SE	Cu. ENE	------	Ω a. T p.
14	57.96	27	31.9	21.2	76.2	Variable	7.5	3	Ci.	Cu. ENE	------	Ω a. ϟ p.
15	58.22	25.7	32.3	19.7	80.5	Variable	6	1.8	Ci.	Cu. E	------	Ω a. ϟ p.
16	58.86	25.2	27.7	22.2	83.8	Variable	4.6	7.2	Ci.-S.	Cu.-N. SE	------	☈ a. ϟ a. p.
17	59.05	26.6	30.9	20.8	81.1	S	5.9	5	A.-Cu. ENE, E	Cu.	------	T° ϟ p.
18	59.16	27.1	31.9	22	78.2	Variable	6.2	2	Ci.	Cu. ENE	------	d ϟ p.
19	58.76	27.5	34.4	21.7	72.2	Variable	7	2.3	Ci.	Cu. E	------	Ω a.
20	58.28	26.9	31.4	22.2	77	N quad.	5	4.5	A.-Cu. SSE	Cu. E	------	ϟ p.
21	58.39	26.7	31.7	22.2	78.3	ESE	8.4	3.5	A.-Cu. S	Cu. E quad.	------	d° a. ϟ a. p.
22	59.08	26.7	32.2	21.2	76.3	Variable	7.6	1.5	Ci.	Cu. SE, E	------	Ω a. ∞ ϟ p.
23	59.70	27	32	21.8	75.8	N, SSW	6.3	4.7	Ci. E	Cu. ENE	------	∞° ϟ p.
24	58.53	26.8	31.9	21.2	77.8	Variable	6.6	4.8	Ci. SE	Cu.	------	≡° a. ϟ p.
25	58.04	26.5	31.3	22.2	82	Variable	6.3	3.5	Ci.	Cu.-N. E	------	d° ☈ ϟ p.
26	58.14	26.4	31	22.3	83.5	SSE	7.1	3	Ci.	Cu.	------	≡° a. ☈ ∞ ϟ p.
27	58.10	26.7	31.2	22.9	81.8	SSE	4.8	4.7	Ci.-S. NE	Cu. SE	------	☈ a. ϟ p. T
28	57.78	27.2	32.1	22	78.5	SSW	6.5	4.3	Ci.	Cu., Cu.-N. NE	------	ϟ ≡° Ω d° ⊕°
29	57.71	26.6	32.5	22.8	80.2	N quad.	7.7	5.5	A.-Cu. ESE	Cu. ENE	1	ϟ ≡° Ω° ☈ d
30	56.48	26.6	30.4	22.9	84.2	Variable	6.5	5.5	A.-Cu. ENE	Cu.-N. E, SSW	.8	≡ ● ⌒ d° ☈ T ϟ
31	56.87	27	32.3	21.9	77.2	SSW	5.9	2.7	A.-Cu. ESE	Cu.-N. E	------	≡° a. ϟ p.
Mean	758.17	26.5	31.6	21.9	80.2	------------	6.1	4.5	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	56.7	

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	758.34	27.6	33	23.9	79	SE	1	4.7	Ci.	Cu. E quad.	------	
2	58.92	27.5	32.6	24.4	79.8	Variable	.5	5.3	Ci. SW by S	Cu. ESE	1	● a. ⌒ ϟ p.
3	58.89	27.4	32.6	24.1	80.2	SE	.5	5.7	Ci., Ci.-S.	Variable E	.8	d a. ●° ☈° p.
4	58.43	27.6	32.7	24.6	81.2	N quad.	.8	5.5	Ci. SW, SSW	Cu. E, ENE	2.8	T a. p. ● ⊍² p.
5	57.95	28.6	34	24.2	77.9	Variable	.5	6.2	Ci.-S. SW	Cu. E	------	⊍° ⊕° p.
6	57.66	27.9	34	25.5	82	WNW	.3	7.3	Ci.-S. W by N	S.-Cu. E	1.5	⊍² ⊕° ● ☈° a. ⌒ p.
7	57.67	27.3	33.5	24.8	82.8	ENE	.5	8.2	Ci.-S. W by N	Cu. E	1.3	⊕° a. ● T p.
8	57.38	27.8	32.8	24.3	79.5	SE quad.	.8	8	Ci.-S. NNW, NNE	Cu.-N. SSE	1.8	⊍² a. T ϟ p.
9	58.23	26.5	30.5	24.2	85.4	SE	.3	9.3	Ci., Ci.-S.	N. SSE	22.4	● a. p. ☈ p.
10	59.38	27.5	31.6	24.4	82.5	SE	.3	7.8	Ci.-S.	Cu. SSE, SE	------	● a.
11	59.40	27.8	33.3	24.5	80.1	E, SSE	.2	7.3	Ci.-S. NW	Cu. SE	7.4	T ● p.
12	59.22	27.8	31.7	24.5	81.4	SSE	.7	7.2	Ci. NW	Cu.-N. ESE, SSE	.5	● ϟ a.
13	58.54	28.5	34	24.5	77.1	SE	.8	6	Ci. WNW	Cu. ESE	------	
14	58.63	28.6	33.2	24.7	76.3	SSE	1	5.5	Ci. W	Cu. ESE	------	
15	58.59	27.6	33.7	24.7	79.7	SE	.5	4	Ci.	Cu. ESE, E	.5	d T ϟ p.
16	58.96	26.5	29.2	24.3	84.8	E	.3	7.3	A.-S.	Cu.-N. ESE	1.3	● d a. ϟ p.
17	59.29	28.6	33.6	23.9	74.1	S quad.	.7	4.5	Ci.-S. NW	Cu. ESE	------	ϟ p.
18	59.41	29.2	34	24.9	74.3	SE quad.	.8	4.7	Ci.-S.	Cu. SE	------	
19	59.38	29.2	34	25	73.3	SE quad.	.8	4	Ci.	Cu. NNE, E	------	Ω° a.
20	58.70	27.8	33.7	24.5	78.2	Variable	.7	4.2	Ci.-S. NW	Variable ESE	.5	Ω° d ☈° a. ⌒ ●° p.
21	59.08	27.6	31.2	24.3	80.2	SE	.8	5.5	Ci.-S.	Cu., Cu.-N. ESE	6.9	⌒² ● a. ϟ p.
22	59.69	28.7	32.9	24.9	76	SE	.8	2.7	Ci.-S.	Cu. ESE	------	ϟ a. p.
23	60.13	28.9	33.9	25.1	74.7	ESE	.5	5.8	Ci. SSW	Cu. NE	------	ϟ a. p. ○² p.
24	59.06	28.9	35	25.1	76.5	Variable	.7	6.2	Ci. SSW	Cu. ESE, ENE	------	ϟ a. T p.
25	58.35	29.1	34	25.8	75.3	SE quad.	.7	5	Ci. NW	Cu. SE	3.3	T ϟ p.
26	58.32	29	32.8	24.9	76.3	ESE	.7	5.5	Ci.	Cu. SE by E	7.1	● ϟ a. p. ⊕² p.
27	58.47	28.8	33.6	24.6	78	ESE, SE	.3	4.5	Ci.-S.	Cu. ESE	------	ϟ p.
28	58.24	28.7	33	25	76.8	ESE	.8	7.3	Ci. W	Cu. E	------	ϟ a. p. d p.
29	58.16	27.7	33.9	24.7	81.3	E quad.	1.2	7.8	Ci.-S., Ci. NW	Cu., Cu.-N. SE, ENE	43.4	○² a. ●² p.
30	57.05	27.2	30.5	25	83.3	SE	.8	8.2	Ci.-S.	Cu.-N. E	3.6	● a. p. ⌒ ⊍² ⊕² p.
31	57.44	28.2	33	25	78.3	SE quad.	.7	3.3	Ci.-S.	Fr.-Cu. SE, ESE	------	
Mean	758.61	28.1	33	24.7	78.9	------------	.6	6	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	106.1	

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. 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	-------	28.5	32.3	------	83.7	ESE	0.5	5.3	Ci.	Cu.-N. E	------	●° a. ⊕² p.
2	-------	28.5	32.9	------	84.3	NE	.8	4.5	Ci.	Cu. SE	------	
3	-------	28.8	32.6	------	83	NE	.5	4.2	Ci.	Cu. E	------	
4	-------	29	32.8	------	84.5?	NE	.3	5.8	Ci.	Cu. E	.8	
5	-------	28.8	32.7	------	85.3	NE	.3	6.3	Ci.-S., Ci.	Cu.-N., Cu. E	1.3	d a. ☇° p.
6	-------	28.7	32.9	------	84	NE	.3	7	Ci.	Cu.-N., Cu. E	1.3	●° a. d ⊤° p. ☇°
7	-------	27.9	32.2	------	88.7	ENE, NNE	.2	7.8	Ci.-S.	Cu.-N. E	5.8	● a. ☇° ⊤° p.
8	-------	27.9	31.9	------	88.3	NE	.3	6.5	Ci.-S.	Cu.-N. E	------	⌒² a. d° ⊤ ☇² p.
9	-------	26.3	30.7	------	90.5	NE	.2	9.3	Ci.-S.	Cu.-N. E, NE	52.3	⊤ ●² p.
10	-------	26.4	31.1	------	89.5	E	.5	6.7	Ci.-Cu. SW	N. E	2.5	≡ a. d p. ⊤°
11	-------	27.8	31.6	------	------	NE	.3	6.7	Ci.-S.	N. E	1.5	● ≡° a. ☇ p.
12	-------	27.8	31.1	------	88.7	E, NE	.3	8.2	Ci.-S.	Cu.-N. E, SE	2.3	● a. ⊤° p.
13	-------	27.8	32.2	------	87.5	NE	.3	6.8	Ci.-S.	Cu.-N. E	------	≡° a. ☇° p
14	-------	27.6	32.9	------	87 ?	ENE	.3	5.3	Ci. NE	Cu. SE, E	1.8	≡° Ω° a. ☇° p.
15	-------	28.6	33.3	------	------	ENE	.3	5.2	Ci.-S.	Cu.-N.	------	● a. ☇° p.
16	-------	28.3	32.9	------	85.7?	N quad.	.2	8.2	Ci.-S.	Cu.-N. NE	------	⊤° ⌒² d° p. ☇°
17	-------	27.6	32.5	------	88.5	NNW	.5	9.2	Ci.-S.	Cu. E, SE	39.4	☇° a. ●² p.
18	-------	27.7	31.8	------	------	N quad.	.3	4.7	Ci., Ci.-S.	Cu. S	2.8	≡° a. ☇° p.
19	-------	28	32	------	87.8	NE, ENE	.5	4.5	Ci.	Cu. E	------	● a
20	-------	28.1	32	------	85.2	NE	.5	6.3	Ci.-Cu. NE	Cu.-N. E	2	d° a.
21	-------	28.7	33.4	------	85.7	NE quad.	1	6.7	Ci.	Cu.-N. E	3	☇° ● a. p. ⊤ p.
22	-------	28.2	32.8	------	------	E	.3	5.3	Ci.-S.	Cu. SE	------	
23	-------	28.4	32.6	------	------	E	.3	6.2	Ci. SE	Cu.-N. E	52.3	d° a. ☇ p.
24	-------	28.1	32	------	86.5	NE	.3	6.7	Ci.	Cu.-N. E	9.4	●² [☇ a. ⌒ ☇° p.
25	-------	27.5	32.3	------	88.5	NE quad.	.5	7.5	Ci.-S.	N., Cu.-N. SE	------	● ⊤ a. ☇° p.
26	-------	27.5	32.4	------	88.7	Variable	.7	7	Ci.-S., Ci.	Cu.-N. SE	12.2	☇ a. p. [☇ ● p.
27	-------	26.8	32.6	------	92.5	Variable	.5	8.2	Ci.-S.	Cu.-N. SW	------	☇ a. d° ⊕² p. ⊤
28	-------	27.9	32.4	------	87	ESE	.3	9.3	Ci.-S.	Cu.-N. SE	15	[☇ p.
29	-------	26.5	31.6	------	------	Variable	.5	9.5	Ci.-S.	N. ESE	24.9	● a. ●² [☇ p.
30	-------	26.6	31.5	------	91.7	ENE	.3	8.7	Ci.	Cu.-N. NE, E	13.5	● a. p. [☇ p.
31	-------	27.4	31.9	------	88.5	SE	.5	6	Ci.	Cu.-N. SE	------	⊤ ☇° p.
Mean	-------	27.9	32.3	------	87.3	------------	.4	6.8	------------	------------	------	
Total	-------	------	------	------	------	------------	------	------	------------	------------	244.1	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.60	25.5	31.2	21.9	87.5	Variable	0.7	3.7	Variable	Cu. E	0.3	⊤ d ⊕ ⋓ p.
2	59.20	26.1	32.2	22.5	86.8	N	.7	7	Ci.-S.	S.-Cu. E	------	⊤ d ⌒ ☇ ⊕ p.
3	58.97	26.7	32.3	22.2	86.1	Variable	.8	4	Ci.	Cu.-N. E	12.7	⊕ a. [☇ p ☇ p.
4	58.75	25.6	31.5	22.5	90.2	NE	.8	5.5	Ci.-S.	Cu. E	22.4	⊕ Ω a. [☇ ⋓ ● p.
5	58.12	26.5	32.1	22.7	85.3	Variable	.8	6.2	Ci.-S. NE	S.-Cu. E	------	Ω a. ⊤° d ⌒° ⊕ p.
6	57.82	26.3	32	23.5	88.2	NE	.7	7	Ci.	S.-Cu. E	10.4	⋓ a. ● [☇ ⊕ ☇ p.
7	57.69	25.9	31.7	23.4	89.8	N	.8	7.8	Ci.-S.	S.-Cu. Cu. E	7.9	● [☇ a. ⋓ ☇ a. p.
8	57.66	26.9	31.5	23.5	85.8	N	.5	7.3	Ci.-S., A.-Cu.	Cu.-N.	------	⊕ a. ⊤° ☇ p.
9	58.56	25.4	27.4	23.6	93.3	NE	.5	10	A.-Cu.	Fr.-N. SW	31.2	d a. ● [☇ ☇ p.
10	59.48	26.2	32.1	22.5	86.7	NE	1.2	6.8	A.-Cu., Ci.-S.	S.-Cu. SSW	4.6	d ⊤° p ⌒° p.
11	59.62	26.2	31.6	22.7	87.3	Variable	.8	5	Ci.-S. SE	S.-Cu.	6.9	⊕ a. ● [☇ ☇ p.
12	59.24	26.5	31.6	23.5	85.8	N	1.2	6.3	Ci.-S. NE, SSE	S.-Cu. SE, E	1	☇ a. ⊤ d p.
13	58.60	26.1	32.1	22.3	85.5	N	1	4.5	Ci.-S.	S.-Cu.	------	⊤ ☇ p.
14	58.61	26.6	32.6	22.1	84.2	N	1	2.7	Ci.	Cu. E	------	⊤ p.
15	58.65	27.7	33.1	23.4	80.8	N	1	2.8	Ci.	S.-Cu. E	------	⌒ d [☇ p. ☇ a. p.
16	59.12	24.8	31	23	89.5	N	1	7.7	A.-Cu.	S-Cu.. Fr.-N. E	17.3	● a. d ☇ p.
17	59.28	26.3	31.7	22.3	86.5	N	1.3	4.8	Ci.-Cu, A.-Cu.	S.-Cu-	------	⊤ ☇ p.
18	59.49	26.8	32.5	23.2	83.3	N	1.2	2.3	Ci.	S.-Cu. E	------	⊤ d° ☇ p.
19	59.34	26.5	32.6	22.5	84.2	N	.8	3.8	Ci.	S.-Cu.	7.9	p p.
20	58.78	25	31.9	21.8	89	N	1	4.7	Ci.	S.-Cu.	3.6	Ω a. ⊤ ●° ☇ p.
21	59.06	25.6	31.2	22.5	90	NE, N	1.2	4.5	Ci.	S.-Cu.	3	p ⊤ p. ☇ a. p.
22	59.65	27.4	32.6	22.5	83.2	N, SW	1.5	3.7	Ci.	S.-Cu., Cu. SE	5.3	p ☇ p.
23	60.26	27.5	32.6	23.1	81.8	N	1.2	4.7	Ci.	Fr.-Cu. SE	------	☇ a.
24	59.12	27	33.9	23.5	86.7	NE quad.	.7	5.3	Ci.-S.	S.-Cu. E	29	☇ a. ●² ⊤ p.
25	58.49	27.2	33	23.4	84.2	N	.8	3	Ci	Cu-N. SE	------	Ω a. ⊤ ☇ ⊕ p.
26	58.45	27.1	32.5	23.3	84.3	N	.8	3.8	Ci., Ci.-S.	Cu.	11.4	☇ a. p. p [☇ p
27	58.62	26.9	32	23.5	86.1	N	.8	4.5	Ci. NE	Cu.-N.	------	☇ ⊤° a. p.
28	58.18	27.6	33.1	23.5	83.3	N	1.2	6.8	Ci.-S.	Cu.-N. E	------	⊤ ☇ ⋓ p.
29	58.41	26.5	32.9	23.5	85.7	N	1.3	7.7	A.-Cu. E	S.-Cu	5.8	⋓ a. ●° [☇ ⊕ p.
30	57.20	26.2	30.6	23	89.5	NE	1.2	7.2	A.-Cu.	S.-Cu. E, SE	8.1	p ☇ ⊕ p. d ⊤°
31	57.46	27	32.4	22.7	82.7	Variable	.7	4	Ci.-S.	Cu.,Cu.-N.	------	⊤ ☇ p. ⊕ a. p.
Mean	758.73	26.4	32	22.9	86.2	------------	.9	5.3	------------	------------	------	
Total	-------	------	------	------	------	------------	------	------	------------	------------	188.8	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	758.23	28.4	32.5	23.6	74.5	E	10.6	2.2	Ci.	Cu. NE	------	⚡° d p.
2	58.85	28.4	32.8	23	77.7	E quad.	7.8	1.5	Ci.	Cu. ENE, E	4.3	≡° a.
3	58.92	28.7	32.3	25.3	77.1	E quad.	10.5	1.7	Ci.	Cu. NE	10.4	⚡° p.
4	58.50	28.5	32.6	25.3	79.8	NE quad.	--------	4.2	Ci.	Cu.	.8	d ● a. ⌣° p.
5	58.01	28.6	32.7	25.9	80.6	E quad.	8	5.3	Ci. W	Cu.-N. E	16.8	d a. ● p.
6	57.69	28.1	32.2	24.3	81.8	E	8.2	6	Ci. W	Cu.-N. E, ENE	8.9	◯^{2} a. ⚡ p. ● ⊤
7	57.58	27.3	30.7	25	84.5	ENE	6.8	5	Ci., Ci.-S.	Cu.-N. E	8.6	● ⊤ a.
8	57.10	28.9	32.5	25.3	80	ENE	5.7	4.8	Ci.	Cu.-N. ENE	15.2	● a. p. ⚡ p.
9	58.03	26	28.5	24.3	90.5	W	1.2	8.5	Ci.-S.	N. E	7.6	⊤ ● a.
10	59.02	27.2	31.8	23.4	83.9	E	3.1	4.5	Ci. W	Cu. S	------	⚡° p.
11	59.40	28.1	33.2	22.6	80.8	ENE, E	6.1	3	Ci. W, WNW	Cu.	4.1	◯° a. ⚡ p.
12	58.90	28.6	32.2	25	80.4	E, ENE	8.8	5.8	Ci.-S.	Cu.-N. SE	------	d a. ⚡ p.
13	58.30	28.8	32.7	26.5	75.8	E	9	3.7	Ci. NW	Cu.	------	⚡ p.
14	58.40	28	32.1	22.4	75.3	E	6.8	1	Ci. NE	Cu.	------	⚡ p.
15	58.46	28.3	32.6	24.2	76.3	E	6.8	.8	Ci.	Cu.	------	⚡ p.
16	58.59	27.3	33.6	21.6	75.7	E	3.5	3.7	Ci.-S.	Cu. E, ENE	------	⚡ p.
17	58.68	28.2	33.5	24.5	79	SW, SSW	2.5	4.7	A.-Cu. N	Cu. S	------	⊤° a. ⚡ p.
18	59.33	28.4	32.9	22.9	77.7	E	6.3	1.5	Ci.	Cu.	------	⚡ p.
19	59.30	28.4	32.6	24.2	75.5	E	8.7	1.7	Ci.	Cu.	------	⚡ p.
20	58.55	28.6	32.6	24.4	72.8	E	7.9	2.5	Ci.	Cu.	------	⚡ p.
21	58.71	29	32.8	24.1	75.7	E	8.2	1.8	Ci.	Cu. ESE	------	⚡ p.
22	59.46	29.1	32.9	25.4	74.5	E, ENE	8.8	1.2	----------------	Cu.	------	⚡ p.
23	60.10	29	33.1	26.1	74.8	E	8	1.5	Ci. W	Cu.	------	⚡ p.
24	59	28.9	32.5	24.5	77.3	E quad.	6.8	2	Ci.	Cu.	2	⚡° p.
25	57.98	29	33.4	25.1	79.3	E	4.2	2.7	Ci.	Cu.-N. E, SSE	------	⚡ p.
26	58.04	28.5	34	24	80.3	E	3.4	3.7	Ci. N	Cu. SSW	2.5	● ⚡^{2} p.
27	58.04	27.9	34.1	23.4	80	W	--------	4.7	Ci., Ci.-S.	Cu.-N. S	------	● a.
28	57.92	28.1	32	23.3	80.3	E	--------	7.7	Ci.-S. N	Cu.	------	◯ a. ⚡° p.
29	57.98	28.5	32.6	24	78.2	E quad.	8	5.3	Ci.-S. N	Cu. SE, SSE	.3	◯° d a.
30	57.20	29.1	32.1	26.7	73.4	E	12.7	5.8	Ci.-S., Ci.	Cu.-N. ENE, ESE	------	d° a.
31	57.40	29.2	33	26.7	72.3	E	8.3	3	Ci. NW	Cu. SE	4.8	⚡° p.
Mean	758.44	28.4	32.6	24.4	78.3	------------	7	3.6	----------------	----------------	------	
Total	--------	------	------	------	------	------------	--------	--------	----------------	----------------	86.3	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	758.24	28.2	33.7	25	78.5	NE, ENE	9	4.8	A.-Cu. ENE, E	Cu. NE, E	6.9	d ⛈° ● ⚡^{2}p. ⏀°
2	58.66	28.2	34.1	23.1	80.2	N quad.	--------	6.3	Ci. E	Cu. NE, E	------	Ω° ≡° a. ⚡^{2} ⏀ p.
3	58.76	29	33.7	23.9	77.8	NE	10.3	3.3	A.-Cu. E	Cu. NE	------	⌣° a. ⚡^{2} ⏀^{2} p.
4	58.34	29	34.5	24.8	79	N quad.	9.9	5.2	Ci.	Cu. NE, E	------	⛈° ⊤^{2} p. ⏀° a. p.
5	57.90	28.4	32.6	24.7	83.2	NE by E	9.3	6	Ci.	Cu. NE	24.2	da. ⛈° ● ⏀^{2} ⌒° p.
6	57.62	28	32.5	23.8	85.2	N quad.	10.7	6.5	Ci.	Cu. Variable	------	⏀^{2}a. p°p. ⛈°
7	57.74	28.1	33.4	24.6	85.2	N quad.	9	8.3	Ci. S	S.-Cu., Cu. NE	------	⏀° ⌣° ◯^{2}a. d p. ⛈°
8	57.10	29.8	33.8	27	78.3	NE quad.	10.5	7.7	Ci.	Cu. Variable	------	⏀° ⏀° a. ⛈ ⏀^{2}p.
9	57.67	27.9	33	24.4	83.3	SW	7.4	6.8	Ci.	Cu. NE	12.7	⏀^{2}a. ⛈° d° ⚡° p.
10	58.63	26.5	32.3	23.4	88.5	Variable	7.6	9.8	Ci.-Cu. S	S.-Cu. NW, SE	6.9	◯^{2} a. ⛈° p. ●°
11	59.15	27.8	32.4	23.4	84.8	N, NE	9.3	8.2	Ci. E	S.-Cu. NE, SE	6.4	◯° a. d ●° ⚡^{2} p.
12	58.88	27.2	32.4	24.3	87.2	N	8.8	9	Ci.-Cu. E	Cu. SE	11.7	⏀° a. ⛈° ● ⚡^{2} p.
13	58.27	28	31	24.4	85.9	N quad.	9.1	9.8	Ci.	S.-Cu. Variable	------	d ⛈° ⚡° p.
14	57.94	28.2	33.7	23.6	83.8	Variable	6.3	6	Ci.	S.-Cu. S	------	Ω° ≡° a. ⛈° d p.
15	58.06	28.7	35	23.5	82	Variable	6.9	5.2	Ci. E, NE	Cu. SE, S	------	◯° a. ⊤° ⚡° p.
16	58.38	28.7	34.6	23.5	80.5	NE quad.	8.1	3.8	Ci. E	Cu. SE	------	Ω° a. ⌒° ⚡° p.
17	58.56	27.1	30.4	25.2	88.3	NNW	8.9	7.7	Ci. E	S.-Cu. N quad.	50.6	d^2 a. ⛈ ● p. ⚡°
18	59.06	27.5	33.6	23.8	88.2	NW quad.	7.4	7.8	Ci. NE	S.-Cu. S	25.7	≡^{2} Ω^2 a. ⛈° ●^{2}p.
19	59.02	26.7	33.6	23.5	89	SW, N	8.6	4.7	Ci. E	S.-Cu. E	6.4	Ω^2 ≡^{2} a. ⛈° ● p.
20	58.31	28.2	34	23	80.3	NE quad.	8.7	1.3	Ci. E	Cu. NE	------	Ω^2 ≡^{2} a.
21	58.35	28.3	33.4	23.8	81.2	NE quad.	6.6	4.8	A.-Cu. SE	Cu. SE, S	3.8	Ω° a. ⛈° ●° ⌒^{2} p.
22	59.07	28	33.2	24.2	85.3	Variable	5.6	6	Ci. E	Cu. SE	------	Ω° a. ⛈° p. d
23	60	27.2	32.2	23.4	86.5	SW quad.	7.4	5	Ci. E, S	S.-Cu. SE	25.9	Ω° a. ⛈ d° p.
24	58.82	28.3	33.2	23.3	82.8	NE, W	8.7	5	Ci. E	Cu. SE	------	⛈° ●^{2}a. ⊤°p. ⚡°
25	57.74	29.3	33.8	25.6	80	N quad.	7.9	6.8	Ci. E	Cu. SE, SSE	------	◯° a. ⛈° ⏀° p. ⚡
26	57.53	28.7	33.3	24.1	79.9	W	6.9	6	Ci. NE, SSE	Cu. SSW	------	⛈^{2} ● ◯°a. ⚡° ⏀°p.
27	57.56	28.7	34.4	24.5	80.7	Variable	6.3	7.8	Ci. E	Cu. S	------	Ω° ◯°a. ⛈^{2} d^{2}p.
28	57.52	27.8	33.8	24	85.8	S, WSW	5.8	9.7	Ci.	S.-Cu. S	39.4	Ω° a. ⛈^{2} ● p.
29	57.91	26.3	30.5	24	91.4	Variable	4.7	9.2	Ci. NE	Cu.-N. SE	41.4	◯° a. ⏀° ⌣ p. ⛈° ● ⚡^{2}
30	57	28.9	33.5	24.1	80.7	NE quad.	11.3	7.2	Ci.-Cu. E	S.-Cu. E	------	
31	57.14	27.4	33	23.9	86	WSW	7.6	6.5	Ci. NE quad.	Cu. E	------	◯° d° ⛈ ⏀° ⌣° ⚡^{2}
Mean	758.22	28.1	33.2	24.1	83.5	------------	8.2	6.5	----------------	----------------	------	
Total	--------	------	------	------	------	------------	--------	--------	----------------	----------------	262	

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.			Rain, 24 hours beginning 6 a. m.	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	757.80	28	35.1	22.4	73.3	NE quad.	1.6	5.5	Ci.-S.	Cu., Cu-N. ENE	------	≡° a. ☈ ☇ p.
2	58.15	28.4	35.6	24.4	74	NE quad.	1.5	7.5	Ci.-S.	Cu. ESE, E	0.1	☇ a. ☈ d^2 p. ≡°
3	58.33	28.5	36.1	23.6	75.8	NNE	1.6	3.7	Ci.-S.	Cu.	------	≡°a. d° ☈ p.
4	58.30	27.9	35.8	23.4	77.5	NNE	1.7	5.7	Ci.-S.	Cu., Cu.-N. E, NE	------	Ωa. ○° d° ⌒ ☈p.
5	57.69	27.7	35.3	23.5	78.8	NE quad.	1.8	4.7	Ci.-S.	Cu.,Cu.-N.E,NNE	1.8	Ω≡°a.●° ☈p. ☇
6	57.26	28.2	34.8	24.1	80.3	NNE	1.6	6	Ci.-S. SW, NNW	Cu., Cu.-N.	------	≡° a. ☈ ☇ a. p.
7	57.32	27.9	36.6	23.8	82.3	NE quad.	1.7	6.8	Ci.-S. WSW	Cu. E	7.4	☈° a. ☈^{2} ● p.
8	56.94	27.9	33.5	23.6	82.8	NNE, SSW	1.3	7.3	Ci.-S. SW, WSW	Cu.	------	⊍ a. ☇ ⊤ p.
9	57.53	27.4	30.9	24.8	85.2	NNE	1.6	8.2	Ci.-S. N	Cu. NE	.3	○° a. d ☈ p. ☇
10	58.80	25.3	30.5	23.8	92.3	NE quad.	1.2	10	Ci.-S.	Cu.-N., N. E, NE	45.5	○° a. ≡ ☈ ●^{2} p.
11	58.86	26.8	32.3	23.6	87.3	NNE, SSW	1.4	9.3	Ci.-S.	Cu.-N.,Cu. S, S E	6.6	≡a. ○° ☇ p. ● ☈
12	58.67	26.6	31.6	24.6	90.3	E	1.2	9	Ci.-S. NNW	Cu.-N. S	34.8	○°● a.≡°☈ a.p.
13	57.85	27.6	32.2	23.8	86.5	NE	1.4	7.5	Ci.-S. E	Cu. SE	7.4	≡° a. ☈ ● p.
14	57.92	27.4	30.2	24.6	84.3	Variable	1.2	9.7	Ci.-S. S	Cu.-N.	------	☈ d° ☇ a. p.
15	58.02	27.4	31.2	23.4	87.1	NNE	1.5	7.5	Ci.-S. NE	Cu.-N. NW, SSE	------	☈ ☇ p.
16	58.34	27.8	31.2	24.2	85.2	NNE, NW	1.5	8.8	Ci.-S. NE	Cu.	1.1	☈ p ☇ p. ○° ≡°
17	58.60	27.6	33.3	24.8	88.8	NE quad.	1.2	8.7	Ci.-S. E, NW	Cu.-N. WSW	9.2	☈ ● p.
18	58.98	27.5	30.1	25	88.5	NE quad.	1.4	9.2	Ci.-S.	Cu.	------	○° d a. ∞ ☇ p.
19	58.72	28.1	33.8	24.5	85	Variable	1.5	6	Ci.-S.	Cu. E	------	Ω^2 a. ○° ☈p. ∞
20	57.90	29.2	34.9	24.9	72.1	NNE	1.2	5.8	Ci.-S. NE	Cu. E, ESE	------	☈ a. ☇ p. ∞°
21	57.92	28.8	34.8	24.7	73.4	NE quad.	1.3	5	Ci.-S.	Cu.	1.3	d ☈ p ☇ a. p.
22	58.67	28.2	34.1	24.4	78.8	NE quad.	1.4	7	Ci.-S.	Cu. E	4.8	☈ ● p.
23	59.58	28	33.4	23.7	80	NNE, SW	1.3	5.3	Ci.-S.	Cu. ESE	------	☇ a. d ☈° p.
24	58.55	29.1	34.9	25	76.7	NE quad.	1.2	7.2	Ci.-S.	Cu. E	17	☈ ● p.
25	57.64	27.8	30.5	25.6	84	SW	.9	8.8	Ci.-S.	Cu.-N. SE	.8	●° ⊤ ☇ p.
26	57.53	27.7	30.4	24.4	83.3	SW	1.4	8.3	Ci.-S.	Cu.-N. S, SW	------	○°a. ⊍° d ☈p. ☇
27	57.67	26.9	29.3	24.1	87.7	Variable	1.1	9.7	Ci.-S. NNW	Cu.-N. SW	45.5	⌒ d ○° a. ●°p. ☈
28	57.40	26.8	33.6	23.6	86	Variable	1.2	9.2	Ci.-S. N by W	Cu.-N. SSE	------	d a. ⊍° ☇ p. ≡
29	57.70	26.2	28.3	24.7	88.5	N quad.	1.2	10	Ci.-S.	Cu.-N. SE	------	☈a. ⊍°p. d° a. p.
30	56.78	28.1	33.6	23.9	75.6	NNE, ENE	1.2	8.2	Ci.-S.	Cu.-N.,Cu. ENE	------	○° ϖ ☇ p.
31	56.69	29	34.3	24	73.5	NNE, E	1.2	7.8	Ci.-S. NW	Cu. E	------	○ a. ☇ ⊍° p.
Mean	758	27.7	33	24.2	82.1	------------	1.4	7.5	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	183.6	

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	758.05	28.1	34	24	72.2	E quad.	0.8	6.8	A.-Cu. SE	N. E, NE	0.3	d° ☇ p.
2	58.31	28.2	35.6	23.8	72.2	NE quad.	.9	7.7	A.-S.	N. SSE, SE	.8	☈ ϖ^2 p. d° a. p.
3	58.29	28.3	35.9	22.5	69.3	E quad.	1.1	5	A.-Cu.	Cu. E	------	Ω° ≡° a. ☇ ☈ p.
4	58.43	27.5	35.9	23.7	73.5	NNE	.9	6.2	Ci.-S.	Vble. E quad.	------	Ω° a. ⊤ p.
5	57.64	28.5	36.6	22.5	69.7	Variable	.7	4.5	Ci.	Cu.-N. SE	------	Ω^2 a. ⊤ ⊍^{2} p.
6	57.29	28.2	36.4	23.4	72.8	NW, NNE	.7	5.7	Ci.	Cu.-N. SE	3.3	Ω^2 a. ☈ ☇ ●° p.
7	57.39	27.9	36.6	23	75.1	SE, NW	.6	5.3	Ci., Ci.-S.	N., S.-Cu.	22.6	Ω a. ☇ ☈ ●^{2} p.
8	56.87	28.4	34.4	23	73.3	NNE, NE	.8	5.5	Ci. S, NE	Cu.-N. E	------	d° ⊤ ☇ p.
9	57.39	28	36.1	24	77.7	SE	.8	6.5	Ci.	N. NW	9.1	Ω° a. ☈ ☇ ●^{2} p.
10	58.61	25.4	33.5	23.7	90.5	ESE	.5	9	Ci.-S.	N. SE	12	☇ ●^{2} ☈ p.
11	58.97	26.6	33.6	23.2	84.8	E quad.	.7	8.7	Ci.-S.	N. E, SE	10.2	≡ a. ⊤ ●^{2} ☇ p.
12	58.72	27.3	32.5	24	78.5	NE quad.	.8	6.8	Ci.-S. NE	N. SE	------	☇. ⊤ p.
13	58.01	27.4	34.9	22.1	76.9	Variable	.7	7	Ci. E	Cu.-N. S	1.3	Ω^2 a. d° ⊤ ☇ p.
14	57.84	27.6	34.5	23.5	78.4	Variable	.8	7.5	A.-Cu. NE	N., Cu.-N. S	------	☈ d^2 ≡ a. ⊤ ☇p.
15	57.89	28.7	36	23.8	73.7	ENE	.7	5.7	Ci.-S. NE	Cu. S	------	Ω^2 a. ☇ p.
16	58.19	29.8	36.1	24.5	70.7	ENE	.8	7.5	Ci. E	Cu.-N.	1.3	☇ ●° ○° p.
17	58.55	28.8	35.6	25.2	74.7	Variable	.9	7	Ci. NE	Cu. N	8.1	Ω° a. ⊤ ☇ p.
18	58.90	28.4	34.5	24	80.2	SE quad.	1	8.2	Ci. E	Cu.-N. SSE, SE	1.8	●^{2} a. ☇ ⊤ ●° p.
19	58.64	28.9	36.2	25	73.2	SE, SSE	.6	4.3	Ci. NE	Cu.-N. SE	------	Ω° a. ☇ p.
20	57.95	28.8	35.2	23	70	NE	1	4.3	Ci.	Cu.-N. SE	------	Ω° a. ☇ p.
21	58.01	28.1	36.5	22.5	70.7	NE	.9	4	Ci. NE	Cu. SE	13.5	Ω° a. ⊤ ☇ ●° p.
22	58.60	29	36	24.5	74	NE, ESE	.8	6	Ci. NE	S.-Cu. SE	12.2	●^{2} a. p. ☈ p.
23	59.70	28.2	34.5	22.9	79.8	ESE	.8	6	Ci.	Cu.-N. E	3.3	≡ a. ☈ ●° p. ☇.
24	58.55	29	35.1	23	72.8	Variable	.6	6	Ci. NE	Cu. E	------	Ω^2 a. ☇ p.
25	57.48	29.6	35.6	23.4	71.2	Variable	1	7.5	Ci.-S. NE	Cu.-N. E	------	☇ p.
26	57.41	28.8	35.5	24.4	76.5	ESE	.9	7	Ci.-S. NE	N. S	------	⊤ ☇ ⌒° p.
27	57.41	28.9	35.5	24.4	76	Variable	.9	8	Ci., Ci.-S. NE	Cu.-N. SW	------	☇ ≡ Ω^2 a. ⊤ ☇ p.
28	57.53	27.2	34	23.2	80.4	E quad.	.8	8.8	A.-S.	N. S, SSE	1.8	☈ a. p. d a.
29	57.89	26.1	34.1	23.8	87	E quad.	.8	9.5	Ci.-S. NE	N. SE	21.1	Ω a. ●^{2} ☈ p.
30	57.05	26.4	29.9	23.5	80.3	E quad.	.7	7.5	A.-Cu. E	N. NE	------	☇ ϖ^2 p.
31	57.15	28	32.6	23.5	71.3	E	1.3	6.3	Ci. NE	S.-Cu. ESE	------	Ω a. ☇ ⊍^{2} p.
Mean	758.02	28.1	34.9	23.6	75.7	------------	.8	6.6	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	12.27	

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. Prevaling direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Prevaling form and its direction. Upper.	Clouds. Prevaling form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per. ct.		Km. p. h.	0-10.			mm.	
1	757.88	28.6	35.6	24.7	72.8	SE	10.1	5.5	Ci.	Cu.	0.3	d ☇² ☈² p.
2	58.20	28	36.9	23.4	79.9	SE	10.5	8.3	Ci.-S,	S.-Cu. E	------	d° ☇ ☈° ⏀ p.
3	58.48	28.4	35.6	23.5	73	SE, NNW	12.7	4.3	Ci.	Cu.	------	☇ ⏀ p.
4	58.41	28.8	36.4	23.6	70.3	SE, S.	9.6	3.3	Ci.	Cu.	------	⌒ ☇ p.
5	57.57	29.1	36.4	23.3	72.9	SE	10.6	2.7	Ci.	Cu.	------	☇ p.
6	57.30	27.7	37.8	23.8	78.2	S	10.2	4.2	------	Cu.	1.3	⌒ ☇ ⊤ p p.
7	57.25	28.3	36.6	23.4	74.7	Variable	10	4.7	Ci.-S.	Cu.	------	☇ p.
8	56.83	29.3	37.6	23.2	69.5	SE	8.2	5.7	Ci.	Cu.	------	☇ ⊤ ⌒° p.
9	57.34	28.7	36.8	24.7	76.2	Variable	10.4	5.5	A.-Cu.	S.-Cu.	------	⌒ ☇ p.
10	58.54	27.3	35.6	23.2	82.2	SE	9.3	8.7	A.-Cu.	N. SW	13.2	⏀° ◯ a. ● ☇² ☈² p.
11	58.76	27.9	37.8	23	82.2	SE	9.5	8.5	Variable	Cu.-N. SE	30.7	d° a. ☇² ⊤ ●² p.
12	58.68	27.8	36.1	24	82.7	SE	10.3	8.3	A.-Cu.	N. WNW	9.4	● ☇ ⊤ p.
13	57.91	26.8	35.9	22.8	84.2	SE, E	10.2	6	Variable	Cu. SSW	10.7	☇ ⊤ ● p.
14	57.75	27.5	35	23.4	84	SE	10	8.5	A.-Cu.	S.-Cu. SE	1	d² ☇ ⊤ p.
15	57.89	29.2	34.8	24.3	78.1	NW	11.4	5.2	Ci.	Cu. SE	------	☇° p.
16	58.32	29.4	33.7	25.9	75.8	NW	11.1	6.8	Ci.-S.	Cu.	------	☇ p.
17	58.53	28.4	36.8	24.6	82.5	N	9.6	7.7	A.-Cu.	Cu.-N. NE	38.1	☇ ☈ ●² p.
18	58.77	28.9	37.7	24.2	81.7	SE	10.6	8.3	A.-Cu., Ci.	S.-Cu. S	------	☇ p.
19	58.66	29.7	38.4	24.3	77.3	Variable	9.7	4	Ci.	S.-Cu. SE	------	⊤ ⌒ ☇ p.
20	57.83	29.4	37.7	23.1	75.7	Variable	7.6	2.8	Ci.	Cu.	1.3	☇ ⊤ ● p.
21	57.81	29.7	37.6	23.6	67.4	Variable	11.3	2.5	Ci.	Cu.	------	☇² ⊤ p.
22	58.73	28.6	37.2	24.5	78.3	SE	12.4	4	Ci.	Cu	1	☇ ⊤ ●° p.
23	59.57	28.9	38.2	23.6	78	SE, S	11.3	5.7	Ci.	Cu.	40.6	p ☇² ☈² p.
24	58.59	28.4	37.7	21.1	79	SE	10.5	6.3	Ci.-S.	S.-Cu. SE	46	↙ ●² ☇ ⊤² p.
25	57.58	28.6	36	21.7	79.7	SE, SW	8.3	8.3	Ci.-S.	S.-Cu. SSE	------	☇ a. p.
26	57.18	28.6	35.1	24.5	82.5	NW	7.3	8.3	Ci.	S.-Cu.	------	☇ ⊤° d p.
27	57.48	27.8	35.1	24.4	82.5	SE, NW	8.9	7.8	A.-Cu.	S.-Cu. ESE	6.9	⊤ ● p. ☇ a. p.
28	57.18	27.9	36.2	23.6	82	S quad.	9.5	9.7	A.-Cu.	S.-Cu. S	1.3	☇ ⊤ p. ●° a. p.
29	57.87	27.1	35.9	23.4	86	SE	9.3	8.8	A.-Cu.	S.-Cu. SE	------	d ● ⊤° ⌒ p.
30	56.75	28.3	35.1	23.6	75.9	SE quad.	12.9	7.7	A.-Cu.	S.-Cu.	4.3	☇ ° ⏀ p.
31	56.84	29.7	36.8	24	67.3	SE	9.3	7.7	A.-Cu.	Cu.	------	☇ a. p. ⊍ p.
Mean	757.95	28.5	36.5	23.7	77.8	------	10.1	6.3	------	------	------	
	------	------	------	------	------	------	------	------	------	------	206.1	

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.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevaling direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rain.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per .ct.		0-12.	0-10.			mm.	
1	757.95	27.6	32.8	23.3	83.7	Variable	2	7	Ci.-S.	Cu.-N.	55.6	Ω ≡° a. ☈ ●² p. ↙°
2	58.24	27.2	29.9	23.7	89.7	E quad	1.7	8.5	Ci.-S.	Cu.-N.	2.5	≡° a. ☈ ● p.
3	58.61	28.2	31.9	23.8	83.5	SE, NNE	2.3	3.8	Ci.-S.	Cu.-N.	------	≡° a.
4	58.39	28.8	31.8	24.9	83.3	Variable	2.2	5.3	Ci.-S.	Cu.-N.	------	Ω° ≡° a. ⊍° ⏀° ☇ p.
5	57.72	28.8	32	24.8	83	Variable	2.2	4.2	Ci.-S.	Cu., Cu.-N.	------	Ω ≡° a. ⊤ ☇ ⏀° p.
6	57.31	29.6	33	25.9	78.8	Variable	2	5	Ci., Ci.-S.	Cu., Cu.-N.	------	Ω° ≡° a. ⏀ ☇ p.
7	57.26	29.1	32.7	25.3	81	SE quad	2	5.5	Ci.-S.	Cu., Cu.-N.	------	Ω° ≡° a. ↙° p.
8	56.97	29.1	32	25.4	82	Variable	1.8	7.2	Ci.-S.	Cu.-N.	.3	Ω °≡° a. ☈ d p.
9	57.51	28.6	31.8	25.9	86.5	Variable	1.5	8.3	Ci.-S.	Cu.-N.	3.3	☈° d a. p.
10	58.39	28.3	32.7	24.2	84.3	SE quad	1.7	10	Ci.-S.	Cu.,Cu.-N. NE, NNE	48	≡° ◯ a. ☈² ● ↙° p.
11	58.99	26.8	31.7	23.9	90.5	SE	1.7	10	Ci.-S.	S.-Cu., Cu.-N.	20.3	≡° a. ☈ ● p.
12	58.83	26.4	29.7	24.5	91.7	SE quad	1.7	10	Ci.-S.	S.-Cu., Cu.-N.	76.5	≡° a. ☈² ●² ↙° p.
13	57.93	26.6	31.7	23.5	89.5	SE quad	1.7	9.8	Ci.-S.	Cu..N.	42.2	≡° a. ☈² ●² ↙ p.
14	57.89	26.9	32	24.3	89.8	SE, SW	2	10	Ci.-S.	Cu.-N. SSW	5.6	≡° a. ☈° ● ↙ p.
15	58.06	28.1	31.8	24.9	86.8	SE, W	2	7.7	Ci.-S.	Cu., Cu.-N.	.8	≡° a. ☇ p.
16	58.60	28.5	31.7	24.8	84.7	N quad	1.5	9.3	Ci.-S.	Cu.-N. NNW	------	●° a. ☇ p.
17	58.62	29.1	32.2	26	82.7	Variable	2	9.3	Ci.-S.	Cu.-N.	------	Ω ≡° a. ☈ p.
18	58.87	28.9	31.4	26.1	84.7	SE quad	1.3	9.7	Ci.-S.	Cu.-N.	.5	☈° d p.
19	58.90	28.5	31.9	25.3	85.3	Variable	1.5	7.7	Ci.-S.	Cu. ESE	11.9	Ω° ≡° a. ☈ ● p.
20	58	28.2	31.9	23.5	83.5	Variable	1.8	8.3	Ci.-S.	Cu.-N.	------	≡° a. ☈ p.
21	57.93	28.4	32.5	25.3	82.3	SE	1.8	7.3	Ci.-S.	Cu.-N.	------	Ω ≡° a. ☇ p.
22	58.81	28.8	32.4	25.7	83.2	SE quad	2	8	Ci.-S.	Cu.-N.	------	Ω ≡° a. ⊤ d ☇ p.
23	59.67	29	32.6	25.5	82	SE quad	1.8	7.8	Ci.-S.	Cu.-N., Cu.	.8	Ω ≡° a. ☈ d p.
24	58.73	29.1	32.5	24.8	82	SE, W	2	9.8	Ci.-S.	Cu.-N.	34.5	≡° a. ☈² ●² ↙° p.
25	57.73	28.6	32	24.7	84	SE quad	2	9.3	Ci.-S.	Cu.-N. SSW	------	d ☈° p.
26	57.34	29.3	33.7	25.9	81.3	SE quad	2.2	9.8	Ci.-S. NNE	Cu.-N. S	7.1	≡° a. ☈ ⌒ ☇ ⊍° p.
27	57.37	26.9	30.7	23.7	92	SE quad	1.5	10	Ci.-S.	Cu.-N.	19.6	☈ ● a. p.
23	57.16	27.5	31.7	24.1	89.8	SE quad	1.7	9.7	A.-Cu.	Cu.-N. S	6.9	Ω° ≡° a. ◯ ●° ⊤ p.
29	57.84	27.4	30.9	25.6	90.8	Variable	1.3	10	Ci.-S.	Cu.-N.	3	☈° ●° p.
30	56.77	28.4	31.6	25.5	83	ESE	1.8	9.3	Ci.-S.	S.-Cu.	------	Ω ≡° a. ☇ p.
31	56.91	29.2	31.9	26.4	80.2	E quad	2	9.2	Ci.-S.	Cu.-N.	------	Ω ≡° a. ☇ p.
Mean	758.04	28.3	31.9	24.9	85	------	1.8	8.3	------	------	------	
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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.			Rain, 24 hours beginning 6 a. m.	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	758.02	29	33.1	26.5	64.7	N quad.	1.3	2.8	A.-Cu. SE	Cu.	------	≡° a. ☈ ⊕ ⚡° p.
2	58.25	28.4	33.1	26.1	68.5	Variable	1.7	4.3	Ci.-S.	Cu. NE	------	☈ ⌒ ⊕ p.
3	58.82	28.6	33.5	25.2	65.2	Variable	1.7	.3	Ci.	Cu. NE by E	------	↙° ☈° p.
4	58.73	28	34	25	68.7	Variable	2	1.7	Ci.	Cu. NW	------	↙° ⚡° p.
5	57.97	28.5	33.6	24.2	71	Variable	1.5	.3	Ci.-S.	Cu. NW by W	------	⚡° p.
6	57.38	29	34.5	25.5	71.7	N quad.	1.3	.3	Ci.-S.	Cu.	------	⚡ ⊕ p.
7	57.42	29.1	33	26	71.7	NE quad.	1.5	.5	Ci.-S.	Cu.	------	⚡ p.
8	57.14	29.4	34.5	26.2	70	Variable	1.7	.3	Ci.	Cu.	------	⊕ ⚡° p.
9	57.42	28.1	33.9	24.1	75.3	Variable	1.7	1.7	Ci.-S., Ci.	Cu.	24.1	↙° ☈ ● ⌒ p.
10	58.52	28	31.9	25.1	75.9	Variable	1.7	4.3	Ci.-S.	Cu. NNE	------	⊕ a. ↙° ☈ ⌒ p.
11	58.89	28.1	32.3	26	77.4	SE quad.	1.5	5.7	Ci.-S.	Cu. WNW	1.5	☈ ●° p.
12	58.90	27.5	32.4	25.6	76.9	E quad.	2	8.3	Ci.-S.	S.-Cu., Cu.	------	☈ ↙° d² p.
13	58.04	28.2	32.6	25	74.3	Variable	1	6.3	Ci.-S.	Cu., S.-Cu.	3.8	☈ ● p.
14	57.88	27.1	31.5	25	82.8	S quad.	1.5	8.5	Ci.-S.	Cu. SW	26.9	d a. ● ☈ p.
15	58.08	27.9	32.3	23.5	80.3	Variable	.8	2.5	Ci., Ci.-S.	Cu. SW	2.8	d° ⚡° p.
16	58.72	28.1	31.9	24.4	81.7	N, NW	1.2	5.2	Ci.-S.	Cu. S by W	------	● a. ☈ p.
17	58.48	28.4	33	25.5	79.7	Variable	1.2	4	Ci.-S.	Cu. NW	.3	☈ d² p.
18	58.83	28.8	32.5	25.9	77.8	Variable	1	3.7	Ci.-S. ESE	Cu., S.-Cu.	------	⚡ p.
19	58.69	29.2	33.3	25.7	76.2	Variable	1.3	.8	Ci., Ci.-S.	Cu. SE by S	------	⚡ p.
20	58.01	29.4	33.9	26.2	74	NW quad.	1.2	2.8	Ci.-S.	Cu. NNE	------	☈ p.
21	57.92	29.6	32.9	26.6	71.2	S quad.	1.2	1	Ci.	Cu. SW	------	⚡ p.
22	58.94	28.6	33.5	21.4	74.2	Variable	1.2	3.2	Ci.-S.	Cu.	19.6	☈ ●² ↙° p.
23	59.73	28.2	32.3	22.9	76.7	Variable	1.3	2	Ci.	Cu.	3	☈ ● p.
24	58.59	29	33.5	25.6	73.2	Variable	.8	2.5	Ci. W by N	Cu.	------	d a. ☈ ⊕ p.
25	57.52	28.8	32.7	25.2	74.9	SE quad.	1.3	3.3	Ci.-S. N	Cu. SW	.3	☈° ●° p.
26	57.29	28.4	32.7	25.1	78.2	S quad.	1	2.5	Ci.-S.	Cu. SSW	9.7	☈ ● ⊕ p.
27	57.44	26.8	29.4	25	88.8	SE, S	1.2	9.8	Ci.-S.	Cu.-N.	7.9	☈ a. ↙° p. ● a. p.
28	57.08	27.2	31.6	23.9	83.2	S quad.	.8	9.5	Ci.-S.	Cu.-N.	24.1	d° a. ⚡ ● p.
29	58.24	25.9	31.4	23	88.8	Variable	1	9	Ci.-S.	N. ENE	9.1	d° a. ● ↙° ☈° ⊕ p.
30	56.67	27.7	31.5	23.6	81.8	Variable	.7	6.2	Ci.-S.	Cu.	21.8	☈ ● p.
31	57.08	27.2	32.1	23.6	80	Variable	1	4	Ci.-S.	Cu.	1.3	☈ ● ⌒ p.
Mean	758.09	28.3	32.7	24.9	76	------------	1.3	3.8	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	156.2	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	759.02	26.2	30.3	23.5	84.5	NW, N	1	8.2	------------	Cu. SE, N	15.2	● a. p. ☈ p.
2	58.80	27.2	33.7	23.4	81.7	SE	.7	8.3	A.-Cu. N	Cu. SE, NE	8.1	● a. p. ☈ p.
3	58.84	28.3	35.8	22.6	75.7	Variable	.7	3.5	Ci.	Cu. SE, S	------	☈ p.
4	58.50	29.3	36.1	23.8	72.7	SE	.5	5.2	Ci.	Variable S, SW	11.2	● ☈ p.
5	57.88	28	35	21.8	75.3	SE, SW	.7	4.3	Ci.	Cu. SE	------	⌓ a. ☈ p.
6	57.28	28.8	37.5	24.2	77.8	SE, N	.8	5	Ci.-S.	Cu. SE, S	------	⌓ a. ☈ d p.
7	57.40	28.5	37	24.2	76.2	SW	.7	4.8	Ci.-S.	Cu.-N. SW	------	⌓ a. ☈ d p.
8	56.93	29.7	36.6	23.4	77.2?	W, NW	.5	4.7	A.-Cu. SW	Cu. S	------	⌓ a. ☈° p.
9	57.32	28.8	37	24	79	NW	.2	7.5	A.-S.	Cu. SW	2.5	⌓ a. ●² ↙ ☈² p.
10	58.57	27.8	35.5	23.8	82.3	SE	.3	7.7	Ci. NE	Cu.-N. SE	5.3	⌓² a. ☈ ● p.
11	59.34	27.9	36	23.2	83.6	SW, NW	.3	7.5	Ci.-Cu. SE	Cu.-N. NE, E	1.5	⌓ ≡ a. ↙° ☈ ● p.
12	59.53	27	33.4	24	81.8	SW, S	.5	8.5	Ci.-S.	S.-Cu. S	------	☈ d p.
13	58.16	27.9	35.3	23.1	80	Variable	.5	8.3	Variable NW	Cu. SE	5.3	⌓ a. ● ☈ p.
14	57.78	27.1	35	22.5	.84	S, NW	.3	8.5	Ci.-Cu. E	Cu. SE	24.9	○° ●² ☈ ↙ p.
15	57.53	28	35.3	23.5	83.5	SE, NW	1	7.7	Ci., Ci.-S.	Variable S	------	d a. ↙ ☈° p.
16	58.44	28.1	35.3	24.5	82	SE, NW	1	7.8	Ci.	Cu. SE	------	⚡ ⌓ a. ⚡² p.
17	58.58	28.8	36	24.9	82.3	Variable	.5	7.3	Ci.-S.	Cu. S, SE	------	⌓ ○° a. ⚡ p.
18	58.61	29.3	35.3	25	78.2	S	.8	7.5	Ci.	Cu.-N.	------	⌓ a. ☈ p.
19	58.42	29.8	37.1	25	77.5	NW	.7	5.8	Ci.	Cu. S	------	⌓ a. ⚡ p.
20	57.91	29.8	37.5	25	------	Variable	.7	5	Ci.	Cu. S	------	⌓ a.
21	57.77	29.9	36.5	24	70.5	SW	1.2	3.2	Ci.	Cu.	------	⌓ a.
22	58.60	30	38.1	24.2	------	SE	1	3.3	Ci.	Cu.	------	⚡ p.
23	59.61	29.5	37.1	24.5	76.7	SE, NE	1.2	7	Ci.-S., Ci. NE	Cu.-N. S, W	3.6	○² a. ● ☈² p.
24	58.47	29.6	36	23.5	76.2?	SE	.7	7.7	Ci. NE	Cu. SE	2.5	● a. p ☈ p.
25	57.14	30	36.8	24.9	74.8	NW	.8	8	Ci., Ci.-S.	Cu. S	29	⚡ a. ☈ p.
26	57.10	27.8	35.6	22.7	------	SE	1.2	8.3	Ci.	Cu. S, NW	------	●² ☈² ↙ a. ☈ d p.
27	57.18	27.7	34.4	24.4	------	SW, NW	1.2	9.7	A.-Cu. W	Cu.-N., Cu. SW, S	8.4	☈ ↙ ● p.
28	57.55	26.9	33	24	88	NW, SW	.3	8.3	------------	Cu. SE, N	5.1	● a. p. ⚡ p.
29	58.59	26.3	31.4	23	87.5	S, SE	.3	9.3	A.-Cu.	Cu.-N. SW, ENE	6.1	d ⌒ a. ● ☈ p.
30	57.81	27.4	32	24.5	85.5	S	.2	8.3	Ci., A.-Cu. S	Cu.-N., Cu. SE	------	⚡ a. ☈ ∪² p.
31	57.31	29.2	35.5	23.4	77.8?	S, SE	.3	5.8	Ci. N, NE	Cu. S	------	⌓ a. ⚡ p.
Mean	758.13	28.4	35.4	23.8	79.7	------------	.7	6.8	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	128.7	

METEOROLOGICAL DATA, ETC.—Continued.

APARRI.

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

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	759.80	26.6	31.3	24	81.1	NE	21.6	9.7	A.-Cu. SE	Cu.-N. NE, ENE	28.2	
2	59.05	26.2	31.5	23.1	90.7	Variable	13.3	9	A.-Cu. SW	Variable SE, W	1	● a. ⊤ ● ↯ p.
3	59.30	27.5	33.5	23.1	82.8	N, S	10.7	1.8	Ci.-S. SW	Cu.-N., S.-Cu.	------	⊤ p.
4	58.76	27.8	34	23.3	83.7	Variable	11.7	3.3	Ci.-S.	S.-Cu. W	------	☈ p.
5	58.06	27.5	33	22.6	84.5	SE, NE	16.6	.2	Ci.-S.	Cu.-N.	------	⊤° ↯ p.
6	57.58	28.6	33.4	25.1	83	Variable	12.1	3.5	Ci.-S.	Cu.-N.	------	☈ p.
7	57.71	27.6	34.1	24.5	85.7	SE, W	12.6	1.8	Ci.-S.	S.-Cu.	4.8	☈° ● p.
8	57.32	28	34.3	24.1	86	Variable	10.7	.5	A.-Cu.	Cu. S	------	⊤° p.
9	57.63	27.4	34	23.6	86.4	SW quad.	9.8	3.2	Ci.-S.	S.-Cu. SW	3.8	☈ ● ⌒ p.
10	58.81	27.9	33	23.5	82.5	N, S	10.7	6.7	Ci.-S. S, W	Cu.-N., S.-Cu.	7.4	☈ p.
11	59.58	27.5	33	24.5	87.8	SW, NE	10.4	8.3	A.-Cu. SE	Cu.-N. SE	3.3	⊤ ●° ↯ p.
12	59.86	25.4	32	23.6	90.2	S	10	8.5	A.-Cu. SE	S.-Cu., Cu.-N. SE	------	⊤ p.
13	58.52	27.2	33.1	23.1	85	S, NE	10.7	5.8	Ci. W	S.-Cu.	27.7	⊤° ↯ ● p.
14	58.16	26	33	22.7	86.8	S	13	8.7	Ci.-S.	S.-Cu.	7.6	☈ ● p.
15	57.73	26.5	34	23.5	88.3	S, N	11.1	5.2	Ci.-S.	S.-Cu. W	1.5	⊤ ●° ↯ p.
16	59.04	27.1	31.5	24.5	86.2	NE, N	13	9.2	Variable S, N	S.-Cu. SW	27.9	● ☈ p.
17	59.14	27.8	33	25.5	86.2	NE	16.7	5.7	Ci.-S. E	Cu.-N. SE, NE	------	◌ a. ⊤° ↯ p.
18	59.12	28	34.5	25.1	84	Variable	9.8	5.8	Ci. E	Cu.-N. SE	------	◯ a. ⊤° ↯ p.
19	58.88	28.1	35.5	24.5	85.5	SW, N	8.7	2.5	Ci.-S. W	Cu. SW	------	⊤ p.
20	58.38	28.5	34.5	25.1	84.3	NE	7.9	1.7	Ci. W	Cu.-N. SE	------	∞ a.
21	58.10	28.6	33.6	25	80	Variable	13.5	1	Ci. N, NE	S.-Cu.	------	∞
22	59.12	28.6	33.9	25.1	81.5	Variable	10.9	1	Ci., Ci.-S.	Cu.-N.	------	∞ ⊤° ↯ p.
23	59.93	28	34.1	24.2	85.2	Variable	14	3	Ci. NE	S.-Cu.	.5	⊤° ↯ ●° p.
24	58.87	28.4	33.8	24.2	79.2	S, NE	12	8.3	Ci. NE	S.-Cu.	------	☈° p.
25	57.55	28.4	33.4	25.1	81.3	S	12.4	6.8	Ci.-S. W	S.-Cu. NW	1.8	☈° ●° p.
26	57.24	27.4	33.4	23	81.3	S	13.9	9.2	Ci.-S. W	S.-Cu.	21.1	☈ ● p.
27	57.51	26.4	31.9	24	89.3	SW, N	9.1	10	Ci.-S. W	S.-Cu.	24.9	☈ ● p.
28	58	26.1	30.1	24	90	NE, SE	12.3	10	Ci.-S.	S.-Cu. E, NE	6.6	●° a. p.
29	58.87	25.9	31	23.2	89.8	SE, SW	7.2	9.7	Ci.-S., A.-Cu.	S.-Cu. E	3	●° a. p ⊤ p.
30	58.11	26.9	31.8	23.6	82.2	SW, E	10	8.3	Ci.-S.	S.-Cu. E	------	ᴗ p.
31	57.40	27.9	34.5	23.5	81.8	S, NE	10.7	1.8	A.-Cu. E	Cu.-N.	------	⊤° p.
Mean	758.49	27.4	33.2	24	84.9	------------	11.8	5.5	------------------	------------------	------	
Total	-------	------	------	------	------	------------	-------	-------	------------------	------------------	171.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.5	21.6	95	68	8	7	------	Ω° a. ⊤ ⊖ p.
2	32.2	21.9	94	70	7	8	------	Ω° d° a. ⊤ p.
3	32.6	21.6	94	69	9	8	------	
4	33.1	22.2	90	77	8	6	------	Ω° Γ² a. d° ↙ ϟ
5	32.1	23.6	96	80	7	9	------	Ω² a. ⊤ p.
6	32.5	22.1	95	75	9	8	------	Ω² ↙ a. ⊤ ⊍ ϟ p.
7	33.1	21.7	92	86	8	8	1.3	Ω² a. d² ⊤ ●° p.
8	32	22.4	95	75	7	7	2	Ω² ● a.
9	33	22.3	96	81	8	10	3.8	Ω² a. ●° p.
10	33.1	22.6	93	79	9	8	20.3	Ω² ●² Γϟ a.
11	29.7	22.2	94	83	9	9	3.6	Ω² a. d ● p.
12	30.1	23	96	76	9	9	9.7	Ω² d° ●² a.
13	30.9	22.2	94	87	8	9	2	Ω a. ●° p.
14	32.5	21.6	97	77	9	8	------	Ω ↙ a.
15	32.6	21.6	96	58	7	8	------	Ω a.
16	32.3	21.7	93	67	8	8	4.6	Ω a. ● p.
17	31.6	22.4	93	75	7	7	4.1	Ω ● a. ● ϟ p.
18	32.6	21.6	91	72	8	7	------	Ω² a.
19	32.5	22	97	71	8	8	------	Ω² a. ⊤ p.
20	30.6	22.4	92	70	6	9	------	Ω² ⊤ a. d² p.
21	29.2	21.5	93	91	9	9	21.8	●² a. ● p.
22	33.1	21.6	98	54	9	7	------	↙° a.
23	33.2	22.2	92	64	8	6	------	Ω a. ⌒ p.
24	32.1	22.4	93	82	6	7	5.1	●° a. ● p.
25	31.7	22.7	93	66	10	7	7.4	d² ● a.
26	32.3	22.4	96	75	7	9	4.8	● a. d° ϟ p.
27	34.2	21.6	96	69	7	8	------	Ω² a.
28	34	22	92	72	7	9	------	Ω² a. ⊍ p.
29	31.5	23	95	78	8	9	------	Ω a. d° ϟ p,
30	31.6	22.2	92	73	9	8	10.4	●² a. d° ● ⊤ p.
31	32.7	22	96	77	7	9	2.8	Ω² a. d° ● ⊍ p.
Mean	32.2	22.1	94.2	74.1	7.9	8	------	
Total	------	------	------	------	------	------	103.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.3	22	97	58	3	9	------	≡ Ω a.
2	31.5	22.5	96	63	2	9	------	Ω a.
3	32.7	22	93	66	3	8	------	Ω ≡ a.
4	30.8	23	96	78	4	9	------	≡ Ω a. Γϟ p.
5	29.8	23.2	93	79	10	10	1	Ω° ⊤° a. p p.
6	31.3	22.2	96	85	6	10	------	≡ a. ⊤ d ⊍ p.
7	30.9	22.2	97	75	10	10	1.5	≡ ⊤ a. d ⊤ ⊍ p.
8	32.3	22	97	57	6	10	4.3	≡ Ω a. ● p.
9	32.3	22.5	94	81	8	10	4.6	≡ Ω a. ● p.
10	31.3	22.6	96	73	4	6	------	≡ Ω a.
11	28.8	23	97	79	10	10	3.8	d a. ● p.
12	30.5	23.6	93	79	10	10	.5	p° ≡ d a.
13	29.8	22	96	98	10	10	17.8	Ω a. d ⊤ ● p.
14	30.4	22.4	95	75	3	10	5.1	≡ Ω a. ● p.
15	30.3	21.6	95	82	4	10	2.5	● p.
16	32.8	22	96	76	10	10	.5	≡ Ω a. d p.
17	31.8	22	96	76	2	10	.8	≡ Ω a. d ⊤ p.
18	33.7	22.7	95	75	10	10	------	≡ Ω a. ⊤ p.
19	33.7	23.4	93	94	6	10	12.4	Ω d a. ● Γϟ p.
20	30.5	23	96	95	10	10	9.7	Ω a. d Γϟ ● p.
21	28.3	22.5	97	84	10	10	24.6	d a. p. Γϟ ● p.
22	31.8	22.7	96	90	10	9	.8	d a. ● ⊤ p.
23	31.5	22.6	98	76	0	10	------	Ω a.
24	32.3	22	97	95	2	10	7.4	≡ Ω a. ● ⊤ p.
25	30.3	22.8	96	91	10	10	37.1	p d a. ● ⊤ p.
26	31.8	21.8	94	73	9	10	2.5	Ω a. ● ⊤ p° p.
27	32.3	22.3	96	70	0	6	------	≡ Ω a. ⊖ p.
28	31.7	22	96	76	0	5	------	≡ Ω a.
29	31.3	23	93	71	10	10	3.8	Ω d a. ● p.
30	30.5	23	96	78	10	10	.8	Ω a. d p.
31	30.8	22.2	98	84	8	10	1.3	Ω a. d a. p.
Mean	31.3	22.5	95.6	78.5	6.5	9.4	------	
Total	------	------	------	------	------	------	142.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.7	22.6	81	68	7	8	------	Ω ≡ a. ○° ∞ p.
2	30.7	23.2	85	70	6	8	------	Γϟ ≡ a. ○° ∞ ⊖
3	31.2	23.6	88	72	9	4	------	Ω ≡ ⊕ a.
4	30.2	23.9	90	76	3	8	------	Γϟ Ω° ≡ ○° ⊍°
5	28.4	23.6	87	82	9	10	------	⊖ Ω ≡ ○ ⊕ ⊍°
6	30.2	23	88	77	3	8	------	Ω° ≡ ○° a. Γϟ p.
7	29.6	23.9	83	79	9	9	------	d° ≡ a. ⊕ ⊤ p.
8	32.2	23.7	86	62	3	5	------	Ω ≡ a. ⊕° ⊤ ∞ ϟ
9	32.4	24.1	89	71	8	9	------	⊖° Ω° ≡ ○² a. ⊤
10	30.4	23.4	85	78	4	10	------	⊖° Ω ≡ ○° a. Γϟ
11	29	24.2	84	80	10	10	5.6	Γϟ Ω° d° a. ϟ p.
12	30.2	23.7	96	70	10	6	.8	≡ d ○° a.
13	31.4	23.5	89	71	9	6	------	Ω ≡ ○ a. ⊕° p.
14	31.4	23	89	68	5	5	------	Ω ≡ ⊕ a. ○ p.
15	31.7	23.9	85	75	4	8	------	Ω ≡° a.
16	31.2	23.2	85	64	9	9	------	Ω ≡ a. Γϟ p.
17	30.7	23.8	86	73	8	5	.3	Ω ≡° a. Γϟ p.
18	31.2	23.8	92	75	10	6	------	d ⊤ a. ⊕ p.
19	31.4	23.9	84	83	8	5	14.7	Ω ≡ ● a. ⊕° d
20	32.2	23.9	91	71	6	8	6.6	d ≡ a. Γϟ p.
21	29.3	23.3	98	73	10	8	41.4	d a. ⊕² ○° Γϟ p.
22	30.5	22.4	90	69	10	9	.5	≡ d° a. ϟ p.
23	31.2	23.8	82	76	8	6	------	⊤ a.
24	30.2	23	90	77	8	9	3.8	○ a. Γϟ p.
25	29.7	24.5	90	85	10	9	1.5	p ≡ ⌒ ○ ⊕² Γϟ
26	31	23.9	89	78	8	6	------	Ω ≡° a.
27	30.9	23.6	85	69	3	5	------	Ω ≡ a. ⊕ ⊤ p.
28	31.4	23.3	86	64	3	8	------	Ω a. ○ ⊤ p.
29	30.9	23.6	88	66	10	6	15.5	ϟ ● a. ○° ⊍ p.
30	29.6	23.9	97	76	10	8	2.8	Γϟ d ≡ a. ⊕° d
31	29.7	24	89	72	7	8	4.1	≡ d ⊤ a. ⊍ p.
Mean	30.7	23.6	88	73.2	73	74	------	
Total	------	------	------	------	------	------	97.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.7	22.2	95	63	6	7	------	
2	33.6	21.8	96	60	5	6	------	⊤ d ϟ p.
3	34.4	22.5	95	60	7	7	------	⊤ d p.
4	35.8	22.5	97	56	5	6	33.5	⊤ ϟ ● p.
5	35.1	23.1	97	55	5	7	------	
6	33.7	23.8	92	------	5	7	21.1	⊤ ϟ ● p.
7	34.2	22.6	96	68	6	7	15.7	● ϟ p.
8	34.2	22.6	97	62	5	5	30	● ⊤ p.
9	34.2	23.3	96	61	6	7	16	● Γϟ p.
10	33.2	22.3	96	69	6	5	21.6	● ϟ p.
11	32.1	22.9	98	78	7	7	19.8	● ⊤ ϟ p.
12	32.2	22.8	98	69	6	5	------	
13	33.1	22.8	97	64	7	6	13.5	● Γϟ p.
14	33.7	23.3	96	66	6	7	14.2	● ϟ p.
15	33.8	23	99	------	5	6	22.6	
16	32.7	23.2	93	------	7	5	------	● a.
17	33.3	22.9	93	72	6	7	31	● ⊤ p.
18	33.2	21.7	96	71	5	8	14.2	● ⊤ ϟ p.
19	31.6	22.7	98	81	8	9	------	p p.
20	33.1	21.5	97	70	7	5	33.8	⊤ ϟ p.
21	31.8	23.1	99	74	10	7	------	● a.
22	33.2	22.5	98	70	6	7	------	≡ a. ⊤ p.
23	35.3	22.7	96	65	5	6	------	ϟ ⊤ p.
24	36.3	23	95	69	7	5	------	Γϟ p.
25	32.3	23.8	97	75	7	8	23.6	⊤ ϟ ● p.
26	34.2	22.9	99	66	6	5	------	
27	34.4	23.9	97	64	6	7	------	
28	34.2	22.7	97	61	6	5	------	
29	32.2	23.2	97	71	5	7	------	
30	33.7	23.1	97	67	6	6	------	
31	34.6	23	92	64	7	6	27.2	● ⊤ ϟ p.
Mean	33.6	22.8	96.3	66.8	6.2	6.4	------	
Total	------	------	------	------	------	------	337.8	

METEOROLOGICAL DATA, ETC.—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	21.3	95	56	9	9	------	↯² ᐸ p.
2	33.1	23.2	93	65	3	2	------	⌓ a. ↯ ᐸ p.
3	34.2	23.2	90	63	8	8	------	↯ p.
4	35	24.1	88	59	1	3	------	⛈ p.
5	32.1	23.5	85	70	8	6	------	ᐸ p.
6	34	23.6	92	71	4	10	20.3	○° a. ⛈ ↯ ●² p.
7	32.3	21.3	93	67	4	4	------	≡ a. ↯ ᐸ p.
8	33.8	22.6	86	70	2	10	------	≡ a. ⛈° p.
9	33.6	22.6	92	57	8	8	------	↯ ᐸ p.
10	32	21.3	96	63	3	8	12.7	≡² a. ⛈ ● p.
11	32.1	22.1	91	64	6	8	11.4	● ᐸ p.
12	31.5	23.5	93	75	9	10	------	≡ a. ᐸ p.
13	32.1	22.1	88	67	6	3	------	⌓ ≡² a. ⛈ p.
14	33.2	23	97	65	4	4	------	⌓ a. ᐸ p.
15	33.5	22	91	60	6	3	------	⌓ ↯ a.
16	30.6	23.2	93	65	10	6	------	ᐸ p.
17	32.2	21.8	96	63	8	3	2.5	⌓ ≡² a. ● ᐸ p.
18	32.3	21.2	93	54	10	4	24.1	⛈ ● p.
19	32.2	21.1	97	67	10	4	30.5	≡² a. ⊤ ↯ ●² p.
20	31.8	20.1	91	64	1	3	10.2	≡ ↯ a. ⛈ ● p.
21	30	22.2	95	71	10	10	------	ᐸ p.
22	32	23	92	76	4	4	2.5	⌓ d a. ⛈ ● p.
23	32	22.2	95	64	8	3	------	⌓ a. ↯ p.
24	32.1	23.1	93	65	6	3	.8	⌓ a. ↯ ● ⛈ p.
25	32.3	23.8	95	64	3	4	10.2	↯ a. ● ᐸ p.
26	32.1	23	95	60	4	5	------	↯ a. d ⋓² ᐸ p.
27	33.3	20.1	97	63	1	8	------	⌓ ↯ a. ⋓² ᐸ p.
28	33.5	19 ?	85	82	6	10	38.1	⌓° a. ●° p.
29	30.8	23	90	74	10	8	2.5	●² d a. ● ⋓² ᐸ
30	30.6	21.1	97	71	8	9	------	ᐸ p.
31	31.2	22.4	93	66	8	9	------	⌓ ≡² a. ⋓ ᐸ p.
Mean	32.4	22.2	92.5	65.8	6.1	6.1	------	
Total	------	------	------	------	------	------	165.8	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	33.4	21.5	83	55	5	8	------	≡ a.
2	34.4	21.7	95	57	4	5	1.5	⌓° ≡ a. ⛈ d² p.
3	34.9	23.4	89	54	8	7	------	ᐸ° p.
4	34.8	22.5	87	54	2	6	------	⌓° ≡ a. ⛈° p.
5	33.7	23	87	58	2	9	------	≡ a. ↯ ⛈° p.
6	35.5	23.7	89	55	6	8	------	⛈° p.
7	34.9	23.1	85	70	8	9	------	⛈ ⋓ p.
8	35.4	22.8	85	52	5	9	.5	≡° a. ⛈ ↯ ●° p
9	33.8	23.7	90	79	9	10	11.4	d ⛈ ● p.
10	33.3	22.1	92	64	2	9	3.6	●° ⛈° p.
11	33.6	22.7	88	62	7	7	3	d° ⛈ ●° p.
12	33.8	22.9	93	65	6	7	------	⛈ p.
13	34.5	22.5	90	58	8	4	------	⛈ p.
14	34.5	22.5	84	61	4	8	------	⛈ p.
15	34.8	23.2	87	58	2	4	------	≡ a. ↯ p.
16	32	24.2	75	56	9	9	3	↯° a. d° p.
17	34.9	21.3	88	56	4	7	2	d ᐸ° p.
18	34.8	21.8	89	54	6	7	3.6	d² ⛈ p.
19	34.1	22.3	90	62	9	9	------	↯ ᐸ p.
20	34.1	22.3	92	61	5	9	5.1	⛈ d² d° p.
21	33.2	23.4	93	64	9	9	------	d² d° ⛈ p.
22	33.4	22.5	96	58	5	4	6.4	↯ d ● ⛈ p.
23	33.6	23	91	56	8	4	------	↯ ⛈° p.
24	34.4	22.3	85	55	6	7	1	↯° a. d° p.
25	35.3	22.8	86	57	3	7	19.6	●² d² ⛈² p.
26	33.6	23	90	64	10	9	11.4	⛈ ● d p.
27	33.8	22.3	93	60	9	5	------	⌒ ⋓² p.
28	34	23.4	87	57	4	7	------	⌓ a.
29	33.2	23.4	90	64	7	9	2.5	⌓ a. ●° p.
30	33.2	23.1	88	62	8	9	1.5	●° p.
31	32.7	22.8	93	63	4	5	.5	⛈ d p.
Mean	34.1	22.7	88.7	59.7	5.9	7.3	------	
Total	------	------	------	------	------	------	76.6	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	33.7	23.4	96	58	8	5	------	⌓ a.
2	33.9	24.2	92	59	7	4	------	⌓ a. ᐸ p.
3	34.7	24.2	90	55	8	4	------	
4	33.4	26.5	80	66	9	5	3.8	● a.
5	33.6	24.4	91	72	7	10	------	⌓ a. ○ ⋓ p.
6	33	23.5	96	63	8	9	------	⌓ a. ○ ⋓ p.
7	32.5	23	97	58	7	8	------	⌓ a. ○ ⊤° p.
8	34.5	22.7	91	57	6	7	------	⌓ a. ○ ᐸ p.
9	33.6	24.5	92	72	10	10	8.9	⌓ a. ● ᐸ p.
10	31.8	24.2	95	60	8	5	------	
11	------	24.7	89	56	7	5	------	⌓ a. ⊤° p.
12	34.2	23.9	95	59	7	9	------	⊤° p.
13	------	23.8	91	59	6	5	------	⌓ a.
14	34.1	23.5	96	65	9	6	------	⌓ a.
15	33.9	24	94	62	7	5	------	⌓ a.
16	34.2	24	88	57	6	8	------	⊤° p.
17	35.5	23.6	93	------	8	7	------	⌓ a. ⛈ p.
18	35.3	24	96	------	6	5	------	⌓ ≡ a. ⛈ p.
19	33.6	24.7	94	64	10	5	3	● ⊤° p.
20	34.1	24	87	62	10	7	------	● a. ⛈ p.
21	33.8	24.2	89	59	6	9	------	⌓ a. ⌒ ⛈ p.
22	34.5	23.5	96	63	7	8	------	⊤° ᐸ p.
23	35.1	24.5	90	58	9	6	------	
24	35.1	23.1	91	59	8	4	------	
25	34.6	23.7	94	64	9	9	------	⛈ p.
26	35	22.8	97	85	5	10	?	⌓ a. ● ○ ⋓ ᐸ p.
27	35.3	23	97	56	6	7	------	⊤° p.
28	35.4	23.2	94	63	7	7	------	⌓ a. ⊤° p.
29	34.8	24.2	92	61	6	7	2.3	
30	31.2	23.1	89	75	10	10	1.8	⌒ a. ● a. p.
31	31.4	23	96	68	8	7	3.3	● a. ○ ᐸ p.
Mean	34	23.8	92.5	62.6	7.6	6.9	------	
Total	------	------	------	------	------	------	23.1[1]	

BUTUAN.

[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	34.3	23.5	90	52	4	7	1	⌓ a. ● p.
2	33.2	22.5	96	88	4	9	21.1	⌓ ● a. ● ⛈ p.
3	34.2	23.6	96	65	7	6	------	⌓ a.
4	33.5	23.8	92	74	3	7	------	⌓ a.
5	34	23.6	97	62	3	6	------	⌓ a. ⛈ p.
6	33.3	23.6	96	87	7	8	------	⌓ a. ⛈ d° p.
7	32.3	23.8	96	76	10	10	------	⌓ a. ⛈ p° p.
8	33.5	23.9	91	67	7	7	25.1	⌓ ∞² a. ⛈² ● p.
9	34.2	22.8	92	69	9	10	3.6	⌓ a. ⛈ ↯ ●° p.
10	28.8	23	97	85	7	10	------	⌓ a. p a. p.
11	34.5	23.1	97	85	6	8	5.8	⌓ a. ⛈ ● p.
12	34.7	23.3	95	63	7	5	.3	p a. ●° ⛈ d p.
13	35.2	23.8	91	54	7	7	------	⌓ a. ⌒ p.
14	35.7	22.2	92	81	7	8	.3	⌓ a. d ↯ p.
15	35.3	22.5	97	54	3	4	------	⌓ a.
16	28.2	23.7	92	78	10	10	11.2	⌓ ● a. ●° d° p.
17	35	22.7	96	69	7	8	8.1	⌓ a. ⛈ ● p.
18	32.7	23	96	64	4	8	.5	⌓ a. ⛈ d ●° p.
19	34.1	23.1	93	75	7	10	.3	⌓ a. d p.
20	33.8	23.5	96	87	5	8	7.6	⌓ a. ↯ ● ⛈ p.
21	33.5	23.2	96	66	7	7	------	⌓ a. ↯ p.
22	35.6	22.1	94	62	6	7	------	⌓ ≡ a. p° p.
23	33.8	22	93	56	6	7	------	⌓ a.
24	34.6	23.6	96	58	9	8	------	⌓ ≡° a. p° ⛈ p.
25	36.5	24.5	91	59	1	5	4.6	⌓ a. ● ⛈ p.
26	34.8	23.1	92	76	3	8	4.3	⌓ a. ⛈ ● p.
27	33.3	23	97	54	4	7	------	⌓ a. ⊤ ᐸ p.
28	34.7	24.4	88	59	6	9	------	⌓ a. ⛈ ⌒ p.
29	33.1	23.6	94	83	8	10	2	⌓ ● a. ● d ⊖ p.
30	35	23.5	91	56	7	5	------	⌓ a. ⛈ ⊖ p.
31	36.1	22.7	94	54	2	7	1.8	⌓ a. ⛈ ● p.
Mean	33.9	23.2	94	68.3	5.9	7.6	------	
Total	------	------	------	------	------	------	97.6	

[1] 30 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.1	23.8	76	52	10	4	------	∞° ψ^2 p.
2	32.4	24.1	87	66	10	8	------	Ω a. ⊖ ψ ↯ p.
3	31.4	24.8	83	62	10	2	------	↙° a. ↯^{2} ψ ⊖ p.
4	32	23.8	89	77	10	8	------	Ω a. ψ^2 ↯ p.
5	30.7	24	87	75	10	9	------	d° p.
6	31.3	24.6	85	77	10	10	10.2	d a. ● ψ° ☈^{2} p.
7	32.1	24.5	88	88	10	10	32.3	d ●^{2} ☈ ψ^2 p.
8	29.5	23.5	92	85	10	10	------	☈^{2} p.
9	30	25	92	88	10	10	5.3	Ω ●° a. ∞^{2} p.
10	30	23.5	93	88	10	10	------	↯ p.
11	30.1	24	85	------	10	10	------	Ω° a. ∞^{2} p.
12	30.4	24.2	93	------	10	8	------	d° ≡° d a. ↯^{2} p.
13	31.6	23.9	91	83	10	5	------	∞ p.
14	33	23.8	91	75	10	9	------	Ω a. ↯^{2} p.
15	33.5	23	95	81	10	8	4.1	∞^{2} p.
16	31.1	24.1	90	78	10	10	8.6	T^2 a. d^2 p.
17	29.5	23.2	93	89	10	7	9.1	↙ ● p.
18	32.5	24	96	------	10	10	------	∞^{2} p.
19	32.5	24.2	90	70	10	10	------	
20	32.6	24.5	95	83	10	8	------	d° a. ↯^{2} p.
21	32.5	26	92	89	10	8	------	Ω^2 a. ↯^{2} ψ p.
22	32	23.6	94	77	4	3	------	↯^{2} ψ^2 p.
23	33	25.4?	89?	90	3	7	------	∞^{2} ψ ↯ p.
24	29.9	24.4	90	81	8	7	------	↯ ⊖ p.
25	33	24.4	95	89	3	2	------	↯^{2} p.
26	32.5	25	93	88	4	2	------	↯ ψ° ⊖ p.
27	31.2	24.4	93	88	6	4	------	T^2 a. p. ∞^{2} ↯ ψ
28	32.5	24.5	90	------	10	10	------	Ω a. d° ∞^{2} ↯^{2} ψ°
29	33.4	25.4	91	86	10	10	------	d° a. ↯^{2} ψ^2 p.
30	32	23.6	93	89	10	8	------	d° ∞^{2} ↯ ψ ⊖ p.
31	30	25.2	92	87	10	2	------	d° p.
Mean	31.6	24.3	90.4	80.8	9	7.4	------	
Total	------	------	------	------	------	------	69.6	

SAN JOSE BUENAVISTA.

[$\phi=10°\ 44'$ N; $\lambda=121°\ 55'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.5	22	82	58	2	4	------	d p.
2	34.8	23.2	85	59	1	3	------	
3	35	23.2	89	58	1	2	------	↯ ⊖ p.
4	35.1	23.3	90	61	3	10	1.3	T ● p.
5	34.8	23.4	89	67	8	10	------	T ↯ p.
6	35.2	24.6	84	74	10	10	------	☈ p.
7	34.4	24.2	86	75	10	10	3	● T a. p. ↯ p.
8	34.9	23	90	------	3	7	26.9	T a. p. ● p.
9	31.5	24.1	92	89	5	10	24.6	T a. ● a. p.
10	32.5	22.6	91	72	10	10	------	☈ p.
11	32	23.6	90	63	10	6	15.7	● ☈ p.
12	31.4	23.3	93	88	10	10	8.1	● d ↯ p.
13	32.4	23.5	93	69	8	4	------	☈ p.
14	32.6	23.4	87	69	8	2	.3	T d ↯ p.
15	32.5	23.7	90	70	2	10	1.5	●° p.
16	32.4	24.1	92	65	6	10	3	● T p.
17	28.9	24	90	87	10	10	5.1	●° a. ● p.
18	31.7	22.6	91	71	0	2	------	T ⌒ ↯ p.
19	32.9	23.7	88	68	1	5	18.3	d ● ↯ p.
20	32.5	23.1	85	69	4	8	27.2	● p.
21	32.5	23	91	66	10	8	12.7	↙ a. ● ☈ p.
22	32.1	23.1	96	75	5	3	17.5	⌒ ●° ☈ ● p.
23	32	23.4	92	75	2	10	3.3	● T ↯ p.
24	32.1	24.4	82?	70	10	4	20.3	d ● v ☈ p.
25	31	23.8	92	88	8	10	4.1	T ● a.
26	31	24.2	92	81	10	4	7.1	d ● a.
27	32.4	24	92	72	8	6	?	● a.
28	32.6	23.7	86	77	10	10	20.8	T ● ↯^{2} p.
29	30.5	24.5	96	86	10	10	24.6	d° a. T ● ψ ⊖ p.
30	31.7	23.5	92	87	10	10	45.5	d a. ● ☈ v p.
31	31.4	22.9	97	82	10	10	------	
Mean	32.6	23.5	89.8	73	6.6	7.4	------	
Total	------	------	------	------	------	------	290.9[1]	

TUBURAN.

[$\phi=10°\ 45'$ N; $\lambda=123°\ 50'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.1	23.5	92	61	3	7	------	∞^{2} p.
2	35.9	23.2	90	58	3	6	------	≡° a. ↯° p.
3	35	24.2	90	------	3	7	------	≡° a.
4	35.7	24.1	90	60	4	4	------	
5	34.8	24.6	83	64	9	4	------	○° a. ↯^{2} p.
6	36.1	23.9	91	37	8	8	------	☈ d p.
7	30.6	25.2	84	74	9	10	4.1	☈^{2} ●° a. ○° T^2 p.
8	33.4	24.3	93	65	8	8	2.3	●° a. p. ☈ ⌒ p.
9	31.6	24.5	90	87	9	10	------	☈ d p.
10	31.9	23.2	95	84	8	9	5.6	●^{2} T ○° ↯^{2} p.
11	33.4	23.5	95	71	6	9	------	⌒ a. ○° ↯^{2} p.
12	32.9	24.5	92	71	10	9	------	d a. ↯° p.
13	34.3	23.5	92	60	10	4	------	
14	34.1	23.1	91	64	9	4	------	↯^{2} p.
15	35.8	24.1	90	61	3	5	------	≡^{2} a. ↯^{2} p.
16	29.9	24.5	87	82	9	10	17.3	T^2 ●^{2} a. ↯^{2} p.
17	33.2	23.1	91	57	8	8	------	☈ d p.
18	34.6	23.4	92	------	5	5	------	↯ p.
19	34.4	23.9	91	44	4	4	------	↯^{2} p.
20	33.2	24.1	88	64	8	9	------	d a. ○^{2} p.
21	35.8	23.6	91	44	4	7	------	↯^{2} p.
22	35.4	24	86	41	3	2	------	↯^{2} p.
23	35.7	24.4	87	60	4	9	------	T a. ψ^2 ↯^{2} p.
24	36.2	24.3	87	------	5	8	------	↯^{2} p.
25	35.4	24.5	88	62	5	8	------	d° ↯^{2} p.
26	34.1	24.3	88	86	8	10	11.4	●^{2} T^2 p.
27	32.4	24.2	92	71	8	9	------	T a. ☈^{2} p.
28	34.7	24.1	92	------	10	8	------	T^2 a, ↯^{2} ψ^2 p.
29	34.1	24.2	91	63	9	9	------	○° ↯° ψ° p.
30	31.9	24.4	91	83	8	10	------	d a. p. ☈^{2} p.
31	33.9	23.6	93	62	9	5	------	↯^{2} p.
Mean	34	24	90.1	64.3	6.7	7.3	------	
Total	------	------	------	------	------	------	40.7	

BORONGAN.

[$\phi=11°\ 37'$ N; $\lambda=125°\ 26'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a.m.	Relative humidity. 2 p.m.	Cloudiness. 6 a.m.	Cloudiness. 2 p.m.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31	22.3	97	67	6	5	------	● a.
2	30.1	22.2	96	69	8	7	23.1	≡ Ω a. ☈^{2} ●^{2} p.
3	31.3	22.9	97	70	4	6	------	≡ a.
4	31.2	23.3	93	71	5	5	------	≡ Ω p° a.
5	31.2	23.4	95	71	6	8	------	≡ Ω a. ψ° p.
6	31.4	24.1	97	91	4	9	15	≡ ● a. ● p.
7	30.9	24	97	81	8	10	5.1	≡ ● a. ☈ ● p.
8	30.7	23.8	97	70	9	8	4.3	● a. ↯ p.
9	28.6	23.9	96	81	10	9	10.4	☈ ● a. p.
10	31.2	23	95	72	4	7	------	≡ Ω a. T ↯ p.
11	31.3	23.3	93	74	5	6	33.8	≡ Ω a.
12	31	23.7	97	71	8	6	------	☈ ●^{2} ○° a. ○ p.
13	31.2	22.3	93	67	4	5	------	≡ Ω a. ↯ p.
14	31.8	23.2	93	71	4	7	------	≡ Ω a.
15	31.1	23.3	93	67	3	5	9.9	≡ Ω a.
16	26.7	23.9	95	83	10	10	6.9	☈ ● a. d p.
17	31.3	21.8	95	69	2	4	9.4	≡ Ω a. ● ↯ p.
18	31.6	23.4	93	72	2	6	------	☈ ≡ Ω a.
19	31.5	23.2	95	69	4	7	1.3	≡ Ω a. ● p.
20	31.2	22.3	97	73	10	8	36.1	↙ ● a. ●^{2} p.
21	31	23.1	97	69	6	8	4.1	●^{2} ≡ ↙ ● a.
22	31.8	23.6	95	71	6	5	------	≡ Ω a.
23	31.7	23.3	96	70	4	9	1	≡ Ω a. ○ p.
24	32	24.7	93	79	9	6	------	☈ ●° ≡ a. ○ a. p.
25	31.7	23.9	93	69	5	6	------	≡ Ω a. ☈ p.
26	32.1	23.7	95	71	3	4	------	≡ Ω ☈ a.
27	31.9	23.9	96	72	2	7	6.9	≡ Ω a. ↯ ● p.
28	31.7	23.7	95	71	5	8	4.3	≡ Ω a. ψ ↯ p.
29	31.3	23.5	95	72	6	8	6.4	● ≡ Ω ○ a. ●° p.
30	29.7	24.1	92	86	10	9	17	↙ ● T a. ● ↯ p.
31	31.2	23.2	95	67	6	4	------	↙ ● a. ↯ p.
Mean	31	23.4	95	72.8	5.7	6.8	------	
Total	------	------	------	------	------	------	195	

[1] 30 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

PALANOC.

[ϕ=12° 22′ N; λ=123° 37′ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.2	26.2	92	53	6	8	------	
2	34.2	25.4	90	66	8	7	------	
3	34.2	26	93	------	8	6	------	
4	35.5	26.4	96	56	8	6	------	
5	34	26.2	92	61	9	8	------	⊤ p.
6	33.8	26.5	91	------	8	8	------	
7	35	25.6	95	68	8	9	------	⊤ p.
8	35.2	26	95	57	9	9	------	
9	30.4	26.2	99	88	10	10	41.9	⊤ p.
10	29.8	24	92	91	8	9	16.8	⊤ p.
11	33.5	24.8	98	63	10	9	------	⊤ p.
12	33	------	96	73	10	10	------	⊤ p.
13	33.4	25.2	98	62	8	8	------	
14	33.5	25.2	95	62	8	7	3.3	
15	33.5	23.8	97	61	7	6	------	
16	32.5	24.6	93	74	7	9	------	⊤ p.
17	30.5	26	95	90	8	9	10.9	⊤ p.
18	33.6	25.4	98	------	8	8	------	
19	33.2	26.2	94	69	8	7	------	
20	34.2	25.2	88	59	8	7	.3	
21	34.2	26.2	94	------	8	8	------	
22	34.5	26	93	------	7	4	------	
23	34.4	26	95	------	7	9	7.4	
24	33.4	25	98	------	7	8	------	
25	33.8	26.4	98	------	7	7	------	
26	33	26.4	98	------	9	8	2	⌈ p.
27	34	25.6	92	------	8	8	------	⊤ p.
28	34.2	26.2	98	------	10	10	1.5	
29	34.2	25.6	95	88	8	8	.3	⊤ p.
30	34.5	26.2	92	88	6	9	------	
31	35	26.2	88	75	6	6	------	
Mean	33.6	25.7	94.5	70.2	8	7.9	------	
Total	------	------	------	------	------	------	84.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.1	25.8	83	62	6	4	------	↙° a. p. ⟨ p.
2	34	25.8	83	54	8	4	------	↙° ⌈⟨ p.
3	34	27.4	82	67	3	1	1	⟨° ● ⊤ p.
4	34.8	26.2	83	57	4	3	------	⟨ p.
5	34	26.8	82	62	5	5	24.9	⌈⟨² ●² ◡² p.
6	33.4	25.6	90	66	6	3	.5	◯° a. ⌈⟨² d p.
7	31.9	27	83	74	8	8	3.3	⌈⟨° ●° ◯² ⊕ ⌈⟨² ◡
8	31.2	26.3	92	74	9	8	3.8	⌈⟨° ●° a. d° ⌈⟨² ●
9	30.2	25.4	96	88	8	10	6.6	d° ●° a. p. ↙° ⟨²
10	31.2	23.6	96	70	9	7	.5	≡° ⌒ a. ⟨ ●° p.
11	30.7	24.4	96	76	6	10	------	⟨° p° a. ⟨ p.
12	32.5	25.1	86	74	7	10	1.8	●° a. p. ⟨ p.
13	32.6	25.5	94	71	10	10	.3	⌒° ●° a. ⟨° p.
14	33.1	25	93	70	4	5	------	⟨° a. ⟨ p.
15	32.6	24.2	96	72	10	8	------	⟨ p.
16	32.2	24.2	94	61	4	6	1	d a. ⟨² p.
17	32.2	24.8	93	69	5	10	.8	⌈⟨² ●° a. p. p° p.
18	32.2	24	93	71	5	5	------	d° a. ⟨° p.
19	34.4	24.4	92	61	6	1	------	
20	34.1	25.4	81	61	4	1	------	⟨° p.
21	35.4	25.5	81	53	2	2	------	⌈⟨ ↙° a. p.
22	35.3	25.4	88	50	10	1	7.6	↙° ●² ⌈⟨ p.
23	33.3	24.4	92	73	10	6	------	⌈⟨ a. p. d° p.
24	34.3	24.7	91	64	7	6	.5	⟨° ●° p.
25	34.9	25.7	85	63	9	6	.5	p a. ↙° ●° ⊤° ⟨°
26	34.7	25.7	92	57	10	5	55.4	d° ●° ⌈⟨ a. ⌈⟨ ●²
27	33.3	24.5	87	66	8	8	------	⟨° ◡² ⏀° .p
28	32	25	93	67	10	10	1	⌒ p° a. d° ●° ⌈⟨°
29	31	24.9	93	75	10	8	19.3	⊤ ●² a. ⟨ ◡ ⏀ p.
30	32.6	25.1	89	62	8	2	------	⟨ d° ↙° p.
31	31.5	25	92	73	10	7	.8	d ● a. ⌈⟨ ◡² p.
Mean	33	25.3	89.4	66.5	7.1	5.8	------	
Total	------	------	------	------	------	------	129.6	

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	31.1	22.6	87	73	3	6	0.5	
2	31	22.4	92	70	5	7	3	
3	31.1	23.7	89	69	5	6	1.3	
4	31.3	23.8	95	71	5	6	.8	
5	31.2	23.8	90	78	8	8	5.1	
6	31.1	23.9	93	94	7	9	1.3	
7	27.8	24.1	97	90	8	10	7.6	
8	29.4	24.1	95	82	5	7	12.7	
9	29.6	24.8	90	83	9	8	4.8	
10	30.7	23.2	92	68	5	10	6.6	
11	30.6	23.3	94	74	7	8	.8	
12	32.4	24.2	84	70	7	8	2.8	
13	31.5	23.2	89	68	5	6	------	
14	31.1	22	93	70	3	7	------	
15	31.1	23	84	64	3	5	------	
16	29.4	23.9	93	96	7	10	12.7	
17	31	23.3	92	69	10	6	2.8	
18	31.7	23.4	96	73	2	7	------	
19	30.8	22.5	95	66	3	3	------	
20	31	22.4	96	88	2	9	------	
21	32.2	23.3	97	66	3	5	18	
22	32.5	23.5	96	64	3	3	------	
23	31.5	23.6	96	70	4	8	------	
24	30.6	24	96	77	7	8	1	
25	32.2	23.9	96	76	3	6	1	
26	32.8	23.8	96	79	2	5	2.3	
27	31.7	23.5	96	74	3	7	6.6	
28	31.7	24.3	95	73	8	9	2.8	
29	32.3	24.1	87	68	8	6	------	
30	31.2	25.1	87	76	8	8	.5	
31	32.7	24.5	86	67	4	5	.3	
Mean	31.2	23.6	92.4	74.4	5.2	7	------	
Total	------	------	------	------	------	------	95.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.1	25	------	------	8	6	------	
2	31.6	24	------	------	7	4	2	⊤ ● p.
3	35	23.2	------	------	8	6	------	
4	32.2	24.8	------	------	5	5	------	
5	32.1	25	------	------	6	8	3	● ⟨ p.
6	31.1	24.8	------	------	8	8	23.6	● a. ↙ ● ⌈⟨ p.
7	31	25.1	------	------	10	10	7.6	↙ ● ⊤ a.
8	30.8	24.8	------	------	8	6	------	⟨ p.
9	28.1	25	------	------	10	10	54.1	●² a. ⟨ p.
10	31	23	------	------	8	5	------	⟨ p.
11	31.1	22.2	------	------	10	6	9.7	⟨ ● p.
12	31.5	25	------	------	10	5	2.5	● a. ⟨ p.
13	31.9	24	------	------	6	5	------	
14	31.8	24	------	------	8	5	------	
15	31.6	25	------	------	8	6	------	
16	32.1	23.1	------	------	8	9	------	⟨ p.
17	32	24	------	------	8	6	------	⟨ p.
18	32	23.3	------	------	6	5	------	⟨ p.
19	32.1	25	------	------	8	5	------	⟨ p.
20	32	25	------	------	6	5	------	
21	32.4	25.1	------	------	8	6	------	⊤ a. p. ⟨ p.
22	32.2	24.5	------	------	7	5	3	● ⌈⟨ p.
23	31.8	25	------	------	6	5	------	
24	31.9	26	------	------	8	5	------	⌈⟨ a.
25	31.8	26	------	------	6	4	------	
26	32.1	25.5	------	------	6	5	------	
27	32.5	25	------	------	8	6	------	
28	32.1	24.1	------	------	8	6	------	◡ p.
29	32.5	25.1	------	------	8	5	------	d p.
30	32.4	25.2	------	------	10	8	------	
31	32	25.3	------	------	8	5	------	
Mean	31.8	24.6	------	------	7.7	6	------	
Total	------	------	------	------	------	------	105.5	

METEOROLOGICAL DATA, ETC.—Continued.

SUMAY, GUAM (Ladrones Islands).

[ϕ=13° 24′ N; λ=144° 38′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	29.4	24.6	84	70	2	3	5.1	
2	30.6	25	83	68	4	8	2.5	
3	29.4	25.8	92	76	10	10	8.9	
4	30.2	25.2	89	67	10	3	------	
5	31	25.4	84	59	2	4	------	
6	30	25.6	84	66	8	10	------	
7	31.8	25.4	83	58	3	4	2.5	
8	31	24.6	92	62	10	6	8.9	
9	31.4	25	84	66	3	5	1.3	
10	31.4	25	79	66	4	6	------	
11	30.2	24.8	81	63	2	4	------	
12	31	25.6	84	60	4	5	------	
13	31.6	24.8	83	66	6	4	------	
14	31.8	22.6	79	50	10	4	------	
15	31	22.6	69	53	1	3	------	
16	31.4	25	79	53	1	1	------	
17	31.4	26.8	73	57	1	4	------	
18	32	25.6	84	60	2	5	.8	
19	31.6	25.8	84	56	6	4	1.3	
20	31.6	23.6	81	53	1	3	------	
21	31.4	26	77	64	1	7	------	
22	29.4	25.4	83	77	1	8	14	
23	31	25.6	77	59	2	3	------	
24	30.2	23.8	87	74	1	8	------	
25	30.2	25.6	84	78	6	5	6.4	
26	30.6	25.4	84	66	2	4	3	
27	31.4	25.4	77	62	1	4	------	
28	31.8	25.4	84	65	1	4	------	
29	30.6	26	84	65	1	2	------	
30	31	23.6	81	76	6	7	5.1	
31	30.6	24.4	83	63	10	8	.5	
Mean	30.9	25	82.3	63.8	3.9	5	60.3	
Total	------	------	------	------	------	------	------	

CALAPAN.

[ϕ=13° 25′ N; λ=121° 11′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	25.1	82	73	9	9	------	⩽ a. ☈ p.
2	32.8	22.8	85	67	8	7	30.5	●° a. ●² ☈ p.
3	32.1	24.5	93	69	8	3	5.6	● ⊤ a. ☈ p.
4	32.5	24	93	74	9	8	5.8	d a.
5	32.6	24.4	94	58	9	8	6.9	● a. d ⊤ p.
6	32.7	24.5	92	70	9	7	20.6	≡ a. ☈ a. p.
7	32.3	23.9	95	65	10	7	24.4	p° a. ☈ p.
8	32	23.8	92	72	9	7	18.5	⌒° a. ☈ p.
9	33	23.9	98	72	9	9	114.3	⊤ a. ●² ☈ p.
10	31.7	23.5	94	68	10	9	11.2	⩽ p.
11	31.1	22.2	95	70	9	9	------	⊤ p.
12	32	23.5	92	71	10	8	30.5	● ⊤ a. ☈ p.
13	30.5	24.4	95	81	10	10	.8	⊤ d a. ☈ p.
14	31.5	24	92	72	10	4	------	☈ a. ⊤ p.
15	32	22.5	84	70	9	5	------	☈ p.
16	32.4	23	87	67	10	10	2	☈ p.
17	30.2	24.8	88	84	10	10	1.5	⌒° a. d ☈ p.
18	31.5	24.4	93	69	10	7	------	
19	32.6	23.5	91	69	8	8	------	
20	32.2	22.9	81	64	8	3	------	
21	32.8	23	88	63	8	7	1	☈ a. p. p p.
22	33.2	23.4	91	66	9	4	------	●° a.
23	32.6	22.7	86	67	6	8	1.3	⩽ p.
24	32.8	23.4	85	60	10	8	1	
25	33.6	24	91	69	10	8	------	
26	32.2	24.8	90	74	10	10	------	☈ p.
27	32.6	23.4	91	81	10	10	------	☈ ●° p.
28	32.6	23.5	87	73	10	8	------	⩽ a.
29	30.1	24.2	93	75	10	10	1.5	d a. ☈ p.
30	32.1	24	94	66	10	7	20.3	d a. ☈ a. p.
31	32.1	22.7	91	66	9	8	------	
Mean	32.1	23.7	90.4	69.8	9.2	7.6	------	
Total	------	------	------	------	------	------	297.7	

VIRAC.

[ϕ=13° 35′ N; λ=124° 14′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	23.3	96	73	7	3	?	d ⌒² a. ● ⩽ p
2	32.4	23.2	100	72	8	5	4.6	● a. ⩽ p.
3	32.7	23.2	95	72	8	6	.5	●° d a.
4	32.4	23	99	74	4	5	.3	●° a. ⩽ ⊖ ⋓ p.
5	32.6	22.8	99	75	8	8	3.8	d. ⌒² ● ⊤ ⊖ ⋓
6	33	24	94	71	8	8	5.8	●° ⊤ a. ⊕ ○ ● ☈
7	31.7	23.7	94	72	9	9	6.4	● d ⌒ a. ☈ ● p.
8	32.1	23.5	97	74	9	8	6.4	d° ⌒² a. ☈ ●° p.
9	32.2	24.2	98	85	10	8	26.2	↙ ●² d ≡ ⌒ ⩽ d.
10	31.2	24.1	96	78	9	8	.8	⊕ ○ ⩽ p.
11	32.9	23.9	99	78	9	7	.3	●° a. ⩽ ● p.
12	31.4	23.8	96	80	9	8	6.4	● d a. ∞ ⩽ p.
13	31.9	23.8	98	78	8	8	1	●° ≡° a. ∞ ⩽ p.
14	31.8	22.3	98	79	4	7	------	≡° a. ∞ p.
15	32	22.4	98	78	7	2	------	⩽ p.
16	32.4	22.5	96	87	9	9	9.7	∞ d. a. ● ☈ p.
17	31.7	24.8	97	80	8	6	1	⌓° d° ●° a. ⩽ p.
18	32.2	27.2	88	78	8	7	------	⩽ p.
19	32.1	24.4	97	76	8	8	------	∞ p.
20	31.9	21	97	75	8	3	1.3	∞ a. p.
21	31.6	24.3	88	80	9	7	10.4	⌒ ↙ ● a. ⩽ ● p.
22	32.2	25	91	83	7	7	------	●° a. ∞ p.
23	32.4	23.6	97	79	7	8	14.5	⩽ ⊖ ↙ ● ☈ p.
24	32.5	24	98	77	9	6	8.4	●° a. ⩽ p.
25	32.7	24.1	97	82	8	3	------	● ⌒ d° a. ⩽ p.
26	32.7	24.9	98	79	8	4	25.9	● ☈ p.
27	32.2	24.9	98	79	8	4	9.4	⊤ ⊕ ○ ⩽ ● p.
28	31.1	23	98	82	8	9	2.5	☈ d° a. ⩽ ● p.
29	31.5	27	92	82	9	4	3.8	●° ⌒ a. ⩽ ● p.
30	32	25.1	90	89	9	8	2.3	● a. ↙ ● d ⩽ p.
31	32.2	23.6	98	84	8	8	------	⩽ p.
Mean	32.1	23.9	96	78.4	8	6.5	------	
Total	------	------	------	------	------	------	151.7[1]	

[1] 30 days of observation.

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 11′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	21.7	99	89	3	8	21.1	●² ⊤° p.
2	33	20.6	------	------	6	8	------	
3	34.5	20.8	99	82	3	8	------	⊤° p.
4	34	21.4	99	------	3	7	------	⊤° p.
5	33	21.6	98	------	7	8	22.9	●² ⊤° a.
6	33.7	22.1	98	------	6	9	------	⊤° d° p.
7	33.1	22.6	99	97?	6	7	------	d ⊤° a.
8	33.4	22.3	------	92	7	9	12.7	●° ⊤ p.
9	31.4	22.6	99	95	9	9	3.6	●° p.
10	34.2	23	98	------	8	8	------	
11	34.2	22.6	------	88	8	9	7.4	● ☈ p.
12	33.2	22.5	------	82	8	8	8.5	● ☈ p.
13	33.8	22.3	99	73	10	9	------	☈ p.
14	34.9	21.7	------	61	8	8	------	
15	33.8	21.9	98	60	8	7	------	
16	33.6	22	97	59	8	9	3.3	●° ⊤° p.
17	33.6	23	97	88	9	9	8.4	d a. ●° ☈ p.
18	34.8	22.9	99	------	8	7	14.7	● ⊤° p.
19	35	22.3	98	51	8	6	------	
20	33	18.8	98	60	5	7	------	
21	33.6	21.1	96	72	5	8	------	
22	35.2	22	97	69	5	7	------	
23	35.3	22.6	98	64	5	7	------	
24	34.6	21	93	66	7	8	------	
25	35.6	22.3	98	------	7	7	------	
26	34.4	23.3	97	72	6	8	------	⊤ p.
27	34	23	97	64	6	9	------	⊤° p.
28	32.7	23.7	96	63	9	9	------	
29	34.1	22.7	95	68	8	8	------	⊤° p.
30	34	24.3	90	54	9	6	------	
31	30.1	22.6	95	81	5	8	30.5	● ⊤ p.
Mean	33.8	22.2	97.2	72.9	6.8	7.9	------	
Total	------	------	------	------	------	------	133.1	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	36.6	21.7	90	49	3	7	1.3	⚡ ● p.
2	35	22.3	92	56	6	7	------	
3	36.7	23.8	88	49	6	4	------	⊤ a. ⚡ p.
4	36	23.7	85	56	4	8	------	
5	35.8	22.3	91	59	2	8	------	⊤ p.
6	36	22.8	92	54	3	7	.5	● ⋦ p.
7	36.2	23.2	89	55	7	7	------	⊤ p° a. ⚡ p.
8	36.3	22.7	91	49	5	7	26.2	●^{2} ⚡^{2} p.
9	33.3	22.3	95	92	3	8	36.3	● ⊤^{2} p.
10	31.8	22.4	97	82	9	9	18.3	● a. ●^{2} ⚡ p.
11	34.6	21.5	97	55	5	5	1.8	
12	33.8	23.6	97	73	9	6	1.3	●° ⊤ a. ○ ⊤ p.
13	34.8	22.9	96	78	6	9	------	⌒ ⊤ a.
14	35.3	22.4	92	51	6	5	.3	⚡ d p.
15	35.6	22.3	97	51	5	6	------	○ a. p.
16	34.2	22.8	95	60	5	6	29.5	⊤ ●^{2} p.
17	28.6	23.2	97	93	7	10	41.4	●^{2} ⚡ p.
18	33.4	22.5	97	58	7	5	------	
19	34.7	22.3	95	57	4	6	------	
20	34.8	22.4	93	42	3	3	------	
21	34.7	22.5	90	56	6	6	.5	⌒ a. ● ⚡ p.
22	34.9	21.4	95	55	6	6	------	⋦ p.
23	34.8	22	94	56	5	5	------	
24	35.9	22.8	95	55	7	6	------	d° a.
25	35.2	22.9	97	56	6	6	------	○ p.
26	33.4	23	93	66	5	7	------	
27	33	22.7	93	66	6	7	.5	
28	33.2	22.8	97	71	9	7	.5	↙ ● ⊤ a.
29	30.3	23.1	93	77	7	7	2.3	d ● ⊤ a.
30	33.8	22.3	92	60	7	7	24.4	●° p.
31	33.7	21.2	97	60	5	7	------	
Mean	34.4	22.6	93.6	61.2	5.6	6.6	------	
Total	------	------	------	------	------	------	185.1	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	22	97	60	7	8	------	⊤° p.
2	31.8	22	98	59	5	8	------	↙° a. d ⚡ p.
3	31.6	22.1	98	59	3	6	------	⊤° p.
4	31.6	22.2	97	59	7	8	------	⊤° p.
5	31.5	21.1	98	60	7	8	5.3	●° ⊤^{2} p.
6	31.7	22.3	98	59	6	3	------	↙° a.
7	31.7	22.5	99	59	5	6	------	⚡ p.
8	31.8	22.3	99	59	2	8	------	⊤° p.
9	31.4	22	98	60	6	6	------	↙° p.
10	31.8	22.2	98	59	5	8	------	⋦ d p.
11	31.9	22.5	97	60	8	8	29.2	↙° a. ●^{2} ⊤° p.
12	31.9	22.5	98	60	7	7	------	⚡ p.
13	32	22.2	98	59	8	9	43.2	↙° a. ●^{2}⊤ p.
14	32.2	22.6	98	59	5	6	------	↙° p.
15	32.2	22.7	98	59	2	3	------	
16	31.3	21.5	98	60	7	8	40.1	↙° a. ●^{2} ⊤° p.
17	31.7	21.7	98	59	5	7	------	↙° a. p.
18	31	21.8	98	59	6	7	------	
19	30.8	21.4	98	59	9	9	23.1	↙° ≡ a. ●^{2} ⊤^{2} p
20	31	21.5	98	59	3	5	------	↙° p.
21	31	20.8	98	61	5	6	------	d p.
22	31.4	21.6	98	61	7	8	29	●^{2} p.
23	31.6	20.5	97	60	8	8	------	↙° a.
24	31.8	21.8	98	60	8	8	------	⊤° a. ⋦ p.
25	31.8	21.5	98	60	9	7	------	⊤° p.
26	31.2	21	97	60	6	8	44.2	●^{2} ⊤^{2} p.
27	31	20.9	98	60	7	8	22.9	●^{2} ⊤° p.
28	30.7	20.6	98	61	9	7	18	d a. ●^{2} ⊤ p.
29	30.5	21	98	60	5	6	5.8	●° p.
30	30.5	21	98	60	6	8	------	↙° a. p.
31	30.2	20.7	98	61	8	7	------	↙° p.
Mean	31.4	21.7	97.9	59.7	6.2	7.1	------	
Total	------	------	------	------	------	------	260.8	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	21.5	95	63	10	3	27.9	● p.
2	31.5	22.5	95	59	1	4	------	⌒ p.
3	31.6	22.3	96	66	3	5	------	⌒ a.
4	31.5	21.5	92	71	1	1	------	
5	31.8	21.1	98	72	9	5	------	
6	31.7	21.3	97	69	6	7	------	⌒ a.
7	30.8	21.6	99	69	8	10	23.6	⌒ a. ● p.
8	33.3	20.9	89	58	5	9	------	
9	30.1	21.5	98	92	10	10	6.4	● a.
10	31.9	20.5	90	68	5	10	------	⌒ a. p.
11	33	22.1	97	80	9	8	.5	⌒ p p.
12	29	21.4	96	82	7	10	5.3	● a.
13	31.9	20.9	98	85	10	10	3.3	● p.
14	33.4	18.3	98	52	8	6	------	
15	32.4	20.8	97	61	10	8	------	
16	30.2	21.1	98	87	6	9	7.4	● p.
17	32.6	21	98	62	10	10	------	
18	32.5	21.6	99	59	10	5	------	
19	33	20.5	96	57	3	5	------	
20	31.5	20.6	97	61	1	3	------	⌒ p.
21	32.4	21.4	96	67	10	6	------	
22	33.7	19.8	98	60	5	9	------	
23	83	21.9	96	47	10	9	------	
24	31.6	22.5	94	69	10	7	------	
25	31.8	20.1	98	90	9	8	3.3	● p.
26	32.3	19.7	96	78	10	9	11.2	● p.
27	32.2	21.8	97	94	8	8	19.8	● a. p.
28	28.6	20.9	98	84	10	10	2.5	● p.
29	29.7	22	90	73	9	10	10.7	● p.
30	30.5	21.6	96	66	7	3	------	⌒ p.
31	31.5	22.1	90	66	3	5	------	
Mean	31.7	21.2	95.9	69.9	7.2	7.2	------	
Total	------	------	------	------	------	------	121.9	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.8	23.3	95	54	3	7	5.3	≡° a. ↙ ●° ⋦ p.
2	35.7	23.9	95	49	4	4	3.6	⚡^{2} ↙° ● p.
3	36.4	22.6	96	51	0	4	------	⚡° ⌒ ◡ Φ p.
4	37.2	23.5	93	43	4	6	.8	Ω a. ⚡ ●° p.
5	37	22.5	95	46	0	5	61	⚡^{2} ↙° ● p.
6	35.7	23.1	96	59	1	7	------	⚡^{2} p.
7	36.5	23.3	96	49	1	4	23.4	Ω ≡° a. ⚡^{2} ↙° ●
8	35.6	23	97	48	3	4	------	⌒ ⋦ p.
9	36.6	24.3	95	49	4	4	3	⚡ d^2 p.
10	34.2	23.2	95	70	10	10	52.1	⚡^{2} ↙ d ● p.
11	33.8	22.8	97	61	5	4	.5	≡ a. ⚡ d^2 p.
12	33.8	24.1	97	59	8	7	10.7	≡^{2} a. ⚡ ↙° ● p.
13	34.2	22.7	97	58	2	6	7.9	⚡° d° ●° p.
14	32.9	23.8	96	68	3	10	13.2	⚡° ● p.
15	34.8	23.4	97	55	2	4	8.9	≡° a. ⚡^{2} ↙° ● p.
16	34.4	24	94	61	3	7	------	
17	36	25.1	92	49	3	9	17.8	Ω a. ⚡ d° ● p.
18	33.1	23.9	93	71	10	6	------	● a. ⋦° p.
19	35.1	25	97	55	2	4	------	Ω ≡° a. ⋦° p.
20	35.2	23.5	96	53	2	3	------	Ω ≡° a. ⋦° p.
21	35	22.8	95	53	2	2	------	Ω ≡ a. ⚡ p.
22	35.8	24.3	94	54	3	2	.8	Ω ≡° a. ⚡ p.
23	35.5	23.3	97	51	10	2	.8	● ≡ a. ⚡ ↙° ● p.
24	35.1	24.2	97	50	10	2	8.9	≡^{2} a. ⚡ ● p.
25	34.5	23.2	97	56	10	4	------	⋦° p.
26	35	24.4	96	74	5	9	3.8	Ω ≡ a. d° ⚡ ↙° ●
27	33.6	23.5	97	68	6	9	4.3	≡ ○ a. ⚡ ● p.
28	32.8	23	98	66	10	8	2	● d° a. ⚡ ●° p.
29	33.2	24	96	82	10	10	14.5	⚡ ↙° ● p.
30	32.8	23.3	97	61	4	9	------	↙° a. p. ○ p.
31	33.8	23.8	94	57	10	7	------	↙° ⋦° ◡^{2} Φ p.
Mean	34.8	23.6	95.7	57.4	4.8	5.8	------	
Total	------	------	------	------	------	------	243.3	

METEOROLOGICAL DATA, ETC.—Continued.

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	22.1	15	96	91	4	10	2	≡ d p.
2	22.5	15.4	95	92	4	10	.8	≡ d ⊤ p.
3	22.6	16	71	85	3	10	15.7	≡ ● p.
4	22.2	15	95	95	3	10	1.8	d ⊤ p.
5	22	15.4	91	84	4	10	------	
6	22.5	15	96	93	2	10	4.1	d ≡ ⌒ p.
7	24	15	97	83	2	10	17.8	● p.
8	23	15	78	93	3	10	2	d p.
9	23	16	98	99	3	10	8.4	≡ d ⊤ p.
10	23	15.6	90	92	4	9	45.7	● p.
11	22.5	15.4	88	82	3	6	14.2	≡ d ⊤ p.
12	22.5	15.2	86	93	7	10	11.7	● p.
13	21.8	15	90	96	5	10	54.6	≡ ● p,
14	21.5	14	99	99	6	10	141.7	●^{2} ●° p.
15	23	15	84	86	4	9	------	
16	23.6	15	84	83	5	5	------	
17	22.8	16.3	95	96	9	10	2.3	d p.
18	23.6	15	78	84	10	10	5.1	d a. ≡ p.
19	24.2	16	95	83	3	7	------	≡ p.
20	23.5	15	97	77	4	5	------	≡ a. p.
21	24.5	15	94	78	5	4	------	
22	23.1	15.6	96	84	4	10	------	
23	23.5	16.5	86	84	3	8	20.3	↙ ● p.
24	24.5	15.8	95	71	8	9	------	≡ p.
25	23	15.4	98	85	10	6	10.2	d a. ≡ p.
26	23	16.4	89	86	5	10	34.8	● p.
27	22.6	15	94	85	7	9	46.7	● ≡ p.
28	23.8	14.2	91	82	9	9	27.7	● p.
29	21	15.4	95	81	5	9	4.1	● p.
30	24	12.4	82	88	4	7	------	≡ p.
31	22.7	15	71	81	6	6	------	
Mean	23	15.2	90.1	86.8	5	8.6	------	
Total	------	------	------	------	------	------	471.7	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. c.	0–10.	0–10.	mm.	
1	34.4	23.5	86	63	2	9	------	d° [ꓘ° p.
2	33.9	24.4	95	62	8	4	------	≡° a. ⊤° p.
3	34	23.3	93	62	3	2	------	
4	35	23.9	87	59	2	3	------	⊍° p.
5	35.1	23.9	85	56	2	2	------	Ω° a.
6	35.8	25.1	86	56	1	8	------	Ω° a.
7	37	24.9	86	47	1	3	------	⊤° p.
8	35.5	25.2	83	57	3	2	------	Ω° a. [ꓘ° p.
9	35.1	25.9	81	72	4	8	------	⊤° p.
10	34.4	24.4	82	60	9	8	6.5	⊤^{2} ●° p.
11	34.7	24.2	95	59	9	7	9.1	Ω^2 a. ●^{2} [ꓘ^2 p.
12	33.4	24.4	95	90	9	10	21.2	Ω° a. ●^{2} [ꓘ° p.
13	33.4	23	93	62	9	7	22.9	⊤° ●^{2} p.
14	33.1	23.4	90	62	6	7	5.7	● [ꓘ^2 p.
15	34.4	24.4	85	58	2	5	------	Ω^2 a.
16	33.6	24.6	92	65	4	4	------	Ω° a.
17	34.1	25	84	82	9	9	------	d° [ꓘ^2 p.
18	35.9	24.6	84	8	10	6	------	[ꓘ p.
19	34.4	24.5	91	64	2	3	------	d° ϟ° p.
20	34.4	24.8	93	63	2	2	------	⊤° p.
21	35.5	25.9	83	49	3	2	------	d° p.
22	35.3	25.1	86	58	1	4	17.8	●^{2} [ꓘ^2 p.
23	33.7	24	91	67	3	6	34.3	●^{2} [ꓘ^2 p.
24	34	23.3	95	63	5	5	6.4	●° [ꓘ° p.
25	34	24.9	91	58	10	3	32.3	●^{2} [ꓘ^2 p.
26	34.3	23.3	95	63	2	7	18.8	[ꓘ^2 ●^{2} p.
27	32.6	24.2	94	66	8	10	30.7	●^{2} ⊤ a. d ●^{2} ϟ° p.
28	33.6	23.9	91	63	9	8	35.6	●^{2} p.
29	31.9	24.2	97	73	9	9	23.1	●^{2} [ꓘ^2 p.
30	32.9	23	97	64	6	6	------	⊖ ϟ° p.
31	33.6	25.1	92	63	7	3	------	
Mean	34.3	24.3	89.6	63.4	5.2	5.4	------	
Total	------	------	------	------	------	------	264.4	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	20	97	65	10	9	6.6	●° d° ≡ [ꓘ ↙° ⊕^{2}
2	34.1	20.6	98	57	9	8	11.2	≡ ⊕^{2} [ꓘ^2 ↙° ●^{2} ⊍^{2}
3	34.8	19.9	98	54	6	3	------	≡^{2} a. [ꓘ ⌒° ⊖^{2} p.
4	36	21.7	92	55	6	5	------	Ω° a. [ꓘ ↙° ⊖^{2} p.
5	36.1	18.9	98	52	7	4	------	Ω^2 ≡^{2} a. [ꓘ ↙° ⊖°
6	36.6	20.7	94	57	1	4	------	Ω^2 a. [ꓘ ↙° d° p.
7	37.1	20.5	97	47	1	3	2	Ω^2 a. [ꓘ ⌒° ●° p.
8	37	20.5	95	50	8	4	------	[ꓘ d° p.
9	38.5	21.9	91	43	3	3	5.1	Ω° a. [ꓘ ↙ ●° ⊖°
10	32	19.2	97	65	8	9	------	≡ a. [ꓘ ⊕^{2} d° p.
11	35.8	21.8	96	51	9	8	39.6	≡^{2} ⊕° d° [ꓘ ↙° ●^{2}
12	33.3	19.8	98	87	8	10	21.1	↙ ●^{2} a. [ꓘ d° ●°
13	34.5	20.2	99	59	9	7	4.1	≡^{2} ○^{2} a. [ꓘ ●° p.
14	34	19.9	98	59	7	8	1.3	≡ ⊕^{2} a. [ꓘ ↙° d^2
15	37	20.5	97	47	4	4	------	[ꓘ a. p. d° p.
16	35.9	21	97	56	8	7	2	≡ a. [ꓘ d^2 p.
17	35.7	22.5	95	54	9	8	.3	≡ ○ a. [ꓘ d° p.
18	34.8	21.4	96	58	9	8	------	Ω^2 ≡ a. ○ [ꓘ ↙°
19	37.8	21.4	92	46	8	4	------	Ω° a. [ꓘ d° p.
20	36.9	21.1	91	46	9	4	------	Ω° ≡ [ꓘ a. ⌒° d°
21	35.8	19.4	92	42	4	3	------	Ω^2 a. [ꓘ ↙° p.
22	37.2	21	91	43	4	2	29	[ꓘ ↙ ●^{2} p.
23	35.9	20.2	97	55	4	3	------	[ꓘ ↙° p.
24	36.1	21	94	48	9	3	------	[ꓘ° Ω° ○ a. [ꓘ ↙°
25	36.5	20.8	88	51	9	4	45.5	Ω° ○ [ꓘ ↙° d° ●^{2}
26	36.3	20.1	97	------	9	5	------	≡ ○ a. [ꓘ ↙° p.
27	35.6	21.2	97	------	10	8	16.8	⊕° ○ [ꓘ^2 ↙° ● p.
28	33.9	20.1	98	62	10	8	18.5	d° ≡ ⊕° [ꓘ ↙° ●
29	32.4	20.6	97	74	10	10	16.3	≡ d^2 ↙ ● [ꓘ ⊍°
30	32.6	20.7	99	72	10	9	------	≡^{2} d° ○^{2} [ꓘ ↙° ⊍
31	34.9	19.8	97	57	4	6	------	Ω^2 [ꓘ ⊕^{2} ○ ⌒° d°
Mean	35.4	20.6	95.6	55.6	7.2	5.8	------	
Total	------	------	------	------	------	------	219.4	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	31.7	25.1	74	57	6	8	------	⊤° a. p. ↙° d p.
2	32	25.7	86	59	9	5	------	⊤° a. p. ↙° p.
3	32.6	25.2	77	55	1	0	------	Ω ≡ ↙° a. [ꓘ ↙° p.
4	32.5	24.5	78	58	0	1	------	≡ a. ↙° ⊤° ϟ p.
5	32.5	24.4	75	60	0	0	------	≡ a. ↙° ⊤° ϟ p.
6	33.2	25.2	78	58	0	1	------	Ω ≡ a. ϟ p.
7	33.2	26.1	76	56	0	4	------	Ω ≡ a. ⊤° ϟ p.
8	33.2	24.6	75	55	1	1	------	≡ a. ↙° ⊤° ϟ p.
9	33.1	26	75	63	1	8	------	Ω ≡ ↙° a. ⊤° d ϟ
10	32.5	25	76	65	7	8	33.8	≡ a. ↙° [ꓘ^2 ●^{2} p.
11	31.2	26.5	84	75	9	9	3.8	↙° ● [ꓘ° ⌒° p.
12	30.4	26	84	73	9	9	26.9	●^{2} [ꓘ^2 p.
13	31.	24.6	85	70	8	4	8.1	≡ a. ●° [ꓘ° p.
14	30.7	25.2	85	71	9	9	67.8	↙° ●^{2} [ꓘ^2 p.
15	31	24.1	84	68	6	5	1.3	⊤° ϟ p.
16	32.1	25.9	84	68	9	8	------	≡ ●° a. ϟ p.
17	31.7	26.7	86	69	9	8	------	Ω ≡ a. ⊤° d p.
18	32.1	25.6	81	60	10	7	------	d ↙° ϟ p.
19	32.1	25.9	84	67	4	5	------	Ω ≡ a. [ꓘ° p.
20	32.4	27.1?	85	66	7	6	------	Ω ≡ a. [ꓘ° p.
21	32.4	26.5	82	60	4	3	1.3	Ω ≡ ↙° a. [ꓘ° ●°
22	32.2	26.2	78	64	3	4	5.6	≡ a. [ꓘ^2 ●° p.
23	32.1	25.4	83	62	2	2	19.3	≡ a. [ꓘ^2 ● p.
24	31.5	25.5	82	67	6	7	2.8	≡ a. ● [ꓘ^2 p.
25	31.6	25.8	83	65	9	5	7.9	≡ a. [ꓘ^2 ● p.
26	32	25.5	85	69	7	5	10.7	≡ a. [ꓘ^2 ● p.
27	30.4	25.3	89	79	10	9	33	● ⊤° ↙° a. [ꓘ° p.
28	30.6	24.5	88	73	8	8	7.4	⊤° ↙° ● p.
29	30	24.5	87	71	9	10	30	≡ ⊤° a. ● [ꓘ° p.
30	30.6	23.8	86	71	9	8	2.5	◕ a. ϟ ●° p.
31	31.8	26.1	84	63	7	2	2.5	[ꓘ° a. ↙° [ꓘ^2 ●° ⌒°
Mean	31.8	25.4	81.9	65.1	5.8	5.5	------	
Total	------	------	------	------	------	------	264.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct	0–10.	0–10.	mm.	
1	35.3	23.7	79	46	0	5	------	≡ a. d p.
2	34	24.5	84	58	6	6	17.8	≡° a. ⌈ꓘ ↙ ● p.
3	32.8	22.4	90	65	0	2	------	⊕ p.
4	33.5	23.8	92	62	0	2	------	Ω ≡ a. ⌈ꓘ p.
5	33.3	23.7	86	63	1	5	------	⌈ꓘ p.
6	33.9	24	91	60	0	2	------	≡ a. ⌈ꓘ ↙ ⊕ p.
7	33.6	24.5	91	62	0	2	------	Ω ≡ a. ⊤ p.
8	35.2	24.6	88	54	0	1	------	≡ a.
9	35.7	24.7	89	58	0	1	------	≡ a. ⊤ p.
10	35	24.6	86	59	0	4	------	≡ a. ↙ ⌈ꓘ p.
11	35.3	25.6	88	55	7	6	4.1	⌈ꓘ ↙ d ⌒^{2} p.
12	33	23.9	87	76	7	10	1	⊤^{2} ● p.
13	34.9	23.3	91	55	4	5	15.7	● ⌈ꓘ p.
14	32.8	23.6	94	65	9	10	8.4	● a. p. ⊤ p.
15	33.8	23.5	92	65	2	10	1.5	ϟ ● p.
16	32.6	24.7	94	65	10	6	------	≡ a. ⌈ꓘ p.
17	34	25.4	93	56	5	8	------	≡ a. ⌈ꓘ p.
18	33.5	25.4	91	72	3	10	------	⌈ꓘ p.
19	34.5	24.1	89	66	1	5	.8	⌈ꓘ ● p.
20	34.4	24.6	94	51	3	3	------	Ω ≡ a. ϟ p.
21	34.9	25.8	82	59	0	4	------	⌈ꓘ p.
22	34	24.4	86	57	0	5	1.5	⌈ꓘ ⌒ ● p.
23	36	24.2	87	53	1	2	16.8	≡ a. ⌈ꓘ ● p.
24	34.3	23.8	91	55	8	4	------	⌈ꓘ p.
25	34.2	24.1	87	55	5	5	------	≡ a. ⌈ꓘ^2 p.
26	34.7	24.4	86	58	8	7	37.3	↙ a. ⊍ ϟ ●^{2} p.
27	31	24.1	96	93	10	10	24.9	d ↙ ● a. ● ⌈ꓘ p.
28	32.5	23.6	97	71	10	10	8.4	d a. ⌈ꓘ ● p.
29	32	23.8	96	63	10	10	7.1	d a. ⌈ꓘ ● p.
30	33.2	23.5	97	63	9	9	------	⊍ ϟ p.
31	33.2	25	92	70	2	2	------	⌒ d ⌈ꓘ p.
Mean	33.9	24.2	89.9	61.6	3.9	5.5	------	
Total	------	------	------	------	------	------	145.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.3	21.7	78	63	10	0	------	p° a. p. ⌒ ↙° p.
2	27.5	23.5	77	80	10	10	5.6	↙° d° a. ↙° ● p.
3	31.3	25.4	86	77	2	1	------	⌒ a. ↙° p.
4	31.5	25.3	94	75	6	1	1.3	● a. v p.
5	32.2	26.3	88	71	1	3	.5	v a. ↙° p.
6	32.3	26.7	87	70	3	3	------	d v a. ◯^{2} ⌈ꓘ Ω
7	32.3	26.7	87	77	2	3	------	⊤° Ω p.
8	32.2	23.9	89	70	7	2	------	Ω v a. ≡ Ω^2 p.
9	32.6	23.9	95	72	0	8	1.2	Ω^2 d° a. ⊤ d Ω ϟ°
10	31.3	23.6	94	71	6	1	------	Ω^2 v ↙ a. ≡ ϟ° Ω
11	29.2	24.7	87	88	3	10	23.1	●° a. ● ϟ p.
12	29	24.5	83	71	10	5	------	↙° a. ≡^{2} p.
13	30	24.8	80	74	7	9	------	p° a. ↙° ϟ^2 p.
14	30.8	25.7	85	79	10	9	9.7	↙° ●° a. p ⌈ꓘ^2 p.
15	30.4	24.5	85	88	10	10	9.9	⊤° a. d° ●° ϟ ↙° p.
16	.26.7	23.4	83	72	10	10	3.6	●° a. p. ↙° p.
17	28.8	21.9	78	70	10	4	------	↙° d° ϟ° p.
18	29.8	24.7	84	82	10	6	------	↙° a. p. ϟ p.
19	31.1	25.9	94	81	8	4	------	↙° a. ◯° ≡ ϟ p.
20	31.5	24.6	97	78	3	3	------	Ω^2 a. ϟ^2 Ω p.
21	30.9	23.4	95	84	3	6	------	Ω^2 a. ◯° p. ↙° a. p.
22	31.4	26.2	92	80	2	3	11.1	Ω v a. ≡ ● p.
23	31.6	24.2	93	83	6	4	------	v ≡ a. Ω° ϟ° p.
24	31.4	24.1	93	78	7	10	.1	d° a. ⊍° ⌈ꓘ p.
25	32.3	24.5	93	77	10	3	10.4	↙° a. ≡ ⌈ꓘ ● p.
26	31.4	24.2	88	84	10	10	23.6	⌈ꓘ ↙° ● d° p.
27	23.9	22.2	89	89	10	10	44.7	● a. d a. p.
28	23.9	20.7	82	88	10	10	30.7	↙° d a. p. ● p.
29	26.9	21.9	90	83	10	10	3.8	d a. d° ↙° p.
30	29.4	25.1	90	73	10	9	1	↙° ● a. ↙° p.
31	30.4	25.1	85	79	4	3	------	↙° a. p. ≡ ϟ p.
Mean	30	24.3	87.8	77.6	6.8	5.8	------	
Total	------	------	------	------	------	------	180.3	

SEISMOLOGICAL BULLETIN FOR MAY, 1909.

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

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

6, 19^h 37^m. **South and southeast Samar.** Oscillatory earthquake of intensity IV and duration 7^s. It was likewise perceptible in the northeastern part of Leyte.

8, 22^h 49^m 18^s.* **Virac** (Catanduanes). Oscillatory earthquake. Direction ENE–WSW; intensity III.

9, 19^h 18^m. **Aparri** (NE of Luzon). Oscillatory earthquake. Direction N–S; intensity III.

14, 5^h 0^m. **Northeastern Mindanao.** Earthquake of force III, whose area of greatest intensity lay between Butuan and Surigao. The origin of the disturbance lay probably east of Butuan Bay.

14, 15^h 4^m 20^s.* **Northern Samar.** Earthquake of intensity IV.

15, 4^h 15^m. **Jolo and southwestern Mindanao.** Earthquake of intensity IV. Its focus was probably situated in the western part of the Celebes Sea. The microseismographs at Batavia registered at 4^h 18^m a perturbation of not far distant origin, which possibly was due to this earthquake.

16, 12^h 55^m 49^s.* **Ilocos Norte.** A shock of force II.

16, 13^h 32^m. **Jolo and southwestern Mindanao.** Oscillatory earthquake. Direction SW–NE in Zamboanga and Basilan, and E–W in Jolo; intensity III.

21, 4^h 0^m. **San Antonio** (E of Luzon). Earthquake of intensity II.

24, 3^h 49^m. **Aparri** (NE of Luzon). Oscillatory earthquake. Direction N–S; intensity III.

25, 21^h 30^m. **Davao** (SE of Mindanao). Oscillatory earthquake. Direction NE–SW; intensity IV; duration 15 seconds.

26, 4^h 2^m 4^s. **East of Manila.** Earthquake of intensity III. The shock was felt in the eastern parts of the Provinces Laguna and Tayabas. The point of origin lay in the northern part of Lamon Bay, about 180 kilometers east of Manila.

[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 (2a).	Period.			
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
92	2	NNW-SSE	15 14 55						15 51	V. M.	
		WSW-ENE	15 14 55						15 51	V. M.	
		WSW-ENE	15 15 06						15 57	H. P.	
93	5	NNW-SSE	22 22 55		22 23 12	22 23 13	0.06	2.2	22 26	V. M.	Vertical Component 0.02 mm.
		WSW-ENE	22 22 59		22 23 15	22 23 19	.09	2.4	22 26	V. M.	
94	6	NNW-SSE	13 39 52		13 40 09	13 40 47	1.56	2.4	13 55	V. M.	V. C. 0.62 mm.
		WSW-ENE	13 39 51		13 40 08	13 40 59	1.64	2.4	13 55	V. M.	
95	8	NNW-SSE	22 49 19		22 50 10	22 50 32	.12	2.4	23 04	V. M.	V. C. 0.04 mm. Earthquake, III in
		WSW-ENE	22 49 17		22 50 00	22 50 44	.14	2.4	23 04	V. M.	Catanduanes Island.
96	11	NNW-SSE	23 59 00						0 37	V. M.	
		NNW-SSE	23 58 59						0 43	H. P.	
		WSW-ENE	23 59 07						0 43	H. P.	
		WSW-ENE	23 58 52						0 39	V. M.	
97	12	NNW-SSE	17 43 20		17 43 38	17 44 07	.14	2.4	17 48	V. M.	V. C. 0.09 mm.
		WSW-ENE	17 43 18		17 43 35	17 44 06	.10	2.4	17 48	V. M.	
98	14	NNW-SSE	8 06 46		8 09 53	8 10 35	.05	2.4	8 37	V. M.	E Celebes.
		NNW-SSE	8 06 49		8 10 06	8 12 34	.07	5.1	8 45	H. P.	
		WSW-ENE	8 06 47		8 10 00	8 10 38	.04	2.4	8 33	V. M.	
		WSW-ENE	8 06 48		8 10 06	8 12 27	.11	7.8	8 54	H. P.	
99	14	NNW-SSE	15 04 20		15 05 12	15 05 18	.06	2.4	15 14	V. M.	V. C. 0.01. mm. Earthquake, III, N
		WSW-ENE	15 04 21			15 05 48	.07	2.4	15 12	V. M.	of Samar Island.
100	16	NNW-SSE	12 55 49		12 56 42	12 57 04	.07	2.8	13 05	V. M.	V. C. 0.01 mm. Earthquake, III, in
		WSW-ENE	12 55 49		12 56 39	12 58 11	.06	2.4	13 05	V. M.	Ilocos Norte.
101	17	NNW-SSE	16 22 30	16 28 48	16 35 59				17 58	V. M.	
		NNW-SSE	16 22 35	16 28 49	16 36 09	16 38 16	.11	9.6	18 16	H. P.	
		WSW-ENE	16 22 31	16 28 45	16 36 08				17 50	V. M.	
		WSW-ENE	16 22 36	16 28 41	16 36 10	16 38 22	.19	8.1	18 14	H. P.	
102	18	WSW-ENE	18 02 01		18 02 20	18 02 24	.02	2.4	18 04	V. M.	V. C. 0.01 mm.
103	19	WSW-ENE	5 09 45		5 10 04	5 10 06	.03	2.4	5 12	V. M.	
104	19	NNW-SSE	18 41 36		18 41 57	18 42 17	.19	2.4	18 47	V. M.	V. C. 0.03 mm.
		WSW-ENE	18 41 36		18 41 55	18 42 33	.17	2.8	18 48	V. M.	
105	21	NNW-SsE	2 02 26		2 02 36	2 02 44	.04	3	2 05	V. M.	
		WSW-ENE	2 02 26		2 02 37	2 03 08	.03	2.6	2 05	V. M.	
106	23	NNW-SSE	18 45 58						19 13	V. M.	
		WSW-ENE	18 45 57						19 16	V. M.	
		WSW-ENE	18 46 07						19 19	H. P.	
107	25	NNW-SSE	12 55 18	12 59 13	13 03 13	13 07 56	.01	7.6	14 08	V. M.	
		NNW-SSE	12 55 24	12 59 09	13 03 08	13 08 04	.13	9.3	14 16	H. P.	
		WSW-ENE	12 55 18	12 59 07	13 02 52	13 07 45	.01	7.6	14 04	V. M.	
		WSW-ENE	12 55 26	12 59 11	13 02 55	13 07 19	.11	6.9	14 16	H. P.	
108	26	NNW-SSE	4 02 04		4 02 23	4 02 43	1.96	1.6	4 20	V. M.	V. C. 1.92 mm. Eastern part of La-
		NNW-SSE	4 02 11		4 02 28	4 02 46	1.30	8.7	4 16	H. P.	guna and Tayabas.
		WSW-ENE	4 02 03		4 02 23	4 02 39	1.90	1.8	4 19	V. M.	
109	26	NNW-SSE	10 08 55	10 16 45	10 22 24	10 23 49	.01	8	11 28	V. M.	
		NNW-SSE	10 08 57	10 16 41	10 21 49	10 23 59	.16	7.5	11 45	H. P.	
		WSW-ENE	10 08 56	10 16 09	10 22 32	10 23 03	.01	13.6	11 33	V. M.	
		WSW-ENE	10 08 58	10 16 15	10 22 06	10 23 13	.13	13.8	11 49	H. P.	
110	26	NNW-SSE	19 23 41		19 24 03	19 24 16	.24	2.4	19 32	V. M.	V. C. 0.10 mm.
		WSW-ENE	19 23 42		19 24 05	19 24 08	.25	2	19 31	V. M.	
111	27	NNW-SSE	19 52 41		19 53 14	19 53 19	.04	2.4	19 57	V. M.	V. C. 0.01 mm.
		WSW-ENE	19 52 42		19 53 04	19 53 09	.04	2.4	19 58	V. M.	
112	28	NNW-SSE	6 44 57		6 45 16	6 45 17	.03	2.4	6 48	V. M.	
113	29	NNW-SSE	1 41 18		1 41 34	1 42 12	.19	2.4	1 46	V. M.	V. C. 0.17 mm.
		WSW-ENE	1 41 18		1 41 35	1 41 37	.28	2.4	1 47	V. M.	
114	30	NNW-SSE	18 40 58		18 41 18	18 41 31	.43	2.4	18 49	V. M.	V. C. 0.28 mm.
		WSW-ENE	18 40 58		18 41 18	18 41 32	.43	2.4	18 49	V. M.	
115	31	NNW-SSE	4 04 40		4 05 13	4 05 17	.03	2.4	4 08	V. M.	
116	31	NNW-SSE	5 06 30		5 08 44	5 11 36	.28	2.4	6 14	V. M.	V. C. 0.22 mm.
		WSW-ENE	5 06 30		5 08 41	5 11 38	.34	2.4	6 10	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=10.4 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]

6, 19^h 37^m. **S y SE de Samar.** Temblor oscilatorio de intensidad IV, duración 7^s. Fué también perceptible en la parte NE de Leyte.

8, 22^h 49^m 18^s.* **Virac** (Catanduanes). Temblor oscilatorio, dirección ENE–WSW, intensidad III.

9, 19^h 18^m. **Aparri** (NE de Luzón). Temblor oscilatorio, dirección N–S, intensidad III.

14, 5^h 00^m. **NE de Mindanao.** Temblor de tierra de intensidad III; tuvo su máxima intensidad en la región comprendida entre Butúan y Surigao. El origen se hallaba probablemente al E de la bahía de Butúan.

14, 15^h 04^m 20^s.* **N de Samar.** Temblor de tierra de intensidad IV.

15, 4^h 15^m. **Joló y SW de Mindanao.** Temblor de tierra de intensidad IV: el origen se hallaba probablemente en la parte occidental del mar de Célebes. Los microseismógrafos de Batavia registraron á 4^h 18^m una perturbación de origen poco lejano, causada tal vez por este temblor.

16, 12^h 55^m 49^s.* **Ilocos Norte.** Temblor de intensidad II.

16, 13^h 32^m. **Joló y SW de Mindanao.** Temblor oscilatorio; dirección SW–NE en Zamboanga y E–W en Joló, intensidad III.

21, 4^h 00^m. **San Antonio** (E de Luzón). Temblor de tierra de intensidad II.

24, 3^h 49^m. **Aparri** (NE de Luzón). Temblor oscilatorio, dirección N–S, intensidad III.

25, 21^h 30^m. **Davao** (SE de Mindanao). Temblor oscilatorio, dirección NE–SW, intensidad IV, duración 15^s.

26, 4^h 02^m 04^s. **E de Manila.** Temblor de intensidad III, sentido en la parte oriental de las Provincias de Laguna y Tayabas. El origen se hallaba en la parte N de la Bahía de Lamon á unos 180 kilómetros al E de Manila.

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 meridiano 120° E de Greenwich.

SUBMARINE SEISMIC CENTERS NEAR THE COASTS OF NORTHERN LUZON.

It appears to be beyond doubt that, aside from the epicenter in the Central Cordillera of northern Luzon which we discussed in the preceding (April) number of the MONTHLY BULLETIN, three additional seismic centers exist underneath, but close to the coast of the seas which surround this part of the island. Two of these have already been indicated by the eminent seismologist, Count Montessus de Ballore, in his work, "Geographie Seismologique," page 440. By means of the data published by Manila Observatory, he located one of these centers off the northeast coast of northern Luzon, between this coast and Camiguin Island, one of the Babuyanes Group, and the other between the neighborhood of Cape Bojeador and the Islands Fuga and Dalupiri of the same group. To these, we believe, must be added a third, very close to, if not on the coast of Ilocos Sur.

None of these foci appears to be of great importance: at least the history of the Archipelago gives no indication of any great earthquake produced by them. A few shocks of intensity VII–VIII proceeding from the centers off the northwest coast and along the coast of Ilocos Sur were remarkable for the small extent of their meizoseismic areas.

The northeastern center.—The Earthquake Catalogue published in last year's bulletins of the Weather Bureau shows that during the period 1902–1908 the meteorological station at Aparri experienced the following earthquakes, classified according to their intensity: II–III, 43; IV, 23; V, 2; VI, 1; total, 69. This number of disturbances merits for the extreme northeast of Luzon second place among the seismically most active regions of the Philippine Archipelago.[1] The epicenter of this region must be sought below the sea, between the mouth of the Cagayan River and the volcanic island of Camiguin, this position being indicated by both the frequency of seismic disturbances perceptible only in Aparri and its vicinity, and the directions from north and northeast commonly assigned to the shocks in the records of observations. This submarine focus must be related intimately to the one of the Batanes Islands, since the tectonic line which runs roughly along the one hundred twenty-second meridian east must be considered as their common cause.[2]

We have been unable to find in the history of the Philippines any record of a destructive earthquake which could be brought into direct connection with this epicenter. Only of the memorable earthquake on the feast of Saint Andrew (November 30), 1645, the most violent seismic disturbance in the Philippines on record, the Chronicles say that at Lal-loc, some 23 kilometers south of Aparri, it "rent mountains and caused new springs to appear, the earth throwing forth sand at various points and trembling to so great a degree as to make it impossible to maintain one's balance." It can not, however, be assumed that this disturbance originated in the center to the northeast of Luzon, since, according to the same sources of information, the phenomenon developed the same intensity in the Ilocos Provinces, and—if possible—even greater violence in Manila and the neighboring provinces. It is not improbable that the focus lay east or east-northeast of Manila, near the eastern coast, and under this supposition it is not difficult to associate it with the prolongation of the same fissure or fault which is responsible for the earthquakes of the northeast end of Luzon.

The northwestern center.—The data available for determining the precise location of this epicenter are rather meager. Count Montessus, in the work mentioned, contents himself with locating it by tracing the meizoseismal lines for five earthquakes which he selected from the MONTHLY BULLETIN and the catalogues contained in "La Seismología en Filipinas."[3] Of these

[1] See "Bulletin for December, 1908. Appendix."

[2] See "Earthquakes of the Batanes Islands." Bulletin for March, 1909, page 97.

[3] "La Seismología en Filipinas." By Rev. Miguel Saderra Masó, S. J. Manila, 1895.

only two were of force V, while the rest did not exceed II and III. Desirous of clearing the matter, we reëxamined our catalogues and some other, original, documents and thus obtained for the period 1866–1908 forty-nine earthquakes which have been felt exclusively in the northwest end of Luzon. Their intensities were: II–III, 28; IV, 11; V, 6; VI, 2, and VII, 2. These figures show that, although the existence of an epicenter in the neighborhood of the coast in question can not be denied, the importance of the said center as manifested by the seismicity of the region during the last forty-two years is but small. The two disturbances of force VII occurred, the first in December, 1866, and the second during the same month of 1879. Moreover, during the second half of March, 1867, frequent earthquakes were felt in the said region, two of which are described as "very strong" (force VI). Another seismic period extending through several days began on January 27, 1872, following an earthquake qualified as "strong." While going over the catalogues of earthquakes one can not fail to notice that the directions assigned to the seismic waves are almost exclusively N–S. As nearly all these data have been furnished by observers stationed at Laoag, they are of special value in pointing out a center situated near the northwestern extremity of the island, that is, between Cape Bojeador and the Islands of Fuga and Dalupiri of the Babuyanes Group.

If we except the outlines of the coast, we may say that the geology and physiography of this part of Luzon have been perfectly unknown until very recently, when Dr. Warren D. Smith, chief of the mining division, Bureau of Science, made a preliminary reconnoissance of this region, with the principal object of investigating the economic value of some deposits of asbestos and manganese in Ilocos Norte. From his highly interesting report [1] we quote a few passages which have reference to recent volcanic activity in the said region. In describing the northwestern end of Luzon, north of Dirique, which lies a short distance south of Cape Bojeador at the point where the coastal strip ends, Doctor Smith says:

> From there on (Dirique), around the north coast, there is every indication of very recent vulcanism; in fact, from Bojeador light running eastward for some miles there occurs a long, black, rugged, treeless ridge of "eruptive conglomerate" which appears to be more recent and quite apart from the rest of the country. (L. c., p. 148.)

Somewhat further on, in speaking of the eruptive conglomerate, he says:

> I looked in vain for some sign of an old vent, some extinct crater, which would throw light on the point of origin of this formation. A close examination of the ridge itself showed some crater-like depressions, always incomplete, but I finally decided that all of these forms could be produced by the ordinary processes of erosin.
>
> Next I turned to the coast. Here I found ash beds, sedimentaries, and lava flows, but no sign of an extinct crater. After the study of this portion of the country, the Babuyanes Islands and their circular arrangement, highly suggestive of a drowned crater, occurred to me. The distance, and the fact that elevation and not subsidence has been the rule in this region, precluded my making use of their existence to explain the mystery. Later I examined the roughly circular, flat-bottomed valley in which Nagpartian lies. It is not improbable that this valley, now filled with sediment, may at one time have been the vent, or it may have contained one or more vents from which all this eruptive material issued. (L. c., p. 154.)

It must be remarked that this evidently volcanic region with its seismic center corresponds to the eastern slope of the important synclinal which appears to traverse the China Sea and whose trough of more than 4,000 meters' depth approaches very close to the northwestern end of Luzon.

The center of Ilocos Sur.—This seismic center must be situated close to the west coast of Luzon, between 17° and 17° 30′ N latitude. In the earthquake catalogues mentioned before, we find 63 disturbances belonging to this epicenter. Their intensities were as follows: II–III, 37; IV, 16; V, 8; VII, 1, and VIII, 1. The two last mentioned occurred on August 15 and November 14, 1897.

The earthquake of August 15, 1897, occurred at $20^h\ 21^m$ and developed a maximum intensity of VIII. The isoseismic curve corresponding to this intensity inclosed the west coast of Luzon between Candon and Vigan for a distance of about 50 kilometers, and reached inland slightly over 20 kilometers; the isoseismal of force VII included about 180 kilometers of coast line and penetrated inland up to 60 kilometers; that of force VI ran southward from Aparri, in the northeast of the

[1] "The Philippine Journal of Science, A. General Science;" Vol. II, page 145.

island, traversing the Provinces of Cagayan, Isabela, and Nueva Vizcaya, and thence toward southwest through Nueva Ecija, Tarlac, and Zambales; the curve representing force V reached the eastern and southern coasts of Luzon; while those corresponding to intensities IV and III passed through the Camarines Province and the Islands of Marinduque and Mindoro, embracing nearly the whole of Luzon and the adjacent islands to the north and south. Between the hour of the earthquake and the morning of August 16 no less than 16 aftershocks of intensities III and IV were counted.

The earthquake of November 14, 1897, took place at $9^h\ 3^m$. To judge from the damages it caused, especially at Candon, its intensity did not exceed VII. The epicentric area bounded by the isoseismal VII lay along the west coast for approximately 100 kilometers and extended inland a little over 20 kilometers. The disturbance was felt distinctly as far as the Island of Mindoro toward south and eastern Tayabas toward southeast. Nothing is known of perceptible aftershocks or repetitions.

Both earthquakes have been registered in Europe, at least at such observatories as possessed highly sensitive microseismographs. In the numerous reports concerning these quakes which the Observatory has received from all the more important towns of the Ilocos Provinces, no mention is made of any extraordinary movement noticed in the sea. The same silence is observed in the notices concerning the disturbances proceeding from the northwestern center. This appears to militate against the assumption that these earthquakes are of strictly submarine origin. To us it seems more probable that the disturbances are caused by displacements of portions of the coast region. It is quite possible that the latter forms an independent section, being divided by a fault from the main mass represented by the great Central Cordillera. This idea is suggested by the study of an ideal geological section of this region drawn by Mr. A. J. Eveland, geologist of the then existing Mining Bureau.[1] This section, which begins at Candon and runs eastward, shows that there exist in this region two coast ranges or folds. Of these the one nearer to the coast is marked only by a series of isolated elevations of various heights and by the fact that the general level of the country is much higher than the valley adjoining it in the east, beyond which commences the second and more important range. This first section of the coast has an average width of 18 kilometers and is composed of shales and sandstones. The main coast range, which is more regular in its structure and has elevations exceeding 900 meters, is separated from the Central Cordillera by the valley of the Abra River, the latter flowing from south to north. The western slope of this second range consists of a thick layer of limestone which has a very pronounced dip toward southwest, while the eastern slope, facing the Abra River, is formed of conglomerate. Hence it would appear that the slates and sandstones of the first section or coastal fold rest on the limestone of the second range. Mr. Eveland calls attention to the fact that in the depression which separates the two ranges in question the ground looks as if it had undergone unusual displacements. Might this not be an indication of a fault or perhaps of the end of a thrust plane? On the other hand, the fringe of reefs or recent coral formations which borders the coast is relatively narrow; beyond it follows a depth of 20 to 40 fathoms (36 to 72 meters), which, at a distance of 3 to 4 kilometers from the coast, suddenly drops to 300 fathoms (540 meters), thereby indicating a pronounced scarp. Beyond this the slope continues toward west and southwest in such manner that the bathymetric line of 2,000 fathoms (3,600 meters) passes the coast at a distance of some 60 kilometers.

These facts would appear to afford sufficient foundation for attributing the earthquakes which are confined to the Ilocos Provinces to movements and displacements of the first section or coast range. The absence of seismic tidal waves and similar phenomena in the case of the two earthquakes mentioned may be accounted for, partly by the relative smallness of the portion of the coast disturbed, partly by the fact that it is not the bottom of the sea which is affected, but merely a bording ledge. Moreover, it is quite possible that the movement is horizontal and in the direction of the coast line, in which case there would be no reason for such waves or any unusual flow and ebb of the sea.

[1] "A Preliminary Reconnoissance of the Mancayan-Suyoc Mineral Region, Lepanto, P. I." By A. J. Eveland. Manila, 1905.

EPICENTROS SÉISMICOS SUBMARINOS CERCA DE LAS COSTAS DEL NORTE DE LUZÓN.

Además del epicentro de que se habló en el BOLETÍN MENSUAL de Abril, situado en la Cordillera Central, parece indudable que en la parte N de Luzón existen otros tres que deben colocarse en los mares vecinos pero á poca distancia de las costas. Dos los encontramos ya indicados por el eminente seismólogo Compte de Montessus de Ballore en su obra "Geographie Seismologique," página 440: quien valiéndose de los datos publicados por el Observatorio de Manila, sitúa uno al NE entre la costa de Luzón y la Isla de Camiguín (Babuyanes) y otro al NW entre las cercanías de Cabo Bojeador y las Islas Babuyanes, Fuga y Dalupiri. Á éstos creemos que puede añadirse un tercero en ó muy cerca de la costa de Ilocos Sur.

Ninguno de estos tres centros parece ser de grande importancia; por lo menos no consta en la Historia del Archipiélago que se hayan producido en ellos grandes terremotos. Algunos pocos de intensidad VII–VIII, originados en el centro del NW y en el de Ilocos Sur se distinguieron por la poca extensión de su área pleistoseiste.

Centro del NE de Luzón.—Del Catálogo de Temblores de Tierra, publicado el año próximo pasado resulta que desde 1902 á 1907 se experimentaron en la Estación de Aparri el siguiente número de temblores, repartidos conforme á su intensidad: II–III, 43; IV, 23; V, 2; VI, 1: total, 69. Este número coloca al extremo NE de Luzón en el segundo lugar entre las regiones de mayor seismicidad del Archipiélago Filipino.[1] El epicentro de esta región está situado en el mar entre la desembocadura del Río Grande de Cagayán y la isla volcánica de Camiguín; así parecen persuadirlo tanto la frecuencia de temblores perceptibles solamente en Aparri y sus cercanías, como las direcciones N y NE, con preferencia apuntadas en las notas seismológicas. Este epicentro submarino debe estar íntimamente relacionado con el de las Islas Batanes, reconociendo por origen la misma línea tectónica que se extiende á lo largo del meridiano 122° E.[2]

No hallamos registrado en la Historia de Filipinas terremoto ninguno destructor que pueda relacionarse con este epicentro. Solo del memorable terremoto de San Andrés (30 de Noviembre), 1645, el más formidable de los terremotos filipinos, se dice en las Crónicas que en Lal-loc, unos 23 kilómetros al S de Aparri, "abrió montes y descubrió bocas de agua, escupiendo la tierra por varios puntos arena, y temblando de suerte que era imposible tenerse en pié". Con todo no puede decirse que este terremoto tuviese precisamente su origen hacia el NE de Luzón por haber desarrollado, según las mismas Crónicas, igual intensidad en Ilocos y mayor si cabe en Manila y provincias cercanas. No creemos sin embargo improbable que su origen estuviese hacia el E ó ENE de Manila cerca de la costa oriental y en este caso no sería dificil relacionarlo con la prolongación de la misma hendidura ó falla donde se originan los temblores del extremo NE de la Isla.

Epicentro del NW.—Son pocos los datos que poseemos para fijar bien la situación de este epicentro. Mr. de Montessus, citado antes, se contenta para determinarlo con trazar las líneas pleistoseistes de cinco diferentes temblores, escogidos del Boletín Mensual del Observatorio de Manila y de los Catálogos de "La Seismología en Filipinas,"[3] de los cuales sólo dos tuvieron intensidad V, no pasando los otros de II y III. Con el deseo de dilucidar más este punto, revisando de nuevo nuestros catálogos y algunos otros documentos originales, llegamos á reunir, del período 1866 á

[1] Véase "Bulletin for December, 1908, Appendix."

[2] Véase "Temblores de las Islas Batanes," Bulletin for March, 1909, pág. 100.

[3] "La Seismología en Filipinas." Por el P. Miguel Saderra Masó, S. J., Manila, 1895.

1908, cuarenta y nueve temblores de tierra sentidos solamente en el extremo NW de Luzón: 28 de intensidad II–III, 11 de IV, 6 de V, 2 de VI y 2 de VII. Por donde se ve que, si bien debe admitirse un epicentro en esta parte de la isla, situado cerca de la costa, con todo su importancia durante los últimos 42 años, deducida de la seismicidad de esta región, parece haber sido poca. Los dos terremotos de fuerza VII ocurrieron en Diciembre de 1866 y en el mismo mes de 1879. Además durante la segunda mitad de Marzo de 1867 se experimentaron frecuentes temblores de tierra, dos de ellos calificados de muy fuertes (fuerza VI). Otro período seísmico de varios días de duración ocurrió también desde el 27 de Enero de 1872, después de un terremoto calificado de fuerte. Llama la atención al hojear los catálogos el que la dirección dada, casi exclusivamente, á las ondas seísmicas sea la de N–S, lo cual, tratándose de datos suministrados casi todos por observadores de Laoag, no deja de tener especial valor para señalar un epicentro cerca de la punta NW de la isla, ó desde Cabo Bojeador hacia las Islas Fuga y Dalupiri del grupo de las Babuyanes.

La Geológía y Fisiografía de esta parte de Luzón puede decirse que, si exceptuamos el contorno de sus costas, era desconocida por completo hasta muy recientemente en que Dr. W. D. Smith, jefe de la división de minas, Bureau of Science, hizo un reconocimiento, con el objeto principal de conocer el valor económico de unos depósitos de asbesto y manganeso de Ilocos Norte. Del interesante report del Doctor Smith[1] tomaremos algunas líneas referentes al reciente vulcanismo de esa región. Al describir el extremo NW, desde Dirique, un poco al S de Cabo Bojeador, donde terminan las llanuras que constituyen gran parte de Ilocos Norte, dice:

> Desde allí (Dirique) y bordeando hacia la costa N todas las indicaciones son de vulcanismo muy reciente: partiendo del faro de Bojeador en dirección al E, se encuentra por algunas millas una cordillera, negra, áspera y pelada, compuesta de conglomerado eruptivo que parece ser más reciente y como formar grupo separado del resto de la región. (L. c., pág. 148.)

Luego más adelante añade:

> Yo miré en vano para encontrar alguna antigua boca ó abertura, algún cráter extinto, que diese luz acerca del origen de esta formación. Un minucioso examen de la cordillera me mostró algunas depresiones crateriformes, siempre incompletas, pero al fin me decidí á pensar que tales formas podían muy bien ser producidas por la erosión ordinaria.
>
> Luego me dirigí hacia la costa. Aquí encontré capas de cenizas, de sedimentos, y corrientes de lava. Después del estudio de esta parte me ocurrió la colocación en círculo de las Islas Babuyanes, como sugiriendo la idea de un cráter sumergido. Mas tanto la distancia de estas islas como el hecho de que lo ocurrido en esta región ha sido levantamiento y no hundimiento, no da lugar á semejante idea. Después examiné el valle de Nagpartian, groseramente circular y con su fondo llano. No es del todo improbable que este valle, hoy rellenado por sedimentos, haya en algún tiempo encerrado el manantial, uno ó varios, de donde salió todo este material eruptivo. (L. c., pág. 154.)

Es de advertir que esta región evidentemente volcánica, donde existe el centro seísmico, corresponde á la vertiente E del synclinal importante que probablemente atraviesa el Mar de China, y cuyo fondo de más de 4,000 metros se acerca mucho al extremo NW de Luzón.

Centro de Ilocos.—Este debe situarse cerca de la costa occidental de Luzón, entre 17° y 17° 30′ latitud N. En los catálogos antes citados encontramos 63 temblores de la tierra pertenecientes á este epicentro: 37 de intensidad II–III, 16 de IV, 8 de V, 1 de VII y 1 de VIII. Estos dos últimos ocurrieron el 15 de Agosto y el 14 de Noviembre de 1897.

El terremoto del 15 de Agosto tuvo lugar á 20^{h} 21^{m} y desarrolló la intensidad VIII. La curva isoséismica VIII comprendió la parte de la costa occidental de Luzón desde Candón á Vigan, en una longitud de unos 50 kilómetros y una anchura, tierra adentro, de algo más de 20 kilómetros. La isoseismal VII comprendió unos 180 kilómetros de costa y 60 kilómetros tierra adentro; la VI corría desde Aparri, NE de la Isla, hacia el Sur á través de las Provincias de Cagayán, Isabela, Nueva Vizcaya, y luego hacia el SW por Nueva Ecija, Tarlac y Zambales; la V por las costas orientales y del Sur de la Isla; y las IV y III por Camarines y por las Islas de Marinduque y Mindoro, comprendiendo así casi toda la isla de Luzón y las adyacentes al N y al S. Después se contaron hasta la mañana del 16 doce réplicas ó aftershocks de intensidad III y IV.

[1] "The Philippine Journal of Science, A. General Science; Vol. II, pág. 145 y sig.

El terremoto del 14 de Noviembre tuvo lugar á 9^h 3^m; su intensidad no pasó de VII, á juzgar por los daños causados principalmente en Candón. El área epicéntrica encerrada por la isoseismal VII, se extendía á lo largo de la costa occidental, en una longitud de cerca de 100 kilómetros y poco más de 20 kilómetros de anchura, tierra adentro; siendo el temblor muy perceptible hasta la Isla de Mindoro hacia el S y la parte oriental de Tayabas hacia el SE. No consta que hubiese aftershocks ó repeticiones perceptibles.

Ambos terremotos fueron registrados en los Observatorios de Europa que poseían microseismógrafos más perfeccionados. En las numerosas notas acerca de estos dos terremotos recibidas en el Observatorio de todos los principales pueblos de Ilocos, no se hace mención de movimiento alguno extraordinario observado en el mar. El mismo silencio se observa en las notas referentes á los terremotos del epicentro del NW: esto parece pugnar con la suposición de que el origen de unos y otros sea propiamente submarino. Más probable nos parece que el origen es debido á movimientos ó dislocaciones de diferentes porciones de la región costera, la cual es muy posible que forme una sección independiente y separada, por una falla, del macizo principal representado por la gran Cordillera. Esta idea nos la sugiere la vista de un corte geológico ideal, desde la costa de Candón hacia el E, trazado por Mr. A. J. Eveland, geólogo del entonces llamado Bureau of Mines.[1] En él se ve que en esta parte de Luzón existen dos cordilleras ó pliegues costeros: el más próximo á la costa indicado solo por una serie de macizos montañosos de varia altura y por el nivel general mucho más elevado que el valle contiguo del E, de donde arranca la segunda y más importante cordillera costera. Esta primera sección costera tiene una anchura media de 18 kilómetros y está compuesta de pizarras y areniscas. La segunda cordillera, más regular y con alturas superiores á 900 metros, está separada de la Gran Cordillera Central por el valle del Río Abra que corre de S á N. Su vertiente occidental está formada de una potente capa de caliza que buza hacia el SW con pendiente muy pronunciada, mientras que el lado opuesto que mira al valle del Abra, consta de conglomerado. Por consiguiente las pizarras y areniscas de la primera sección, ó pretendido pliegue costero, parecen descansar sobre el banco de caliza de la segunda cordillera. Mr. Eveland hace notar que en el valle que separa estas dos secciones el terreno se presenta extraordinariamente dislocado. No puede esto ser indicación de una falla ó quizás límite de un *thrust plane?* Por otra parte la faja de arrecifes ó formación coralina reciente que bordea la costa es relativamente estrecha; sigue luego un fondo de 20 á 40 brazas (36 á 72 metros) el cual á la distancia de la costa de 3 á 4 kilómetros salta á 300 brazas (540 metros) indicando un escarpe muy pronunciado. La pendiente continúa hacia el W y SW, de manera que la línea batométrica de 2,000 brazas (3,600 metros) corre á unos 60 kilómetros de la costa.

Conforme á estos datos no parece carecer de fundamento el atribuir los terremotos exclusivamente Ilocanos á movimientos y dislocaciones de la primera sección ó pliegue costero. La carencia de olas extraordinarias en los dos terremotos descritos puede explicarse en parte por la relativa pequeñez de la porción de costa conmovida, y en parte por no constituir propiamente el fondo del mar sino el borde. Además puede ser que los movimientos fueran solo horizontales y en la misma dirección de la costa y en este caso no habría razón para tales olas ó flujos y reflujos.

[1] A. J. Eveland: "A Preliminary Reconnoissance of the Mancayan-Suyoc Mineral Region, Lepanto, P. I." Manila, 1905.

BULLETIN FOR JUNE, 1909.

METEOROLOGICAL BULLETIN FOR JUNE, 1909.

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

GENERAL WEATHER NOTES.

Pressure and temperature.—The monthly mean atmospheric pressure for the Philippines differs very little from both the normal of this month and the monthly mean for June 1908. The highest pressures were registered throughout the Archipelago toward the middle of the month, whereas the lowest pressures took place on the 21st in Luzon and a few stations of the Visayan Islands, and during the period from the 3d to the 5th in the other stations of the Visayas and Mindanao.

The monthly average of temperature is for almost all our stations somewhat higher than that of June, 1908. The mean for Manila is almost identical with the normal of this month from which it differs only by —0.1 °C.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, JUNE, 1909.

Station.	Pressure.						Temperature.					
	Mean.	Departure from June, 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from June, 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	758.08	0	759.89	17	756.89	3	27.8	+0.7	34.7	19	22.1	22
Surigao	58.32	+0.08	59.96	17	57.44	5	27.	— .2	33.2	21	22.5	26, 28
Cebu	58.29	+ .08	60.06	17	57.40	5	28.2	+1.1	33.0	26	23.6	5
Iloilo	58.36	— .02	60.07	17	57.15	4	27.6	+ .6	34.1	12	21.5	21
Ormoc	58.28	— .23	59.96	17	57.46	23	26.4	+ .5	34	3, 6	20.5	1
Tacloban	58.61	+ .10	59.81	17	57.83	21	27.7	+ .8	34.1	5	22.7	22
Capiz	----	----	----	----	----	----	27.8	+ .7	33	10	----	----
Calbayog	58.71	+ .13	60	17	57.79	21	26.9	+ .5	34	24	22.4	23
Legaspi	58.42	+ .07	59.57	13	56.86	21	27.8	+ .6	34.5	26	21.8	17
Atimonan	58.14	— .02	59.40	13	56.02	21	27.9	+ .4	35.5	3	22.5	17
Manila	58.15	+ .04	59.46	15	56.26	21	27.8	+ .6	36.9	7	22.2	22, 23
Olongapo	58.01	+ .04	59.36	13	56.02	21	27.6	+ .6	36	2	22.5	24
San Isidro	58.02	— .21	59.33	13	55.93	21	28.	+ .6	37.9	10	22	17, 22, 28, 29
Dagupan	57.88	+ .12	59.26	15	55.77	21	28.2	0	37.8	7	22.1	13, 14
Bolinao	57.88	----	59.43	15	55.33	21	27.9	----	33.9	3	22.8	15
Vigan	57.87	— .08	59.46	15	55.07	21	28.3	+ .5	34.7	10	22.9	24
Tuguegarao	57.64	+ .01	58.94	16	55.15	21	29.1	+ .7	39	11	22.6	24
Aparri	57.96	— .20	59.25	15	55.19	21	28.3	+ .4	35.6	7, 13	23	16, 21, 27

Precipitation.—The total amount of rainfall for this month has been generally below the normal and likewise below the total for June of the preceding year. Our readers will see in the following table that (not counting Guam) there are only eleven stations with a monthly rainfall above that of June, 1908. At the Central Observatory 165.7 millimeters of water were collected in the rain gauges during the whole month. This quantity falls short of the normal for June by 77.3 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JUNE, 1909.

Station.	Total.	Departure from June, 1908.	Rainy days.	Departure from June, 1908.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from June, 1908.	Rainy days.	Departure from June, 1908.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	287.1	+151.4	20	+ 4	72.4	28	Sumay, Guam	134.5	+ 10.1	19	—7	20.3	21
Isabela, Basilan	163.1	— 7.9	18	+ 1	48.8	26	Calapan	252.6		16		66.8	11
Zamboanga	97.2		14		32.5	25	Legaspi	134.9	—124.6	14	—7	37.3	16
Davao	414.5	+221.2	12	+ 5	57.1	25	Virac	161.3	—168.5	18	—7	38.6	26
Cotabato	292.1		16		50.8	16	Nueva Caceres	184.7		14		64.8	16
Cagayan	149.2		19		43.2	12	Batangas	70.6	— 51.5	11	0	22.1	26
Dapitan	73.9	—233.7	13	— 5	53.1	12	Atimonan	145.6	— 64.7	13	—3	48.8	25
Butuan	245.8	+ 96.7	19	0	42.7	22	Silang	139.5	—275.3	11	—6	27.9	29
Tagbilaran	78.7	—115.9	12	— 6	21.2	29	San Antonio, Laguna	78.6	—218.7	13	—4	17.8	14
Surigao	116.2	—112	13	— 5	25.4	4	Manila	165.7	+ 8.7	11	—4	49.6	18
Maasin	93	—184.9	6	— 6	34.5	25	Olongapo	191.1	— 53.2	14	—5	61.7	18
Cebu	33	—236.5	13	—11	6.9	30	San Isidro	127.2	— 48.2	13	—3	41.9	28
Iloilo	245.9	+ 63.7	16	— 5	50.5	27	Tarlac	78.1	—184.6	14	—1	32.5	9
San Jose, Buenavista	277.8	—119.3	24	+ 3	48.5	25	Dagupan	216.4	— 38.2	16	—1	43.4	21
Tuburan	61.3	—219.9	7	— 9	18	25	Bolinao	441	+210.6	19	0	78	15
Ormoc	161	— 25.9	14	— 5	40.6	25	Baguio, Benguet	244.4	+ 67.5	22	+9	31.5	27
Tacloban	241.2	— 76.4	20	— 4	80.3	21	San Fernando, Union	104.7	—129.5	12	—6	18	14
Capiz	190.3	+ 4.9	16	0	46	22	Echague	56.4	— 55.1	10	—4	24.9	15
Borongan	182.9	—287.5	21	— 2	23.6	21	Candon	195.4	— 46.5	14	—3	48	28
Calbayog	176	+ 72.7	22	+ 5	30.5	7	Vigan	59.2	—315.8	16	—2	20.1	13
Palanoc, Masbate	50.8	—179	6	—13	25.4	22	Tuguegarao	143.5	+ 52.2	10	—1	32.3	21
Romblon	176.4	— 52.8	20	+ 3	26.7	26	Laoag	235.6	—234.3	18	—2	61.7	24
Laoang	82.2	—200.5	17	— 5	23.9	27	Aparri	117.5	+ 17.8	7	—3	35.6	21
Gubat	174.9	—112.2	14	— 1	48.5	5	Sto. Domingo, Batanes Is	18.3	— 61.5	6	—7	9.4	21

DEPRESSIONS AND TYPHOONS.

During the whole month of June only one depression has been observed in the seas near the Philippines. It was formed on the 20th or 21st in the China Sea, southeast of Hongkong, near 20° latitude N and moved during the following days toward the Gulf of Tongking and northern Indo-China.

The Manila Observatory sent the following warnings to the foreign meteorological services of the Far East:

June 19, noon: Low-pressure area over north China Sea. A typhoon may develop later.

June 21, noon: Low-pressure area extending from China Sea to east of Balintang and Bashi Channels. A circular depression may be forming in it to the NW of Luzon.

June 21, 5 p. m.: Depression northern part China Sea.

From Hongkong Observatory we received the following telegrams:

June 21, noon: Typhoon south of Hongkong; direction unknown.

June 22, noon: Typhoon south-southwest of Hongkong, moving west.

June 23, noon: Typhoon near Hainan Straits, moving west.

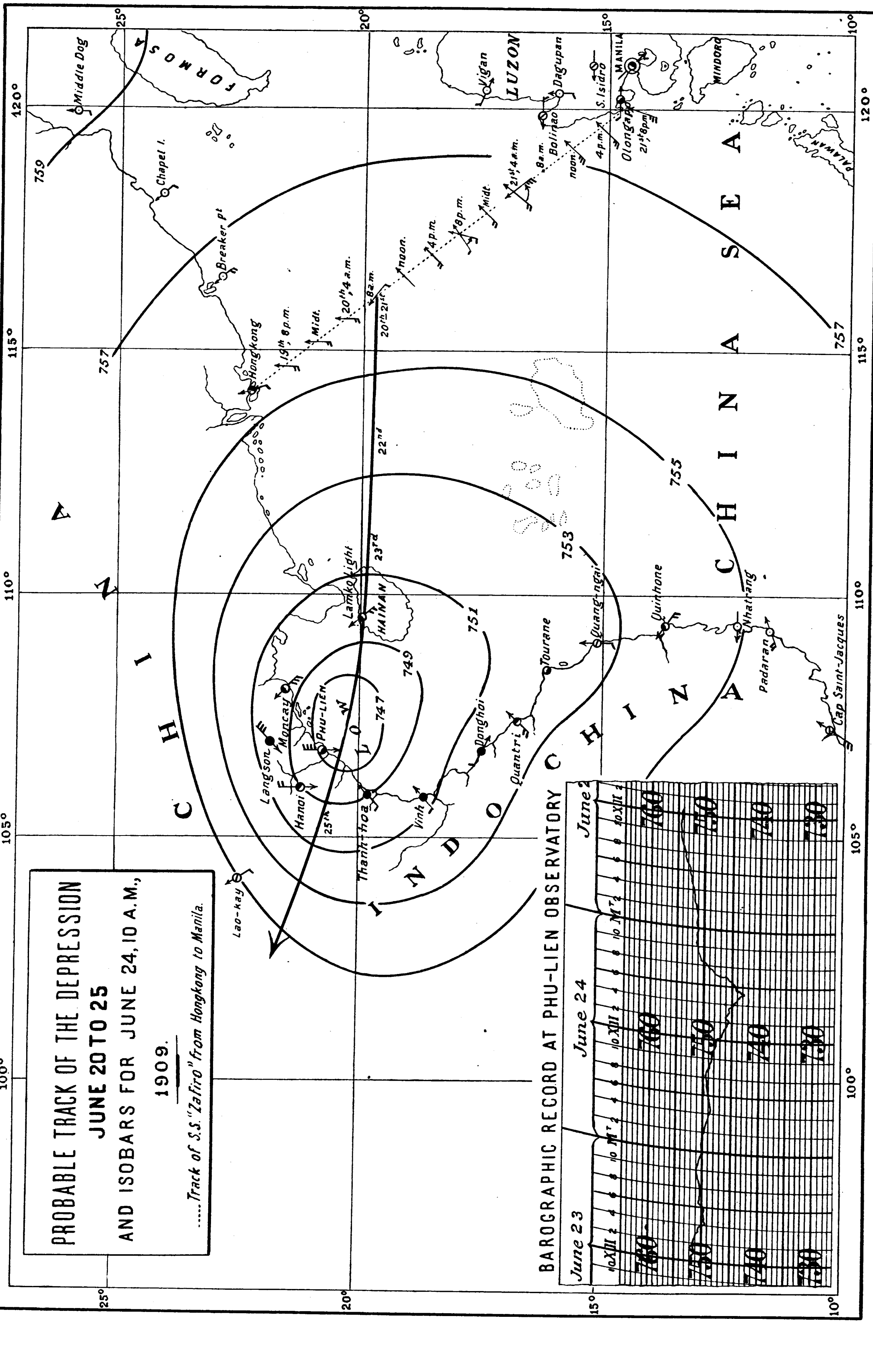
Phulien Observatory likewise sent to the stations of Indo-China the following warnings on the 24th:

June 24, 11.25 a. m.: The center of the depression lies at present in the Gulf of Tongking and continues moving westward.

June 24, 5.40 p. m.: The depression has entered the coast at about 4 p. m., 50 miles to the south-southwest of Phulien. It seems to be moving to northwest.

In Plate III we give the probable track of this depression together with the isobars for June 24, 10 a. m., and the barographic record obtained at Phulien Observatory during the passing of the storm south of Haiphong. Owing to the generosity of Mr. J. Ferra, director of the meteorological service of Indo-China, we are in possession of a good number of isobars and of a special report on this depression which has been kindly prepared at our request by Mr. A. Beljonne, assistant meteorologist of Phulien Observatory.

Plate III.



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

From this report we take the following remarks on the effects of this depression over Indo-China:

The effects of this depression over the continent have been of no great importance. At Phulien Observatory we observed the maximum force of the wind with gusts from ENE. This maximum velocity was of 106 kilometers per hour at 5.28 p. m. when the cyclonic center was at its shortest distance from the Observatory.

The total distance covered by the wind at Phulien during the 24th and 25th was 2,494 kilometers and the total amount of rainfall did not exceed 19.4 millimeters.

The wind continued blowing from the SE quadrant in the afternoon of the 26th.

According to the observations received here the cyclonic center passed near Haiphong the afternoon of the 24th.

In Plate III above mentioned we have included the route of the steamer *Zafiro* in her regular trip from Hongkong to Manila. Some of the observations made on board this steamer are given in the following table:

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "ZAFIRO," JUNE 20 AND 21, 1909.

[Captain, Mr. R. Rodger.]

Date and hour.	Position.		Pressure.	Wind.		Remarks.
	Latitude north.	Longitude east.		Direction.	Force.	
June 20:	° ′	° ′	*mm.*		*0-12.*	
4 a. m			753.86	S to SbyW	3	Slight southerly swell; sky partly cloudy.
8 a. m			54.11	SE	2	Overcast and dull; cloud banks to eastward.
Noon	19 14	116 42	54.11	SW		Wind variable during last four hours; squalls and rain; weather, threatening appearance.
4 p. m			53.60	SW	4	Moderate sea; overcast and rainy; occasional squalls.
8 p. m			54.37	S to SW	2	Dull and cloudy; squally appearance; heavy rains.
12 midnight			54.11	SW	3-4	Moderate breeze, squally; dark and heavy sky.
June 21:						
4 a. m			53.60	SW to SE	4-5	Squalls more frequent and stronger, with heavy rain; confused sea from S and SW; heavy cloud banks to NE and E.
8 a. m			53.86	NE to SbyE	4-6	Heavy squalls; wind shifting about from NE through E to S; heavy cloud bank to the NE and E.
Noon	15 50	119 14	54.62	SW	5	Fresh breeze, squally; dull and overcast; continuous rain.
4 p. m			54.11	SW	5	Dull cloudy weather, with heavy rain squalls; considerable SW sea.
8 p. m			54.87	SSW	5	Weather clearing; sky partly cloudy; squalls less frequent and with no force; moderate sea from SW.

Judging from these observations it would seem that before the 20th there was in the China Sea no cyclonic center well developed. At least the winds and the weather as observed on board the *Zafiro* do not show it until the afternoon of the said day.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes se diferencia muy poco así de la normal de Junio como de la media mensual del año próximo pasado. Las mayores presiones se registraron en Filipinas hacia la mitad del mes: las menores tuvieron lugar el 21 en Luzón y parte de las Visayas y del 3 al 5 en las estaciones más meridionales del Archipiélago.

La media mensual de temperatura es en casi todas las estaciones ligeramente superior á la de Junio 1908. La de Manila, es casi idéntica á la normal de este mes de la que se diferencia solamente en —0.1 °C.

Precipitación acuosa.—El total de lluvia de este mes ha sido para la mayor parte de las estaciones de Filipinas inferior al del año pasado y á la normal de Junio. En el cuadro que acompaña el texto inglés se verá que, prescindiendo de Guam, solamente once estaciones dan una cantidad de lluvia mayor que la de Junio 1908. En el Observatorio Central no se han recogido en los pluviómetros más que 165.7 mm. de agua, cantidad inferior á la normal de este mes en 77.3 mm.

DEPRESIONES Y TIFONES.

Durante todo el mes no se ha observado en los mares próximos á Filipinas más que una depresión, la cual tuvo su origen en el mar de China y se dirigió al Golfo de Tongkin y norte de Indo-China.

El Observatorio de Manila envió á los Servicios Meteorológicos Extranjeros del Extremo Oriente estos telegramas referentes á esta depresión:

Día 19, mediodía: Área de baja presión en la parte norte del mar de China. Es probable se forme más tarde un verdadero tifón.

Día 21, mediodía: Un área de baja presión se extiende desde el mar de China hasta el Este de los canales Balintang y Bashi. Es probable se forme en ella un centro ciclónico hacia el NW de Luzón.

Día 21, 5 p. m.: Depresión en la parte norte del mar de China.

Del Observatorio de Hongkong se recibieron los siguientes telegramas.

Día 21, mediodía: Tifón al S de Hongkong; dirección desconocida.

Día 22, mediodía: Tifón al SSW de Hongkong, moviéndose al W.

Día 23, mediodía: Tifón cerca del estrecho de Hainán, moviéndose al W.

El Observatorio de Phulien por su parte despachó para las estaciones interesadas los siguientes telegramas la mañana y tarde del 24:

Día 24, 11.25 a. m.: El centro de la depresión se encuentra actualmente en el Golfo de Tongkin y continúa moviéndose hacia el Oeste.

Día 24, 5.40 p. m.: La depresión ha penetrado en la costa á eso de las 4 p. m. á unas 50 millas al SSW de Phulien. Parece moverse al NW.

En la lámina III damos la trayectoria probable de esta depresión juntamente con la distribución de isobaras á 10 a. m. del 24 y la curva barográfica obtenida en Phulien durante el paso de esta depresión por el Sur de aquel Observatorio. Á la generosidad del Sr. J. Ferra, Director del Servicio Meteorológico de Indo-China, debemos agradecer preciosas observaciones, isobaras y report que sobre esta depresión preparó á petición nuestra el Sr. A. Beljonne, Meteorologista Auxiliar del Observatorio de Phulien. En este report se dice lo siguiente sobre los efectos de esta depresión en Indo-China.

Los efectos de esta depresión en el Continente han sido de poca importancia. En el Observatorio de Phulien observamos la máxima fuerza del viento con rachas del ENE. Esta velocidad fué de 106 kilómetros por hora á 5.28 p. m. en el momento en que el centro ciclónico pasaba á la menor distancia.

El camino total recorrido por el viento en Phulien durante los días 24 y 25 fué de 2,494 kilómetros y la lluvia recogida no ha pasado de 19.4 mm.

El viento continuaba soplando del segundo cuadrante la tarde del 26.

Según las observaciones recibidas, este centro ciclónico, que no parece haber sido muy profundo, debió de pasar cerca de Haiphong la tarde del 24.

Hasta aquí parte del citado report del Sr. Beljonne.

En la lámina III arriba citada hemos añadido la ruta del vapor *Zafiro* en viaje de Hongkong á Manila. En el texto inglés damos en una tabla algunas de las observaciones hechas á bordo de este barco. Por ellas se echará de ver que antes del 20 no parece existiese ningún centro de depresión bien formado. Los vientos y el tiempo al menos estuvieron muy lejos de indicarlo hasta la tarde de dicho día.

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.	Air temperature.[2] Mean.	Air temperature.[2] Maximum.	Air temperature.[2] Minimum.	Underground temperature. 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.	Evaporation.[2] Shelter, total.
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	mm.	mm.
1	757.77	27.9	33.6	22.5	30	31.8	30.7	31	29.7	28.7	73.7	20.4	-------	2.8
2	57.87	28.4	34.3	22.6	30.5	32.5	30.8	31.1	29.7	28.7	72.5	20.5	-------	3.4
3	57.46	29.4	35.8	22.9	30.8	33.2	30.9	31.5	29.8	28.8	65.8	19.5	-------	5.8
4	57.74	29.1	35.5	24.2	31.1	33.5	31.3	31.7	29.8	28.8	66.2	19.3	-------	5.1
5	57.79	29.5	36.4	23.1	31.1	34	31.4	32	29.9	28.9	65.9	19.6	-------	5.5
6	57.63	29.2	35.9	23.9	31.9	34.3	31.6	32.3	29.8	28.9	73.4	21.6	-------	4
7	58.11	29.8	36.9	23.5	32	34.5	32.4	32.4	29.9	28.9	66.6	20.3	-------	3.4
8	58.66	29	36.4	23.2	32	34.8	32.1	32.5	29.9	28.9	70	20.5	-------	3.7
9	58.22	29.6	34.9	23.8	32.2	34.9	32.2	32.6	29.9	28.9	71.8	21.8	-------	4.2
10	57.95	29.2	34.7	25.1	32.8	35.1	33	33.2	30	29	76.1	22.7	-------	3.3
11	57.72	29.6	35.8	24.3	32.8	35	32.8	33	30	28.9	70.5	21.4	-------	3.9
12	58.34	28.1	33.1	23	32.2	33.5	32.6	32.9	30	29	73.8	20.8	-------	2.9
13	59.44	28.2	35.2	24	31.8	34.8	32.4	32.6	30.2	29	75	20.8	-------	3
14	59.02	28	33.4	23.6	31	33.1	32	32.2	30.1	28.9	77.5	21.6	-------	2.3
15	59.46	27.6	33.6	24.1	31.5	33.5	31.9	32.5	30.2	29	80	21.7	-------	2.2
16	59.36	27.2	30.6	23.4	30.7	32.1	31.7	31.9	30.2	28.9	82.9	22	-------	2
17	59.30	27.7	32.4	23	30	33	31.3	31.8	30.2	28.9	79.5	21.7	-------	2.3
18	58.86	26.8	31.7	23.1	30	30.6	31.3	31.3	30.2	28.9	82.9	21.6	-------	2.2
19	58.01	26.5	30.7	23	29.1	30.5	30.7	31	30.2	28.9	85.1	21.8	-------	2
20	57.25	26.3	29.6	23.4	29	30	30.3	30.4	30.1	28.9	84.9	21.5	-------	1.7
21	56.26	26.6	30.2	22.6	28.8	29.9	30.1	30.2	30.1	28.9	81.1	20.9	-------	2.2
22	57.12	25	28.8	22.2	28.8	28.9	30	30	30.1	28.9	90.2	21.2	-------	.3
23	58.08	25.6	29.2	22.2	28.5	29.4	29.5	29.8	30	28.9	85.3	20.7	-------	1.6
24	58.38	26.4	30.3	22.3	28.3	29.6	29.6	29.7	30	28.9	82.4	20.9	-------	2.2
25	58.13	26.5	30.4	23.1	29	29.7	29.7	29.8	30	29	86.6	22.2	-------	.4
26	57.70	27.4	32.2	23	29	30.4	29.8	30	29.9	28.9	82.9	22.3	-------	1.8
27	57.59	26.9	32.6	23.5	29.5	30.8	29.9	30.4	29.9	29.1	87.5	22.9	-------	1.2
28	57.94	27.5	32.6	23.8	29.5	30.8	29.9	30.2	29.8	29	81.8	22.1	-------	2.1
29	58.81	27.1	33.2	23.2	29.9	31	30.2	30.2	29.9	29.1	82.6	21.9	-------	2
30	58.65	26.7	33.2	23	29.8	30.6	30.1	30.5	29.8	29	84.6	21.9	-------	1.7
Mean	758.15	27.8	33.1	23.3	30.5	32.2	31.1	31.4	30	28.9	78	21.3	-------	2.7
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	81.2
Departure from normal	+0.22	—0.1	+0.9	—0.6	-------	-------	-------	-------	-------	-------	—3.0	—1.1	-------	-------

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. h.	Sunshine. m.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	Km.		0–10.			h.	m.	mm.	
1	E quad.	137.5	13.5	NW	2.9	Ci.-S.	Cu. E	7	30	-------	≡° a. ⌈ϟ° ∞ p.
2	Variable	174	18	WNW	3	Ci.-S.	Cu. E	8	15	-------	≡° a.
3	ESE	257.5	24.5	ESE	2.8	Ci.-S.	Cu. E	9	40	-------	≡° a.
4	ESE	211	21.5	ESE	8.1	Ci.-S. SW	Cu. E	7	00	-------	≡° ○ a.
5	SE quad.	204.5	21	E	5.5	Ci.-S.	Cu. E	10	05	-------	≡° a.
6	ESE	156.5	22.5	SE by E	6.9	Ci.-S. NW by W	Cu. ESE	6	10	-------	≡° a. ⊤° p.
7	SE	199.5	18	SE	2.8	Ci.-S. NE	Cu. ESE	10	20	-------	≡° a. v p.
8	SE	132.5	12.5	SE	7.8	Ci.-S. S	Cu. SW	5	40	-------	≡° a.
9	W quad.	249	26	SW by W	4.7	Ci.-S. E	Cu. ESE	10	00	-------	≡° a.
10	WSW	208	26	SW	5.5	Ci.-S. SE	Cu.	7	45	-------	≡° a. p. ⌈ϟ ●° p.
11	SE	195	16	SE	5.1	Ci.	Cu. E	9	25	-------	≡° a. ⊤° p° p.
12	ESE	151	17.5	W by N	8.7	Ci.-S. E by S	Cu. E	2	35	-------	≡° ○ a. ⊤ d p.
13	ESE	215	27	SW	8	Ci.-S. S by W	Cu. E	4	45	1.5	○° a. p. ⌈ϟ ● p.
14	NW	160	14	SE	8.7	Ci.-S.	Cu. E	1	35	-------	≡° a. ϟ p. ○ a. p.
15	Variable	202.5	28	SW by W	8	Ci.-S.	Cu. SSE	5	30	10.9	≡° a. ⌈ϟ a. p. ●² p.
16	SW, N	186	15	W	9.2	Ci.-S.	Cu.-N. E	2	05	-------	≡° a. ○ p.
17	W quad.	334.5	31	W	9.3	Ci.-S. E	Cu. WNW	6	20	-------	○ a. ⌈ϟ° ⌒ d° p.
18	SW quad.	395	38	S	8.6	Ci.-S.	Cu.-N. SW by W	4	25	49.6	● ≡° a. ∞ p. ↙°
19	WSW	428	39.5	WSW	10	Ci.-S.	Cu.-N. WSW	0	30	24.1	● a. ↙° d p p.
20	SSW	288	33	WSW	9.8	Ci.-S.	Cu.-N. W by S	0	10	25.9	⌒ ● a. ○° ↙ ●² p.
21	SSW	268	31	WSW	9.5	Ci.-S. WSW	Cu.-N.	0	55	.3	●° a. ↙° p. ○ a. p.
22	ESE	222	34.5	WNW	10	Ci.-S.	Fr.-N. W by S	0	00	24	● a. ●° ⊤ p.
23	ESE	202.5	28	WSW	9.8	Ci.-S.	Cu.-N. ESE	0	00	5.8	d° a. ⌈ϟ ● p.
24	NW quad.	136.5	12.5	NW	8.6	Ci.-S. NE	S.-Cu. ENE	2	40	-------	≡° a. ϟ p.
25	N	102	14.5	NW	8.8	Ci.-S.	Cu.-N. SE	2	30	5.6	≡° a. ⌈ϟ ● a. p.
26	SE quad.	143	19	SW	9.1	Ci.-S. SW	Cu.-N. SW by S	0	30	-------	≡° a.
27	Variable	116	16.5	S	8.2	Ci.-S.	Cu.-N. E	4	20	17.5	≡° a. ⌈ϟ ●² p.
28	SW quad.	150.5	14	WSW	7.9	Ci.-S. SE	Cu.-N. SE	5	00	-------	≡° ○ a. ⌈ϟ p.
29	N	133	14	SE	8.6	Ci.-S. SE	Cu. SE by E	4	20	-------	≡ a. ⌈ϟ ●° ⦶ p. ○
30	WNW	154	16	WNW	6.6	Ci.-S. SE, E	Cu. E	5	20	.5	≡° a. ⌈ϟ ● p.
Mean	-------	203.8	22.1	-------	7.4	-------	-------	4	51	-------	
Total	-------	-------	-------	-------	-------	-------	-------	145	20	165.7	
Departure from normal	-------	—31.9	-------	-------	+0.5	-------	-------	—28	35	—77.3	

[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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.62	27.3	30.5	24	80.2	Variable	1.5	6.7	Ci.-S.	Cu.-N. NE, E	0.8	☈° ⊤° a. d p.
2	57.41	28.2	32.2	24.1	77.2	NNE, SE	1.7	6.2	Ci.-S.	Cu. E	.8	d ☇° p.
3	56.89	28.8	34.1	25	74.8	SE, NNE	2	6.5	Ci.-S.	Cu. E	------	⊤° d° ☇ ◡° p.
4	56.91	28.5	31.7	24.7	77.2	SE, NNE	1.7	7	Ci.-S.	Cu. E	------	↙° p.
5	56.95	27.7	31	24.7	81.2	Variable	1.5	8.8	Ci.-S.	Cu.-N. ENE	10.2	d a. ● ☇ ◡° p.
6	57.01	28.3	33.5	23.9	80	Variable	2	5.8	Ci.-S.	Cu. E	------	☇ p.
7	57.76	28.4	31.7	24.7	80.2	N, SE	1.7	9.2	Ci.-S. SW	Cu., Cu.-N. E	------	d° p.
8	58	28.2	32.2	24.2	75.3	NNE	1.7	8.3	A.-Cu. SSW, E	Cu.-N. ENE	------	☇² ⊤° p.
9	58.21	28.3	33.7	23.7	77.2	N, SE	1.5	5.7	Ci.-S.	Cu.-N. NE, ENE	------	⊤ p.
10	58.04	27.5	32.4	24.5	80	Variable	1.5	6.5	Ci.-S.	Cu. ENE, NE	.3	↙° ☈² d p.
11	57.60	28	31.4	23.3	74.7	N, SE	2	6.7	Ci.-S. SW	Cu. NE	------	
12	58.12	27.2	32.9	23.4	78	NNE	2.2	7.8	Ci.-S.	Cu.-N. E	3.7	⊤² d ☈² ● p.
13	59.14	27.2	30.9	23.4	80	NNE, WNW	1.8	8.8	Ci.-S.	Cu.-N. E	------	●° a.
14	59.08	27.5	30.1	23.4	80.1	SE	1.7	9.7	A.-S.	Cu.-N. E	------	☇ p.
15	59.43	27.9	32.9	24.3	77.7	N, WNW	1	7.3	Ci.-S.	Cu. SE	------	
16	59.48	27.8	31.4	24.6	76.7	Variable	1.8	8.2	Ci.-S.	Variable. E	.5	
17	59.89	27.6	31.6	24.9	76.3	Variable	1.5	10	Ci.-S.	Cu. WNW	------	● a. d° p.
18	59.53	28.4	33.2	25.3	73	SW quad.	2.3	7.7	Ci.-S.	Cu. WSW	------	
19	58.72	28.4	34.7	24.9	76	Variable	1.7	7.3	Ci.-S.	Cu. S, W	------	
20	58.14	28.5	32.2	24.2	76	SE	2	5.5	Ci.-S.	Cu. SW	------	
21	57.46	28.3	32.2	24.4	75.2	SE	1.7	10	Ci.-S.	Cu.-N. SW	5.2	◯ a. ☇² p.
22	57.62	25.9	30.2	22.1	82.5	Variable	1.7	9.8	Ci.-S.	N. E, NNE	21	●° a. ☈² ●² ☇ p.
23	57.32	27.2	30.1	22.5	81	SE	1.8	8.3	Ci.-S.	Cu.-N. E, NE	------	☇ p.
24	57.62	27.2	32.2	24.4	84.3	WNW, NNE	1.3	8.8	Ci.-S.	Cu.-N. E	.5	☈ d ☇ p.
25	57.91	27.8	32.3	24.6	79.7	NNE, SE	1.5	8.3	Ci.-S.	Cu.-N. E	2	◡ d° ☇° p.
26	58.11	28	32.5	23.8	80.2	Variable	1.7	8.2	Ci.-S.	Cu.-N. SW	------	●° a.
27	57.70	27.9	32.7	23.7	77.3	Variable	3	7.5	Ci.-S.	Cu.-N. E	------	↙° p.
28	58.01	27.4	30.7	23.4	78	SE	1.7	6.3	Ci.-S.	Cu.	------	☇² p.
29	58.57	27.6	32	23	79.3	N quad.	1.7	5.5	Ci.-S.	Cu., Cu.-N. E	21.2	●² ☈ p.
30	58.24	26.7	32.7	23.2	85	Variable	1.3	6.2	Ci.-S.	Cu.-N. E	12.5	⊤ ● ◡ ☇ p.
Mean	758.08	27.8	32.1	24	78.5	------	1.7	7.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	78.7	

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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.73	27.4	31.8	23.4	83.4	E quad.	1.2	4.8	Ci.-S. NE	Cu. NE	------	⌒ a. Ω° p. d° a. p.
2	57.72	27.4	32	23.7	83.3	E	1.2	6.8	A.-Cu. S	Cu. E	1.5	Ω² a. ◯ ◡ ☇² p.
3	57.61	27.9	31.8	24.5	84.8	ESE, E	1.8	8.5	Ci.-S. N	Cu. E	4.3	d° a. ↙° ●² ⌒ p.
4	57.46	27.2	31.7	24.3	87.7	E quad.	1.6	7.3	Ci. NE	Cu. E	25.4	d° a. ●² p.
5	57.44	26.9	28.7	24.5	88.8	E	1.2	9.5	Ci.-S.	N.-cf. SE	1	●² a. d° ☇ p.
6	57.48	27.4	31.7	23.5	85.7	E	1.6	4.7	Ci. E	Cu. SE	------	Ω a. d° p.
7	58.36	27	31.6	23.6	87	E quad.	.8	6.8	Ci.	Cu. E	22.6	Ω a. ●² p.
8	58.48	26.4	29.9	24	88.8	E quad.	.7	8.5	Ci.-S.	Fr.-N., N.-cf. E	1.5	●² a. Ω° d° p.
9	58.62	27	31.3	23.1	84.8	Variable	.8	4.2	Ci. NE	Cu. SE	------	Ω² a. ☇ p.
10	58.44	27.2	31.1	23.7	85.9	NNE, E	.3	6	A.-Cu.	Cu. E	------	Ω² a. p. ☇ p.
11	57.97	27.3	31.5	23.1	82.5	Variable	.8	5.3	Ci.-S., Ci. NW, NE	Cu. SE	------	Ω² a. ∞° p.
12	58.40	26.2	30.1	23.5	88.3	S, NNE	.2	6	Ci.-S.	Cu., Cu.-N. E, NE	2.5	●° ☈ ☇² p. Ω²
13	59.24	26	29.9	23.5	90.3	S, NNE	.2	6.7	Ci.-S. NE	Cu.	12.4	Ω² ⊤ d° ◯ ☈ ●
14	59.18	27.4	32.6	22.9	83.7	Variable	.5	6.8	Ci.-S. E	Cu.	------	Ω² a. ∞° p.
15	59.37	28	32.7	24.8	82.1	W quad.	.8	8.7	A.-Cu. E	Cu. W	4:8	d° Ω² a. ↙ ●² p.
16	59.45	27.1	31.7	24	83.2	Variable	1.1	8.2	Ci.-S., Ci. NE, E	N.-cf. W	------	☇ a. p.
17	59.96	26.6	32.4	24.2	81.7	W quad.	1.1	8.7	A.-Cu. S	N.-cf. WSW	------	Ω° a. p. ☇ p.
18	59.46	27.5	32.2	23.8	78.2	Variable	.8	7.5	Ci.-S. NW	Cu. W, WSW	------	Ω² a. Ω p.
19	58.74	27.3	33	23.3	79.2	WSW, W	.7	6.8	Ci.-S. ENE	Cu. WSW	------	Ω a. p.
20	58.20	28	33.1	23	77.3	SSW, WSW	.8	4.8	Ci.-S. NE	Cu., Cu.-N. W	------	☇² Ω² ⊤² a. Ω° p.
21	57.52	27.2	33.2	23	80.8	W	.7	7	Ci.-S. NE	Cu. W	8.9	Ω² a. ●² ☇² p.
22	57.74	26.9	30.5	24.5	84.8	Variable	.8	8.5	Ci.-S. NE	Cu.-N., Cu.	------	☇² a. Ω² p.
23	57.49	26.7	30	23.7	87.2	Variable	.4	7	A.-Cu. N	N.-cf. NE	11.2	Ω² ☇ ● ⊤ ⌒ d°
24	57.62	26.3	29.9	24	90.5	Variable	.5	8.5	Ci.-S. N	Fr.-N. NE	3.8	d° a. ◯ ●° ☇² p.
25	58.10	26.6	31.8	24.2	88.7	Variable	.5	9.2	Ci.-S. NE	Variable.	4.1	Ω² ☇ a. ☈ ☇² ● p.
26	58.18	26.4	31	22.5	85.2	NE	.4	5.7	A.-Cu. SE	Cu. E	------	Ω² a. p. ☈ p.
27	58.13	26.4	31.9	23.2	84.6	E	.8	6.3	Ci.-S. SW	Cu.	------	Ω² a. p.
28	58.24	26.5	30.4	22.5	85.4	E quad.	.7	7.2	Ci.-S. N	Cu. E	------	Ω a. p. ◡ Φ p.
29	58.83	27.2	31.6	23.3	84.7	NE quad.	.8	4	Ci.	Cu. E	------	Ω² a. Ω° ☇ p.
30	58.32	27	31.1	23.5	84	E	.5	5.3	Ci. E	Cu. E	12.2	Ω² a. ●° p.
Mean	758.32	27	31.4	23.6	84.8	------	.8	6.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	116.2	

[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.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	757.62	28.6	32	25.7	69.2	E	9.3	2.7	Ci.	Cu. E	------	⌈ʓ° a.p. ∞ p.
2	57.65	28.8	32.5	25.4	69.4	E	12	3	Ci.	Cu. E	0.8	≡° Ω a. ⌈ʓ° ϟ° p.
3	57.52	28.8	32.3	26.5	71	ENE	11	5.2	Ci.	Cu. ESE	1.3	∩ a. ⌈ʓ p. ϟ p.
4	57.50	29.4	32.2	26.5	68.3	E	16.2	3.2	Ci.	Cu. E	------	≡° a. ∞ p.
5	57.40	27.6	31.2	23.6	73.2	E	11.3	6.7	Ci., A.-Cu.	Cu. E	4.3	≡° ϟ a. ⌈ʓ p ⌣ p.
6	57.41	29	31.9	25.8	70.3	E	10.7	3.5	Ci.	Cu. E	------	≡° Ω a. ⌈ʓ° ∞ p.
7	58.16	28.8	32.5	25.3	70.8	E	8.7	6.2	Ci.-S.	Cu. ENE	------	≡° a. ⌣ p. ○ a. p.
8	58.48	28.4	30.8	25.5	74.2	NE quad.	8.8	6	Ci.-S.	Cu.-N. E	------	⌈ʓ° p. ϟ a. p.
9	58.55	28.2	31.4	24.8	71.9	E	8.6	3.3	Ci.	Cu. ENE	------	≡° a. ϟ a. p.
10	58.24	28.8	32.7	25.2	70.9	SE, E	7.3	4	Ci.	Cu. NE, ENE	------	≡° a. ⌈ʓ° a. p.
11	57.93	28.8	32.2	25.6	69.2	E	7.8	4.5	Ci.	Cu. E	------	≡° Ω a.
12	58.19	28.5	31.8	24.6	69.2	E	10	5.2	Ci., Ci.-S.	Cu. E	.3	≡° a. ●° ⌈ʓ° p.
13	59.35	27.2	31	25	76.1	SW, SE	4.7	6.2	A.-Cu. SE	Cu.-N. E	.3	Ω² a. d ϟ p. ⌈ʓ°
14	59.24	27.3	31.9	24.5	76.1	S	5.9	7.2	Ci.-S.	Cu., Cu.-N. ENE, E	.8	≡° Ω d a. ⌈ʓ ϟ p.
15	59.63	28	31.5	25.4	73.3	S	7	6.8	Ci.-S.	Cu.-N. ENE, SSW	6.1	≡° a. ⌈ʓ a. p. ● p.
16	59.58	27.6	31.9	25.5	75.5	SSE, SW	5.9	6.8	Ci.-S.	Cu.-N. SW quad.	------	≡° ● a. ⌈ʓ a. p.
17	60.06	27.2	31.5	24.3	73.3	SW	6.4	7.7	Ci.-S.	Cu.-N. SW	2.8	≡° ●° a. ⌈ʓ a. p.
18	59.47	28	31.3	23.8	67.9	SW quad.	7.9	4.7	Ci.-S.	Cu. SW	------	≡° Ω a. ⌈ʓ° ϟ p.
19	58.81	28.2	32.5	24.4	70.2	SW	8.1	6.3	Ci.-S. E	Cu. WSW	------	≡° ⌈ʓ a.
20	58.25	28.5	32.9	24.5	68.2	S, SSW	8.5	4.7	Ci., Ci.-S.	Cu. WSW, SW	------	≡° a. ϟ p.
21	57.42	28.3	31.6	24.2	68.4	SSW, SW	7	7.3	Ci.-S.	Cu. SW	1.8	≡° a. ϟ ○ a. p.
22	57.77	27.2	31	23.9	74.5	NE	6.2	7.2	A.-Cu. N	Cu.-N. NE	------	≡° Ω ● a. ⌈ʓ° ϟ p.
23	57.42	28.4	32.2	25.3	68.8	E	9	5.3	Ci. NNW	Cu. ENE	------	≡° Ω² a. ⌈ʓ° ϟ p.
24	57.52	28.3	32.7	25.2	72.2	E	8.5	5.5	Ci.-S.	Cu. ENE	------	≡° a. ⌈ʓ° ϟ p.
25	58.02	27.7	32.1	25.3	81.1	S quad.	6.9	6	Ci.-S.	Cu. ENE	4.8	≡° a. ⌈ʓ° ϟ p. d
26	58.23	27.7	33	24.5	77.2	SSE, SE	5.3	6	A.-Cu. SE	Cu.-N. SW	------	≡° ● a. ⌈ʓ a. p.
27	57.89	28.4	32.6	24.7	71.3	Variable.	7.9	5.3	Ci.-S. E	Cu. ESE	------	≡° Ω a.
28	58.20	27.9	32.6	24.2	74.2	E	7.8	4.8	Ci.	Cu. E	------	≡° Ω a. ⌈ʓ° ϟ p.
29	58.73	28.3	32	25.6	71.9	N, E	6.9	4.5	Ci.	Cu. E	2.8	≡° a. ● ⌈ʓ ϟ p.
30	58.36	26.7	32.5	23.9	80.6	SE, W	6.8	5.5	Ci., Ci.-S.	cu., cu.-N. NE quad.	6.9	≡° a. ● ⌣ p. ⌈ʓ ϟ
Mean	758.29	28.2	32	25	72.3	------------	8.3	5.4	----------------	----------------	------	
Total	--------	------	------	------	------	------------	--------	--------	----------------	----------------	33	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	757.61	27.9	33.4	23.2	76.8	NE, N	7.2	4.5	Ci.	Cu. NE	------	Ω a. ϟ p.
2	57.60	28.8	33.7	24.5	72	NE quad.	11.3	4	Ci.	Cu.	------	Ω a. ϟ a. p. ⌽ p.
3	57.17	29.2	33.5	25.6	74.7	N, E	11.3	7.5	Ci. E	Cu. NE	------	Ω ○ a. ⌈ʓ d ϟ p.
4	57.15	29.4	33	26.5	72.8	NNE, ENE	12.9	3.8	Ci.	Cu. NE	------	Ω a. ∞ ⌽ p.
5	57.32	28.6	32.6	25.7	73.9	N, E	13.3	6.8	A.-Cu. E	Cu.	------	Ω a. d ⌈ʓ ϟ p.
6	57.42	29	34	24.4	73.2	NE quad.	10.5	4.8	Ci. E	Cu. NE	------	Ω a. ϟ p.
7	58.03	29.3	33.5	25.2	71.7	ENE	10.7	6.7	Ci. SW	Cu.	------	Ω a. ϟ p.
8	58.42	28.6	33.1	25.9	78.2	NE quad.	8.3	8	Ci. SW	Cu.	1.3	⌈ʓ d p.
9	58.51	28.7	33.9	24.6	78	N, E	7.4	4.8	Ci., A.-Cu. E	Cu.	------	● ⌈ʓ a. ϟ p.
10	58.21	28.6	33.9	25.4	76.3	Variable	6.4	4.5	Ci.	Cu.	------	ϟ ⊤ p.
11	57.84	28.5	33.5	24.6	73.2	Variable	7.2	5	Ci. N	Cu.	5.1	● ∩ a. ⊤ ϟ p.
12	58.34	28.5	34.1	24.5	73.6	NE quad.	8	7.7	A.-Cu. NE	Cu. NNE	10.7	ϟ a. p. d ∩ ⌈ʓ p.
13	59.52	25.6	30	23	88.2	NE, N	6.9	8.8	Ci. E	Cu.-N.	23.4	⌈ʓ a p. ●² ϟ p.
14	59.28	27.1	30.6	23.5	81.8	NE, SSE	5.3	7.8	Ci.-S.	Cu.	25.9	●° a. ϟ p.
15	59.82	26.4	28.6	23.8	83.1	SW quad.	8.2	7.5	Ci.-S., A.-Cu. NE	Cu.	------	⌈ʓ ●² a.
16	59.88	26.5	30.5	22.6	86.2	SW	9.1	8.7	Ci.-S.	Cu.-N.	48.3	● a. ●² ⊤ ϟ p.
17	60.07	26.7	28.9	24.6	79.7	SW	14	8.8	Ci.-S.	Cu.	------	● a.
18	59.62	27	29.9	23.1	83.3	SW	10.9	7	Ci.-S.	Cu.-N. SW	24.4	● ⊤ a. ⌈ʓ p.
19	59.03	26.9	28.5	24.6	83	SW	11.4	7.8	Ci.-S. SE	Cu. SW	6.4	⌈ʓ a.
20	58.47	27.3	29.5	23.9	77	SW quad.	12.8	7.8	Ci.-S. SW	Cu.	.3	●° d a.
21	57.80	27	28.5	21.5	78.5	SW	12	7.8	Ci.-S.	Cu. SW	24.4	d a. ϟ p.
22	57.71	26.5	30.9	22.8	82.5	SW	6.1	9.2	A.-Cu. WNW	Cu.	------	●² a.
23	57.75	26.8	32	24	78.2	NE quad.	10.1	7.5	Ci. N	Cu.	1.8	∩ ⌈ʓ p.
24	57.93	27	32.6	23.5	81.7	N, NE	8.1	7	A.-Cu., Ci.-S.	Cu. NE	------	⊤ ϟ ⌣ p.
25	58.19	26.9	32.5	24.5	82.7	NE	6.8	6.3	Ci.-S.	Cu. NE	------	d ⊤ ⌈ʓ p.
26	58.36	27.2	30.1	24.2	81.8	SW	9.8	6.8	Ci. SE	Cu.	------	Ω d° a. ∩ d p.
27	57.99	27.4	32.4	22.6	80.7	SW	6.2	7.3	Ci. ENE	Cu.	50.5	Ω a. ⌈ʓ ●² p.
28	58.24	27.4	31.8	24.1	82	Variable	5.6	8	Ci.-S.	Cu. NE	.3	ϟ a. p. ⌈ʓ p.
29	58.98	27.4	32	24.5	82.8	Variable	4.8	6.3	Ci.-S.	Cu. NE	------	⊤ a. ⌈ʓ ϟ p.
30	58.63	26.9	31	23	84	W	5.3	7.5	Ci.-S.	Cu.	23.1	Ω a. ⌈ʓ ϟ p.
Mean	758.36	27.6	31.8	24.1	79.1	------------	8.9	6.9	----------------	----------------	------	
Total	--------	------	------	------	------	------------	--------	--------	----------------	----------------	245.9	

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.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	757.50	26.8	33.2	20.5	75.8	NE quad.	6.3	3.3	Ci.-S., Ci.	Cu. E	------	Ω a. ≡° ⚡ a. p.
2	57.80	26.7	32.5	21.8	76.8	Variable	6.6	3.8	Ci.	Cu., Cu.-N. E	------	≡° ⚡ a. p. d° p.
3	57.53	27.8	34	23.9	76.3	SE quad.	7.9	5.5	Ci. S	Cu.	------	≡° ⚡ a. p.
4	57.51	28.3	33.7	23.6	71.2	NE quad.	7.1	4.2	Ci.	Cu.-N., Cu. E	------	⚡ ≡° a. d° ⚡ ⊕° p.
5	57.52	25.8	31.7	22.9	87.3	Variable	6.7	4.8	Ci., A.-Cu. ESE	Cu. E	3.6	⚡ ≡° d° a. ⊤ ● p.
6	57.54	26.9	34	22.5	79.2	SE quad.	8.4	3.7	Ci.	Cu. E	.3	≡° d° a. ⚡ ⊕² p.
7	58.16	27.4	33.7	22.4	76.3	E quad.	6.1	7.5	Ci.-S.	Cu. E	------	⚡ ≡° a. p.
8	58.54	26.6	31.2	22.4	81.2	E quad.	6.2	7.2	Ci.-S. SSE	Cu.-N. SE	------	≡ a. ⚡ d° a. p.
9	58.41	26.5	31.6	20.8	79.2	Variable	6.2	5.8	Ci.-S., Ci.	Cu. ESE	------	⚡≡°a. p. ⛈ p.
10	58.08	26.8	32	21.6	76.8	Variable	8	2.5	Ci. ESE	Cu. NE	------	Ω≡°a. ⚡ a. p.
11	57.83	26.3	32	20.7	78.5	SSW	6.6	4.3	Ci. S	Cu. ENE	------	Ω² ≡° a. ⛈ p.
12	58.22	26.6	31.8	20.6	75.8	NE quad.	5.4	5.3	Ci. E	Cu. ENE	23.1	Ω° ≡° a. ⛈ ● p.
13	59.33	25.3	30.3	22.9	88.5	Variable	4.2	6.5	Ci.-S.	Cu.-N. E	------	≡° ●a. ⛈ ≡° p.
14	59.25	26.6	31	21.5	82.2	Variable	7.4	4.3	Ci. E, ESE	Cu. E	------	Ω ≡ °a. ⛈ p.
15	59.54	25.1	31.1	23.1	91	N quad.	4.3	8	Ci.-S.	Cu.-N. W	7.6	⚡ ≡ °a. ⛈ ● p.
16	59.61	25.7	30	21.3	86.7	Variable	--------	5	Ci. E	Cu.	2.5	Ω²≡ a. ⛈° d ⚡ p.
17	59.96	24.8	28	23.2	90.3	NE quad.	3.5	7.3	Ci.-S.	Cu.-N. W	10.9	●° a. p. ≡ ⛈ p.
18	59.54	26.3	30	22.6	84.8	SE quad.	7	6.2	Ci. E by N	Cu.-N. SW, W	------	Ω° a. ≡° ⛈ a. p.
19	58.74	27	30	23	83.3	E, S	5.6	6.7	Ci.-S.	Cu.-N. W	------	≡° ⊤ a. ⚡ p.
20	58.08	27.1	30.9	23.1	80.2	SE quad.	7	5	Ci. NNE	Cu. WSW	17	Ω² a. ≡ ⛈ a. p.
21	57.64	26.7	29.9	22.5	83.2	SSE	6.8	8.3	Ci.-S.	Cu., Cu.-N.	5.1	≡° ● ◯² a. ⛈ p.
22	57.77	25.4	30.8	23	85.3	Variable	6.9	6.3	Ci.-S.	Cu.-N.	7.4	Ω²≡ ⛈° d ⊤ ● ⚡
23	57.46	26	31.8	21.8	82.3	Variable	5.3	4.7	Ci. NNE, NW	Cu. NE	------	Ω² ≡ a. ⛈ p.
24	57.55	25.9	31.8	22.3	86.3	N	5	6.3	A.-Cu. SE	Cu. E	24.6	⚡ ≡° ⊤ ⛈ ● ⊕°
25	57.95	26	31.2	22.3	85.8	NE quad.	4.9	7.2	A.-Cu. E	Cu. E	40.6	Ω² ≡ a. ⛈ p.
26	58.30	27	31.5	22.6	78.8	Variable	6.8	5.5	A.-Cu. SE	Cu.-N. S	------	⛈●² Ω≡°a. ⚡ p.
27	57.80	26.8	31.1	21.8	76	Variable	5.1	8.3	Ci. SE	Cu.	------	Ω°≡°◯° ⚡² ⛈ ⌣°
28	58.22	26.2	31.3	21.5	80	NNE	4.8	7.5	Ci.-S.	Cu.	------	⚡ Ω° ≡° ⛈ d° ⌣°
29	58.70	26.4	31.8	21.7	80.5	N quad.	4.3	6.8	Ci.-S.	Cu., Cu.-N.	.8	Ω° ≡° a. d ⛈° p.
30	58.39	25.9	31.8	21.7	84.2	N quad.	4.8	5.7	Ci.	Cu.-N. E	17.5	Ω° ≡° a. ⛈ ● p.
Mean	758.28	26.4	31.5	22.2	81.5	------------	6	5.8	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	161	

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.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758	28.7	33	24.5	74.3	E	0.8	2.3	------------------	Fr.- Cu. E	------	Ω² a.
2	58.21	28.7	34	24.8	76.5	SE	1	3.8	Ci.-S. SW	Cu. ESE	9.2	● ↙ ⛈ p.
3	58.08	27.8	32.5	25.6	84.8	ESE	1.3	7	Ci.-S.	Cu.-N. ESE	6.1	d ● ⊕² p.
4	58.04	29.3	33.8	26	73.5	ESE	.7	5.7	Ci.-S. SW	Cu. ESE	------	⊕² p.
5	57.95	27.7	34.1	24.9	81.5	ESE	.5	7.8	Ci.-S. SW	Cu. ESE, E	22.6	● d ⛈ p. ⊕² a. p.
6	58.08	28.8	32	25	78.7	ESE	.7	6	Ci.-S.	Cu. ESE	------	● a.
7	58.72	28.1	32.5	25.3	80.7	Variable	1	7	Ci., Ci.-S. S	Variable SSE	12.7	● ⚡ p.
8	59.06	27.1	30.8	25	84.7	SE quad.	.7	8	A.-S.	Cu.-N. SE	4.6	● a.
9	58.90	28.3	32.2	24.3	78.2	SE	.5	5.5	Ci.-S. SW	Cu. ESE, E	------	◯² p.
10	58.58	28.6	33.2	24	77.5	SE quad.	.8	4.2	Ci.	Cu. N, NNE	------	
11	58.38	28.8	33.2	25	76.4	SE	.8	5.3	Ci. SW	S.-Cu. ENE	.5	d ⌒ ⚡ p.
12	58.70	27.4	33.4	24.5	83.3	SE	.7	6	Ci.-S. SW by W	Cu.-N. ESE	2.5	Ω a. ● d p. ⚡
13	59.50	27.6	32.5	25.1	82.5	SW quad.	.7	7.2	A.-S.	Cu.-N. ESE	2	● a.
14	59.56	28.3	34	24.6	80.3	SSE, NW	.8	6.5	Ci. SW	Cu. ENE, NE	------	d° ⛈ ⚡ p.
15	59.73	27.3	33.5	24.5	83.7	Variable	.8	8.2	Ci. SW	Cu.-N. N quad.	3.8	◯² a. ● ⛈ ⚡ p.
16	59.60	27.8	32.6	23	79.3	N quad.	.8	6.3	Ci. W, SSW	Cu. NE, N	10.7	◯° a. ● d p.
17	59.81	26.3	31.5	23	87.3	NW quad.	.5	8.3	Ci.-Cu. ENE	Cu.-N. N, NNW	42.7	●² ⛈² ↙ a. d ⚡ p.
18	59.42	27.4	32.8	23.2	80.7	ESE	.5	6.8	Ci.	Cu.-N. NNW, W	------	◯² a p ⚡² p.
19	58.86	27.3	30.7	24.7	81.8	Variable	.7	6.3	Ci.	Cu. NW quad.	------	◯² p.
20	58.13	28	33	24	80.7	ESE	.7	6.8	Ci. ESE, SE	Cu. W	9.1	● ⚡ ⛈ p.
21	57.83	27.6	32.8	23.2	80.2	ESE	.7	8.7	Ci. ENE, SSE	Cu. W	80.3	◯² a. p. ●² ⛈² p.
22	58.12	26.2	32	22.7	83	ESE	.7	8.7	A.-Cu. NE	Cu.-N. NE	10.7	● a. p. ⊤ d p.
23	57.89	27.7	32.5	23.5	79.2	Variable	.8	5	Ci. NW	Cu. NE, SE	------	⚡ p.
24	57.96	28	32.5	25	82	NNW, NW	.5	6.3	Ci.	Cu.-N. NE	------	Ω² a. ⚡ p.
25	58.15	27.7	32.2	25	82.2	E by S	.7	7.8	Ci.-Cu., Ci.-S. E	Cu.-N. W	9.7	● p.
26	58.33	27.3	32.4	24	83	SE quad.	.5	7	Ci.-S. E	Cu.-N. NNW, WNW	------	⊤ ⌣² ⊕² p.
27	58.16	27.3	30.9	23	83.2	Variable	.8	6.5	Ci. NW	Cu.-N., Cu. SSE	9.4	● a.
28	58.67	26.9	30.5	24.5	84.8	SE quad.	1	7.5	Ci.-S. NE	Cu.-N. SSE	2.8	d ● ⊕² p.
29	59.24	27.1	31.8	24.2	84.8	NW, SE	.7	8.2	Ci.-S. NW	Cu.-N. ESE, SE	1	d ● p.
30	58.77	27	32.1	24.3	85.2	NW quad.	.8	5.2	Ci.-S.	Variable NE	.8	Ω² a. d ⚡ ⌣² ⊕² p.
Mean	758.61	27.7	32.5	24.3	81.1	------------	.7	6.5	------------------	------------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------------	------------------	241.2	

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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	-------	27.8	32	------	86.7	NE	0.5	4.3	Ci.	S.-Cu. SE	1.8	⌒° ●° a. ≡ ☇° p.
2	-------	28.6	32.5	------	85.7	ENE	.8	5.3	Ci.	S.-Cu. SE	2	☇° a. ☈ ●° p.
3	-------	28.9	31.9	------	87	NE	.8	8.5	Ci.-S.	Cu.-N. E	------	☇° a.
4	-------	28.6	31.3	------	------	ENE	.8	7.7	Ci.-S.	N. E	------	ϖ² p.
5	-------	28.6	32.5	------	87.7	NE	.7	8.5	Ci.-S.	Cu.-N., N. E	2.3	d° a. p. ☇° p.
6	-------	28.8	32	------	87	NE quad.	.7	5.7	Ci.	Cu. SE, E	------	d a. ☇° p.
7	-------	28.9	32.4	------	85.8	ENE	.3	6	Ci.	Cu.-N. E	4.1	d° a.
8	-------	28.7	31.9	------	87	NE, ENE	.3	9.3	Ci.-S.	Cu.-N. E	2	● a. ☇ p.
9	-------	28.6	32.5	------	85.7	NE	.5	7.3	Ci.	Cu.-N. NE, E	3.3	☈ ● a. ☇ p.
10	-------	28.7	33	------	------	NE	.3	3.7	Ci.	Cu. E	1.8	☈° a. ☇ p.
11	-------	28.4	32.6	------	86	NE quad.	.5	6.5	Ci.-S., Ci.	Cu.-N. E	37.3	● a. ⊤ p.
12	-------	28	31.6	------	85	Variable	.5	8.5	Ci. SE	Cu.-N. E	14	●² a. ☈° ● p.
13	-------	26.7	29	------	91.3	Variable	.3	10	Ci -S.	N. E	12.7	☇ a. ● a. p.
14	-------	26.5	30.4	------	92.2	NNW, E	.0	9.5	Variable	Cu.-N. E	32.3	d° a. ●² ☈ p.
15	-------	27.1	30.6	------	86.7	Variable	.5	9.7	Ci.-S.	Cu.-N. E, NW	------	≡° ⊤ a. ☈ p.
16	-------	27.2	31.4	------	85	Variable	.5	7	Ci.-S.	Cu.-N. E	------	≡° a.
17	-------	27.5	32.5	------	85.7	Variable	.3	10	Ci.-S.	N. E	------	⊤° d° p.
18	-------	27.1	31.9	------	87.2	Variable	.5	8.3	Ci.-S.	Cu.-N. Variable	5.1	⊤ ● p.
19	-------	27.1	29.8	------	89.8	W, SW	.7	9.7	Ci.-S.	Cu.-N. S	------	
20	-------	27.9	32.1	------	85.5	NW quad.	.7	9.8	Ci.-S.	Cu.-N. SW, NW	------	d° a.
21	-------	27.6	30.7	------	85.2	W quad.	.5	9.8	Ci.-S.	Cu.-N. SW	------	
22	-------	26.4	30.5	------	86.7	Variable	.7	10	Ci.-S.	N.	46	d° a. ●² ⊤² p.
23	-------	26.4	29.8	------	87.5	NE quad.	.3	10	Ci.-S.	Cu.-N. SE	------	● a. ☇° p.
24	-------	28.5	31.5	------	83	N, NNE	.7	7	Ci. SE	Cu.-N. NE	1.8	≡° ☈° d° p,
25	-------	28.6	31.1	------	85.8	N quad.	.3	8.7	Ci.-S. ENE	N., Cu.-N. NE	------	d a. ☇ ϖ p.
26	-------	26.8	31.1	------	88.8	Variable	.5	8.2	Ci. SW	Cu.-N. SE	3.8	☇ a. ☈ p. ●° a. p.
27	-------	27.7	32.4	------	86.7	NE	.3	7.2	Ci.-Cu. NE	Cu.-N. S	------	ϖ ᴗ p.
28	-------	28.6	32.9	------	82.8	NE	.3	6.7	Ci.-S.	Cu.-N. E	------	
29	-------	27	30.3	------	87.8	E quad.	.2	8.3	Ci.-Cu.	Cu.-N. E	11.9	⊤ ● a. d° ϖ ᴗ p.
30	-------	27.8	31.2	------	86.8	Variable	.5	8	Ci. NW	Cu.-N. SE	8.1	d a. ⊤ ● p.
Mean	-------	27.8	31.5	------	86.7	------------	.5	8	------------	------------	------	
Total	-------	------	------	------	------	------------	------	------	------------	------------	190.3	

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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.15	27.1	32.7	22.9	82.8	N	1	2.8	A.-Cu.	S.-Cu. E	6.9	●° ⌒ ☇ ϖ p.
2	58.26	27	33.8	22.7	84.6	Variable	.7	5.2	A.-Cu.	Cu. SE	22.9	ϖ a. ⊤ p ☇ p.
3	58.22	26.1	31.8	24.2	91.3	NE	1.2	8.3	A.-Cu.	S.-Cu. SE	12.7	●° ☈ ⊤ p ϖ a.p.
4	58.08	27.8	33.9	23	79.3	SE	1	5.3	Ci.-S., Ci.	S.-Cu. SE	------	ᴗ Ω a. ϖ p.
5	58.02	27.4	33.2	23.8	83.8	NE	1.2	8.7	Ci.-S.	S.-cf, ESE	8.4	ϖ p a. d ●° ☈ p.
6	58.20	27.8	33.1	23.7	83	Variable	.8	6.5	Ci.-S.	S.-Cu. ESE	.5	ᴗ a. d° ☇ p.
7	58.78	27	32.5	23.8	87.3	Variable	.7	5.8	Ci.-S.	Cu , S.-Cu. SE, E	30.5	p a. ●² ☇ ☈ p.
8	59.01	27	31.3	23.4	85.7	Variable	.7	8.3	Ci.-S., A.-Cu. SW, E	S.-Cu. SE	1.3	ᴗ a. p° ☇ p.
9	58.90	27.9	32.2	23.5	80.3	N	.8	5.5	Ci.-S.	S.-Cu. E	1	ϖ ○ a. ☇ p.
10	58.61	27.8	32.6	24.1	81.8	NE, SW	.8	3.7	Ci., Ci.-S.	S.-Cu., Cu. E	------	d° a. ⊤ ☇ p.
11	58.34	27	32.7	23.3	83.8	N, SW	1	3.7	Ci.	Cu. E	7.4	☇ a. ⊤ p ☈ p.
12	58.73	27.1	32	23.2	83.2	NE	.8	5.5	Ci.-S.	Cu. E	6.1	d a. p ⊤° ☇ p.
13	59.74	25.3	31.7	23.6	91.2	NE	.7	8.7	A.-Cu. S	S.-Cu.	10.2	☇ a. ⊤ ● p.
14	59.50	26.8	32	23.1	85.3	Variable	.5	6.3	A.-Cu. E	S.-Cu.	.5	⊤ d ☈ ⌒° ☇ p.
15	59.86	26	31.7	23.6	87.8	N, E	1	7.2	A.-Cu. S	Variable	.3	☇ a. d ☈ p.
16	59.79	26	31.5	22.6	88	N	.8	4.8	Ci.-S.	Cu.	1.8	⊤° d° p.
17	60	27.2	30.8	23.5	83.7	W	1.5	9.2	A.-Cu. S	S.-Cu. W	1.3	d ⌒ a.
18	59.59	28.4	30.5	25.8	77.5	W	2.5	7.5	Ci.-S.	S.-Cu. W	1	☇ p.
19	58.85	27.2	28.8	24.7	85.5	SW quad.	1.7	9.3	A.-Cu.	S.-Cu. W	5.8	p ⊤ a. d a. p.
20	58.37	27.1	30.3	24.8	84.2	WSW	1.7	8.3	A.-Cu.	S.-Cu. W	.8	p° ⊤ a. ☇ a.p.
21	57.79	28.2	31.5	24.8	81.2	W	1.8	9.2	A.-Cu.	S.-Cu. W	------	☇ p.
22	58.24	26	31.9	23	85.4	Variable	1.2	8.8	A.-Cu. NW	S.-Cu. W	1.3	☈° d p.
23	58	27.4	33.6	22.4	82.3	N, NE	1.2	6.7	Ci.-S.	S.-Cu. E	------	○² a. ☈ ☇ p.
24	58.20	26.6	34	23.5	88.5	Variable	1	7	A.-Cu., Ci.-S.	S.-Cu.	7.1	p ☈ ●° ☇ p.
25	58.33	26.6	31.5	23.5	87.3	N	.7	7.3	Ci.-S.	S.-Cu. E	------	Ω a. ☈ ☇ p.
26	58.54	27.2	31.4	23.5	85.2	Variable	.8	7.8	A.-Cu. S	S.-Cu. SW	1	⊕ ☇ ⊤ d p.
27	58.38	27	32.2	23.2	86.2	Variable	1	6.2	Ci.-S.	S.-Cu. S	------	⊤ d ᴗ p.
28	58.75	25.5	32	23.1	90.1	N	1.2	7	A.-Cu.	S.-Cu.	28.4	● ⊤ ☈ ☇ ϖ p.
29	59.22	26.4	31.5	22.6	86.8	Variable	.7	7.7	A.-Cu. E	S.-Cu. S	.8	d ☇ ⊤ p.
30	58.96	25.7	31.2	23	89.8	N	.5	6	Ci.-S. NE	Cu.	18	Ω ●² ☈ ϖ ᴗ ☇
Mean	758.71	26.9	32	23.5	85.1	------------	1	6.8	------------	------------	------	
Total	-------	------	------	------	------	------------	------	------	------------	------------	176	

METEOROLOGICAL DATA, ETC.—Continued.

LEGASPI.

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

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	758.04	28.8	32.2	25.5	75.5	E	6.9	2.3	Ci.	Cu.	------	● a. ☇° p.
2	58.24	29.1	32.6	24.9	74.8	E	8.7	3	Ci.	Cu. E	8.1	☇ ●° p.
3	58.24	27.1	30.2	24.7	83.9	E	8	9	Ci.-S.	Fr.-N. ENE	18.3	● ☇ a. p. T a.
4	58.25	28.9	31.9	25.5	74.8	E	9.8	3.8	Ci. NW	Cu. E	2.5	●° a. ☇° p.
5	58.09	28.8	32.6	25.5	78.4	E, ENE	8.5	5.5	Ci.-S.	Cu.-N. ENE	3	d a. ● ⌈R ⊍ p.
6	58.07	28.9	32.1	26	79	E	7.6	6.2	Ci. SE	Cu.	------	● a. d p.
7	58.72	28.9	32.6	25.1	78.7	ENE, E	7.4	4.7	Ci. S	Cu. ENE	2.5	◯° a.
8	58.94	28.8	32.8	25.5	79.2	E	4.1	6.2	Ci.-S. S	Cu., Cu.-N. ENE	2.8	● ◯ a.
9	58.64	28.4	32.9	24.2	79.9	E	3.7	3.3	Ci. N	Cu.	------	☇ p.
10	58.27	28.9	33.6	23.9	77	E	4.7	.8	Ci.	Cu.	------	☇ p.
11	58.14	29.2	33	26.3	73.8	E	5.3	3.7	Ci.	Cu.	------	☇ p.
12	58.65	29	32.3	24.1	76.3	E	4.8	2.8	Ci. N	Fr.-Cu. ENE	------	☇ p.
13	59.57	26.6	31.7	24	81.5	E	4.1	8.2	Ci.-S.	Fr.-N. ENE	4.3	◯ a. T ● ☇ p.
14	59.18	28.6	33	23.6	79.7	ENE	6.3	2.2	Ci. SE	Cu.	------	● a. ☇ p.
15	59.48	27.9	32.6	24.1	78.5	Calm.	1.2	5.5	Ci.-S. NE, N	Cu. ENE	------	◯² a. T ☇° p.
16	59.47	24.7	31	22.4	92.7	Calm.	.6	5.5	Ci.-S.	Cu.-N. E	37.3	●°a. ⌈R ●² p.
17	59.40	26.5	30.8	21.8	82.8	WSW, WNW	2.4	6.7	Ci.-S.	Cu.-N. W	------	p° ☇ p.
18	58.82	26.9	29.9	24.4	83.7	WSW	3	6	Ci., A.-Cu.	Cu.-N. SW, W	3.6	● a. p. ◯ a.
19	58.02	27.6	32.6	24	80	W	3.1	9.3	Ci.-S.	Fr.-N. WSW	31.7	● a. d° a. p.
20	57.51	27	30.9	22.6	80.2	W quad.	5.8	10	Ci.-S.	Cu. SW	.5	●² a.
21	56.86	27.6	31	25	79.4	SW quad.	5.1	10	Ci.-S.	S.-Cu. SW	1.5	d° a.
22	57.69	25.3	30.1	23	90.3	Calm.	.9	10	Ci.-S.	Fr.-N. SSW	7.1	● a. p. T p.
23	58.17	25.7	29.4	22.4	85.7	ENE	1.2	9.7	Ci.-S.	N.	.3	● a. ☇ p.
24	58.25	28.4	33.3	22.7	77.8	NE quad.	6.3	3.8	Ci.	Cu.	------	●° ☇ p.
25	58.04	28.2	32.4	23.5	81	E	4.6	5.3	Ci. W	Cu.-N. ESE	------	◯ a. ☇ p.
26	58.03	27.8	34.5	24	80.9	SSW	2.6	6.2	A.-Cu. SE	Cu. SW	.5	☇ p.
27	57.76	28.5	34.2	23.4	76.9	S	2	3.8	A.-Cu. SW, ENE	Cu. S	------	●° a. ☇° p.
28	58.25	27.4	32.9	23.6	81	E	4.5	4.7	Ci.-S. NE	Cu.	------	⊍² p.
29	59.21	26.4	32.1	22.4	81.2	ENE	4.1	5.2	Ci.-S.	Cu.	10.9	● a.
30	58.74	27.8	32.6	22.6	79.2	NE quad.	5	3.2	Ci.-S. NW	Cu.	------	◯° ☇ p.
Mean	758.42	27.8	32.1	24	80.1	------------	4.7	5.6	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	134.9	

ATIMONAN.

[$\phi=14°$ 00′ N; $\lambda=121°$ 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	757.92	29	34.4	23.7	79.3	NE quad.	8.6	4.2	Ci.	Cu. E, SE	------	☇° a. p. ϖ² p.
2	58.02	30	34.3	27	75	NE quad.	11	5.2	A.-Cu. NE	Cu. NE	------	T° ϖ² p. ☇° a. p.
3	57.76	28.6	35.5	24.7	83.5	SW	7.8	5.2	Ci. SW	Cu. E	6.4	⌈R° ● d ϖ² ⊍° p.
4	57.86	28.8	34	24.2	82.6	NE, SW	9.1	7.2	Ci. S quad.	Cu. SE	------	Ω² ≡² ◯² a. ϖ° p.
5	58	29.1	34.5	24.1	79	NE	---------	8.2	Ci. NW	Cu. E, NE	------	≡²◯°a. ⌈R d° ☇° p.
6	57.90	29.2	33.5	27	80.5	NE, E	9.1	9.3	Ci.-Cu. NE, E	Cu. SE	------	◯² a. ⌈R ☇° ⊍² p.
7	58.50	29.6	34.9	24.6	79.6	N quad.	9.6	3.7	Ci.	Cu. NE	------	Ω²≡² a. ⊕° ☇° a. p.
8	58.81	28.6	34	24.4	83.4	W	6.9	8.5	Ci.	S.-Cu. NE	15.7	◯° a. ⌈R° ● ☇° p.
9	58.23	28.8	35	23.6	81.5	SW	6.5	4.8	Ci. SW	Cu. S	24.1	ϖ² Ω² ≡²a. ⌈R² p.
10	57.98	28.6	34.5	23.4	83.2	Variable	6.5	5.8	A.-Cu. NE, E	S.-Cu. NE	------	⌈R² ●² a. ☇² p.
11	57.94	29.2	34.4	24.1	78.2	NE quad.	8.8	4.2	Ci. SE by E, ENE	Cu. NE	------	Ω² ≡² ⊕° a. ⌈R² p.
12	58.37	29.1	31.9	25.6	77.8	NE	---------	7	Ci. E, SE	S.-Cu. NE	------	◯² ⌈R d a. ☇² p.
13	59.40	27.1	31.8	24.5	88.3	NW quad.	---------	8	Ci. SW	Cu.-N.	2.8	Ω° ◯° a. ●° p. ⌈R°
14	59.32	28.3	34.3	24.5	86.3	Variable	6.1	8.8	Ci.-Cu. SSE	S.-Cu. SE	3.3	◯² ⌈R° a. ☇² ⌈R² p.
15	59.24	27.8	34.5	23.9	85.5	W	---------	7.7	Ci. E	Cu. SE	------	⌈R° ● ⌒° a. ⌈R² p.
16	59.33	25.9	31.8	23.3	90	SW	5.1	8.7	Ci. E	S.-Cu. S	4.1	Ω²a. ⌈R° a. p. ●° p.
17	58.98	27	32.5	22.5	84.4	SW quad.	6.8	6.7	Ci. ENE	Cu. SW	------	Ω²≡° ◯°a. ⌈R° ☇° p.
18	58.40	27.3	33.1	23.1	80.2	WSW	7.4	5	Ci. E	Cu. SW	------	☇° Ω° a. ⌈R° d² p.
19	57.70	27.2	32.4	24	78.8	WSW	7.1	8	Ci.-S.	S.-Cu. W	------	☇° d° a. p.
20	57.17	26.7	29.5	24	81.3	W	8.4	10	A.-Cu. SW	S.-Cu. SW	------	d° a. p. ☇° p.
21	56.02	27.5	30.9	24.9	80	SW	8.2	9.7	Ci.-S.	S.-Cu. SW quad.	------	d° a.
22	57.12	25.8	29.2	23.7	89.5	W	4.9	10	A.-Cu. E	S.-Cu. S	9.9	⌈R° ●° a. p.
23	58.04	26	31.8	23	86.4	Variable	5.2	9.5	Ci.-Cu. NNW	Fr.-N. NE	1.3	⊕²a. T° ☇° p. ◯² d°
24	58.29	27.2	31.6	23	83.9	NNW, NNE	10.2	9	Ci.-S.	S.-Cu. NE	1.8	⌈R° ϖ° ⊍° p. ●° a. p.
25	57.97	27.1	29.3	24.5	90.4	N quad.	8.5	9.2	Ci.	N. NE	48.8	⌈R° ● a. p. ☇² p.
26	57.67	26.6	30.4	23.4	88.5	WSW	---------	8.5	Ci.	S.-Cu. NE	------	d a. ⌒² p. ☇ a. p.
27	57.29	27.8	33	24.3	84.5	SW	---------	8.5	A.-Cu. SW	Cu., S.-Cu. S	------	d a. ☇° ϖ² p.
28	57.77	28.4	34.5	23.6	80.8	SW	---------	7	Ci.	Cu. S	------	Ω° a. ☇° ϖ° p.
29	58.73	27.5	33	23.5	85	SW	---------	6.8	Ci. E	Cu. E	13.7	⌈R° ◯° a. ⌈R² ●° p.
30	58.58	27.6	32.8	23.6	84.2	N	---------	8	Ci. ENE	Cu. E	13.7	≡°a. ⌈R° ●° ⌒° ☇² p.
Mean	758.14	27.9	32.9	24.1	83.1	------------	7.7	7.4	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	145.6	

METEOROLOGICAL DATA, ETC.—Continued.

OLONGAPO.

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

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	757.64	28.4	34.3	24.6	78.8	NNE, SW	1.2	4.8	Ci.-S.	Cu.	------	Ω°a. ☈° ☇ ψ°p.
2	57.68	29.8	36	24.4	71.8	NE quad.	.9	3.7	Ci.-S.	Cu. E	------	☇ a. ≡° a. p.
3	56.97	30.3	35.3	24.9	67.4	NE quad.	1.5	2.7	Ci.-S.	Cu. E	------	☇ p.
4	57.45	28.9	33.6	25.4	75	N, E	1.2	8.7	Ci.-S. SW	Cu. E	------	☇ a. ◯° a. p.
5	57.67	29.4	35.7	23	72.2	NE quad.	1.2	5.8	Ci.-S. W	Cu. E, ENE	------	☇ p.
6	57.41	29.6	35.2	25.4	72	NE quad.	1.3	7.8	Ci.-S.	Cu. E	------	ψ° a. ☇ p.
7	57.97	30.1	35.8	25.6	69.8	NNE	1.5	5.3	Ci.-S.	Cu.	------	ψ° a.
8	58.54	28.7	32.3	25.5	79.1	NNE	1.2	6.2	Ci.-S.	Cu. E	------	◯° p. ☇ a. p.
9	58.21	28.1	30.9	25.4	81.3	NNE	1.2	7.8	Ci.-S. SW by W	Cu. ENE	------	ψ a. ☈ ∞^{2} ☇ p.
10	57.96	28	31.5	24.7	81.2	NNE, SW	1.3	7.5	Ci.-S. NNE	Cu.	------	◯° a. d° p. ☈ ☇
11	57.63	29.1	35.2	24.7	76.2	NNE	1.2	5.5	Ci.-S.	Cu. E, NE	------	☇ a. p.
12	58.10	29	35.3	24.6	73.6	NNE, NE	.8	8.7	Ci.-S. NE by N	Cu. E	13.7	☇ a. ●° ☈ p. ◯
13	59.36	26.6	33.4	23.5	87	NNE, S	1.4	8.5	Ci.-S. ENE	Cu.-N. SE	1.6	☈^{2} d ≡ p.
14	58.96	28.6	33.9	24.3	75.7	NE quad.	1.2	8.5	Ci.-S.	Cu. E	------	≡ ◯ a. ☈ p.
15	59.31	27.6	29.6	25.3	82.7	SW	1.2	8.2	Ci.-S.	Cu.-N. NNE	------	☇ p. ☈ a. p.
16	59.26	26.8	30.1	23.9	83.8	N	1.2	9	ci.-S. NE by E, E by N	Cu.-N. SW	------	Ω ◯° ☈ a.
17	59.34	26.1	28.8	23.9	87.7	Variable	1.3	9.5	Ci.-S. NE by E	Cu.-N. W	9.9	Ω° ◯ d ↙° ☈ ●° ≡
18	58.90	25.2	28.6	23.9	92.3	NE quad.	1.2	9.7	Ci.-S.	cu.-N, N SW quad.	61.7	☈ ⌒ ◯^{2} ↙ ●° ● ≡
19	57.84	26.2	28.2	24.1	87.8	NNE	1.2	10	Ci.-S.	Cu.-N. SW quad.	35.1	⌒ ● a. ↙ ●° p.
20	57.09	25.7	27.8	23.1	87.8	SW quad.	1.6	10	Ci.-S.	Cu.-N. WSW	8.7	≡ a. d ↙ ● a. p.
21	56.02	26.8	28.2	25	84.3	SSW	1.5	9.8	Ci.-S.	Cu.-N. SW	30.3	◯ a. ↙ p. d p.
22	56.79	25.1	28.7	22.9	90.3	NE	.8	10	Ci.-S.	Cu.-N. S quad.	9.4	● a. ↙ p p. ☈
23	57.75	26	29.3	23.2	87.7	NE quad.	.8	10	Ci.-S.	Cu.-N.	4.3	≡ a. ↙ p. d a. p.
24	58.37	26.5	31.3	22.5	81.4	N quad.	1	8.8	Ci.-S.	Cu.	5.1	☈ ● p.
25	57.98	26.6	32.9	23	85.2	NE quad.	1	8.7	Ci.-S. E by S	Cu.-N. NNE	4.3	●° ☈ p. ☇ a. p.
26	57.61	27.2	32.3	23.8	86.8	NNE, SW	1.3	9.7	Ci.-S. W by S	Cu., Cu.-N.	.3	☈ p° ☇ p. ◯° a. p.
27	57.50	27	29.1	25.3	89.7	NNE, SW	.9	9.2	Ci.-S.	Cu.-N.	.3	☈ a. ⌈ d ☇ p.
28	57.83	27.1	29.6	24.2	88	NE	1.2	9	Ci.-S. NE, NNE	Cu.	------	☈ ◯° ψ° ⊕ p. ≡°
29	58.59	27.6	34	23.8	84	NE quad.	1.2	8.8	Ci.-S.	Cu. ESE	------	☈ a. ◯° ☇ ψ° p.
30	58.60	27	32.7	24.4	87.8	N quad.	1.2	6.5	Ci.-S. ENE	Cu. NE by E, E by N	6.4	☈ ● ⌒ p. ☇ a. p.
Mean	758.01	27.6	32	24.3	81.6	------------	1.2	7.9	------------------	------------------	------	
Total	--------	------	------	------	------	------------	----------	----------	------------------	------------------	191.1	

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	757.76	28.4	35.1	22.4	71.2	E quad.	0.6	4.8	Ci.	Cu.-N. SE	------	Ω^2 a.
2	57.84	29	34	23.2	67.4	E quad.	1.8	3.5	Ci. NE	Cu. SE	------	Ω a.
3	57.40	29.3	33.6	24	65.8	NE quad.	2.2	2.8	Ci. NE	Cu. ESE	------	Ω a. ☇ p.
4	58	28.7	33.1	24.6	68.3	E quad.	2.2	6.3	Ci. NE, S	S.-Cu. SE	------	↙° a. p. ◯^{2} p.
5	57.84	29.2	34.5	22.2	64.1	ESE	1.8	4.2	Ci. NE	Cu. E, SE	------	Ω^2 a.
6	57.63	29.3	33.6	24	66.5	E quad.	1.8	5.8	Ci.	Cu.-N. ESE	------	☇ p.
7	58.08	30	37	23	65.5	E quad.	.8	3.7	Ci.	Cu.-N. ESE	------	Ω a.
8	58.50	30.4	37.5	24.5	65.2	SE quad.	.7	4.7	Ci.	S.-Cu.	------	Ω a.
9	58.05	29.9	37.6	25	71.2	Variable	.7	6.3	Ci.	Variable E, NE	------	ψ^2 a. ☇ p.
10	57.92	29	37.9	24.5	75.8	Variable	1	6.5	Ci. NE	N.-Cf. NE	11.9	●^{2} ☈ ☇ p.
11	57.70	29.4	36	23.9	67	ESE, NNW	.8	4.5	Ci.	Cu. E	------	☇ p.
12	58.20	28.6	34.5	24	71.3	E quad.	.9	5.5	Ci. NE	N. ESE	------	Ω^2 a. ☇ p.
13	59.33	26.6	33.4	24	81	Variable	.5	7.7	Variable	N. SE	6.3	⌉ ●^{2} p.
14	59.05	27.2	31.5	23	79.1	Variable	.5	8.2	Ci. SE	N. SE	25.7	⊕^{2} a. ●^{2} p.
15	59.22	27.5	35.6	23.5	81.3	Variable	.8	6	Ci. E, SE	Cu. SSW, NE	1	⊤ ☇ d p.
16	59.27	26.7	33	22.6	81.8	Variable	1	7	Ci.	N. SE	------	⊤ p.
17	59.11	27.1	34.8	22	80.5	E quad.	.7	6.8	Ci. E	Cu. S	------	Ω^2 ≡ a. ☇ p.
18	58.61	27.8	32	23.4	77.8	S quad.	1.1	6.5	Ci.	N. SW	1.5	Ω^2 a. d^2 p.
19	57.66	26.8	31.5	23.5	81.8	ESE, SSW	.8	8.3	A.-S.	N. SW	1.3	d p.
20	56.75	26.8	31.7	23.5	83.5	SSW	1.8	8.5	A.-S.	N. SW	3.1	●° ⊤ ☇ p.
21	55.93	26.7	31.1	24	83.8	SSE, SSW	1	10	Ci.-S., A.-S.	N. S	14	◯^{2} a. d p.
22	56.88	25.3	30	22	87.4	SE quad.	.6	9.8	A.-S.	N. S	9.9	●^{2} a. ◯^{2} d° p.
23	57.88	25.8	32	23	82.4	ESE	.7	8.2	A.-Cu. SE	N. S	1	d p.
24	58.23	27.7	34	22.8	74	Variable	.9	6.2	Ci. Variable	Variable	------	Ω a. ☇ p.
25	57.95	27.8	34.6	23.5	80.2	Variable	.6	6.5	Ci. W	N.-Cf. NE	5.8	Ω a. ● p.
26	57.40	29.2	34.6	24.4	77.2	Variable	.6	6.8	Ci., Ci.-S. W	Cu.-N. SE	------	Ω ≡ ψ° ⊤ ☇ ◯^{2}
27	57.38	26.5	33.7	23.5	84.2	E quad.	1	7.3	Ci.-S.	Cu. SE, SSW	1.8	●° ⊤ ☇ p.
28	57.89	27	34	22	81.5	SE quad.	.6	7.8	Ci.-S.	N. S	41.9	☇ Ω^2 ≡ ⊕^{2} ●^{2} ☈
29	58.67	26.9	33.2	22	82	Variable	.6	6	Ci. E	Variable	2	⌒° a. ◯° ψ° p. ●
30	58.48	28.5	34.3	23.4	76.2	ESE	.5	4.7	Ci. E	Cu. E	------	Ω° a. ☇ p.
Mean	758.02	28	34	23.4	75.8	------------	1	6.4	------------------	------------------	------	
Total	--------	------	------	------	------	------------	----------	----------	------------------	------------------	127.2	

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. 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	757.62	29	37.7	23.4	72.5	Variable	10.1	3.7	Ci.	Cu.	2.3	⊤ ⌒ d^2 ⌽ p.
2	57.63	29.4	36.3	23.6	71.5	SE, N	9.4	2.7	Ci.-S.	Cu.	------	
3	57.02	30.2	37.3	24.9	62.7	SE	13.2	.7	------	Cu.	------	⚡ p.
4	57.47	29.7	36.4	24.2	64.7	SE, S	13.1	6.7	Ci.-S.	S.-Cu.	------	
5	57.62	29.6	37.5	22.4	68.3	Variable	11.3	2.8	Ci.	Cu.	------	⌽ a.
6	57.55	29.2	36.2	24.5	76.7	Variable	6.9	4.3	Ci.	S.-Cu.	16	⊤ ● p.
7	58.05	30	37.8	23.9	72.7	SE, NW	11.4	3.8	Ci.	Cu.	------	
8	58.35	30.4	35.8	25.7	73.4	NW	9.7	6	Ci.	Cu.	------	⚡° p.
9	58.03	29.1	35.9	25.5	78.6	SE, W	11.8	8	A.-Cu.	S.-Cu.	------	⊍ ⌽ a. ⚡ ⊤° p.
10	57.80	30.2	35.5	25	73.1	SE, NW	12.6	6.2	A.-Cu.	S.-Cu. SE	------	⚡ p.
11	57.64	29.8	35.4	24.7	73.4	NW	11.4	5.3	Ci.	Cu.	.5	⚡ d^2 p. ⊤° a. p.
12	58.06	28.7	36.8	24.3	77.5	Variable	9	4.8	Ci.	Cu.	5.6	⚡° a. ⚡ ⛈° ● p.
13	59.22	27.8	34.7	22.1	80.5	SE quad.	10.7	6.3	A.-Cu.	S.-Cu.	24.1	⚡° a. ⛈^{2} p^2 p.
14	58.89	28.1	36	22.1	78.1	Variable	9.7	6	A.-Cu.	S.-Cu.	------	d° ⚡° p.
15	59.26	28.5	34.5	24.1	80.6	Variable	9.5	7	Ci.	S.-Cu.	.8	⚡ a. d ⚡^{2} ⛈ p.
16	59.25	27.1	36	23.5	87.2	Variable	7.3	8	A.-Cu.	S.-Cu.	33.5	⚡ a. ⚡^{2} ⛈ ● p.
17	59	27.4	33.1	23.8	84.3	W	8.1	9.5	Ci.	S.-Cu. SE	------	⚡ p.
18	58.35	27.3	33.9	24.2	85.5	SE, S	6.7	8.5	A.-Cu.	S.-Cu. SE	5.8	d° a. p p.
19	57.58	26	31.5	23.5	88.5	Variable	8.8	9.7	A.-Cu.	S.-Cu. WSW	7.4	⚡ p.p a. p.
20	56.40	26.5	33.2	23.5	86.5	SE, S	10	9.7	A.-Cu.	S.-Cu. SW	37.6	d° p a. ●^{2} ⛈ p.
21	55.77	25.2	30.6	23.6	92.4	SE	10.6	10	A.-Cu.	S.-Cu. SW, SE	43.4	● ◯ a. p ⚡ p.
22	56.07	25.6	29.4	22.7	87	SE	17.8	9.7	A.-Cu.	S.-Cu. SE	1	p^2 ●° a. ⌒° p.
23	57.54	26.2	34	23.1	83.9	S, SE	13.4	9	A.-Cu.	S.-Cu. SE	13.5	⌒ a. p p.
24	58.47	27.9	33.1	22.6	78	NNW, S	11.9	5	A.-Cu.	S.-Cu.	------	⌒ ⚡° p.
25	58	28.9	33.4	24.8	80.3	N	11.3	6.5	Ci.	S.-Cu., Cu.	------	⚡ ⊍ ⌽ p.
26	57.40	28.9	36.4	25.8	82.7	NW	9.3	8	A.-Cu.	S.-Cu.	------	≡ a. ⊤ ⊍° ⌽ p. ⚡
27	57.49	27.5	35.7	23.9	86.2	Variable	7.3	7	Ci.	S.-Cu.	11.7	≡° a. ⚡^{2} ⛈ ● p.
28	57.78	26.4	35	23	86.7	SE	7.4	9.3	A.-Cu.	N.	12.2	● a. ⛈ ● ⊍ ⌒ p.
29	58.69	27.2	35.5	22.3	80.9	SE, S	8	6.5	Ci.	Cu.	1	⛈ d p.
30	58.54	28	34.5	24.2	81.2	N	7.6	5.2	Ci.	S.-Cu.	------	d° ⚡ ⌒ ⊤ ⌽ p.
Mean	757.88	28.2	35	23.8	79.2	------	10.2	6.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	216.4	

BOLINAO.

[ϕ=16° 24′ 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.*	*0–10.*			*mm.*	
1	757.73	28.8	32.9	24.9	80.5	SE, WNW	1.7	8.3	Ci.-S.	Cu.-N.	------	Ω° ≡° a. Ω a. p.
2	57.76	29.2	32.8	25.8	80.9	E	1.8	5	Ci.-S.	Cu.-N.	------	Ω° ≡° a.
3	57.03	29.5	33.9	25.5	77.8	ESE	2.5	2.2	Ci.-S., Ci.	Cu.	------	Ω° ≡° ↙° a. Ω° ⚡ p.
4	57.42	29.5	33.4	26	78.2	ESE	2.3	9.2	Ci.-S.	Cu.-N.	------	
5	57.78	29.6	32.8	25.2	77.2	SE, NE	2.2	7.2	Ci.-S.	Cu.-N.	------	Ω° ≡° a.
6	57.58	29.3	33.1	26	82.3	E quad.	1.5	8	Ci.-S.	Cu.-N.	6.4	≡° ⊤° a. Ω ⌒ d p.
7	58.23	29.6	32.9	26.1	80.5	Variable	2	8.5	Ci.-S.	Cu.-N.	------	⚡ p.
8	58.49	29.7	32.5	26.8	82.2	Variable	1.5	6	Ci.-S.	Cu.	------	≡° a. Ω p.
9	58.20	29.2	32.4	26.3	84.2	Variable	1.7	9.3	Ci.-S.	Cu.-N.	9.9	⊍^{2} ≡° ◯° a. ● Ω p.
10	57.94	28.8	31.5	25.7	84.5	NW quad.	1.7	8.3	Ci.-S.	Cu.-N.	2.3	d a. ● p. Ω a. p.
11	57.77	29.4	32.2	26	82.1	Variable	2.3	8.5	Ci.-S.	Cu.-N. NNW	.3	d a. Ω p.
12	58.07	28.6	32.5	25	82.7	Variable	1.8	7.5	Ci.-S.	Cu., Cu.-N.	53.1	≡° a. Ω^2 ●^{2} p.
13	59.19	27.9	32.4	24.7	85	SE quad.	1.8	7.3	A.-Cu.	Cu.-N. S	1.3	≡° a. Ω° ●° p.
14	58.96	28.3	31.9	24.9	83.8	Variable	1.8	7.8	Ci.-S.	Cu.-N. S	8.6	≡° a. Ω ●° p.
15	59.43	27.4	31.4	22.8	87.6	Variable	2	8	Ci.-S.	Cu.-N.	78	Ω a. Ω^2 ●^{2} p.
16	59.33	26.3	30.9	23.1	91.9	SSE	1.7	10	Ci.-S.	Cu.-N.	23.1	Ω^2 ● p.
17	58.95	26.6	29.4	23.9	92.2	SE quad.	1.5	9.2	Ci.-S.	Cu.-N.	53.3	◯^{2} a. Ω ●^{2} a. p.
18	58.37	26.6	30.3	23.8	89	SE quad.	2.8	9.7	A.-Cu.	Cu.-N. SW	4.3	↙° d a. ● ⌒° p.
19	57.24	26.1	28.2	23.9	91	SSE	2.5	10	------	Cu.-N. S	9.1	● a. p.
20	55.93	26.3	29.4	24.4	90.8	SE quad.	3	10	Ci.-S.	Cu.-N.	44.2	● a. p.
21	55.33	24.8	27	23.8	96.8	SE quad.	2.8	10	------	N.	63.2	●^{2} a. p.
22	55.61	24.7	27.2	23	92.2	SE quad.	4	10	------	Cu.-N.	4.1	● a. p. Ω p.
23	57.17	26	29.5	24	89	SE quad.	3.2	10	Ci.-S.	Cu.-N.	.8	d a. ● ⌒ p.
24	58.49	27.3	30.6	23.5	85.3	E	2.2	7	A.-Cu.	Cu.-N.	------	≡° a. Ω° ⌽ p.
25	58.33	28.8	31.7	25.9	82.2	NW quad.	1.8	9	Ci.-S.	Cu.-N. NNW	------	◯ ⊕ a. ⚡ ⌽^{2} p.
26	57.53	28.2	31.9	25.7	83.7	SE quad.	1.7	8.7	Ci.-S.	Cu.-N.	11.2	Ω a. p. ● ⌒ p.
27	57.39	27.2	31.8	23.8	88.1	SE quad.	1.5	9.8	Ci.-S.	Cu.-N.	65.8	d^2 a. Ω^2 ↙° ●^{2} p.
28	57.67	27.4	32.4	23.7	85.7	SE quad.	1.8	10	A.-Cu.	Cu.-N.	2	⊤° ◯ a. Ω p.
29	58.75	27.9	31.3	24.5	83.7	SE	1.2	8	A.-Cu.	Cu., Cu.-N.	------	≡° a. Ω p.
30	58.70	28.3	31.9	25.6	84	E quad.	1.3	7.7	A.-Cu.	Cu.-N.	------	≡° a. Ω p.
Mean	757.88	27.9	31.4	24.8	85.2	------	2.1	8.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	441	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	757.77	27.7	32.4	24.8	81.3	E quad.	1.3	2.2	Ci.-S. NNW	Cu.	0.3	☈° d ꝏ p.
2	57.86	28.5	33	24.6	77.5	Variable	1	.2	Ci.	Cu.	------	
3	57.25	29.3	33.2	26.1	78	Variable	1.2	2.3	Ci.-S.	Cu.	------	☈ d ⚡ ꝏ p.
4	57.67	29.4	33.3	26	75.7	SE quad.	1.2	1	Ci.-S.	Cu.	------	☈ ⋓ p.
5	57.86	29.2	33.2	26.3	75.2	N quad.	1.3	1	Ci.	Cu. NE	------	☈ p.
6	57.54	29.3	33.4	25.7	74.5	Variable	1.2	2.5	Ci., Ci.-S.	Cu.	2.5	☈ ⚡° d° ● p.
7	58.28	29.2	33.1	25.3	71.8	Variable	1.2	1.7	Ci.-S.	Cu.	------	☈ p.
8	58.63	29.8	33.6	26.8	78	Variable	1	1.5	Ci.-S.	Cu. NNW	------	⌒ d ☈ p.
9	58.22	29.3	33.2	26.1	76	Variable	1	1.5	Ci.-S.	Cu. W by N	------	⚡° p.
10	57.98	29.4	34.7	25.8	77.3	Variable	1.3	.5	Ci.-S.	Cu. NW, W	1	⚡° d ● p.
11	57.80	29.8	33.6	26	76.1	N quad.	.8	.7	Ci.	Cu.	------	⚡ p.
12	58.08	29.2?	33	26.9	80.2?	Variable	1	.8	Ci., Ci.-S.	Cu.	1.5	☈° d ● ⚡ p.
13	59.30	28.1	32.1	24.8	81.5	Variable	1	4.2	Ci.-S.	Cu.	20.1	d² ● ☈° p.
14	59.09	27.9	32.4	24	81.8	Variable	.7	1.7	Ci.-S.	Cu.	1.8	d ● ☈° ⚡ p.
15	59.46	28	32.4	25	79.9	Variable	1.2	2	Ci. ENE	Cu.	1.8	☈ d² ⚡ p.
16	59.10	27	31.8	24.1	84.5	Variable	.8	5.3	Ci.-S.	Variable	2	☈ ● ⚡ p.
17	58.98	27.5	32.1	24.5	82.3	S quad.	.8	4	Ci.-S.	Cu.	5.1	≡° a. ☈ ● ⚡ p.
18	58.12	27.6	30.8	23.7	81.7	S quad.	2	4.2	Ci.-S.	Cu.-N. S	.8	℣° ● d² a. d p.
19	56.83	27	30.5	24.6	83.5	S	3.3	7.7	Ci.-S.	Cu.-N. SSW	------	● ℣° ● a. d p.
20	55.64	27.9	32	24	75.6	S	2.8	3.5	Ci.-S.	Cu. SSW	------	℣° p.
21	55.07	27	31	23.6	81.8	SE quad.	2.8	7	Ci.-S.	Cu. SSW	2	⌒ a. ℣° ● p.
22	55.08	28.1	31.6	23.5	72.9	S quad.	3.2	9.3	Ci.-S., A.-Cu.	S.-Cu.	------	℣° p.
23	57.21	27.4	32.9	24.9	75.2	SE quad.	1.3	4.8	Ci.-S., A.-Cu.	S.-Cu.	1	⌒ a. d° ●° p.
24	58.74	27.4	32	22.9	76.2	E quad.	1	1.7	Ci.-S.	Cu.	------	☈ d° ꝏ p.
25	58.30	27.5	31.9	24.2	84.1	Variable	.8	4.2	Ci.-S.	Cu. ENE, W	1	☈ d ● p.
26	57.45	28.2	34	25	80.7	Variable	.8	3.3	Ci.-S.	Cu. NW by W	------	⚡ ⋓ p.
27	57.35	27.7	33	24.7	80.5	SE quad.	1.3	4.2	Ci.-S.	Cu. SW	3.3	☈ ● p.
28	57.83	27.8	32.5	23.4	77.5	S quad.	1.2	5.5	Ci.-S.	Cu. SW	12.2	☈ ● p.
29	58.72	28.4	33	24	74.7	E	.8	3.2	Ci.-S.	Cu. SW	------	☈° ⚡° p.
30	58.82	27.8	33	25.4	82.8	Variable	.7	3.5	Ci.-S.	Cu. NNE	2.8	☈ d ● a.
Mean	757.87	28.3	32.6	24.9	78.6	------------	1.3	3.2	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	59.2	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	757.68	28.2	36.6	24.1	78	SE	0.7	4.2	Ci.-S.	Cu. S	18.8	Ω² a. ●² ☈ p.
2	58.06	28.8	36.8	24	82.4	NE	.2	2.3	Ci.-S.	Cu.	------	Ω ○° a.
3	57.54	29.8	36	23.6	------	SE, S	.5	2.3	Ci.	Cu. S	------	Ω a. ⚡ p.
4	58.04	29.6	35.1	23.2	72	SE	1.2	5.8	A.-Cu. SW	Cu. S	------	Ω a.
5	57.99	29.4	37.1	24.2	------	S	.3	6	Ci.-S.	Cu. S	------	Ω² ○° a. ☈ p.
6	57.69	30.9	37.3	23.6	69.7	SE	.7	2.8	Ci.	S.-cf. S	------	Ω² a.
7	57.91	30.2	37.7	24.6	------	NW	1.2	4.7	Ci.	Cu., S.	------	Ω² a. ⚡ p.
8	57.98	30.7	37.6	24.8	73.8	SE, NW	.8	3.3	Ci.-S.	Cu. W	------	Ω² a.
9	57.69	30.2	37.3	25	77.3	NW	.7	5.7	Ci.-S., Ci.	Cu. NW	------	Ω² a.
10	57.55	30.9	38.4	25.7	------	SE, NW	.5	4.7	Ci.-S.	Cu. NW	------	Ω² a. ⚡² p.
11	77.48	30.7	39	24.3	73.5?	SE	.5	5.2	Ci.	Cu. S	------	Ω a. ⚡ p.
12	57.91	30.4	38.4	24	71.2	Variable	.8	6.2	Ci.	Cu. SE	------	Ω² a. ⚡² p.
13	58.67	30.6	38	24.1	68.2	SE	.8	3.5	Ci. SE	Cu.-N. NW	------	Ω a. ○² ☈ ⚡ p.
14	58.76	28.8	38.8	23.4	74.7	SE	1	1.8	------------	Cu., Cu.-N. SE, NNE	------	Ω² a. ⌒ d° ℣ ☈ p.
15	58.83	29.8	37.7	23.8	73.3	NW	.8	5.7	Ci.	Cu. S	------	Ω a. ⚡ p.
16	58.94	28.5	35	23.9	76.9	N, SE	1.3	6.8	Ci.-S.	Cu.-N. SE	------	☈ ⚡ p.
17	58.45	28.9	38	24	77.3	N	.5	7	Ci.	Cu. S	12.7	Ω a. ● ☈ p.
18	57.34	28.1	36	24.5	85	S, SW	.3	6.5	Ci.	Cu. S, SW	9.1	d° a. ● ☈ ⚡² p.
19	56.01	28.9	36	23	------	SE	.8	7.5	Ci.-S. NE	Cu.-N. SW	2.8	⌒² ● ☈ p.
20	55.16	28.3	35.7	24	------	SW	.5	8.3	Ci.	Cu. SW	14	⚡ a. ● ☈ p.
21	55.15	26.8	34.4	23.6	87.5	Variable	.5	9.7	A.-S.	N.	32.3	● ⚡ a. p.
22	55.51	27.8	32.6	23.4	80.5	SW	1.8	8.3	Ci.	Cu. S	------	● a. ⚡ p.
23	57.14	28.3	37	24.5	75.8	SE	.8	4.2	Ci.-S.	Cu.-N. S	10.2	Ω² a. ● ☈ p.
24	58.43	27.8	34.5	22.6	82.7	SW, NW	.3	4	Ci. S	Cu. S	------	Ω ○² a.
25	57.93	28.6	34	23.5	80.1	NW	.2	6	Ci.-S. NE	Cu. S	------	Ω a. ⚡ p.
26	57.11	28.9	37.2	24.7	78.3	Variable	.5	6.8	Ci.	Cu.-N. NW	------	Ω² a. ☈° ⚡² p.
27	57.02	28	36.8	24	78.4	SE	.3	8.2	Ci.	Cu.-N.	------	⚡ Ω² a. ☈ ⋓ p.
28	57.61	28	36.8	23.2	78.7	Variable	.7	7.3	Ci.-S. NE	Cu.-N. S	31.7	⚡ ○² a. ☈² ●² p.
29	58.91	27.6	33	23	83.2	S	.8	7.5	A.-Cu.	Cu. S	------	d° ☈ ⚡ p.
30	58.66	28.1	34.9	23.5	78.8	SE	.2	2.8	Ci.-S.	Cu. SE	11.9	Ω² a. ●² ☈ p.
Mean	757.64	29.1	36.5	23.9	77.4	------------	.7	5.5	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	143.5	

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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	758.01	28.5	33.4	24.4	81.7	S, NE	10.1	1.0	Ci., Ci.-S.	Variable		⛈ p.
2	58.27	28.4	33.5	24.4	81.3	S	11.2	.7	Ci.	Cu.		⌒ p.
3	57.78	29.2	35	25	77.3	S	11.5	.3	Ci.	Cu.-N.		
4	58.10	28.9	34	24		S, SE	12.8	3.2	Variable	S.-Cu.		
5	58.32	29.2	34	25.6	80.7	S, NE	10.8	2.7	A.-Cu. SW	S.-Cu.		
6	57.85	29.1	35	25.5	76.7	SE quad.	10.5	.3	Ci.	Cu.-N		
7	58.48	29.3	35.6	25.9		Variable	10.2	3.7	Ci. N	S.-Cu.		○
8	58.65	29.2	34.5	25.7	83	N	7.4	2	Ci.-S S	Cu.-N. S, N		ϟ p.
9	58.17	28.9	33	24.6		W, N		3.5	Ci. E	Cu.-N.		○ a. ϟ p.
10	58.10	29.1	34	24.6	80.5	Variable		.3	A.-Cu.	Cu.-N.		⩍ a. ϟ p.
11	58.07	29.4	34.3	25.5	81.7?	W, NE		1.7	Ci. E, NE	Cu. S		⩍ a. ϟ p.
12	58.25	28.9	34.5	24.5		S quad.		1.5	Ci. NE	Cu.		ϟ p.
13	58.96	29.8	35.6	24.1		S		1.2	Ci. E	Cu.-N	1.3	⛈ ● p.
14	59.10	28	34.4	23.4	82	SW quad.		1.2		Cu.-N.		⛈ ⌒ p.
15	59.25	28.4	34.8	24.1	77	S, NNW		3.3	Ci.-S E	Cu.-N. NW	24.6	⛈ ● p.
16	59.15	27.6	33.4	23	81.2	S, NW		5.3	A.-Cu. E	S.-Cu.		ϟ p.
17	58.75	27.8	33	24.3	82.3	SW quad.		5.2	Ci. E	Cu.-N. N		○ a. ⊤° ϟ p.
18	57.58	28	33.5	24.2	79.3	SW, NE		2.5	Ci.	Cu.-N. SW		⛈ p.
19	56.32	28.6	34.8	24.2	78.3	Variable		5.5	Ci. NE, E	S.-Cu.		○ a. ϟ p.
20	55.56	27.4	34.6	24	84.3	SE quad.	12.8	4.5	Ci. E	Variable	8.4	○ a. ⛈ ● ⌒ p.
21	55.19	26.2	31.7	23	86.7	S	12.9	10	Ci.-S. W	S.-Cu.	35.6	⊤ ● p.
22	55.54	27	32.1	23.5	82.5	SE, S	17.5	9	A.-Cu. SW	S.-Cu. S		
23	57.48	28	34	24.6	75.3	Variable	14.4	1.2	A.-Cu. SE	Cu.-N.		⊤° ϟ p.
24	58.86	28.3	33.5	23.1	74.8	SW, NE	11.3	1.2	A.-Cu. SE	Cu.-N.		
25	58.33	29.3	34.5	25.1	77.5	NE quad.	8.1	1.2	Ci. N	Cu.-N.	3.3	
26	57.50	28.4	34.2	24.6	80.8	Variable	8.9	6.2	Ci.-S.	Cu.-N. SW, N	16.3	⌒ ⛈ p.
27	57.18	26.6	33.4	23	86.7	S	10.4	6.5	Ci.-S.	Cu.-N. N, W	24.4	⛈ ● p.
28	57.84	26.6	33.4	23.5	83	S, NW	12.8	6.8	Ci. NE, E	S.-Cu. W	3.6	⛈ ● p.
29	59.02	27.4	34	23.5	82	Variable	11.5	4.8	Ci. E	S.-Cu.		
30	59.09	28.3	34	24.9	82.2	Variable	6.2	1.2		Cu.-N. W		⊤ p.
Mean	757.96	28.3	34	24.3	80.8		11.1	3.3				
Total											117.5	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.5	21.2	92	76	9	10	10.4	Ω a. ● ⊤ p.
2	33.9	21.3	98	70	7	6	------	Ω² a.
3	33.4	22.7	95	63	7	8	------	Ω° d² a. ↙° ↯ p.
4	32.5	23.2	91	86	7	7	7.9	Ω² ● a.
5	32.7	22.5	97	72	9	8	16.5	Ω² ● a. d° ↙ ●
6	32.9	22.8	93	76	8	7	9.9	●° a. ● ↯ p.
7	33	23.1	93	76	9	10	?	d² a.
8	28.2	22.7	94	87	10	10	21.1	●² a. d p.
9	32.2	21.2	98	73	8	7	5.1	Ω² ≡² ● a. ↙° p.
10	33.5	21.8	96	72	8	8	9.7	Ω ≡ a. ↯ p.
11	33.4	22.6	94	76	8	8	15	● d ↙° a. ↙° ↯ p.
12	30.5	21.3	98	84	9	9	3.8	↙ ● a. ● p.
13	28.2	22.8	95	79	8	10	.8	●° a. d° a. p.
14	30.5	21.7	96	67	9	10	------	Ω² a.
15	32	22.8	93	73	8	8	------	Ω a. ↙° p.
16	33.3	23.3	94	64	8	8	------	Ω a. d° d p.
17	33.3	22.4	94	62	7	7	1.5	↙° a. d² p.
18	33.2	22.3	94	74	7	8	------	d° p.
19	32.8	22	94	80	6	9	2.3	Ω° ●° a.
20	33.2	22.1	95	65	5	8	------	Ω² ↙° a.
21	32.6	22.6	93	72	8	8	2.5	Ω° a. d² ⊠ p.
22	31	23.2	93	76	9	9	10.4	Ω° ●² a.
23	32.3	22.3	94	70	9	8	6.4	Ω² a. ⊤ ● ↙ p.
24	30.2	22.3	95	82	9	9	5.3	● a. ⊤ p.
25	29	22.3	94	77	9	9	12.2	Ω² a. ↙° ● ⊤ p.
26	32	22	94	81	9	10	23.9	Ω² a. ● ⊠ p.
27	31.6	21.1	93	75	9	9	18	Ω² a. ↙° d p.
28	30.6	22.2	94	95	9	10	72.4	●² a. ● p.
29	30.4	21.3	96	90	6	10	23.9	● a. p.
30	32	21.1	95	71	7	7	8.1	Ω d a. ● p.
Mean	31.9	22.2	94.5	75.5	8	8.5	------	
Total	------	------	------	------	------	------	287.1[1]	

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	30.8	22.4	96	75	4	10	6.1	Ω a. ⊤ ↙ ● p.
2	32.3	23	97	71	5	6	------	Ω a. ↙ p.
3	32.8	23	96	69	4	10	------	Ω a. ⊤ p.
4	33.5	23	97	------	5	10	------	Ω a. ↙ p° p.
5	31.8	23	93	75	3	8	.3	Ω a. p° ⊠ p.
6	31.3	23.2	95	71	0	10	.5	Ω a. p° ⊠ p.
7	30.8	23.6	97	80	10	10	.8	d a. p° p.
8	28.5	21.5	97	83	10	10	19	d ⊤ ↙ ● a. p° p.
9	------	22.5	97	------	10	5	------	Ω a.
10	32.8	23	96	82	4	6	------	Ω a.
11	30.3	24	96	85	10	10	------	Ω a. ↙ p.
12	30.3	23.5	96	86	10	10	11.4	d ⊠ ● a. d p.
13	27.8	22.5	96	88	10	10	11.2	d a. p° p.
14	30.3	22	96	81	10	10	.5	Ω a. p° d p.
15	31.3	23	96	81	8	10	------	Ω a.
16	32.3	23.4	96	75	10	4	------	Ω a.
17	31	21.5	95	81	1	10	2.8	Ω a. ↙ ● p.
18	32.3	22.2	96	76	1	10	------	Ω a. ↙ p.
19	31.5	22	97	78	10	10	.3	Ω a. p° ⊤ p.
20	32.7	22	98	78	5	10	.5	Ω a. p° p.
21	32.3	22.2	97	80	10	10	2	Ω a. p ⊠ p.
22	30.5	22.4	96	76	10	8	.5	Ω a. ⊤ p° p.
23	33.3	23	98	78	10	7	------	Ω ≡ a. ⊠ p.
24	31.5	23	95	68	10	7	------	Ω a. ↙° p.
25	30.3	23.2	97	71	10	10	6.1	● d a. ●° p.
26	29.3	22.2	96	84	1	10	48.8	Ω a. ● ⊠ d p.
27	31.3	22.2	94	85	10	10	7.1	d a. ● ⊠ p.
28	29.8	22	98	86	4	10	17.3	≡° a. ↙ ● d p.
29	30.3	21.5	96	84	5	10	27.9	Ω ↙ a. ↙° ● p.
30	31.8	22.1	96	76	1	10	------	Ω a. p° p.
Mean	31.2	22.6	96.2	78.7	6.7	9	------	
Total	------	------	------	------	------	------	163.1	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.2	23.9	87	82	8	9	------	●° ≡ ○ a. ⊤ p.
2	32.3	22.9	90	45?	3	4	------	Ω a. ○ ◡° p.
3	30.9	24.3	93	75	5	8	1.5	↯ Ω d° ⊤ a. ⊕ ○
4	32.4	25.2	93	59	5	5	------	●° a. ⊕ p.
5	30.3	24.4	88	75	6	7	.3	↯ Ω° a. ○° d p.
6	30.2	23.7	92	75	3	4	1	Ω ≡ ○° a. ⊠ p.
7	30.7	23.9	92	81	10	10	5.8	d ≡ ○ ⊕ a.
8	29.9	22.9	96	69	10	9	1.8	⊤ ∩ ↙ ● a. ⊕² ⊤
9	30.8	23.5	91	71	4	3	------	Ω° ⊕° a.
10	30.9	23.2	79	62	10	7	------	Ω° ○° a. ⊠ p.
11	30.2	23.9	85	64	6	10	2.3	d ⊤ ○° a. d° ↯
12	29.8	23.1	88	81	10	10	6.6	d ≡ ○° a. d° ↙ p.
13	26.9	22.1	86	88	8	10	2.5	d° ≡ a. ⊕ d° p.
14	29.7	21.9	81	74	10	10	------	≡ a. ○° ⊕ p.
15	28.8	24	86	82	9	10	------	
16	29.9	23.7	89	73	9	7	------	≡° a. ⊤ p.
17	30.3	22.4	89	72	4	9	2.5	↯ Ω a. ⊤ d° ● p.
18	30	23.1	69?	74	4	8	------	≡ a. ○° a. p. ⊤ p.
19	30.7	23.7	85	74	9	7	------	Ω° ≡° ○° a. ⊠ p.
20	31.2	23.9	86	67	8	6	------	Ω ≡° ○° a. ○° p.
21	30.7	23.6	83	67	9	8	------	Ω ≡ a. ⊠ p.
22	29.5	23.2	90	72	9	7	------	≡ ⊤ ○° a. ⊠ d
23	------	22.9	85	71	9	4	7.9	≡ a. ⊠ p.
24	------	------	------	------	10	6	.3	●° d° ○° a. ◡² p.
25	------	------	------	79	9	8	32.5	d° ● a.
26	------	22.3	------	76	6	7	26.9	↙ ● a. p. ⊤ p.
27	------	22.9	------	69	3	10	2	≡ a. ○° d p.
28	28.4	23	------	83	3	8	------	⊤ p.
29	31	23.3	87	77	4	8	1	Ω ≡ a. ○ d p.
30	28.8	23.3	90	98	6	10	2.3	d° a. ● ◡ p.
Mean	30.2	23.4	87.2	73.6	7	7.6	------	
Total	------	------	------	------	------	------	97.2	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.2	22.2	97	64	6	7	------	
2	34.5	22.3	96	64	5	6	13.5	● ⊤ p.
3	31.6	23.1	97	90	7	10	46.5	● a. p.
4	34.5	22.6	98	64	7	5	------	
5	31	23.5	97	80	7	6	------	
6	34.6	23.8	96	66	5	8	------	⊤ p.
7	31.9	22.7	97	75	7	6	------	⊤ ↯ p.
8	32.1	23.8	97	70	5	6	------	
9	34.5	21.2	96	66	7	5	------	
10	32.6	23.2	91	78	6	9	------	d p.
11	33.2	22.1	89	66	6	5	------	
12	31.1	21.9	92	75	6	5	42.4	⊤ ● p.
13	32.7	21.5	96	71	7	6	------	
14	32.7	22.1	97	72	7	8	39.9	
15	33.6	22.6	96	67	9	5	32.3	● ⊠ a. p.
16	32.6	22.2	99	64	8	5	43.9	≡ a. ● p.
17	31.9	22.1	97	80	7	9	------	
18	32.7	23.4	97	70	6	7	------	
19	33.4	22	96	64	6	5	------	
20	33.2	22.4	96	77	6	8	------	
21	32.6	22.1	97	73	6	7	------	
22	31.4	22.4	96	75	5	7	15.7	● ⊠ p.
23	33.6	22	98	70	5	6	------	
24	33.6	22.2	97	64	5	6	23.6	● ⊠ p.
25	27.8	22.6	93	83	9	9	57.1	● a. p.
26	32.5	22.1	94	66	5	7	28.2	● p.
27	30.1	22.9	93	71	7	8	17 ?	● a.
28	31.6	21.9	93	66	6	5	------	
29	33.3	22.3	92	72	7	7	40.9	● p.
30	33.7	22.5	97	67	6	6	13.5	◡ ● ⊤ p.
Mean	32.6	22.5	95.6	71	6.4	6.6	------	
Total	------	------	------	------	------	------	414.5	

[1] 29 days of observation.

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	20	91	60	4	6	50.8	Ω a. d ┌ϟ ●^{2} p.
2	34	22.3	92	61	3	4	------	≡ a. ⊤ ●° ϟ p.
3	33.6	23.8	92	58	2	8	------	Ω ↙ a. ↙ p.
4	32	23.2	90	63	6	9	------	↙ a. d ∪ p.
5	32.2	23	93	73	5	10	------	Ω a. d ϟ p.
6	34	22.4	90	55	3	3	19	Ω ≡ ↙ a. ┌ϟ● p.
7	32.1	20.5	92	63	8	9	2.5	≡^{2} ↙ a. ● ϟ p.
8	32	20	93	63	8	8	------	d a. ↙ ϟ p.
9	33.2	22.3	96	54	2	2	------	Ω ≡ ↙° a. ϟ p.
10	32.2	22.6	87	65	9	10	------	↙ ⊤ d p.
11	32.6	21.8	95	59	4	6	15.2	≡ ↙ a. d ●^{2} p.
12	33.1	22	91	59	4	4	17.8	Ω ≡^{2} ↙° ┌ϟ ↙ ●^{2}
13	31	23	93	81	4	8	------	Ω ≡ a. ↙ p.
14	31	21.3	93	65	3	4	------	Ω ≡ ○ a. ϟ p.
15	31.5	22.9	91	70	8	4	40.6	●^{2} p.
16	30.6	18 ?	96	66	5	3	50.8	Ω a. ↙ ● p.
17	30.5	21.8	95	68	8	5	2.5	≡ a. ↙° ● p.
18	31	22.4	93	72	3	9	------	Ω ≡^{2} ↙° a. ↙ p.
19	32	21.6	96	58	2	4	------	Ω ≡ a.
20	29.5	22.3	97	82	3	8	------	Ω ≡ ↙ d a. ϟ p.
21	31	23.2	97	68	4	8	------	Ω a. ϟ p.
22	33	22.6	94	67	8	8	2	┌ϟ ● p.
23	32	21.3	97	62	2	8	15.2	Ω ≡^{2} a. ┌ϟ ●^{2} p.
24	32.1	20.4	95	68	9	4	2.5	Ω ≡^{2} a. ┌ϟ d ●°
25	29	20.8	92	87	6	10	30.5	●^{2} a. ● ϟ p.
26	32.4	21.8	91	68	4	3	5.1	↙° a. ┌ϟ ● p.
27	32	21.2	91	82	10	9	------	d a. p.
28	31.8	21.4	96	62	3	6	17.3	≡ ↙ a. ↙ ●^{2} ∪ ϟ
29	31.5	21.6	93	65	4	9	12.7	Ω ↙° a. ↙ ● ∪ ϟ
30	30.8	20	93	67	10	4	7.6	↙ ● p.
Mean	31.9	21.7	93.2	66.4	5.1	6.4	------	
Total	------	------	------	------	------	------	292.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.6	22.9	89	59	6	7	------	ϟ ∪ Φ p.
2	34.2	23.6	91	65	4	9	------	d° ϟ° p.
3	35.6	23	87	58	8	7	0.3	d° ┌ϟ° p.
4	34.9	23.1	90	57	2	7	1	●° ∪° ┌ϟ° p.
5	31	23.1	90	68	10	10	------	
6	35.3	22.8	90	60	3	7	------	ϟ ∪ p.
7	33.8	22.1	85	64	4	10	.5	⊕ d p.
8	34.2	24.4	89	58	10	7	10.7	┌ϟ ●^{2} p p.
9	33.6	23.5	94	66	8	6	------	
10	33.7	23.4	91	64	9	9	.3	●° ϟ° p.
11	33.7	22.1	88	60	8	4	------	Ω a.
12	33.3	22	89	62	8	10	43.2	Ω a. ┌ϟ^2 ↙ ●^{2} p.
13	32.2	21.1	94	63	10	7	6.4	●° ┌ϟ^2 p.
14	31.6	22.2	93	66	8	10	------	
15	33.2	24.4	92	61	10	9	35.6	↙ ● ┌ϟ° p.
16	32.9	22.3	93	64	10	9	11.4	↙ ● ┌ϟ p.
17	32	22.9	95	69	9	10	3.8	┌ϟ a. p. d° ○^{2} ●
18	33.3	22.1	92	67	8	8	1.5	┌ϟ ●° d p.
19	33.5	21.8	92	56	8	4	------	
20	33.3	23.4	91	71	6	9	------	↙° a. ┌ϟ p.
21	33.2	22	88	60	9	8	6.4	Ω^2 a. ϟ ● p.
22	33.1	23	95	62	10	7	14	●° ┌ϟ^2 ↙° p.
23	32.3	22.4	95	68	8	7	3	●° ⌒^{2} d ϟ^2 p.
24	32.2	22.5	90	64	10	8	.3	⊤° d ϟ p.
25	32.5	22.5	93	86	9	10	5.5	⊤ d° d ● p.
26	32.1	22.1	95	66	8	8	2.5	d ┌ϟ p.
27	32.1	21.8	91	70	10	9	------	Φ p.
28	32.7	22	90	70	6	9	------	Φ ┌ϟ p.
29	32.2	21.8	90	66	2	7	.5	●° p.
30	33.1	22.6	96	63	5	8	2.3	d ┌ϟ ∪^{2} p.
Mean	33.1	22.6	91.3	64.4	7.5	8	------	
Total	------	------	------	------	------	------	149.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.8	23.5	91	61	10	5	1.3	● a. ϟ p.
2	32.3	24.1	91	64	9	8	3.6	● a. ϟ p.
3	33.4	23.7	93	66	9	7	?	● ┌ϟ a. p.
4	34.3	23.3	92	68	10	6	------	≡ a. ϟ p.
5	32.2	23.4	78	65	10	8	.8	● a. ○ ┌ϟ p.
6	32.7	23.6	93	68	7	5	------	ϟ p.
7	32.6	24.8	92	62	9	10	------	○ ϟ p.
8	31.6	25	82	86	10	10	2.3	● ⊤ ϟ p.
9	34.4	23.1	96	63	8	8	------	
10	34.2	24.3	97	61	7	8	------	
11	33.1	24.4	92	60	7	6	------	Ω a.
12	34.4	24.4	89	60	8	8	53.1	●° a. ○ ↙ ● ϟ p.
13	33.3	21.8	92	60	8	8	1.3	● p.
14	33.3	22.3	95	66	5	9	------	⌒ p.
15	33.6	23.2	95	60	8	8	------	Ω a. ○ p.
16	34.2	22.8	93	61	9	9	------	Ω a.
17	32.8	22.7	94	67	7	9	------	Ω a. ○ p.
18	34.9	22.5	96	63	6	9	------	Ω a ○ p.
19	34.4	22.6	97	60	8	9	------	Ω a. ○ p.
20	33.8	23	92	63	9	7	------	Ω a.
21	33.2	23.3	94	60	8	8	------	○ ϟ p.
22	34.2	23.3	98	64	8	10	2.3	Ω d a. ○ ϟ p.
23	33.4	------	94	------	10	------	3.6	● a.
24	33.4	23.1	93	57	10	9	------	● d a.
25	32.8	24.4	92	87	10	10	1.5	d a. ● ϟ p.
26	33.6	22.6	95	87	7	10	2.3	● ⊤° p.
27	32.8	22.6	97	61	8	6	------	≡ a.
28	33.6	23.7	97	56	5	8	?	⊤° ● p.
29	33.6	23.3	92	58	7	6	------	ϟ p.
30	32.4	23.4	91	61	8	9	1.8	● a.
Mean	33.4	23.4	92.8	64.7	8.2	8	------	
Total	------	------	------	------	------	------	73.9[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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.3	22.6	97	63	1	6	0.8	Ω a. ┌ϟ ● p.
2	34.6	23.5	96	82	6	9	7.4	Ω ⊕ a. ↙ ● ┌ϟ ∪
3	33.5	24.1	92	85	6	9	1.5	Ω a. ⊕ ⊤ ● p.
4	34.5	24.3	94	59	7	7	------	Ω d° a.
5	29.6	24	95	87	10	9	8.1	● a. p. ϟ p.
6	35	24.1	94	70	7	5	------	d° a. p.
7	34.1	24	95	75	5	10	39.6	Ω a. ↙ ● p.
8	29.1	23.1	96	82	10	10	.3	p° a. p.
9	35	22.8	96	52	7	5	------	Ω a. ⌒ d p.
10	33.4	22.4	96	92	5	10	11.4	Ω a. ┌ϟ ● p.
11	33	22.3	96	78	8	8	18.5	Ω ≡ a. ↙ ● ┌ϟ p.
12	33.1	23	97	94	6	10	36.3	Ω ≡ a. ↙ ● ┌ϟ p.
13	34	21.9	95	68	10	7	------	Ω a. ┌ϟ p.
14	31.3	22	95	71	7	10	------	Ω a. ϟ p.
15	31.1	22.2	96	66	8	8	20.6	Ω a. ↙ ● ┌ϟ p.
16	31.5	22.6	97	75	10	8	------	Ω a.
17	31.7	23.5	96	84	9	10	6.1	p° a. ● ⊤ p.
18	30.1	23.1	93	74	10	10	------	Ω a. d° ┌ϟ p.
19	32.1	23	96	60	9	6	------	Ω a. ⊕ p.
20	31.3	33.2	94	78	3	9	------	Ω a. ⊤ p.
21	30.9	23.4	94	69	9	10	------	Ω ○ a. p° ϟ p.
22	33	22.8	95	71	9	8	42.7	Ω ○ a. ○ ┌ϟ ●^{2}
23	31	22.9	95	76	7	8	1.3	Ω a. ↙ ●° p.
24	31.5	23	96	69	8	9	------	Ω ⊕ a. ○ p.
25	33.1	23	92	66	7	6	41.4	Ω a. ┌ϟ ● p.
26	32.8	22.7	92	65	6	7	5.1	Ω a. ┌ϟ^2 ● p.
27	31.1	22.9	96	80	10	9	1.3	p a. p° p.
28	32.5	23	94	73	7	10	.3	Ω a. ●° Φ p.
29	33.2	22.7	95	54	9	5	1.3	Ω a. ⊕ ┌ϟ ●° p.
30	32.2	22.5	97	70	4	8	1.8	Ω a. ● ┌ϟ p.
Mean	32.4	23	95.1	72.9	7.3	8.2	------	
Total	------	------	------	------	------	------	245.8	

[1] 28 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	23.6	92	------	6	5	------	○ ϟ² ψ° ϖ p.
2	33.6	23.6	91	68	8	8	------	↙° ϟ² ψ² p.
3	33	26.1	86	------	10	8	------	d° ϟ² ψ° ϖ² p.
4	33.4	26.1	92	------	10	8	------	↙° a. ψ ϟ² ϖ² p.
5	33	24.3	89	90	10	10	------	⌒ d a. ψ² ϟ ↙°
6	31	25.6	88	------	10	4	------	↙° a. ϟ² ψ² p.
7	34	24.6	93	------	10	8	------	ϟ p.
8	33	25.6	92	89	10	10	------	
9	31.5	24.7	92	89	10	8	------	∞² p.
10	31.4	24.5	92	85	7	8	------	ϟ² p.
11	32.5	23.5	91	66	10	7	------	∞² p.
12	33.6	24.5	85	75	10	7	------	d° ⌈ϟ² p.
13	33.2	24.4	93	82	10	10	------	d° ⌈ϟ² p.
14	34	23.6	94	89	10	8	------	∞² p.
15	30	25	93	86	10	9	------	⊤² ϟ p.
16	32	25.5	94	80	10	10	12.2	⌈ϟ² ↙° ●² p.
17	32.5	23.5	96	96	10	10	24.4	↙° a. p. ●² ⊤² p.
18	29	23.5	95	86	10	10	9.7	↙° ● p.
19	30.5	24.6	96	89	10	10	------	ϟ ⊤° p.
20	30	24.6	94	90	3	10	------	⊤ d a. d ⊤² p.
21	30.3	25.4	96	90	10	10	------	d a. p. ⌈ϟ² p.
22	30.4	24.4	94	88	10	10	------	↙° ⌈ϟ² p.
23	32.5	------	88	71	10	4	------	∞° ϟ² p.
24	34	24.1	92	------	10	8	------	d ⌈ϟ² p.
25	33.5	24.5	92	------	10	7	34.5	⌈ϟ² d ↙° ●² p.
26	32.6	23.6	96	90	10	8	------	ϟ² ψ p.
27	31.1	24	97	78	10	7	------	↙° a. ψ ϟ² p.
28	32	23.7	96	76	10	10	------	ψ ϖ ϟ p.
29	32	24.4	92	87	10	6	3.6	d² ψ ϟ p.
30	31.9	23.8	91	91	5	8	8.6	d p ψ ϖ ⌈ϟ p.
Mean	32.1	24.5	92.4	84	9.3	8.2	------	
Total	------	------	------	------	------	------	93	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	23.1	91	92	7	10	3	⊤ a. ● ⌈ϟ p.
2	32.8	23.6	91	66	4	2	------	ϟ ψ° p.
3	34.9	23.2	91	66	10	2	15	⌈ϟ ●° ↙ p.
4	32.5	23.7	93	------	10	4	------	
5	32	23.7	92	88	1	10	9.9	● ⌈ϟ p.
6	32.8	23.7	93	67	10	6	7.6	● ⌈ϟ p.
7	32.7	24.2	95	65	10	9	------	
8	32.3	23.8	91	88	10	10	6.9	⊤ ● p.
9	31.9	24.1	96	78	10	10	4.6	d° ● ⌈ϟ p.
10	32	25	92	73	6	2	4.8	Ω a. ⌈ϟ ● p.
11	32	23.9	88	71	8	10	2	● ϟ p.
12	32.5	23.7	88	72	10	10	23.1	⌈ϟ ● p.
13	28.3	23.2	93	85	10	10	5.3	● ⊤ a. ● p.
14	30.1	22.8	96	78	8	10	4.8	●° a. ● p.
15	28.9	24.2	92	81	10	10	36.8	⌈ϟ ● a.
16	31	23	90	78	2	10	4.1	● p.
17	27.4	23.2	95	84	10	10	.8	● p.
18	30.9	23.3	91	90	10	10	40.9	⌈ϟ ● a. ● p.
19	28	22.4	97	85	10	10	.5	● a.
20	29.3	22.8	92	79	10	10	7.6	↙° ● d a. ●° p.
21	28.5	22.7	92	80	10	10	22.4	● d a. ● p.
22	29.1	22.7	96	84	10	10	.8	ϟ ●° p.
23	28.9	23.6	91	83	10	10	------	
24	31.4	22.8	90	75	10	10	------	d° p.
25	32	23.5	91	83	10	10	48.5	● ⌈ϟ p.
26	30	23	94	75	10	8	------	
27	32	23.4	87	75	10	8	2.3	⌈ϟ ●° p.
28	31.4	23.4	92	89	10	10	21.8	● ⌈ϟ p.
29	30.1	23.5	96	81	10	10	.5	● p.
30	28.7	24	92	85	10	8	3.8	●° a. ●° ⌈ϟ p.
Mean	30.9	23.4	92.3	79.2	8.9	8.6	------	
Total	------	------	------	------	------	------	277.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.3	24.1	91	57	6	4	------	ϟ² p.
2	35.9	23.6	90	42	4	4	------	⊤° ψ° ϟ² p.
3	33.8	25.5	91	66	9	8	------	d ⌒ a. ϟ² p.
4	35.1	25.3	89	48	6	6	------	ϖ ψ° p.
5	35.4	24.8	90	53	9	10	------	d ⊤ ϟ² p.
6	35.8	24.1	93	58	8	6	------	ϟ² p.
7	34.4	24.6	88	62	10	7	------	○² ϟ² p.
8	35	24.6	91	51	9	8	------	ϟ² p.
9	34.4	24.3	90	58	4	9	------	○° ϟ² p.
10	35.1	24.1	83	66	4	9	------	⌈ϟ² p.
11	35.4	24.8	85	58	10	8	------	ϟ° p.
12	34.4	23.8	90	62	5	9	------	ϟ² p.
13	30.2	25.2	86	86	10	10	10.9	⌒ ● a. ●² ϟ² p.
14	32.7	23.7	95	70	10	9	------	○² ⌈ϟ² p.
15	31.8	24.5	91	79	9	10	------	⌈ϟ d a. ϟ² p.
16	32.6	24.1	92	65	9	9	1.5	⌈ϟ ●° p.
17	31	23.9	92	66	10	10	------	⊤ p.
18	35	23.2	90	57	7	9	------	ϟ p.
19	31.1	24.4	83	63	10	10	------	⊤ a. ϟ² p.
20	34.1	24	87	58	4	9	------	⌈ϟ² p.
21	33.5	24.3	84	53	10	10	------	ϟ² p.
22	32	25.4	84	76	10	10	------	⊤² a. d ϟ° p.
23	35.1	24.9	89	50	10	8	15.2	⌈ϟ² ●² p.
24	32.6	23.6	95	73	10	9	2.5	●° ⌈ϟ° p.
25	31.2	22.4	94	70	9	9	18	○° ●° a. ⌈ϟ ●² p.
26	30.5	23.7	96	91	8	10	7.1	●° p.
27	31.5	22.4	95	74	9	9	------	○² ϟ² p.
28	32.6	22.8	92	66	8	8	------	ϟ² p.
29	31.5	24.4	93	70	9	9	------	ϖ² ⌈ϟ p.
30	32.7	23.9	94	69	6	8	6.1	d ⌈ϟ² ●° p.
Mean	33.4	24.1	90.1	63.9	8.1	8.5	------	
Total	------	------	------	------	------	------	61.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	22.3	97	67	4	4	1.5	Ω ≡ a. ϟ p.
2	31.8	23.6	91	74	6	8	22.4	● ≡ a. ⌈ϟ ● p.
3	31.1	24.1	96	81	9	9	5.8	⌈ϟ ● a. ↙ ● p.
4	31.5	26.1	84?	68	6	7	1.8	↙ a. ● ϟ p.
5	30.8	25.5	96	68	10	10	14.5	● a. ↙ ● ϟ p.
6	31.7	24.7	95	72	6	5	2.5	↙ ● a. ϟ p.
7	31.5	24.2	96	72	8	6	5.3	≡ a. ● a. p.
8	30.2	24.8	96	80	9	10	2	↙ ● a.
9	30.6	22.2	95	72	4	6	------	Ω a.
10	31.5	23	92	70	2	2	------	Ω a.
11	32	23.2	93	71	3	5	------	Ω a. ⌒ p.
12	31.7	23.2	95	73	4	10	18.8	Ω ≡ ○ a. ● p.
13	31.1	22.6	96	71	10	5	.5	⌈ϟ ● ≡ ○² a.
14	31.8	23.2	96	73	6	8	------	Ω ≡ ○ a. ●° ϟ
15	31.5	24.3	94	67	8	9	.8	Ω ≡ a. ϟ p.
16	30.9	22.6	94	77	4	6	13.5	Ω ≡ ○ a. ● p.
17	31.6	23.8	96	65	10	10	16.8	Ω ≡ ● a. ⌈ϟ ●²
18	32	22.8	95	65	9	10	------	≡ ○° a. ϟ p.
19	30.3	23.5	96	85	10	10	.8	↙ ● a. ϟ p.
20	33.1	22.2	93	60	4	8	------	Ω ≡ a. ○ ⌈ϟ p.
21	32.9	23.6	95	68	10	10	23.6	Ω ≡ ○² a. ⌈ϟ ●
22	32.2	22.3	95	77	6	5	------	Ω ≡ ○ a. ⌈ϟ p.
23	31.6	23.6	92	67	4	5	16	Ω ≡ ⊕ a. ● ϟ p.
24	31.2	23.4	96	72	6	5	2.8	Ω ≡ a. ψ ● ϟ p.
25	31	23.9	97	72	10	8	------	⊤ ● a. ψ ⊤ p.
26	31.8	23.4	95	81	8	7	9.4	≡ a. ⌈ϟ ● p.
27	30.9	22.7	96	70	3	10	1.8?	Ω ≡ a. ↙ ● ψ ⊤
28	30.2	22.9	96	77	9	8	16.5	≡ a. ↙ ● ⊤ ψ²
29	30.7	22.7	96	74	10	6	2	● ○ a.
30	31.2	23	93	72	5	6	3.8	Ω ≡ a.
Mean	31.4	23.4	94.6	72	6.8	7.3	------	
Total	------	------	------	------	------	------	182.9	

METEOROLOGICAL DATA, ETC.—Continued.

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.2	25.5	90	------	0	0	------	
2	35.2	26.6	95	------	7	6	------	
3	34.6	26.5	98	------	8	8	------	
4	35	26.6	89	------	8	7	5.6	
5	33.6	26.4	97	------	9	10	6.1	
6	34.2	26	95	------	9	9	------	
7	34.8	26.5	94	------	8	9	------	
8	33.5	26.5	94	------	9	9	------	
9	34.2	26.4	97	------	8	8	------	
10	35.8	25.8	93	------	8	6	------	
11	34.6	26.2	94	------	7	8	------	
12	34.2	25.2	99	------	7	8	------	
13	34.2	26.6	90	------	8	9	------	
14	35.6	25.6	92	------	8	8	------	
15	------	26	93	------	9	------	.5	
16	30.2	25.5	97	------	7	8	4.6	
17	30.5	25.2	94	------	10	10	------	
18	31	25.4	92	------	8	9	------	
19	30.4	26.4	89	------	9	10	------	
20	31	26.4	92	------	9	10	------	
21	30	25.4	97	------	10	10	------	
22	31	26	93	------	10	10	25.4	
23	29.2	24.2	92	------	10	9	------	
24	33.6	26	92	------	8	8	------	
25	34.4	26.2	95	------	8	8	------	
26	31.4	25.6	96	------	8	7	------	
27	31.4	25.6	97	------	4	7	8.6	
28	34.8	26.2	96	------	9	8	------	
29	34.5	25.2	97	------	9	8	------	
30	34.5	26	98	------	7	7	------	
Mean	33.2	25.9	94.2	------	8	8.1	------	
Total	------	------	------	------	------	------	50.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.9	24.7	91	60	6	0	------	↯ ⊍° p.
2	34.1	26	82	65	1	1	8.1	↯² ● ϖ p.
3	32.3	26.7	79	71	8	7	------	Ω ↙° a. ↯ ⌒° d°
4	33	27.2	78	64	10	8	------	↙° a. p.
5	33.4	27.1	83	62	7	3	9.4	↙° a. ↯ ● d p.
6	33.5	25.7	80	70	10	9	------	↙° a. d° ⊤° p.
7	33.7	26.3	85	64	7	4	------	d° a. ⋖ p.
8	33.7	26.4	80	64	10	8	24.9	⋖ ●² p.
9	32.7	24.1	95	69	9	7	------	d° a. ⋖ p.
10	33.2	24.5	96	70	2	4	12.2	Ω a. ● ↯ p.
11	33	23.7	97	66	7	3	------	⋖ p.
12	33.7	25.4	88	72	7	9	2.3	⊤° a. p. d° ● ⋖²
13	28.7	23	96	84	10	10	1	↯² d° a. ◯ a. p.
14	32.3	24.7	83	84	10	10	.8	Ω° p° a. ●° ⋖² p.
15	32	24.5	94	90	10	10	21.3	Ω ⊤ p° ◯ ●² ↯
16	32.3	23.2	91	69	3	10	2	Ω° a. ↯° p.
17	31.2	24.4	94	69	10	9	.5	●° ⊤° a. ↙° ⋖° p.
18	32.2	26.1	82	63	4	8	.3	↙° a. p. ⋖° d° p.
19	31.3	25	82	64	9	10	14.2	↙° ◯ a. p. ● ⋖ ⊤°
20	30.2	23.7	90	76	10	10	1	↙° ●° a. p. ⋖° p.
21	30.1	25.3	83	70	10	10	.8	d° ↙° ●° a. p. ⋖°
22	30	24.7	84	70	10	10	2	d° ◯² a. p. ●° p.
23	28.3	24.2	94	77	10	10	3.8	d° ●° a. p. ⋖° p.
24	32.1	23.1	96	71	8	7	16.5	Ω a. ↯² ● p.
25	31.6	24.5	95	72	10	9	5.6	●° ↯° a. p. ⊍° ϖ
26	28.7	24	95	91	10	10	26.7	● ⊤ a. ⋖ ⊍° p.
27	32	23.4	96	66	3	7	------	Ω a. p. ⊍² ϖ° ⋖²
28	31	24	95	74	7	9	------	Ω a. p. ⊍² ϖ° ⋖²
29	32.2	23.9	96	71	5	9	4.6	Ω ● a. ⋖° ϖ° p.
30	32.1	25	95	66	10	10	18.4	Ω ↯ ⊍² ϖ d ●²
Mean	32	24.8	89.2	70.8	7.8	7.7	------	
Total	------	------	------	------	------	------	176.4	

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	31.7	23.4	85	70	4	6	------	
2	31.7	23.8	93	70	4	9	22.4	
3	30.1	24.2	98	88	10	10	------	
4	32.3	23.1	95	71	7	6	.3	
5	32.4	24.7	94	76	5	7	1.5	
6	32.7	25.1	93	68	9	8	5.8	⊤ a.
7	31.7	24.4	98	76	8	7	.8	
8	32.1	26	94	75	6	9	.3	
9	33	24	93	66	7	8	------	
10	33.7	25.1	95	65	4	5	------	
11	32	23.7	93	65	3	7	------	
12	31.7	24.2	92	69	4	8	------	
13	30.6	23.8	94	85	9	10	6.6	↯ a.
14	31.9	23.7	94	69	5	9	.3	
15	32.1	24.6	90	79	9	8	1.5	
16	31.6	23.3	97	87	9	10	------	
17	31.1	23.7	88	77	9	10	.5	
18	31.8	24.4	93	68	9	9	1.8	
19	32.2	24.6	92	79	10	9	------	
20	30.4	24.3	89	69	8	7	.3	
21	32.1	24.1	93	73	8	9	------	
22	31.4	23.6	85	69	8	8	------	
23	32.1	23.3	94	68	9	8	------	
24	33	24.3	96	71	9	7	9.1	
25	31.1	24.4	90	83	7	6	5.6	
26	33.7	24.3	98	72	10	7	23.9	
27	32.7	23	96	85	8	8	------	
28	31.6	23.4	96	78	9	9	------	
29	30.6	23.7	97	85	9	7	1.5	
30	31.9	23.6	96	72	7	5	------	
Mean	31.9	24.1	93.4	74.3	7.4	7.9	------	
Total	------	------	------	------	------	------	82.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	25.8	80	70	6	5	2.5	● p.
2	32	26	82	68	5	4	24.9	●² ↯ p.
3	30.6	25.6	88	85	10	10	20.3	● d a. ●² ⊤ p.
4	32	25.2	84	69	8	8	------	
5	31.1	26	88	77	10	10	48.5	● a. ↙ ● ⊍ p.
6	31.6	26	88	71	10	6	------	● d a.
7	31.5	25	87	71	8	8	------	
8	31.5	26	86	73	6	10	------	
9	31.4	26	98	67	7	6	------	
10	32.5	25	90	66	5	5	------	
11	32.2	25	86	69	8	8	------	
12	31.6	25	87	72	8	6	7.6	d ⊤ p.
13	30.8	23.2	86	75	10	8	3.8	↯ ● a.
14	31.9	24.8	89	67	6	5	------	
15	31.8	24	89	77	8	10	6.6	● d p.
16	31.9	23.1	88	77	8	10	------	d a.
17	31.9	23	88	71	10	10	------	
18	31.8	23.2	87	76	8	10	4.6	● a.
19	30.8	24	88	72	10	10	------	
20	30.9	23.6	84	73	10	10	------	
21	30.9	24	81	65	10	10	2.5	d ● p.
22	30.8	25	86	76	10	10	3.3	d a. ●° ⊤ p.
23	29	23.2	90	80	10	10	4.6	● p.
24	31.1	24	89	72	10	6	17.5	⌒ a. ● p.
25	31.1	24.4	90	72	10	6	2	● a.
26	31.8	24.8	90	73	8	8	22.4	●² p.
27	31.6	24	88	72	6	10	------	⊤ p.
28	31.2	23.2	85	70	10	5	------	⊤ p.
29	29.8	23	89	76	10	10	------	
30	31.3	23.2	88	69	6	4	3.8	
Mean	31.4	24.5	87.3	72.4	8.4	7.9	------	
Total	------	------	------	------	------	------	174.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	24.6	84	60	1	6	------	
2	31.6	26.2	84	63	1	5	------	
3	31.8	24.8	95	60	8	6	2.5	
4	32	25.6	84	78	1	7	10.2	
5	31.6	25	83	78	1	8	------	
6	32	24.4	87	60	10	3	------	
7	32.6	23.4	84	59	6	6	------	
8	32.4	25.2	84	60	6	8	------	
9	31.6	26.4	81	75	1	7	------	
10	32	25.6	80	59	2	8	------	
11	30.4	26.2	84	66	2	8	2.5	
12	31.6	27	79	67	2	5	.8	
13	30.4	26.4	84	71	10	10	19	
14	29	23.2	91	77	10	10	10.2	☇ a.
15	30	24.4	84	74	6	9	------	
16	30	23.4	84	88	3	9	6.4	
17	30	22.8	91	74	10	8	1.3	
18	29.4	23.6	87	84	10	8	11.4	
19	30	23.2	84	71	1	3	10.2	
20	30.8	24	84	65	1	4	------	
21	29.6	25.2	84	84	6	8	20.3	
22	30.6	24.6	84	67	7	6	6.4	☈ p.
23	29.8	23	77	68	1	3	2.5	
24	29.8	24	87	71	9	6	7.6	
25	30.8	25.2	84	68	5	6	.8	
26	30	25.8	84	71	1	2	6.4	
27	29.2	24	97	79	10	10	8.4	☈ a.
28	30	25.4	89	83	6	9	5.1	
29	30.6	25.2	86	68	10	8	------	
30	31	24.8	84	63	6	4	2.5	
Mean	30.8	24.8	85.1	70.4	5.1	6.7	------	
Total	------	------	------	------	------	------	134.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	23.4	94	63	8	4	3.8	p a. ●° p.
2	32.3	24	93	66	5	3	2.5	● p.
3	32.6	25.2	86	68	10	7	29	☈ ●² p.
4	32.5	25.4	93	63	10	8	------	d a.
5	32.7	23.2	92	60	9	10	59.9	●² ☇ p.
6	32.2	24.5	92	66	10	8	10.7	
7	32.5	24.6	95	70	6	3	6.9	d° a.
8	32.4	24.9	95	71	10	10	------	●² ⊤ a.
9	32.2	23.2	82	78	9	9	------	
10	33.3	24.2	84	66	10	3	10.2	● ☈ p.
11	33.5	24.8	94	56	10	4	66.8	●² ☈ p.
12	32.1	22.4	93	70	7	10	1.8	●² ☈ a. ☈ d p.
13	31.8	24	92	59	10	10	------	
14	32.7	24.3	86	63	10	9	------	d a.
15	32.2	24.3	92	72	10	9	3.8	☈ ● p.
16	30	22.5	89	76	7	10	------	⊤° p.
17	31.9	22.3	90	73	10	10	------	⊤ p.
18	32.2	23	90	58	5	10	------	
19	32.1	24.5	80	62	10	10	------	d p.
20	28	24.3	88	86	10	10	2.3	d ↙ ● a. d p.
21	29.8	24	92	68	10	10	.8	d a. p.
22	29.7	23.5	89	78	10	10	5.1	● p.
23	29	24	89	76	10	10	------	d a.
24	32.5	22.6	89?	61	10	8	------	
25	32.3	24.5	93	69	10	9	1	
26	31.5	23.6	96	79	10	10	------	p a.
27	32.3	23.6	93	80	9	10	------	⊤ ●° p.
28	32.2	23.8	93	69	9	9	2.3	☈ p.
29	32.5	23.2	92	69	9	9	16	
30	32	23.7	95	70	10	7	29.7	d a.
Mean	31.9	23.8	90.7	68.8	9.1	8.3	------	
Total	------	------	------	------	------	------	252.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	23.1	97	82	1	3	------	
2	32.8	23.4	98	75	3	3	------	d ⌒ a. ☈ p.
3	31.1	26	84	93	9	10	15.7	⊤ ↙ ● ☇ ϖ ∪
4	32.7	23.6	89	------	8	5	1	
5	32.2	23.6	98	76	7	6	3.6	● d ⌒ a.
6	30.3	23.4	96	84	9	8	1.8	● a.
7	32.7	23.4	99	74	5	8	------	☇ p.
8	31.9	23.9	98	------	9	9	------	☇ p.
9	31.7	23.4	98	------	7	8	------	☇ p.
10	32	23.5	92	72	4	4	------	☇ p.
11	32.9	23.6	96	76	3	9	------	d ☇ p.
12	32.5	23.5	94	84	5	8	16	≡ a. ☇ p.
13	31.2	24	97	88	9	9	4.8	☈ ● ⌒ a. ● d
14	32	23.7	97	87	4	8	5.6	☇ d p.
15	31.3	24	98	94	10	9	2	≡ a. ● ☇ p.
16	31.5	24	98	95	9	8	10.2	☇ ⊤ a. ● p.
17	32.1	23	98	72	9	9	------	☈ p.
18	31.7	23.6	98	85	6	10	.3	⊤ a. ●° p.
19	31.4	23.9	97	75	9	9	5.1	↙ ● ⊤ d a. d° ☇
20	30.7	25.5	96	77	9	9.	------	●° a. ☇ p.
21	32	25.4	96	74	10	10	.3	☈° p.
22	31	25.2	96	78	10	9	.5	↙ ●° a.
23	32	24	97	72	10	8	3.6	● a. ☇ p.
24	32.7	24.2	98	75	9	8	.3	● a. ⌒ ☇ ●° p.
25	33.4	23.6	99	71	8	8	20.3	⊕ ○ a. ☇ ϖ ∪ p.
26	32.7	23.5	97	69	9	8	38.6	↙ ●² ☈ a. p.
27	31.9	23.4	99	72	8	7	3.8	☇ ● p.
28	31.9	23.9	98	------	8	5	10.2	● a. ↙ ● ☇ ϖ ∪
29	30.6	23.4	94	84	10	8	14	● a. ☇ ϖ ∪ p.
30	32.4	23.2	98	93	4	9	3.6	⊤ a. ↙ ● ∞ ☇ p.
Mean	31.9	23.9	96.3	79.9	7.4	7.7	------	
Total	------	------	------	------	------	------	161.3	

NUEVA CACERES.

[$\phi=13° 37' N; \lambda=123° 11' E$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34	20	96	64	3	7	------	
2	33.7	21.5	96	60	3	6	------	
3	31.5	23	97	81	5	8	1.5	●° a. ⊤ p.
4	33.3	22.5	97	53	8	7	------	
5	32	21.6	95	79	6	8	3.3	●° p.
6	33.7	23.8	93	62	9	8	------	
7	34.2	21.8	97	62	3	7	------	
8	33.4	23	95	75	8	8	------	
9	35.7	22.6	98	59	8	7	------	
10	35.7	23.7	95	68	2	7	19.3	●² ☈ p.
11	33.2	21.9	97	89	3	8	19.6	●² p.
12	32.2	22.6	98	70	6	8	.8	●° ☈ p.
13	31.1	------	97	------	8	------	24.6	●° a. ●² p.
14	33.5	22.8	97	------	9	9	------	
15	31.9	23.3	97	78	8	8	------	p° a.
16	30.9	22	97	97	7	10	64.8	●² a. p.
17	29.6	21.6	99	82	8	9	------	
18	32.2	23.4	96	69	8	8	14	d ⌒ a. ●° p.
19	30.5	22.8	95	77	10	9	13.5	⊤ a. ● a. p.
20	30.5	22.6	93	75	8	9	1.5	●° a. p.
21	30.4	24.2	95	75	10	9	4.8	●° p.
22	29.9	22.3	97	79	9	8	2	●° p.
23	33	23.1	97	67	8	8	------	
24	32	22	97	89	8	10	1.8	●° ⊤° p.
25	33	23.5	97	------	8	8	13.2	●° p.
26	33	23.4	97	71	8	8	------	
27	33.3	23	97	68	7	6	------	
28	33.9	23.6	97	80	8	8	------	●° ⊤° p.
29	32.7	22	97	70	8	8	------	
30	33.8	21.5	96	76	7	7	------	⊤° p.
Mean	32.6	22.6	96.4	73.1	7	8	------	
Total	------	------	------	------	------	------	184.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.8	22.4	96	51	6	6	------	
2	35.3	22.5	96	47	2	3	------	
3	35.1	24.6	85	55	6	6	------	⛈ p.
4	35	24.4	86	49	7	6	------	⊤ a.
5	35.3	22.3	95	49	4	6	------	↯ p.
6	35.8	24.6	86	51	6	5	------	
7	36.3	24	89	49	4	4	------	
8	33.4	23.9	89	59	6	7	------	
9	34.8	22.4	93	62	4	7	------	↯° p.
10	35.3	23.4	93	52	4	4	------	⊤ a.
11	36.2	23.1	92	51	5	6	------	⊤ a. ↯° p.
12	33	23.2	98	66	5	9	------	⊤ p.
13	34.1	22.4	96	63	6	7	0.5	⊤ ●° a. ○ p.
14	37.3	22.3	93	48	6	6	.8	
15	34.6	23.5	93	63	9	9	------	d a. ⊤ p.
16	32.5	22.4	95	80	6	9	2	⌒ a. d p.
17	34	22	97	65	7	7	------	
18	32.8	22.3	95	59	6	6	10.7	↙ ● p.
19	32.9	22.5	92	61	7	7	------	
20	29.8	22	90	85	9	9	14	↙ ● a. p.
21	31.3	21.8	97	65	9	7	------	
22	30.2	21.6	95	74	7	8	3.6	d a. ● p.
23	30.4	21.7	95	69	9	10	.8	
24	32.6	21.9	97	72	7	7	2	● a.p. ⊤ p.
25	33.8	22.3	97	77	7	7	13.5	d a. ⊤ ● p.
26	32	22.4	97	76	7	9	22.1	●² ●° p.
27	33.5	23.2	97	60	7	8	------	⊤ p.
28	34.1	23.4	96	64	4	7	.3	
29	33.4	23	93	58	7	7	------	d a.
30	32.4	22.5	93	75	5	7	.3	●° a. ⊤ p.
Mean	33.7	22.8	93.4	61.8	6.1	6.9	------	
Total	------	------	------	------	------	------	70.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.7	21.7	98	63	5	8	------	↙° a. ⛈ p.
2	30.4	21.4	98	62	8	6	------	
3	30.2	21.4	98	62	3	3	------	
4	30	22	98	62	8	8	------	↙° a.p. ↯ p.
5	30	21.6	98	62	4	5	------	↙° a. p. ↯ p.
6	30	20.6	98	62	3	7	------	↯ ↙° p.
7	30	20.9	98	61	7	6	------	↙° a.
8	29.6	20.6	98	62	3	8	------	⊤° p.
9	29.9	21.8	98	61	5	8	------	⛈ p.
10	29.2	21.5	98	63	6	8	------	↙° a. p. ↯ p.
11	30	21	99	60	5	5	------	↙° p.
12	29.6	20.6	98	61	3	9	------	↙° ⊤° p.
13	29	20.8	98	62	7	8	10.4	↙° a. p. ● ⛈ p.
14	28.6	21	98	64	5	9	2	↙° a. ● ⊤ p.
15	28.4	20.5	98	64	7	7	18.3	● ⊤² p.
16	28	20.6	98	68	7	8	4.1	↙° a. ⊤° ● p.
17	28.2	20.5	98	68	6	7	------	↙° p.
18	27	20.4	98	74	9	8	20.8	↙° ●² a. ↙° d p.
19	27.3	20.5	98	74	5	7	------	↙° a. ⊤° p.
20	27	20.6	98	75	9	9	13	↙° ● a. d p.
21	26.8	20.9	98	74	10	9	4.1	d a. ● p.
22	27.1	20.8	98	73	10	8	11.2	d a. ● p.
23	26.8	20.1	98	74	9	8	22.4	d a. ↙° ● ⛈ p.
24	27.7	21	98	69	7	8	------	↙° a. d p.
25	28.5	21.5	98	68	7	8	------	↙° a. d ⊤° p.
26	28.8	21.8	98	66	6	9	------	≡ a. d ⊤° p.
27	30	21.8	98	62	9	9	------	Ω d a. ⛈ p.
28	30.8	22	98	58	5	7	------	↙° p.
29	27.6	20.3	98	68	9	9	27 9	Ω a. ●² p.
30	29.2	21	97	65	4	8	5.3	↙° a. ● ⊤ p.
Mean	28.9	21	98	65.6	6.4	7.6	------	
Total	------	------	------	------	------	------	139.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.6	22.1	97	62	3	6	2.3	● a. ⌒ p.
2	30.7	23.2	91	75	8	4	1	● a. ⌒ p.
3	30.8	23	92	65	10	10	2.3	● p.
4	30.8	23	96	62	8	6	5.1	⌒ ● p.
5	30.8	23.2	97	72	9	4	6.9	● p.
6	31.9	22.8	97	62	3	4	------	
7	31.8	22.5	94	69	10	10	------	⌒ p.
8	33.8	20.3	99	56	10	6	------	⌒ p.
9	33	23.2	96	72	9	8	------	
10	31.9	20.4	97	55	3	6	------	
11	30.4	20.9	93	81	5	9	------	⌒ a. p.
12	30.4	19.4	99	69	9	6	14.7	● p.
13	31	22.1	95	72	8	10	2.5	● p.
14	32.3	21.4	97	68	9	8	17.8	● p.
15	28.3	19.4	98	86	8	7	------	
16	31	20.4	97	64	10	8	------	⌒ p.
17	28.9	21.3	94	78	5	8	------	
18	29.8	22.2	91	66	9	10	6.4	● p.
19	26.5	21.3	93	85	10	10	1	● p.
20	28.3	20.4	96	75	10	9	------	⌒ a.
21	27.7	21.7	95	78	10	6	1.3	● p.
22	30.5	20.6	90	84	10	8	------	⌒ a.
23	31	20.2	93	69	10	3	------	
24	30.6	21.4	97	71	6	6	------	
25	31.7	20.6	98	75	10	8	------	
26	31.8	21.7	98	66	7	8	------	
27	33.6	20.5	99	56	10	10	------	
28	31.8	19.6	93	62	10	6	------	
29	31.6	20.9	96	71	10	9	4.1	⌒ a. ● p.
30	32	21.4	98	63	8	6	13.2	● p.
Mean	30.9	21.4	95.5	69.6	8.2	7.3	------	
Total	------	------	------	------	------	------	78.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	35.8	22.8	95	51	0	4	------	Ω ≡° a. ◡ ⊖ p.
2	35.1	23.2	95	54	0	4	------	Ω ≡° a.
3	35.5	23.2	92	46	0	0	------	Ω a. ↙° a. p.
4	35.2	24	92	52	10	8	------	
5	35.8	21.2	90	49	4	4	------	Ω a. ↯° p.
6	35.4	23.2	90	56	1	7	0.5	Ω a. ●° ⛈° p.
7	37.1	23.2	92	47	0	5	------	Ω a. ↯° p.
8	36.5	25.1	93	49	0	7	------	Ω ≡° a. ○° ↙° p.
9	37.8	23.8	92	43	7	6	32.5	↙ ● ⛈² p.
10	36.3	24	94	54	10	2	.3	↙° ⛈ ● p.
11	36	24.1	93	51	0	2	------	≡° a.
12	36.2	23.8	93	63	3	8	------	Ω a.
13	36	24	94	59	7	10	.3	⊤° ↯ d° p.
14	33.8	23	94	69	4	9	------	⊤ ↯° p.
15	36.2	24.3	92	56	4	7	2.5	Ω ≡° a. ⛈ ↙° ●
16	34.5	22.6	94	55	10	4	1.5	⛈ ↙ ● d° p.
17	34.1	22.6	97	63	10	8	2.3	≡² a. ⛈ ↙° ● p.
18	32.6	22.6	96	73	9	9	1.5	⛈ ↙° p.
19	32.4	23.1	96	64	10	10	1.8	●° a. ↙ ● ⌒° ↯°
20	32.6	23.2	97	67	5	10	8.1	≡ ↙° a. d² ↙ ●°
21	30.5	23.2	98	76	10	10	18.3	○ a. ↙° d° ● p.
22	29.8	22.2	98	78	10	10	.3	● d° a. ↙° ↯° p.
23	31.5	22.6	97	68	10	10	------	≡ a.
24	34.2	23	92	58	5	5	7.1	Ω ≡° a. ⛈² ↙° ●
25	35.3	23.1	95	54	4	7	.8	⛈ ↙ ● p.
26	33.8	24	96	61	10	9	------	↯° p.
27	34.5	23.8	97	65	2	8	------	Ω ≡° ⊤° a. ⛈ p.
28	34.6	22.8	97	59	4	7	.3	Ω ≡° a. ⛈ d° p.
29	34.9	22.9	97	55	10	6	------	↯° ◡² ⊖ p.
30	35.5	23.6	97	51	10	6	------	Ω ≡² a.
Mean	34.6	23.3	94.5	58.2	5.6	6.7	------	
Total	------	------	------	------	------	------	78.1	

METEOROLOGICAL DATA, ETC.—Continued.

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	23.5	15.6	86	87	3	10	6.4	≡ d p.
2	23.5	15	90	80	2	7	------	≡ p.
3	25.2	15.4	76	73	2	3	------	≡ p.
4	25.5	15.4	71	54	3	6	------	≡ p.
5	25.5	16.5	58	76	3	9	------	
6	25	16	78	85	3	9	19.8	≡ ● p.
7	24.3	16.2	80	83	2	7	1.3	≡ d p.
8	23.4	15.6	92	91	2	10	7.9	● p.
9	24	16.6	87	88	4	10	1.5	d p.
10	23.5	17.5	94	93	4	9	------	
11	24.5	17	92	80	3	10	------	≡ p.
12	24	16	88	80	3	7	2.5	≡ d p.
13	24.5	15.6	95	66	5	9	------	≡ p.
14	24.8	15.6	72	93	3	10	21.1	≡ ● p.
15	23.5	15.2	91	84	6	10	10.2	● ≡ p.
16	22.9	15	95	86	7	9	17.8	● p.
17	22	15.4	86	95	6	10	3	d p.
18	21.4	15	98	81	2	8	7.6	d p.
19	21.2	14.2	97	98	10	10	14	● a. d p.
20	21.6	15	98	81	5	9	6.6	≡ d p.
21	20.5	14	95	99	8	10	25.7	● p.
22	19	14	98	88	10	10	4.3	● a.
23	21.4	14.5	96	61	5	5	------	
24	22.6	14.2	57?	87	4	10	4.3	d p.
25	19	15	86	98	4	10	23.1	↙ ● p.
26	23.2	14.4	80	94	6	10	6.6	d p.
27	22	15.4	97	97	3	10	31.5	d ≡ ● p.
28	23.1	14	84	86	8	6	7.9	● p.
29	22.5	14	77	88	4	7	1	⊤ ● p.
30	21.5	15	87	97	2	10	20.3	● p.
Mean	23	15.3	86	85	4.4	8.7	------	
Total	------	------	------	------	------	------	244.4	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	34.8	24.2	91	56	2	4	------	Ω a. ⌒° p.
2	33.6	23.7	92	58	2	1	------	Ω a.
3	34.2	23.9	92	62	1	3	------	Ω a. ↯ p.
4	35.6	24.3	92	53	3	3	------	Ω a. ⊤° p.
5	34.7	22.9	89	56	2	3	------	Ω a. ↯° p.
6	34.6	24.4	92	62	2	1	------	Ω a. d° ⊤° p.
7	36.3	24.2	88	------	2	6	------	Ω a. ↯ p.
8	35.3	24.4	86	------	1	3	------	Ω a. d° ↯ p.
9	34.7	24.7	85	------	8	3	------	Ω a. ↯ p.
10	34.3	25.4	90	64	5	2	------	Ω a. ↯ p.
11	34.8	25.5	87	------	3	2	------	Ω a. d° ⊤° p.
12	36.4	25	83	50	1	3	------	Ω a. ↙° ↯² p.
13	34.4	25.8	82	57	3	4	4.1	Ω a. ● ☈° p.
14	35	23.5	92	59	2	2	18	Ω a. ●² ☈² p.
15	33.4	24.3	94	69	1	7	------	Ω² a. ⊤° ↯ p.
16	33.7	25.3	90	70	9	8	2.8	Ω a. ●° ☈° p.
17	33.4	23	93	73	7	6	------	Ω a. d° ↯² p.
18	32.7	24.3	84	65	3	6	14.2	Ω a. ↯° ●² p.
19	32	23.5	91	87	10	10	7.9	Ω ●² a. ●² ↙ p.
20	32.5	24	84	66	4	7	17.5	Ω d° ↙ a. ●² p.
21	31.9	23.3	86	83	9	10	9.7	Ω a. ●° p.
22	30.3	22.8	81	71	10	10	------	Ω ●² ↙ a.
23	32.1	24.4	81	65	6	5	5.6	Ω ⌒ᶜ a. ↙° ●² p.
24	32.8	21.7	96	62	2	2	------	Ω a. d° p.
25	33.2	22.9	91	------	1	3	------	Ω a. d° ⊤° ⌒° p.
26	34.1	24.5	93	64	6	4	------	Ω a. ⊤° ↯² p.
27	33.7	24.2	93	67	7	7	10.9	Ω a. ☈² ● p.
28	33.7	23.6	94	59	6	5	9.7	Ω a. ●² ☈² p.
29	32.7	23.5	91	67	6	3	------	Ω a. d° ⌒° p.
30	33.2	24.4	93	69	2	7	4.3	Ω a. ⊤ ● p.
Mean	33.8	24.1	89.2	64.6	4.2	4.7	------	
Total	------	------	------	------	------	------	104.7	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	36.2	20	96	54	1	3	1	Ω² ☈ d² ⌒° ↙° ⋃
2	35.5	20.1	97	56	1	3	------	Ω² a. ☈ p.
3	34.8	20.3	96	52	1	4	------	Ω² a. ↙° p.
4	34.5	19.3	92	50	5	9	------	Ω² ○² ⊕² ☈ ↙° ⋃
5	36.4	19	93	52	7	7	------	Ω² a. ○ ☈ ⌒² d
6	36.4	20.3	96	52	2	6	.5	Ω² a. ☈ d² p.
7	37	20.6	93	49	2	4	------	Ω² ○ a. ☈ ↙° p.
8	37.1	21.9	92	44	5	8	------	Ω° ○ a. ☈ ↙° p.
9	37.4	20.9	93	45	5	8	------	Ω° ○ a. ☈ ↙° p.
10	37.7	21.8	91	46	4	3	1	☈ a. p. ↙° d² p.
11	37.6	22.4	95	43	6	4	------	○ a. ☈ p.
12	37	20.2	92	48	4	4	------	Ω² a. ☈ ↙° ⌒ p.
13	35.2	21	91	47	2	7	------	Ω° a. ○ ☈ ↙° p.
14	36.9	19.8	91	45	3	2	------	Ω° a. ☈ ↙° p.
15	37.4	21.5	90	47	8	5	24.9	☈ ⌒ d² ↙° ●² p.
16	33.9	19.8	97	64	10	6	.5	≡ d° ⊕° a. ☈ ↙°
17	35.3	21.4	96	62	8	8	------	Ω² ○ a. ☈ p.
18	35.4	21.8	97	55	8	7	------	Ω° ○ a. ☈ ↙° p.
19	33.5	20.3	97	60	9	9	.3	Ω² ○² a. ☈ d° p.
20	35.6	20.8	96	56	9	9	------	○ a. p. ☈ ↙° d°
21	35.5	21.2	92	54	9	9	3.8	○² ↙° a. ☈ d² p.
22	31.4	20.6	97	59	10	10	.3	≡ d² ⊕° ☈ ↙° d°
23	35.7	21.5	80	47	8	4	------	⌒ a. ☈ d° p.
24	35.8	18.3	96	48	4	3	------	Ω² a. ☈ ⌒° ↙° p.
25	37.3	20.5	97	50	7	4	------	Ω² ○² a. ☈ ↙° p.
26	37.3	21.8	91	49	7	8	------	Ω° ≡ ☈ ○ a. ↙°
27	37.8	21.9	89	46	8	9	------	☈ d° p.
28	36.2	20.4	97	47	9	4	18.3	≡ ○ a. ☈ ↙° ●
29	36.7	19.4	97	56	9	8	5.8	≡ ○ ☈ ↙° d² ●°
30	35.9	20.1	97	54	2	8	------	○ ⊤° a. ☈ ○° p.
Mean	36	20.6	93.8	51.2	5.8	6.1	------	
Total	------	------	------	------	------	------	56.4	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature.		Relative humidity.		Cloudiness		Rain, 24 hrs. beginning 6 a. m.	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	25.7	85	64	2	4	------	≡ a. ↙ d ☈ p.
2	31.7	24.5	80	63	1	1	------	Ω ≡ a.
3	32.2	24.5	84	66	0	0	------	Ω² ≡ a. ↯ p.
4	32.6	26	82	68	6	5	------	Ω² ≡ a. ⊤° d p.
5	32.5	26.2	82	66	3	4	------	Ω ≡ a. ⊤° ↯ p.
6	32.8	26.6	83	69	3	2	------	Ω² ≡ ↙ ⌒° ☈° d
7	32.7	25.8	80	65	4	9	------	Ω ≡ a. ⊤° p.
8	33.1	25.7	80	61	1	3	3	Ω ≡ a. ●° ☈° ⌒°
9	32.4	25.6	80	63	9	4	------	⊤° ↯ p.
10	32.8	26.2	80	59	3	2	------	Ω² ≡ a. ⌒° ☈° d
11	32.9	27	80	60	9	1	1.5	Ω ≡ a. ●° ⌒° ☈°
12	32.9	25.9	84	58	3	2	------	Ω² ≡² a. ↙ d ☈°
13	32.9	25.9	80	63	1	7	45.2	Ω ≡ ↙ a. ●² ☈°
14	31.8	24.6	83	64	2	1	------	≡ ↙ a. ☈° d p.
15	31.2	24.5	80	65	0	2	------	Ω² ≡ a. d ⌒² ↯
16	31.2	25.4	81	67	9	10	42.7	●² ☈² p.
17	30.7	24	86	70	9	4	1.5	⊤° ●° ↯ p.
18	31.3	24.9	84	59	8	4	4.3	↙ a. p. ●° p.
19	31	25.4	81	70	10	9	1.8	d ↙° a. ↙° ●° p.
20	31.4	25.5	80	66	8	7	------	≡ a. ↙° a. p. d p.
21	31	25.7	82	81	6	10	4.8	↙° a. p. ●° p.
22	31.4	25.2	72	62	10	10	------	d a. ↙° a. p.
23	31.7	25.7	77	58	6	8	2.8	Ω a. ↙° ⊤° ●° p.
24	31.1	23.2	82	63	2	3	1.5	Ω ≡ a. ↯ ●° p.
25	31.4	24.4	81	70	1	4	19.3	Ω ≡ ↙ ☈² ●² ⌒°
26	31.4	25.4	84	69	5	4	------	≡ a. ☈ p.
27	31.1	26.1	86	72	8	9	12.4	Ω² ≡ a. ↙ ●² ☈²
28	31	25	86	70	9	6	48	≡ a. ●² ☈ p.
29	31.2	24.4	84	65	5	1	------	≡ a. ☈ p.
30	31.1	26.1	85	80	0	9	6.6	Ω² ≡² a. ● ☈² p.
Mean	31.8	25.4	81.8	65.9	4.8	4.8	------	
Total	------	------	------	------	------	------	195.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.4	24.4	92	68	0	9	1	≡ a. ⌈ϟ ● p.
2	33.7	23.7	91	57	0	3	------	
3	34.8	24.1	94	59	0	1	------	Ω ≡ a. ⌈ϟ d p.
4	34.3	25.5	94	65	0	1	------	Ω ≡ a ⊤ d ⌒
5	34.4	24.4	88	59	0	2	------	⊖ p.
6	34.8	24.8	90	61	1	1	------	≡ a. ⌈ϟ p.
7	34.5	24.6	88	61	1	3	------	≡ a.
8	34.4	25.3	93	61	0	0	------	Ω ≡ a. ⊤ p.
9	33.6	24.7	88	58	0	8	------	≡° a.
10	34.9	24.4	80	58	0	1	------	≡° a. ⌈ϟ p.
11	33.8	25	93	63	0	1	------	Ω ≡ a.
12	35.2	24.1	88	57	0	2	------	Ω ≡ a. ϟ p.
13	35.3	24.9	93	67	0	10	13	Ω ≡ a. ● ⌈ϟ p.
14	33.4	23	96	65	0	7	3.6	● p.
15	33.6	23.7	89	61	0	4	45.5	≡ a. ● ⌈ϟ p.
16	32.8	23.8	94	74	6	10	4.3	● ⌈ϟp.
17	31.6	23.4	96	72	4	7	5.1	≡ a. ⌈ϟ● p.
18	32.7	23.6	92	71	4	10	4.6	≡↙°a. ↙°●p.
19	32.7	24	91	61	2	8	3.6	≡ a. ↙° ⌒^{2} ● ϟ
20	33.8	23.6	91	60	8	8	.8	≡ a. ↙° d p.
21	32	24	87	97	6	10	33	d a. ↙ ● p.
22	33.2	23.3	91	62	10	6	4.8	↙ ● p.
23	32.5	24.1	92	71	9	10	5.1	⊤ ● p.
24	32.6	22	95	69	0	5	61.7	≡ a. ●^{2} ⌈ϟ p.
25	33.4	22.6	96	65	0	7	2.5	≡ a. ● ⌈ϟ p.
26	32.6	24	96	62	1	6	11.2	⌈ϟ ● p.
27	33.1	24.3	92	65	1	8	18.8	⌈ϟ ● p.
28	33.3	23.2	96	63	2	2	14.2	● p.
29	33.6	22	91	58	4	3	------	
30	32.6	24.6	91	81	0	10	2.8	Ω ≡ a. ⊤ ● p.
Mean	33.6	24	91.6	65	2	5.4	------	
Total	------	------	------	------	------	------	235.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31	25.6	90	77	8	3	------	≡ p.
2	30.4	25.5	87	75	2	3	------	↙° a. p.
3	31.4	25.7	89	78	1	4	------	↙° a. p. ≡ p.
4	32.1	27	84	72	1	2	------	↙° a. ↙ ≡ p.
5	33	27.7	82	72	6	3	------	↙° a. p. Ω p.
6	32	27	83	72	4	4	------	↙° a. p.
7	33.6	27.8	85	70	9	5	------	↙° a. Ω^2 p.
8	32	24.4	94	72	0	1	------	Ω^2 ↙° a.p.
9	31.9	24.7	87	73	1	6	------	Ω^2↙°a. ↙≡d°
10	31.8	27.4	82	75	2	2	------	↙°a. ≡↙ ϟp.
11	32.2	23.8	93	75	4	1	------	↙° a. p.
12	33.1	25.3	82	68	2	3	------	↙° ϟ° p.
13	33.3	27.1	82	67	7	1	------	p° a. ↙° ϟ° p.
14	32.8	27	84	69	6	2	------	↙°a. p. ≡Ωp.
15	33.3	25.5	90	71	1	4	------	↙° a. p. ϟ p.
16	32.7	27.8	82	68	5	8	------	↙° a. p. Ω p.
17	32.4	25.8	91	69	9	3	------	Ω a. p. ↙ p° p.
18	31.3	26.1	86	71	7	3	2.5	⌒^{2} ↙ d a. ≡^{2} d°
19	31.7	26.1	91	71	10	4	2.2	d a. ↙° a. p.
20	33.5	26.4	89	70	5	4	------	↙°a. p. p° ϟ^2 p.
21	28.3	25.4	90	87	10	10	9.4	d° a. ↙ ● p.
22	31.6	23.8	89	72	5	7	3.5	⌒↙°a. ↙°≡^{2}●°
23	32.2	24.6	78	68	4	0	.3	↙° a. p. Ω p.
24	32.4	26.5	83	66	2	3	------	d°⌒° v a. p°Ω^2
25	32.8	24.5	90	69	2	3	.4	Ω a. ≡ d° p.
26	32.5	24.8	89	71	4	3	------	Ω^2↙°a. ↙° ϟp.
27	31.9	26.9	87	72	4	9	------	↙° a. p. ϟ^2 p.
28	31.9	27.7	85	71	7	3	------	↙°a. p. ⌈ϟp°p.
29	32.3	25.7	83	69	5	5	------	↙°a. p. ≡ϟ°p.
30	32.6	25	91	67	5	3	------	Ω^2↙°a. p. ⊍°p.
Mean	32.1	26	86.6	71.6	4.6	3.7	------	
Total	------	------	------	------	------	------	18.3	

SEISMOLOGICAL BULLETIN FOR JUNE, 1909.

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

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

8, 12^h 55^m. **Surigao** (NE of Mindanao). Oscillatory earthquake. Direction ESE–WNW; intensity II; duration very short.

20, 6^h 44^m. **Butuan** (N of Mindanao). Earthquake shocks, intensity II.

28, — —. **Butuan** (N of Mindanao). During the preceding night very slight shocks have been felt in the direction NW–SE; the hour has not been ascertained.

EARTHQUAKES FELT IN GUAM.

5, 5^h 40^m. Earthquake of intensity IV.

22, 24^h (approximately). Earthquake of force III. It is reasonably certain that this earthquake was responsible for the microseismic perturbation No. 126, which was registered likewise in Zikawei and Osaka. The origin of the quake was probably in the Pacific Ocean, some 3,000 kilometers northeast of Manila.

[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. s.*		
117	1	NNW-SSE	17 49 26	--------	--------	--------	-----	-----	17 55	V. M.	
		WSW-ENE	17 49 26	--------	--------	--------	-----	-----	17 55	V. M.	
118	4	NNW-SSE	2 46 17	2 50 28	2 53 55	3 00 14	0.14	12.8	5 03	V. M.	Earthquake in Sumatra.
		NNW-SSE	2 46 22	2 50 28	2 53 59	2 54 37	4.13	9.9	5 02	H. P.	
		WSW-ENE	2 46 19	2 50 25	2 54 09	2 59 52	.12	12.8	4 59	V. M.	
		WSW-ENE	2 46 20	2 50 22	2 54 02	2 55 22	3.87	10.5	5 02	H. P.	
119	5	NNW-SSE	--------	--------	12 11 48	12 11 49	.04	2.4	12 14	V. M.	Vertical Component 0.02 mm.
		WSW-ENE	--------	--------	12 11 48	12 12 00	.04	2.4	12 14	V. M.	
120	5	NNW-SSE	18 47 19	--------	18 47 51	18 47 58	.05	2.6	18 52	V. M.	V. C. 0.01 mm.
		WSW-ENE	18 47 21	--------	18 47 50	18 48 13	.03	2.8	18 51	V. M.	
121	6	NNW-SSE	12 59 48	13 04 37	13 09 36	13 13 02	.01	11.2	14 27	V. M.	
		NNW-SSE	12 59 52	13 04 34	13 09 38	13 13 32	.04	9.3	14 34	H. P.	
		WSW-ENE	12 59 52	13 04 37	13 09 50	13 13 38	.07	9.3	14 35	H. P.	
122	8	NNW-SSE	14 06 42	--------	--------	--------	-----	-----	16 15	V. M.	
		NNW-SSE	14 06 47	--------	--------	--------	-----	-----	16 19	H. P.	
		WSW-ENE	14 06 48	--------	--------	--------	-----	-----	16 25	H. P.	
123	8	NNW-SSE	23 09 53	--------	23 10 13	23 10 29	.08	2.4	23 14	V. M.	V. C. 0.03 mm.
		WSW-ENE	23 09 54	--------	23 10 13	23 10 15	.06	2.2	23 13	V. M.	
124	13	NNW-SSE	4 31 50	4 42 19	4 52 43	4 54 28	.01	9.2	5 56	V. M.	
		NNW-SSE	4 31 59	4 42 22	4 52 44	--------	-----	-----	6 01	H. P.	
		WSW-ENE	4 31 59	4 42 12	4 52 24	4 56 22	.03	8.4	6 03	H. P.	
125	20	NNW-SSE	1 29 22	--------	1 29 33	1 29 34	.06	2.4	1 33	V. M.	V. C. 0.01 mm.
		WSW-ENE	1 29 22	--------	1 29 34	1 29 46	.05	2.4	1 33	V. M.	
126	22	NNW-SSE	21 12 40	21 16 58	21 21 26	21 25 52	.02	9.6	22 23	V. M.	
		NNW-SSE	21 12 46	21 17 00	21 21 21	21 26 16	.36	9.6	22 29	H. P.	
		WSW-ENE	21 12 38	21 16 57	21 21 22	21 23 57	.01	8	22 29	V. M.	
		WSW-ENE	21 12 47	21 17 05	21 21 24	21 24 10	.55	10.2	22 32	H. P.	
127	23	NNW-SSE	9 48 30	--------	--------	--------	-----	-----	10 55	H. P.	
		WSW-ENE	9 48 30	--------	--------	--------	-----	-----	10 50	H. P.	
128	25	NNW-SSE	8 54 40	--------	8 54 54	8 55 20	.06	2.4	9 02	V. M.	V. C. 0.04 mm.
		WSW-ENE	8 54 39	--------	8 54 54	8 55 02	.11	2.4	9 01	V. M.	
		WSW-ENE	8 54 43	--------	8 55 55	--------	-----	-----	9 05	H. P.	
129	27	NNW-SSE	15 24 50	15 26 20	15 28 02	15 32 55	.01	8	16 14	V. M.	V. C. 0.01 mm.
		NNW-SSE	15 24 56	15 26 23	15 28 00	15 33 17	.09	10.2	16 30	H. P.	
		WSW-ENE	15 24 53	15 26 32	15 27 58	15 32 44	.01	7.2	16 17	V. M.	
		WSW-ENE	15 25 00	15 26 30	15 28 07	15 34 01	.07	8.7	16 28	H. P.	
130	28	NNW-SSE	5 50 48	--------	5 51 18	5 51 23	.03	2.4	5 55	V. M.	V. C. 0.01 mm.
		WSW-ENE	5 50 49	--------	5 51 17	5 51 21	.03	2.4	5 55	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=9.6 seconds; WSW–ENE pendulum, T=9.9 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]

8, 12^h 55^m. **Surigao** (NE de Mindanao). Temblor oscilatorio, dirección ESE–WNW, intensidad II, duración muy corta.

20, 6^h 44^m. **Butúan** (N de Mindanao). Temblor de tierra, intensidad II.

28, **Butúan** (N de Mindanao). Durante la noche precedente se sintieron ligerísimos choques de NW–SE; no consta la hora.

TEMBLORES SENTIDOS EN GUAM.

5, 5^h 40^m. Temblor de intensidad IV.

22, á 24^h próximamente. Temblor de intensidad III. Es casi seguro que este temblor está relacionado con la perturbación microséismica número 126 registrada también por los microseismógrafos de Zikawei y Osaka. El origen se hallaba probablemente en el Pacífico á 3,000 kilómetros hacia el NE de Manila.

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 meridiano 120° E. de Greenwich.

SEISMIC EPICENTERS NEAR WESTERN MINDANAO AND JOLO.

By Rev. M. Saderra Masó, S. J.,
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The principal earthquakes which affect western Mindanao, Basilan, and the Sulu Archipelago, appear to originate exclusively in two geosynclinal depressions, one of which is found in the eastern and southeastern part of the Sulu Sea, and the other in the northern part of the Celebes Sea; in this case all of them could be reduced to two epicentral regions. This seems to be the logical conclusion from the following data concerning the eight earthquakes of greatest intensity which occurred in this part of the Philippine Archipelago during the last fifty years, and which form the main subject of this paper. Before entering upon their discussion we give a summary physiographic description of the region in question.

Western Mindanao, especially the part west of the one hundred and twenty-fourth meridian east of Greenwich, may be said to form a section apart from the rest of the island to which it is united by the Isthmus of Tucuran, the latter being about 25 kilometers wide. The general direction of the mountain ranges of this section are: SSW–NNE in the most western part, which is called the Peninsula of Zamboanga, and nearly W–E in the range whose course is indicated by the series of elevations north of Sibuguey and Dumankilas Bays. The Peninsula of Zamboanga consists of a narrow range of considerable height, measuring some 30 kilometers from coast to coast. To the east of it lies the shallow bay of Sibuguey; to the west stretches the Sulu Sea. In the latter we find, close to the coast and parallel to it, a synclinal which extends from the entrance of Basilan Strait as far as the coasts of Negros and Panay. Its depth varies between 2,200 and 2,500 fathoms (4,000 and 4,500 meters). According to Dr. Warren D. Smith, chief of the mining division, Bureau of Science,[1] the tectonic line represented by the characteristic Peninsula of Zamboanga continues across Negros Island, Masbate, Sorsogon, and Catanduanes. Forming a well-defined angle with this tectonic line, runs the Sulu Archipelago in the direction SW–NE, to all appearances a continuation of Mindanao toward Borneo. This extensive archipelago of about 335 kilometers in length by 120 in width, whose innumerable islands rise out of a shallow sea of only 10 to 30 fathoms (18 to 50 meters) depth, constitutes a bar or anticlinal, which cuts off the deep trough in the Sulu Sea, separating it from the one in the Celebes Sea in which we find again soundings of 2,000 to 3,000 fathoms (3,660 to 5,500 meters). The channel which separates the Sulu Archipelago from Borneo is relatively deep—some 150 to 300 fathoms (270 to 550 meters). The reconnoissance made by Dr. W. D. Smith has established the volcanic character of the Sulu Archipelago beyond doubt.[2] It is quite possible that the tectonic line represented by the Sulu group continues across the shallow bay of Sibuguey, toward the peninsula which separates the said bay from that of Dumankilas, as far as the ancient volcanic cone Malindang.[3] If the line is prolonged further toward northeast, it passes closely to the volcanoes of Camiguin and the southeast of Leyte. Whence it is very probable that near the southwest end of Mindanao there is a crossing of two important tectonic lines. The last geological movements of a general character which have taken place along both lines, have been upward, possibly at the expense of the neighboring synclinal of the Sulu Sea and of the depression in the Celebes Sea. Other formations of volcanic origin are found east of the Isthmus of Tucuran,

[1] The Philippine Journal of Science. A. General Science. Vol. III, p. 173.
[2] The Philippine Journal of Science. A. General Science. Vol. II, p. 173.
[3] Ibid.

around Lake Lanao, and have only recently been investigated by Doctor Smith. They appear to be of more recent origin that those of Joló, and extend southward as far as the shores of Illana Bay, while toward the east they reach the Pulangui River.

Of the high seismicity of western Mindanao we have had occasion to speak in preceding papers. A new revision of all the records preserved in the Observatory resulted in finding 245 as the number of earthquakes which occurred in this region during the years 1880 to 1908: a large number, indeed, especially if we consider that there are included in it very few of the 500 aftershocks which took place during the first eighteen months after the earthquakes of 1897, of the 400 which followed the earthquake of 1902, and of those belonging to similar periods of enhanced seismic activity. As regards their intensities, these 245 earthquakes were distributed as follows: II to III, 148; IV, 57; V, 30; VI, 4; VII, 3; VIII to X, 3. In the following table are brought together the 8 principal earthquakes, ranging in force from VII to X, which have been mentioned in the opening paragraph of this paper.

Year.	Month.	Date and hour.			Intensity.	Epicenter.
		d	*h*	*m*		
1871	December	8	17	30	IX	Illana Bay.[a]
1874	August	25	6	30	VII	South of Sibuguey Bay.
1885	July	23	22	45	IX	West of Sindangan and Dapitan Bays.
1889	February	5	15	53	VII	Southern part of Sibuguey and Illana Bays.
1897	September	21	3	10	VII–VIII	Southeastern part of Sulu Sea.
1897	do	21	13	15	IX–X	Do.
1898	January	30	19	15	VII	Do.
1902	August	21	19	17	X	Northern part of Illana Bay.

[a] See map published in the Bulletin for February, 1909.

The earthquake of December 8, 1871.—This disturbance destroyed all the buildings in Cotabato and Pollok, situated to the east and northeast respectively of Illana Bay, and being the only two settlements of civilized people on its shores. A like fate befell the military posts at Malabang and Tukuran, the former on the northeastern, the latter on the northern shore of the bay. In Zamboanga and on Basilan Island, which lie some 250 kilometers to the WSW of Cotabato, were felt strong oscillations coming from an easterly direction. Half an hour later there was a very violent repetition which—as the reports say—finished the masonry buildings which were still standing. Between 8 and 9 a. m. of the following day, December 9, new shocks occurred of such violence that they left not a single house of strong materials in a habitable condition. All these quakes were accompanied by muffled subterraneous rumblings. For the space of several days followed countless aftershocks, while at the same time the Gulf of Davao and the neighborhood of the eastern coast were likewise shaken by violent earthquakes, the latter taking place on December 11, 19, and 21.

The earthquake of August 25, 1874.—This earthquake did considerable damage to the buildings at Zamboanga and on Basilan Island, and caused rifts in the seacoast. At Cotabato and Pollok, places situated some 250 kilometers to the ENE, on the opposite side of the large gulf formed by Sibuguey and Illana Bays, the disturbance did not exceed force V. Hence its origin lay near the Zamboanga Peninsula, probably in the southern part of Sibuguey Bay.

The earthquake of July 23, 1885.—This quake had its epicenter near the northwestern coast of Mindanao. Great damage was done to buildings, fissures opened and displacements of the ground occurred throughout the district or quasipeninsula of Dapitan. A competent and careful observer, who was very particular about noting the direction of the seismic waves as well in the first quake as in the innumerable aftershocks that followed, vouches for the statement that they advanced from northwest to southeast; that is, land-inward from the seacoast. He likewise notes that the principal fissures had a SW–NE direction. These facts locate the focus of the disturbance in the sea, opposite the northwestern coast. This deduction is corroborated by numerous data concerning the intensity which the phenomenon displayed in Zamboanga and Jolo, in the center and east of Mindanao, and in the Visayan Islands from Negros to Samar. From these we conclude that the isoseismal curves VIII and IX inclosed only the northwest of Mindanao, while the curve corresponding to force VII passed through Zamboanga and sourthern Negros. They seem to have resembled ellipses with their major axes lying in the direction SW—NE, nearly parallel to the coasts of the district of Dapitan, already mentioned. It is a circumstance worthy of notice that no mention is made of any extraordinary commotion of the sea, although the observer spoken of lived in a place on the coast and describes—with almost painful attention to detail—everything abnormal which he observed during this earthquake. The aftershocks, which during the first day followed each other at intervals of about fifteen minutes, continued until the following September.

The earthquake of February 5, 1889.—This earthquake showed almost the same intensity (VII) at Zamboanga and Cotabato, two towns separated by a distance of some 250 kilometers and situated on the western and eastern side, respectively, of the extended gulf formed there by the Celebes Sea; its focus must, consequently, be sought in this sea, about equidistant from the two towns mentioned. The disturbance was perceptible, though with small intensity, in central and eastern Mindanao and in the Visayas. We have no data concerning its force on the northern coasts of Illana and Sibuguey Bays which are inhabited by Moros. In case its origin was really between Zamboanga and Cotabato, near parallel 7° N, the isoseismal line VII must have just about touched these coasts.

At the time of this earthquake the steamer *Churruca* was under way from Zamboanga to Cotabato, passing over the very region which, according to our opinion contained the focus. Some sharp shocks were felt which frightened the people on board lest the boat had struck a submerged rock; the water became turbid with the mud rising from the bottom of the sea and formed whirls. No great waves could be seen from aboard the vessel, nor are such mentioned in the reports from Zamboanga and Cotabato. There were few repetitions, or, at least, they were not felt either at Zamboanga or Cotabato.

The earthquakes of September 21, 1897.—These earthquakes have been described by Rev. José Coronas in a publication issued in 1899.[1] They originated in the eastern and southeastern part of the Sulu Sea, along the synclinal mentioned before; the first—of force VIII—occurred near the northeastern part of it, the second—of force IX–X—near the southern end of the same. Hence, on one and the same day important dislocations happened in two different points of the same tectonic line, one at $3^h\ 13^m$, the other at $13^h\ 17^m$. The countless aftershocks which followed the two earthquakes were likewise divided between the two centers; some proceeded from the southern focus, and these displayed greater force at Jolo and Zamboanga; others from the northern, and were naturally felt more in Dapitan and the southern parts of Negros and Panay. The seismic period inaugurated by these earthquakes lasted eighteen months, until April, 1899.

The earthquake which took place in the afternoon and was, as stated, due to the southern center, caused a "tsunami" or formidable earthquake-wave. As regards the one in the morning, if it did produce a wave at all, the same has not been noticed, except perhaps on the nearest coast of Mindanao, since only the report from Dapitan states in a vague manner, that after every earthquake the sea rose to a height of 2 meters, forcing people who lived near the beach to abandon their dwellings. The great "tsunami" caused by the afternoon quake is of special interest, since it is almost the only one to be found in the seismic annals of the Philippines. We shall speak of it more in detail further on.

The earthquake of January 30, 1898.—The epicenter of this earthquake lay in the southeastern part of the Sulu Sea, nearer to Jolo than to Basilan Island and Zamboanga. We conclude this from the fact that at Jolo the earthquake did considerable damage to buildings, while at Zamboanga and on Basilan Island it produced merely a few cracks. This disturbance was followed by an increase in the frequency of the feeble tremors which were being experienced ever since the earthquakes of September, 1897.

The earthquake of August 21, 1902.—The focus of this earthquake was in the northern part

[1] La Actividad Séismica en el Archipiélago Filipino durante el Año 1897. By Rev. José Coronas, S. J. Manila, 1899. Pp. 47 to 92.

of Illana Bay. The isoseismal curve X resembles an ellipse whose greater axis lies in the direction of NE–SW, reaching from Lake Lanao until far into Illana Bay. Within the epicentral region, inhabited by Moros, not a single stone structure escaped well-nigh complete destruction; it is certain that human lives were lost in the "cottas," or Moro strongholds, but their number is unknown. Great fissures and landslides were caused, both on land and in the sea, the latter being proved by the fact that the cables which connected Cotabato with several military posts in southern Mindanao were broken, one of them being buried so deeply that it was found impossible to raise it—a clear proof of the displacements which must have taken place on the bottom of the bay.

The earthquake wave of September 21, 1897.—This phenomenon assumed imposing proportions on the coasts of western Mindanao, Basilan Island, the Sulu Archipelago, and Cuyo Island, possibly also on those of Panay and Negros Islands. The following is a résumé of the particulars concerning this memorable earthquake wave (tsunami) published by Reverend Coronas:

Steamer "Brutus."—This steamer had left Zamboanga before noon en route for Manila and at the time of the earthquake was only a few miles off the western coast of Mindanao, hence close to, if not actually over the seismic center. The captain of the ship related that at $13^h\ 20^m$[1] some sharp shocks were felt which greatly alarmed the passengers, but not him, since he attributed them to an earthquake. At the same moment imposing waves were noticed which seemed to form in the immediate neighborhood of the vessel and rolled off majestically toward east, breaking over the near shore after an interval of about ten minutes.

Isabela, Basilan.—This port was southeast of the epicenter at a distance of 70 kilometers: it is open toward west and northwest; on the northeast side there is a narrow passage between the coast and an islet. Half an hour after the shock the water was seen and heard rushing through the northeastern opening with a roaring noise. This was followed by immense waves from the west which swept away everything near the shore that was at a less height than 7 meters above mean sea level. More than 30 of these floods and ebbs were counted, one wave being considerably higher than all the rest. Along the entire west coast of Basilan much havoc was created by these waves and not a few lives were lost, since the water carried away the small settlements of the Moros. The whole phenomenon lasted approximately two hours.

Zamboanga.—This town was somewhat more than 70 kilometers to the ESE of the epicenter. The coast line faces SSW; the strait of Zamboanga, formed by the coast and the island and banks of Santa Cruz, runs WNW–ESE, is not quite 2 kilometers wide, 14 kilometers long and 20 fathoms (36 meters) deep. Changes in the sea level were noticed an hour and a half after the earthquake. They commenced with an ebb in which the level fell about 5 meters, followed by a series of floods and ebbs, one of the former being extraordinary in height. The whole lasted a little less than two hours.

Jolo.—The distance of Jolo from the epicenter was 150 kilometers to the SSW of the latter. For the greater part of this stretch the sea has a depth of 10 to 20 fathoms (18 to 36 meters) and is dotted with small islands. The port faces WNW. The tidal movement was first observed fifteen minutes after the quake. The greatest height reached by the flood was 1 meter. On the whole, the ebbing movement appeared to predominate, as each succeeding ebb was lower than its forerunner. The ebbs and floods recurred at intervals of about fifteen minutes for the space of approximately one hour.

Dapitan (NW of Mindanao).—This town was 180 kilometers northeast of the epicenter. The coast is open toward WNW, but between it and the seat of the disturbance were interposed several headlands. The whole information which we have regarding our subject, consists in the statement that each earthquake was followed by a tidal movement of the sea in which the water rose about 2 meters.

Cuyo Island.—This island which is surrounded by numerous islets rising out of a sea only 20 to 30 fathoms (36 to 50 meters) deep, was some 380 kilometers to the NNW of the epicenter. Some 320 kilometers of the sea which separated the island from the focus of the earthquake

[1] The exact minute of the earthquake is not known; it lay between $13^h\ 15^m$ and $13^h\ 25^m$. Coronas, *op. cit.*

show depths of 150 to 200 fathoms (270 to 370 meters). The port of Cuyo faces toward west. The first ebb was observed an hour and a half after the shock, the water receding during half an hour far beyond the lowest tide; then it returned, reaching within a few minutes the limit of the highest tides. There were alternate ebbs and floods in regular succession during more than an hour.

Negros and Panay.—On the southern coasts of Negros and Panay the earthquake wave appears to have—as a rule—escaped notice: either because the phenomenon was really less pronounced in these regions, or because the inhabitants were less alert, since the earthquake had been less severe. Only a few persons who at the time were on the water in small canoes, noticed an unusual and startling tide.

There can be no doubt that this disturbance of the sea was the effect of great submarine movements and displacements; whether these consisted in upheavals or subsidences is a rather difficult question to decide. At Zamboanga and Cuyo the phenomenon commenced with an ebbing away of the water, the sea retiring to an extraordinary degree. We believe that the same holds true of Basilan Island, since the first thing observed was the rushing of the sea through the northeast passage of the harbor of Isabela, which seems to show that the said harbor was being drained through the entrance in the west and northwest, the water flowing off in the direction of the epicenter. This strongly inclines us to assume a subsidence of the epicentral region; but Count de Montessus and other men prominent in seismology are of the opinion that nothing can be deduced from this circumstance.[1]

New islands off the Borneo coasts.—While the disturbances of September 21, 1897, were going on in the eastern part of the Sulu Sea, two small islands composed of bowlders and mud rose from the bottom of the sea near the coasts of Borneo—the one near Kudat, on the northern coast of the island, 500 kilometers west of the epicenter, the other near Labuan, on the west coast, some 700 kilometers WSW of the same epicenter. At Kudat two unusual waves were seen approaching the coast, a strong and even violent wind was blowing, a great noise was heard, and in an instant a small island appeared in a place where the sea had previously had a depth of some 6 meters. This seems to have happened in the morning of the 21st; no tremors of the earth were perceptible at the time, but the afternoon earthquake was felt slightly. At Labuan neither of the two earthquakes, nor any other shock was perceived, but at the time of the great earthquake of Zamboanga and Jolo—that is, shortly after 13^h—the new island rose quietly from the sea. The said earthquake was, however, felt along the entire northeastern coast of Borneo. It is difficult to believe that no connection whatever existed between the earthquakes in the eastern Sulu Sea and the sudden appearance of two small islands at the respective distances of 500 and 700 kilometers; but the nature of this connection can not be determined without additional information. If soundings had been made after the earthquake over the distance from the trough in the Sulu Sea to the coasts of Borneo, other upheavals similar to the islets near Kudat and Labuan, but which did not appear above the surface of the water, might have been discovered, which could have served as links to connect the two phenomena, and possibly to find their common cause to consist in a vast subsidence of the bottom of the Sulu Sea.

Conclusion.—In view of the preceding data it does not appear to be a bold assumption if we hold that the true epicenters of the earthquakes which disturb western Mindanao are situated on the relatively steep slopes which are found, to the west, along the trough of the Sulu Sea, and to the south, along that of the Celebes Sea. The principal axis of the latter seems to lie along the one hundred and twenty-third meridian east, showing depths of over 1,000 fathoms (1,800 meters) only a few kilometers from the coast. Thus, just as the seemingly two epicenters which are found, one to the west of Dapitan and the other west-northwest of Zamboanga, belong in reality to two portions of the trough of the Sulu Sea: similar—the other three foci—viz, in the southern part of Sibuguey Bay, in Illana Bay and at a point nearly equidistant from Zamboanga and Cotabato—correspond most probably to the northern slope of the trough in the Sea of Celebes.

[1] La Science Seismologique. Paris, 1907.

EPICENTROS SÉISMICOS VECINOS AL W DE MINDANAO Y Á JOLÓ.

Los principales terremotos que afectan á la parte occidental de Mindanao, á Basilan y al Archipiélago de Joló, parecen originarse exclusivamente en dos depresiones geosynclinales situadas, una en el E y SE del Mar de Joló y otra en la parte N del Mar de Célebes: pudiendo así reducirse á dos sus epicentros. Esto es lo que juzgamos deducirse de los siguientes datos referentes á los ocho más violentos terremotos experimentados en esta parte del Archipiélago Filipino durante los últimos 50 años, y que forman el principal asunto de esta nota. Antes haremos una sumaria descripción fisiográfica de esta región.

La parte occidental de Mindanao, principalmente la que cae al W del meridiano 124° E de Greenwich, puede decirse que forma una sección diferente del resto de la Isla, á la cual se une por el istmo de Tukuran que tiene unos 25 kilómetros de anchura. La dirección general de las cordilleras de esta sección es: de SSW–NNE en la más occidental, llamada la península de Zamboanga; y casi de W–E en otra cordillera indicada por la serie de montañas que corre por el N de las bahías de Sibuguey y Dumankilas. La península de Zamboanga consiste en una cadena bastante regular y estrecha, de unos 30 kilómetros de costa á costa. Al E tiene el llamado seno de Sibuguey, de poca profundidad; al W se extiende el Mar de Joló, en el cual se abre muy cerca de la costa y paralelo á ella un synclinal que se extiende desde la entrada del estrecho de Basilan hasta las costas de Negros y Panay: su profundidad varía entre 2400 y 2750 brazas (4000 y 4500 metros). La línea tectónica representada por la característica península de Zamboanga continúa, según el Dr. Warren D. Smith, (Jefe de la División de Minas, Bureau of Science,[1]) á través de la Isla de Negros, Masbate, Sorsogón y Catanduanes. Formando un ángulo bien pronunciado con esta línea tectónica, se extiende el Archipiélago de Joló, el cual corre en dirección SW–NE, y parece una extensión de Mindanao hacia Borneo. Este vasto Archipiélago de unos 335 kilómetros de longitud por 120 kilómetros de anchura, cuyas inumerables islas arrancan de un mar poco profundo, de 11 á 33 brazas (18 á 50 metros), constituye una base elevada ó anticlinal, que interrumpe la profunda fosa del Mar de Joló y la separa de la depresión del Mar de Célebes, donde vuelven á encontrarse sondeos de 2200 á 3300 brazas (3660 á 5500 metros). El canal que separa el Archipiélago de Joló de la Isla de Borneo es muy profundo, de 160 á 330 brazas (270 á 550 metros). La naturaleza volcánica del Archipiélago de Joló queda bien probada después del reconocimiento hecho por el mencionado Dr. Smith.[2] La línea tectónica representada por el Archipiélago Joloano tal vez podría prolongarse á través del seno de Sibuguey, de poca profundidad, hacia la península que lo separa de Dumankilas y hasta el antiguo cono volcánico Malindang[3]: continuando esta línea hacia el NE caerían, además, muy cerca de ella los volcanes de Camiguín y del SE de Leyte. Parece, por consiguiente, muy probable que cerca del extremo SW de Mindanao se cruzan dos líneas tectónicas importantes. Los últimos movimientos geológicos generales que han tenido lugar en ambas líneas son los de elevación, á expensas quizás del vecino synclinal del Mar de Jólo y de la depresión del Mar de Célebes.—El Dr. Smith reconoció también otras formaciones volcánicas al rededor del lago Lanao, las cuales parecen más recientes que las de Joló y se extienden, por el S hasta la costa de la bahía Illana, y por el E hasta el gran Río Pulangui.

[1] The Philippine Journal of Science. A. General Science. Vol. II, pag. 173.
[2] The Philippine Journal of Science. A. General Science. Vol. II, pag. 173.
[3] Ibid.

De la alta seismicidad de la parte W de Mindanao hemos tenido ya ocasión de hablar en otras notas. Revisando de nuevo las estadísticas que existen en el Observatorio, conseguimos reunir 245 temblores del período 1880–1908: número grande si se considera que no entran en él sino muy pocos de los 500 aftershocks, que se fueron repitiendo durante los 18 meses siguientes á los terremotos de 1897, de los 400, que siguieron al de 1902, y de otros períodos séismicos semejantes. Estos 245 temblores están repartidos, respecto á su intensidad, como sigue: II á III, 148; IV, 57; V, 30; VI, 4; VII, 3; VIII á X, 3. Los 8 terremotos de intensidad VII á X mencionados al principio, van reunidos en la siguiente lista, con su fecha, hora, intensidad y epicentro.

Año.	Mes.	Fecha y hora.			Intensidad.	Epicentro.
		d	*h*	*m*		
1871	Diciembre	8	17	30	IX	Bahía Illana.[a]
1874	Agosto	25	6	30	VII	S del seno de Sibuguey.
1885	Julio	23	22	45	IX	W de las bahías de Sindangan y Dapitan.
1889	Febrero	5	15	53	VII	Parte S de las bahías de Sibuguey é Illana.
1897	Septiembre	21	3	10	VII–VIII	SE del Mar de Joló.
1897	id	21	13	15	IX–X	SE del Mar de Joló.
1898	Enero	30	19	15	VII	SE del Mar de Joló.
1902	Agosto	21	19	17	X	Parte N de la bahía de Illana.

[a] Véase el mapa publicado en el Boletín Mensual de Febrero último.

Terremoto del 8 de Diciembre de 1871.—Arruinó todos los edificios de Cotabato y Pollok, las dos únicas poblaciones civilizadas existentes alrededor de la bahía Illana y situadas respectivamente al E y al NE; así como los de los puestos militares de Malabang y Tukuran situados al N. En Zamboanga y Basilan, que distan unos 250 kilómetros al W, se experimentaron oscilaciones fuertes procedentes del E. Repitió después de media hora con mucha violencia de manera que, según se dice en las notas, acabó de arruinar los edificios que se mantenían aún en pié. El día 9 entre 7^h y 8^h se experimentaron nuevos choques tan violentos que no dejaron ninguna casa de mampostería habitable. Todos estos terremotos fueron acompañados de ruido subterráneo sordo. Siguióse durante varios días un número incalculable de réplicas (aftershocks), al mismo tiempo que hacia el golfo de Dávao y cerca de la costa oriental de la Isla ocurrían también terremotos violentos el 11, 19 y 21 de Diciembre.

Terremoto del 25 de Agosto de 1874.—Causó notables desperfectos en los edificios de Zamboanga y Basilan; abriéronse grietas en la orilla del mar. En Cotabato y Pollok, poblaciones distantes más de 200 kilómetros hacia el E y situados en la parte opuesta del gran seno que forman las bahías de Sibuguey é Illana, el terremoto no pasó de intensidad V; el origen, por consiguiente, se hallaba cerca de la península de Zamboanga, probablemente en la parte S de la bahía de Sibuguey.

Terremoto del 23 de Julio de 1885.—Tuvo su origen cerca de la costa NW de Mindanao. La ruina en los edificios, las grietas y derrumbes en el terreno fueron muy grandes en toda la parte occidental del distrito ó cuasi-península de Dapitan. Un ilustrado y diligente observador, que puso especial atención en anotar la dirección de las ondulaciones tanto del primer gran terremoto como de las inumerables réplicas que le sucedieron, asegura que se propagaban de NW á SE, desde la costa hacia la tierra adentro: además, hace notar que las grietas principales se abrieron en la dirección SW á NE. Esto colocaría el origen del terremoto en el mar frente á la costa NW de la Isla. Concuerdan con esta suposición los numerosos datos referentes á la intensidad que el mismo terremoto tuvo en Zamboanga y Joló, en el centro y E de Mindanao y en las Islas Visayas, desde la de Negros hasta la de Sámar. De ellos se deduce que las isoseismales VIII y IX encerraban la parte NW de Mindanao solamente, mientras que la VII pasaba por Zamboanga y la parte S de la Isla de Negros; parece que afectaban la forma de elipses con el eje mayor en dirección SW–NE, casi paralelo á las citadas costas del distrito de Dapitan. Nótese que no se hace indicación alguna de movimientos extraordinarios en las aguas del mar, á pesar de que el observador antes mencionado vivía en un pueblo costero y describe con minuciosidad nímia todo lo que observó de anormal durante este terremoto. Las réplicas, que el primer día se repetían de 15 á 15 minutos, duraron hasta fines del siguiente mes de Septiembre.

Terremoto del 5 de Febrero de 1889.—Tuvo casi la misma intensidad VII en Zamboanga y Cotabato, poblaciones distantes entre sí unos 250 kilómetros y situadas respectivamente al W y E del extenso seno que forma el Mar de Célebes. El origen debe, por consiguiente, situarse en el mar entre las mencionadas poblaciones. Fué perceptible, pero con poca intensidad, en el centro y E de Mindanao y en las Islas Visayas. No tenemos datos acerca de la intensidad de este terremoto en las costas del N de las bahías Illana y Sibuguey, habitadas por los moros; si su origen se hallaba, como parece, entre Zamboanga y Cotabato, cerca del paralelo 7° Lat. N., la isoseismal VII debió pasar solo rozando dichas costas.

Cuando ocurrió este terremoto, el vapor *Churruca* navegaba desde Zamboanga á Cotabato, cruzando precisamente por el sitio donde suponemos estuvo el origen. Sintió sacudidas fuertes que de pronto hicieron temer que el barco había tocado algún escollo; casi al mismo tiempo vióse que el agua se enturbiaba por el cieno que subía del fondo, y formaba remolinos. No se notaron desde el barco grandes olas, ni se mencionan tampoco en las notas de Zamboanga y Cotabato. Las réplicas fueron pocas, por lo menos no se sintieron ni en Zamboanga ni en Cotabato.

Terremotos del 21 de Septiembre de 1897.—Estos terremotos, hábilmente descritos por el P. José Coronas[1]), tuvieron su origen en la parte E y SE del Mar de Joló á lo largo del synclinal antes mencionado. El primero, de intensidad VIII, tuvo lugar en la parte NE de dicho synclinal; el segundo, de intensidad IX–X, en el extremo S del mismo; de manera que en dos diferentes puntos de la misma línea tectónica ocurrieron en un mismo día importantes dislocaciones, á 3^h 13^m y 13^h 17^m. Las inumerables réplicas que siguieron á los dos terremotos procedían también unas veces de la parte S, y tenían mayor intensidad en Joló y Zamboanga, y otras de la parte N, y se hacían sentir principalmente en Dapitan y en la parte S de las Islas de Negros y Panay. El período séismico principiado con estos terremotos no terminó hasta Abril de 1899. El terremoto de la tarde, originado en la parte S, causó un "Tsunami" ú ola séismica formidable, mientras que el de la mañana, si produjo alguna ola, no fué observada sino en las costas más próximas del NW de Mindanao. Tan solo en las notas de Dapitan se dice de una manera vaga que después de cada terremoto la mar se levantó hasta dos metros, obligando á la gente que vivía cerca de la playa á abandonar sus casas. Del grande "Tsunami" producido por el terremoto de la tarde y digno de especial mención por ser casi el único que se encuentra en los anales séismicos de Filipinas, nos ocuparemos otra vez más abajo.

Terremoto del 30 de Enero de 1898.—Tuvo su epicentro al SE del Mar de Joló, pero más cerca de Joló, donde causó notables desperfectos en los edificios, que de Basilan y Zamboanga, donde sólo produjo algunas grietas. Con este terremoto aumentó el número de pequeños temblores que se venían experimentando desde los terremotos de Septiembre de 1897.

Terremoto del 21 de Agosto de 1902.—El epicentro estuvo en la parte N de la bahía Illana. La isoseismal X forma una especie de elipse, cuyo eje mayor corre de NE á SW, desde el lago Lanao hasta muy adentro de la bahía Illana. Dentro del área epicéntrica habitada por los moros no quedó edificio alguno de piedra sin derrumbarse casi del todo. Consta que hubo víctimas en las cottas ó fuertes, pero no se sabe su número. Se produjeron grandes grietas y derrumbes tanto en tierra como dentro del mar, puesto que se rompieron los cables submarinos que unen Cotabato con diferentes puestos militares del S de Mindanao: alguno se encontró de tal manera enterrado que fué imposible levantarlo, prueba evidente de las dislocaciones que debieron producirse en el fondo de la bahía.

La ola séismica del 21 de Septiembre de 1897.—Fué imponente en la parte W de Mindanao, en Basilan y el Archipiélago de Joló, y en las Islas de Cuyo, Panay y Negros. Hé aquí un resumen de los datos que sobre esta memorable ola séismica (Tsunami) publicó el P. Coronas antes citado.

Vapor "Brutus".—Habiendo salido antes de mediodía de Zamboanga en viaje para Manila, estaba navegando á pocas millas de la costa occidental de Mindanao, por consiguiente muy cerca del epicentro, sino era que se hallaba encima de él. El Capitán de este buque refirió de palabra,

[1] "La Actividad Séismica en el Archipiélago Filipino durante el año 1897." Por el P. José Coronas, S. J. Manila, 1899. Pag. 47–92.

que á las 13^h 20^m [1] se sintieron choques bruscos que alarmaron mucho á los pasajeros, pero no á él, quien supuso que eran efecto de un terremoto; al mismo tiempo viéronse olas imponentes que parecían formarse cerca del mismo barco y dirigirse majestuosamente hacia el E, chocando con las vecinas costas al cabo de 10 minutos.

Isabela (*Basilan*).—Puerto al SE del epicentro á 70 kilómetros de distancia; abierto al W y NW; por el NE tiene un canal ó estrecho formado por la costa y un islote. Media hora después del temblor se oyó gran ruido del agua que se precipitaba por la boca del NE; á esto siguieron olas inmensas de la parte del W que arrastraron todo lo que se hallaba en la playa hasta 7 metros de altura sobre el nivel medio del mar. Se contaron más de 30 flujos y reflujos, y entre ellos una ola mayor que todas las demás. En toda la costa occidental de Basilan las olas causaron mucho daño y no pocas víctimas, arrastrando las pequeñas poblaciones de los moros. Duración del oleaje unas dos horas.

Zamboanga (*Mindanao*).—Al ESE y á poco más de 70 kilómetros del epicentro. La costa mira al SSW; el estrecho de Zamboanga formado por la costa y la isla y bancos de Santa Cruz corre de WNW á ESE, tiene dos kilómetros cortos de anchura por 14 kilómetros de longitud con un fondo de 22 brazas (36 metros). Se observó alteración en el mar una hora y media ó dos horas después del terremoto; principió por un reflujo en que el agua bajó unos 5 metros, siguieron varios flujos y reflujos y entre ellos una ola muy grande; duración total poco menos de dos horas.

Joló.—Á 150 kilómetros de distancia al SSW del epicentro; gran parte de esta distancia está ocupada por mar de 11 á 22 brazas (18 á 36 metros) de fondo y numerosos islotes. El puerto mira al WNW. Se comenzaron á observar los flujos y reflujos 15 minutos después del terremoto: la mayor altura á que subieron las aguas fué de un metro; parecía predominar el reflujo, bajando el agua en cada retroceso más que en el precedente. Los flujos y reflujos se sucedían con intervalos de unos 15 minutos; duraron unas dos horas.

Dapitan (*NW de Mindanao*).—180 kilómetros al NE del epicentro; las costas miran al WNW, pero entre ellas y el epicentro se interponen varias puntas de la costa. Tan solo se dice de cada terremoto, que hubo flujos y reflujos, en que el agua subió unos dos metros.

Cuyo.—Distante unos 380 kilómetros, al NNW: isla rodeada de numerosos islotes y mar de 22 á 23 brazas (36 á 50 metros); el mar que la separa del epicentro tiene en el espacio de 320 kilómetros, entre 160 y 220 brazas (270 á 370 metros) de profundidad. El puerto mira al W; el primer reflujo se observó una hora y media después del terremoto, el agua se retiró en media hora mucho más que en las más bajas mareas; volvió luego á subir en pocos minutos hasta el límite de las grandes mareas, sucediéndose con regularidad otros flujos y reflujos durante más de una hora. En las costas de la parte S de las Islas de Negros y Panay, sin duda por no tener tanta fuerza las olas y tal vez por estar la gente menos alerta, por no haber sido tan intensos los terremotos, sólo algunos que en aquellas horas navegaban en pequeñas canoas experimentaron oleaje extraño y extraordinario.

Indudablemente este trastorno marino debió obedecer á grandes movimientos y dislocaciones en el fondo del mar: si tales dislocaciones fueron un levantamiento ó hundimiento es más difícil precisarlo con solos los datos que preceden. En Zamboanga y Cuyo comenzó el oleaje con un reflujo, retirándose extraordinariamente la mar; creemos que en Basilan debió suceder lo mismo, puesto que lo primero que se observó fué que una ola se precipitaba por la boca del NE, lo cual parece indicar que el puerto se vaciaba por el W y NW, moviéndose las aguas en dirección al epicentro. Este hecho inclina el ánimo á ver un hundimiento; sin embargo, el ilustre seismólogo Mr. de Montessus de Ballore y otros respetables autores creen que nada puede deducirse.[2]

Nuevas islas en las costas de Borneo.—Al mismo tiempo que sucedía tan grande trastorno terrestre y marítimo en la parte oriental del Mar de Joló, en Kudat, al N de Borneo y á 500 kilómetros al W del epicentro, y en Labuan un poco más al S sobre la costa occidental y á unos 700 kilómetros al WSW del epicentro, surgían del fondo del mar dos islas de piedra y lodo. En Kudat

[1] El minuto preciso del terremoto no se conoce; ocurrió entre 13^h 15^m y 13^h 25^m. P. Coronas, *op. cit.*

[2] La Science Seismologique. Paris, 1907.

se vieron acercar dos olas, sopló un viento fuerte y violento, oyóse un gran ruido y al instante se levantó una isla en donde tenía antes la mar unos 6 metros de profundidad. Esto parece que ocurrió la mañana del 21; no se sintió entonces terremoto alguno, pero fué ligeramente perceptible el terremoto de la tarde. En Labuan no fué perceptible este terremoto ni otro alguno, pero surgió pacíficamente la isla á la misma hora, poco después de 13^h, del grande terremoto de Zamboanga y Joló, el cual fué perceptible en toda la costa NE de Borneo. El ánimo se resiste á negar toda conexión entre los terremotos y "Tsunamis" de la parte oriental del mar de Joló y la aparición de los islotes á 500 y 700 kilómetros de distancia; mas cual sea esta relación es imposible precisarlo sin más datos. Si después del terremoto se hubiesen hecho sondeos desde la fosa del mar de Joló hasta las costas de Borneo tal vez otros surgideros de la misma naturaleza que las Islas de Kudat y Labuan, pero no aparentes sobre las aguas, hubieran servido como eslabones para conexionar los dos fenómenos y aún quizá para atribuirlo todo á un vasto hundimiento en el fondo del Mar de Joló.

Conclusión.—De todo lo que precede, juzgamos no ser aventurado el deducir que los verdaderos epicentros de los terremotos que sacuden la parte W de Mindanao están situados en las pendientes relativamente escarpadas que existen, al W hacia la fosa del Mar de Joló y al S hacia la del Mar de Célebes: ésta parece tener su eje principal á lo largo del meridiano 123° E, con profundidades de más de 1,100 brazas (1,800 metros) á pocos kilómetros de la costa. De manera que así como los dos aparentes epicentros, uno al W de Dapitan y otro al WNW de Zamboanga, pertenecen á dos diferentes porciones de la fosa del Mar de Joló, de semejante modo los otros tres, á saber: sur del seno de Sibuguey, bahía Illana y un punto casi equidistante de Zamboanga y de Cotabato, probablemente corresponden á los bordes septentrionales de la hoya del Mar de Célebes.

BULLETIN FOR JULY, 1909.

METEOROLOGICAL BULLETIN FOR JULY, 1909.

By Rev. José Coronas, S. J.,

Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—In view of the numerous depressions and typhoons which during this month affected the Philippines, it is not surprising that the monthly mean of atmospheric pressure should everywhere have been below that of July of the preceding year. For Manila the difference from the normal mean for this month was —0.45 millimeter, and from the mean for July, 1908, as much as —0.77 millimeter. The highest pressures have been observed on the 16th in the northern portion of the Archipelago and on the 19th or 20th in the southern. The lowest pressures occurred on the 28th and 29th; that is, during the typhoon which, as we shall see presently, traversed northern Luzon during the early hours of the 29th.

The mean monthly temperature differed but slightly from both, the normal mean for the month, and the actual mean for July, 1908. Those of Aparri and Atimonan showed the widest departures from last year's mean; nevertheless the differences did not exceed 0.9° C.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS JULY, 1909.

Station.	Pressure.						Temperature.					
	Mean.	Departure from July, 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from July, 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.64	—0.41	758.97	19	756.06	28	27.3	+0.2	33.6	22	21.9	7
Surigao	57.61	— .56	58.93	20	56.14	28	26.8	— .2	34.7	29	22.2	21
Cebu	57.61	— .50	59.09	20	55.94	29	26.9	+ .4	31.8	15, 18	21.7	16
Iloilo	57.77	— .57	59.37	19	55.71	28	26.6	+ .2	31.9	2	22.9	5, 16
Ormoc	57.56	— .85	59.09	20	55.78	28	26	+ .2	31.3	29	20.5	15
Tacloban	57.69	— .48	59.12	19	55.56	29	27	— .1	34.7	30	22.4	15
Capiz	----	----	----	----	----	----	26.8	+ .3	35	27	----	----
Calbayog	57.72	— .55	59.38	19	55.32	29	26.2	— .8	32.2	23	21.6	15
Legaspi	57.17	— .62	59.13	19	53.67	29	26.6	— .7	33.5	31	21.7	15
Atimonan	56.71	— .77	58.87	16	52.10	29	26.4	— .9	33.1	5	21.5	14
Manila	56.87	— .77	59.29	16	52.17	28, 29	26.1	— .5	33.3	2	21.9	16
Olongapo	56.66	— .91	59.11	16	51.36	28	26.1	+ .3	33.4	3	22.3	13
San Isidro	56.63	—1.15	58.97	16	51.02	29	26	— .5	34.3	3	22.1	16
Dagupan	56.31	—1.04	59.10	16	50.47	29	26.7	0	35.9	2	22.8	13
Bolinao	56.21	----	59.30	16	49.11	28	26.5	----	32.5	18	23.1	11, 14
Baguio	634.58[1]	----	637.21[1]	16	628.11[1]	29	17.5[2]	----	23.5	5, 24	13.9[2]	9
Vigan	755.99	—1.30	759.36	16	746.14	29	26.9	0	34.9	17	22.4	28
Tuguegarao	56.01	— .61	59.25	16	46.06	29	27.3	— .2	36.2	2	22.1	13, 30
Aparri	56.33	— .62	59.83	16	46.20	29	26.8	— .9	35	5	22.5	26

[1] Not reduced to sea level.

[2] From 28 days only.

Precipitation.—A natural effect of the many depressions and typhoons was the abundant rainfall observed in a considerable number of stations, especially in central and northern Luzon. Only nine stations reported a total amount of rainfall inferior to that of July, 1908. Worth mentioning are the heavy rainfalls which occurred at Baguio and Vigan during the typhoon of July 28 and 29, being 327.7 and 190.8 millimeters (12.90 and 7.52 inches), respectively, the amount of water collected in the rain gauges of these stations during a short interval of twenty-four hours.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JULY, 1909.

Station.	Total.	Departure from July, 1908.	Rainy days.	Departure from July, 1908.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from July, 1908.	Rainy days.	Departure from July, 1908.	Greatest rainfall in a single day.	Day.
	mm.	mm.			mm.			mm.	mm.			mm.	
Jolo	245.6	+ 58.8	15	— 2	50.8	1	Calapan	351.4	----------	21	------	53.1	8
Isabela Basilan	369.4	+ 48.1	18	— 8	146.8	17	Legaspi	447.7	+210.2	27	+13	116.8	12
Zamboanga	76	+ 34.2	13	+ 3	20.3	17	Virac	435.1	+244.4	20	+ 6	78.7	11
Davao	300.1	+169.3	11	+ 6	44.4	27	Nueva Caceres	322.2	----------	27	------	45.7	4
Cotabato	323.5	--------	18	------	53.3	6	Batangas	320	+247.4	24	+14	67.3	29
Cagayan	248.3	--------	18	------	33.8	24	Atimonan	237.3	+ 31.8	22	+ 7	63	8
Dapitan	67.9	— 67.3	10	+ 1	16	15	Silang	732.4	+ 91.7	25	+ 4	80.8	27
Butuan	135.8	— .7	18	+ 3	46.5	6	San Antonio, Laguna	421.8	+260	20	+ 4	75.7	5
Tagbilaran	97.9	—132.8	17	+ 1	18.4	6	Manila	561.8	+271.2	27	+ 4	88.7	27
Surigao	209.5	+ 63.5	16	+ 4	49.5	20	Olongapo	876.2	+244.8	26	— 2	206.7	13
Maasin	508.5	+161	16	+ 2	69.6	23	San Isidro	474.2	+110.9	25	+ 2	97	27
Cebu	279	+ 39.4	25	+ 3	60.2	16	Tarlac	348.4	—138.1	24	+ 1	87.1	27
Iloilo	231.6	— 44.7	23	+ 2	44.2	27	Baler	788.1	+623.2	20	+ 3	168.4	8
San Jose Buenavista	563.9	—133.1	27	+ 4	149.6	21	Dagupan	675.4	+212.5	23	— 4	150.3	28
Tuburan	202.5	+ 67.3	12	+ 2	55.6	6	Bolinao	525	— 72	29	+ 6	67.6	13
Ormoc	279.2	— 82.8	20	0	55.4	10	Baguio, Benguet	1203.8	+797.5	28	+ 1	327.7	29
Tacloban	336	+172.4	19	— 2	99.8	18	San Fernando, Union	526.1	+187.8	24	+ 2	83.3	27
Capiz	243.3	— 8.7	23	+ 9	35.1	6	Echagüe	219	+130.2	25	+10	31.5	3
Borongan	371.1	+170.9	18	— 3	99.6	6	Candon	896.6	+666	24	+ 3	160	27
Calbayog	314.3	+124.6	20	+ 4	42.9	10	Vigan	764.3	+332.8	23	— 1	190.8	28
Palanoc, Masbate	332.7	+178.9	26	+ 5	49.8	8	Tuguegarao	378.5	+ 52.5	15	— 1	129	27
Romblon	408.4	+182	31	+13	74.2	21	Laoag	684.8	+125.8	25	+ 3	117.6	12
Laoang	450.4	+324	17	+ 6	66	16	Aparri	432.3	+268.2	15	+ 4	82.3	25
Gubat	370.5	+222.4	20	+ 7	48.3	11	Sto. Domingo, Bat. Is	465.6	+232.8	22	+ 3	117.1	27
Sumay, Guam	405.8	+ 37.9	25	0	114.3	23							

DEPRESSIONS AND TYPHOONS.

During July no less than three typhoons crossed the northern part of our Archipelago. In addition to these we experienced the influence of three depressions which, forming in the China Sea, moved toward west or west-northwest in the direction of Indo-China or southern China. We shall discuss briefly each of these typhoons and depressions, making special efforts to establish—as far as this is feasible—those portions of their tracks which, owing to the lack of sufficient data resulting above all from the interruption of telegraphic communication, we were unable to point out at the time when the disturbances occurred.

THE HAIPHONG TYPHOON, JULY 12 TO 16, 1909.

This typhoon belongs to the type of cyclonic storms which form in the Pacific Ocean not very far from the Philippines, since neither the observations of Yap nor those of Guam give any indications of its having influenced either the Western Carolines or the Marianas.

The first typhoon warning was issued by Manila Observatory at 11 a. m. of the 12th. It read as follows:

July 12, 11 a. m.: Typhoon east of Luzon, more than 300 miles distant, direction unknown.

The speed with which this disturbance advanced was very remarkable, since the storm crossed between Aparri and Tuguegarao as early as the morning of the 13th. On this day the following warnings were cabled to the foreign meteorological centers of the Far East:

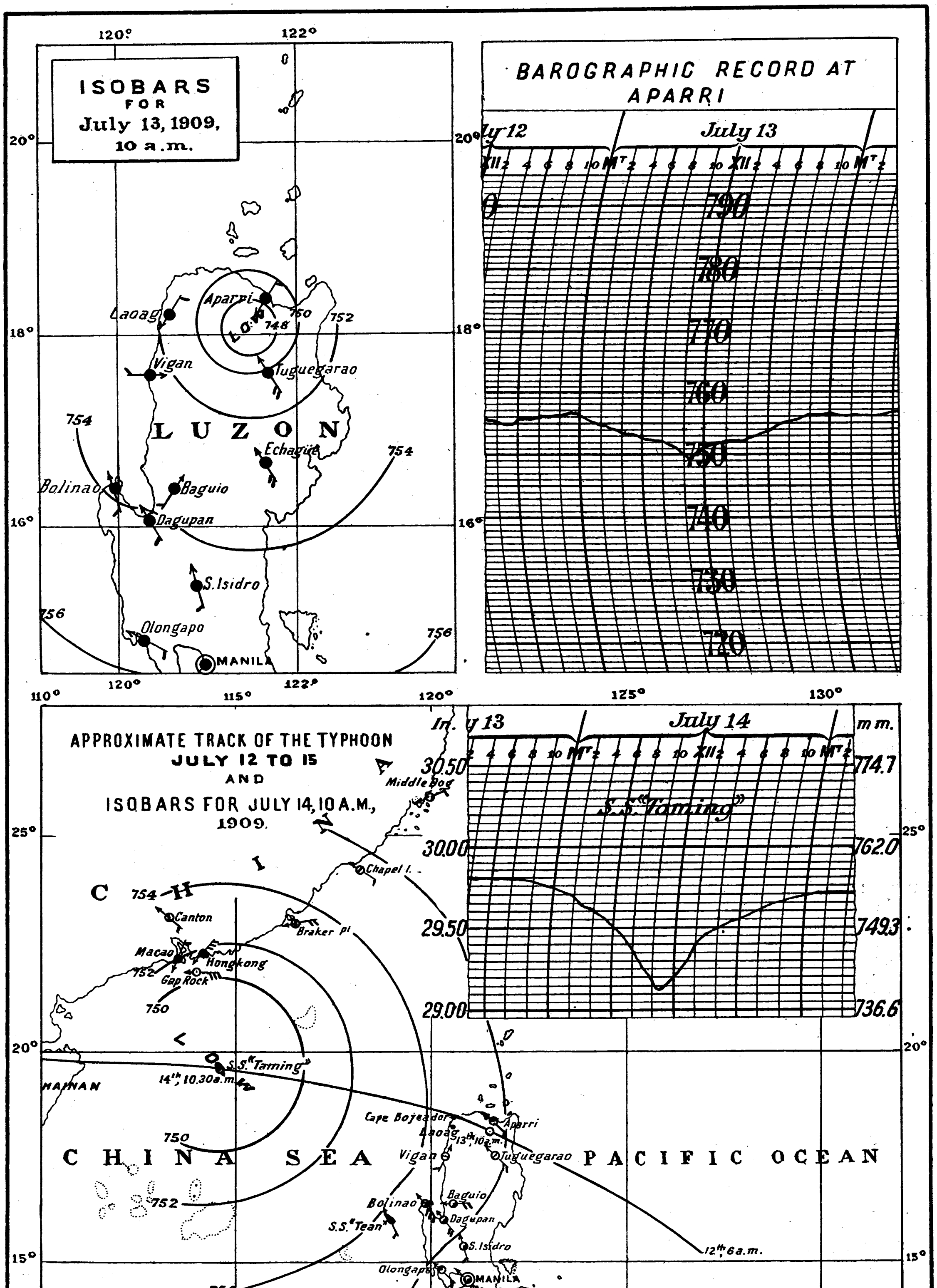
July 13, 9 a. m.: Typhoon east of northern Luzon, less than 300 miles distant, moving northwest.
July 13, noon: Typhoon crossing northern Luzon, moving west-northwest or northwest.
July 13, 5 p. m.: Typhoon west-northwest of Aparri, moving west-northwest.

On the same day we received from Hongkong Observatory two cablegrams worded thus:

July 13, 11 a. m.: Typhoon northeast of Luzon, moving west-northwest.
July 13, 1 p. m.: Typhoon in northern Luzon, moving west-northwest.

Plate IV (upper half) shows the distribution of isobars over the Philippines at 10 a. m. of the 13th and the barograph curve traced at Aparri during the passage of the storm south of that station. To judge from the curve and the small intensity of the wind observed even in the stations nearest to the path, the typhoon must have had very little development at the time when it crossed

Plate IV.



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

northern Luzon. No report mentions a wind velocity exceeding 8 of the Beaufort scale and even this maximum intensity was observed only in the rear of the storm when the vortex had already passed into the China Sea and probably began to increase in force.

It is quite possible that the typhoon became deformed upon entering the island and, may be, was split into two partial centers. The latter is suggested by two facts: (1) At Laoag northeast winds prevailed during the whole forenoon of the 13th and veered to south-southeast at 1 p. m. This would indicate that the vortex passed to the south of and very close to the station. Nevertheless the observer at that place sent a special telegram informing us that, according to a telephone message received from Cape Bojeador (some 16 miles north of Laoag), the barometer had fallen there to 743 millimeters, while at Laoag the minimum had been 749.90 millimeters. (2) The winds observed at Laoag during the forenoon of the 13th were very light (1 to 2, Beaufort scale), while those from south-southeast which set in at 1 p. m. acquired considerable force. In the supposition of two cyclonic centers, one north, the other south of Laoag, this phenomenon is easily understood, since the winds belonging to the two cyclonic systems neutralized each other within the intervening zone until the vortices had passed out into the China Sea and southerly winds were induced by both.

Once in the China Sea, the typhoon acquired greater development, as is readily seen by comparing the isobars for 10 a. m. of the 14th with those for the same hour of the preceding day. For this purpose we reproduce the former on Plate IV (lower half) together with a barograph curve traced from the hourly observations made aboard the steamer *Taming*.

As the *Taming* found herself within the vortical region, we believe that special interest attaches to the valuable observations which Captain O. Sommerville, the master of the vessel, kindly placed at our disposal and which are embodied in the following table. According to these data, the vortex of the typhoon was at 10.30 a. m. of the 14th in the neighborhood of 19½° latitude N and 114½° longitude E.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "TAMING," JULY 13 AND 14, 1909.

[Captain, Mr. A. Sommerville.]

Date and hour.	Pressure.	Wind.		Remarks.
		Direction.	Force.	
July 13:	*mm.*		*0-12.*	
5.30 p. m	756.40	SE	3	Left Hongkong.
Midnight	55.38	E	1	Slight SE swell; fine clear weather. After midnight the wind increased and gradually shifted to the NNE.
July 14:				
1 a. m	54.62	ENE	3	Fine weather.
2 a. m	53.86	NE by E	4	Do.
3 a. m	52.33	NE	5	Do.
4 a. m	51.83	NE by N	6	Cloudy and overcast.
5 a. m	50.81	NE by N	6	Heavy easterly swell.
6 a. m	49.29	NNE	7	Rolling in and squally.
7 a. m	47.76	NNE	7	Strong gale and high seas; rainy.
8 a. m	45.73	NNE	8	Strong gale and high seas; rainy. Storm threateningly near, and I consequently decided that it was unsafe to run any further, as we were rolling very heavily in the beam sea. At 8.50 a. m. wind blowing with great force; high, but not an excessively dangerous sea. Hove to with ship's head E. Very heavy rain.
9 a. m	42.94	NNE	------	Very hard storm and heavy rain. At 9.55 a. m. the wind fell light, the rain ceased; in almost half an hour the first puff of air came from SE, showing rather to my surprise—owing to the shift of wind in the early part of the storm—that I had not passed in front, but had got perilously near the center.
10 a. m	40.65	Light airs	------	In the center of the storm; steaming SE.
10.30 a. m	39.89	Light airs	------	In the center of the storm; steaming full speed through this central calm, which lasted about an hour, thus making the diameter of the center at say roughly speaking 20 miles, allowing speed of ship at 10 knots and the typhoon traveling say 240 miles a day.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "TAMING," JULY 13 AND 14, 1909—Contd.

Date and hour.	Pressure.	Wind.		Remarks.
		Direction.	Force.	
July 14:	*mm.*		*0-12.*	
11 a. m	40.14	Light airs		Position of the steamer from 9 a. m. to 11 a. m. 19° 37′ lat. N, 114° 38′ long. E. In the center of the storm, full speed. At 11.42 a. m. the wind came very strong from SSE and blew with great fury, much harder than in the advancing quadrant: very heavy rain, but curiously the sea was nowhere nearly as high as when facing the front of the storm. I hove to with my head EbyS and laid like that until the storm was over.
Noon	41.67	SSE		Very furious gale from SSE and heavy rain.
1 p. m	43.95	SSE		Do.
2 p. m	47.25	SSE		Gale moderating and fine weather.
3 p. m	48.27	S		Moderate gale and fine weather; barometer rising.
8 p. m	52.33			
Midnight	54.11			

NOTE.—The barometer readings seem to be 0.8 mm. too high.

On July 14 the Observatory cabled the following storm warning:

July 14, 11 a. m.: Typhoon over N China Sea, moving west-northwest.

The ordinary weather note of the 15th contained this reference to the storm:

July 15, 11.55 a. m.: Pressure is lowest in the neighborhood of the Gulf of Tongking. The typhoon of the preceding days seems to be moving at present westward.

Hongkong Observatory favored us during the 14th and 15th with the following information:

July 14, 11 a. m.: Typhoon south-southeast of Hongkong, moving west-northwest.
July 15, noon: Typhoon in northern part of the Gulf of Tongking, moving west.

It is much to be regretted that at Lamko light, northwest of Hainan, no barometric observations have been made during July. Nevertheless, the direction and intensity of the winds observed there on the 15th and 16th clearly show that the vortex passed south of, and not far from the said station, as may be seen in the following table.

METEOROLOGICAL OBSERVATIONS MADE AT LAMKO LIGHT STATION, JULY 14 to 16, 1909.

Date and hour.	Wind.		Weather.	Sea.		Remarks.
	Direction.	Force.		State.	Direction.	
July 14:		*0-12.*				
9 p. m	NE	3	o, v			At 9.50 p. m. rain set in.
Midnight	N	4	o, m, v			
July 15:						
3 a. m	N	6	o, m, v			
6 a. m	N	7	o, m, v	R.	N.	
9 a. m	N	9	o, m, v	H.	N.	
Noon.	E	10	o, m, v	H.	E.	
3 p. m	SE	7	o, m, v	H.	E.	
6 p. m	ESE	6	o, m, v	H.	E.	
9 p. m	ESE	6	o, m, v			
Midnight	SE	5	o, m, v			
July 16:						
3 a. m	SE	5	o, m, v			At 4.15 a. m. rain ceased.
6 a. m	SE	3	o, m	M.	SE.	
9 a. m	SE	2	o, m	C.	SE.	
Noon	SE	3	o, m	C.	SE.	

From Hainan the typhoon headed for Indo-China, passing over Phulien and Haiphong between 4 and 5 a. m. of the 16th. Thanks to the generosity of Mr. J. Ferra, director of the meteorological service of Indo-China, we are able to exhibit on Plate V the distribution of isobars at 10 a. m. of that day and also the barograms obtained at Phulien and Haiphong. From a report kindly prepared by Mr. A. Beljonne, assistant meteorologist at Phulien Observatory, and placed at our disposal by Doctor Ferra, we quote the following interesting data concerning the typhoon on the coast of Indo-China:

Toward 8 p. m. of the 15th a few drops began to fall, which very soon increased to a torrential rain. At 10 p. m. the wind, still coming from north-northwest, increased in force. An hour later the barometer cemmenced to fall rapidly; in the beginning the rate was 1.9 millimeters per hour, but this soon increased to nearly 3 millimeters. The typhoon advances, and seems to incline its track toward west when it reaches the coast which it enters east of Phulien. Pressure continues decreasing very rapidly (4 millimeters between 2 and 2.30 a. m. of July 16). The squalls, all the time from north-northwest, increase in intensity, as does likewise the rain. The outlook is completely cut off. At 3.30 a. m. the wind inclines toward NbyW and then veers successively to NbyE and NE; violent squalls continue until about 4.20, when they subside almost suddenly. At the same time the barometer ceases to fall, having reached a minimum of 725.3 millimeters (pressure at sea level), at which height it remains until 4.40 a. m. During this interval, disturbed by some wind squalls, the rain was reduced to a few drops and there passed several minutes of relative calm.[1] The veering of the wind in the neighborhood of the vortex was as follows:

July 16, 2.40–3.10 a. m.—NW.

July 16, 3.10–3.28 a. m.—NNW.

July 16, 3.28–3.33 a. m.—NbyW.

July 16, 3.33–3.35 a. m.—Two minutes of violent equalls from NNE.

July 16, 3.35–3.40 a. m.—Violent squalls from NbyE.

July 16, 3.40–4.50 a. m.—At first violent from NE, shifting sometimes toward ENE; then suddenly very light between 4.20 and 4.40 (relative calm).

July 16, 4.50–4.52 a. m.—Two minutes of some squalls from NEbyE.

July 16, 4.52.—SbyE; the tempest resuming its former force.

At the time of the passage of the vortex, when the rain had dwindled down to a few drops, a rather unusual phenomenon manifested itself, to wit, an increase of temperature. From 3.4 to 4.9 a. m. the thermometer rose from 22.7° C. to 25.0°, thus confirming in part the hypothesis of a local and exceptional descending movement of the air of higher strata, which would probably occur over the area of central calm. Toward 5 o'clock commenced the second phase of the typhoon. The wind, which had jumped abruptly to S by E, blew again in violent squalls. The barometer began to rise again, rapidly at first, so that the rise reached 3.5 to 4.8 millimeters per hour, and more slowly afterwards.

* * * * * * *

The greatest wind velocities were recorded at this observatory on the 16th. In the anterior part of the typhoon the winds from north-northwest to northeast reached a velocity of 140 kilometers per hour, or nearly 40 meters (38.9) per second between 3 and 4 a. m. In the posterior part, between 7 and 8 a. m., we registered 124 kilometers per hour, or 34.4 meters per second, for the southerly winds. Some squalls of short duration which occurred at intervals, seem to have attained even 50 meters per second.

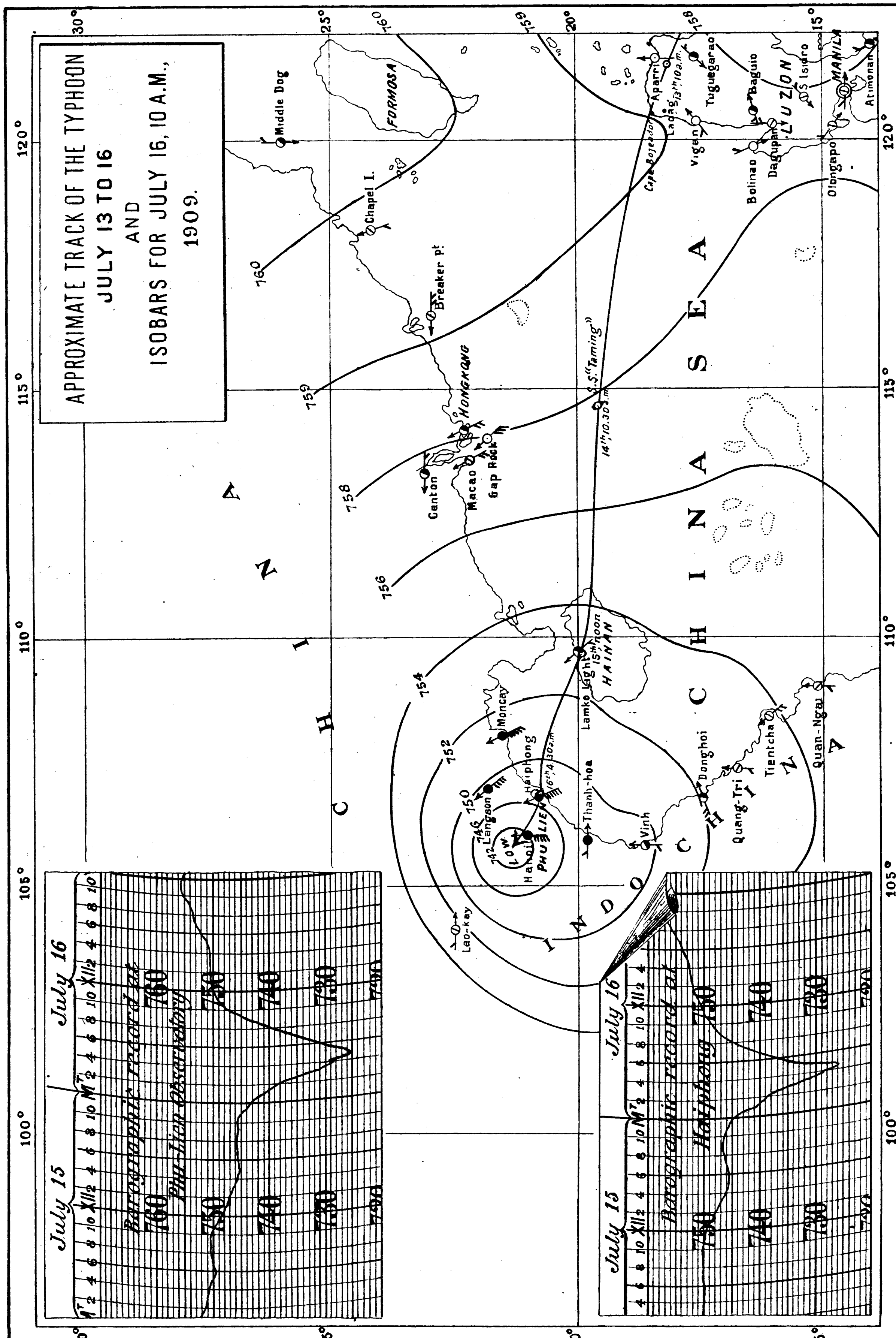
Mr. Berny, the observer at Haiphong, thus describes the passage of the storm over his station:

The wind began to blow as a strong north-northwest breeze at 6 p. m. of the 15th and reached its maximum velocity while coming from northeast, at 4.40 a. m. of the 16th. At the latter hour it calmed down, but only to rage again with equal force at 5 a. m., coming now from south-southeast. The barometric minimum of 725.7 millimeters was registered at 4.30 a. m. of July 16.

We will close the discussion of this typhoon by giving its velocity of translation from the time it entered the Philippines until it penetrated into the Asiatic continent. For this purpose we have selected the following known positions of the center: July 13, 10 a. m. (least distance from Aparri);

[1] [Note by Mr. A. Beljonne.] See Angot, "Traité de Météorologie." The rise of temperature has been observed likewise at Haiphong, as is attested by the thermograph of this station, which between 3 and 4 a. m. (approximately) rose from 24.9° to 26.4°. During the passage of the center the clouds must have been merely reduced to a thin covering. In fact, we have not noticed any clearing of the sky such as by common consent is called the "eye of the storm"; not a single star has been visible at Phulien during that time. Although there was a rise in temperature, this failed to produce a corresponding diminution of the relative humidity: the hygrographs of the observatory continued to register the degree of saturation.

Plate V.



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

14, 10.30 a. m. (least distance from steamer *Taming*); 15, noon (in Hainan, southwest of Lamko light); 16, 4.30 a. m. (least distance from Phulien) and 10 a. m. of the same day (northwest of Hanoi). The resulting velocities are these:

	Miles per hour.
July 13, 10 a. m. to July 14, 10.30 a. m.	16.3
July 14, 10.30 a. m. to July 15, noon	11.0
July 15, noon to July 16, 4.30 a. m.	10.1
July 16, 4.30 a. m. to July 16, 10.00 a. m.	12.9

Hence if we take into account the entire path described during the three full days comprised between 10 a. m. of the 13th and the same hour of the 16th, the average velocity is found to have been 12.6 miles per hour.

THE TYPHOON OF THE BALINTANG CHANNEL, JULY 24 TO 29, 1909.

According to its place of origin this typhoon belongs to the same type as the preceding. It formed on the 24th, east of, and not very far from the central part of the Philippines. During the 24th and 25th its influence was felt plainly in the Visayas and in Mindanao, with somewhat fresh and squally winds from the third quadrant, some rain and a slight fall of the barometers.

The Observatory sent its first announcement of this typhoon to Hongkong and the other foreign centers at 11 a. m. of the 25th in the following form:

July 25, 11 a. m.: Typhoon east of Luzon, less than 300 miles distant, moving north-northwest.

As may be seen from the track on Plate VI, the typhoon retained its north-northwest direction until the morning of July 26, when it inclined decidedly toward west. Nevertheless, as at 11 a. m. of that day we had only the observations made in the Philippines, in Formosa and the Loochoos, but not those of Santo Domingo, Batanes Islands, the Observatory believed that the storm tended rather to recurve toward Japan and hence cabled the following notice:

July 26, 11 a. m.: Typhoon east of Balintang Channel, moving north.

From Hongkong Observatory we received this information:

July 25, 12.30 p. m.: Typhoon east of Luzon, moving northwest.
July 26, 12.30 p. m.: Typhoon east of Balintang Channel, moving northwest.

On the 27th there was no longer any doubt that the storm had crossed through Balintang Channel on a track strongly inclined toward west. Wherefore we sent to Hongkong and the rest of our foreign correspondents this cablegram:

July 27, 1 p. m.: Typhoon west of Balintang Channel, moving west or west-northwest.

To enable the reader to see for himself how the vortex traversed Balintang Channel to the south of Santo Domingo, Batanes Islands, we exhibit on Plate VII the configuration of isobars for 2 p. m. and 10 p. m. of the 26th and 6 a. m. of the 27th.

On the 28th the state of the atmosphere around northern Luzon and southern Formosa had become very complicated, making it extremely difficult to ascertain the direction of the typhoon. On the one hand, the barometer at Hokoto (Pescadores Islands) showed a less height and a more pronounced descent than that of Koshun, which fact seemed to indicate that the storm was inclining toward north; but on the other, there was noticed so marked a fall of the barometers on the west coast of Luzon, that we had either to admit the existence of a new cyclonic center or to suppose that the typhoon of the preceding day had inclined its path toward southwest. Now, there have been occasional instances, though few, in which typhoons moved toward southwest or west-southwest in the China Sea as well as in the Formosa Channel, and even in the Pacific Ocean to the east and northeast of Formosa, which facts rendered the second supposition the more probable, and hence we ventured to state that the track of the typhoon had assumed a southwesterly direction. Hongkong Observatory, either because not in possession of so many data as were at our disposal, especially as regards the western coast of Luzon, or possibly, because it gave greater

Plate VI.

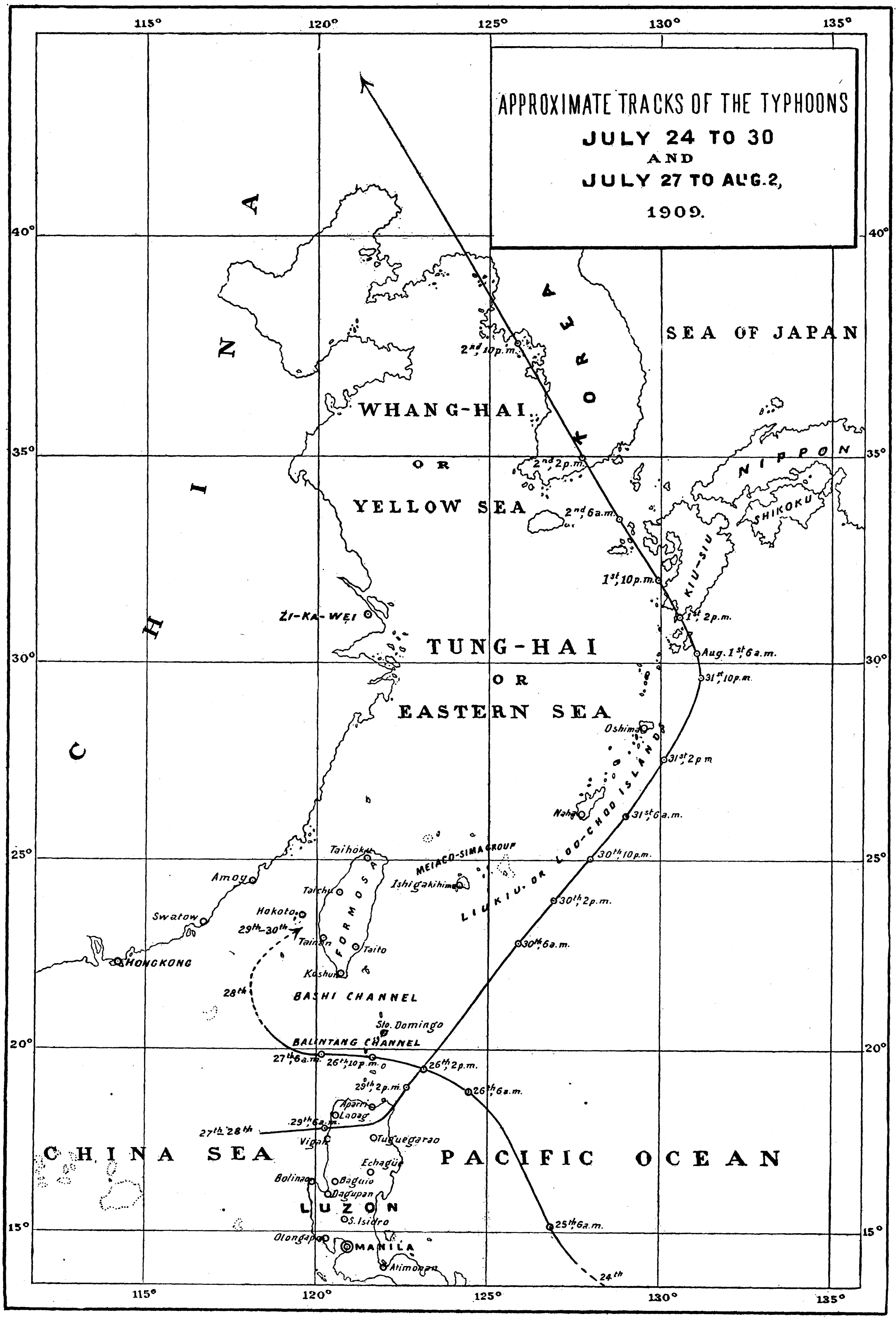
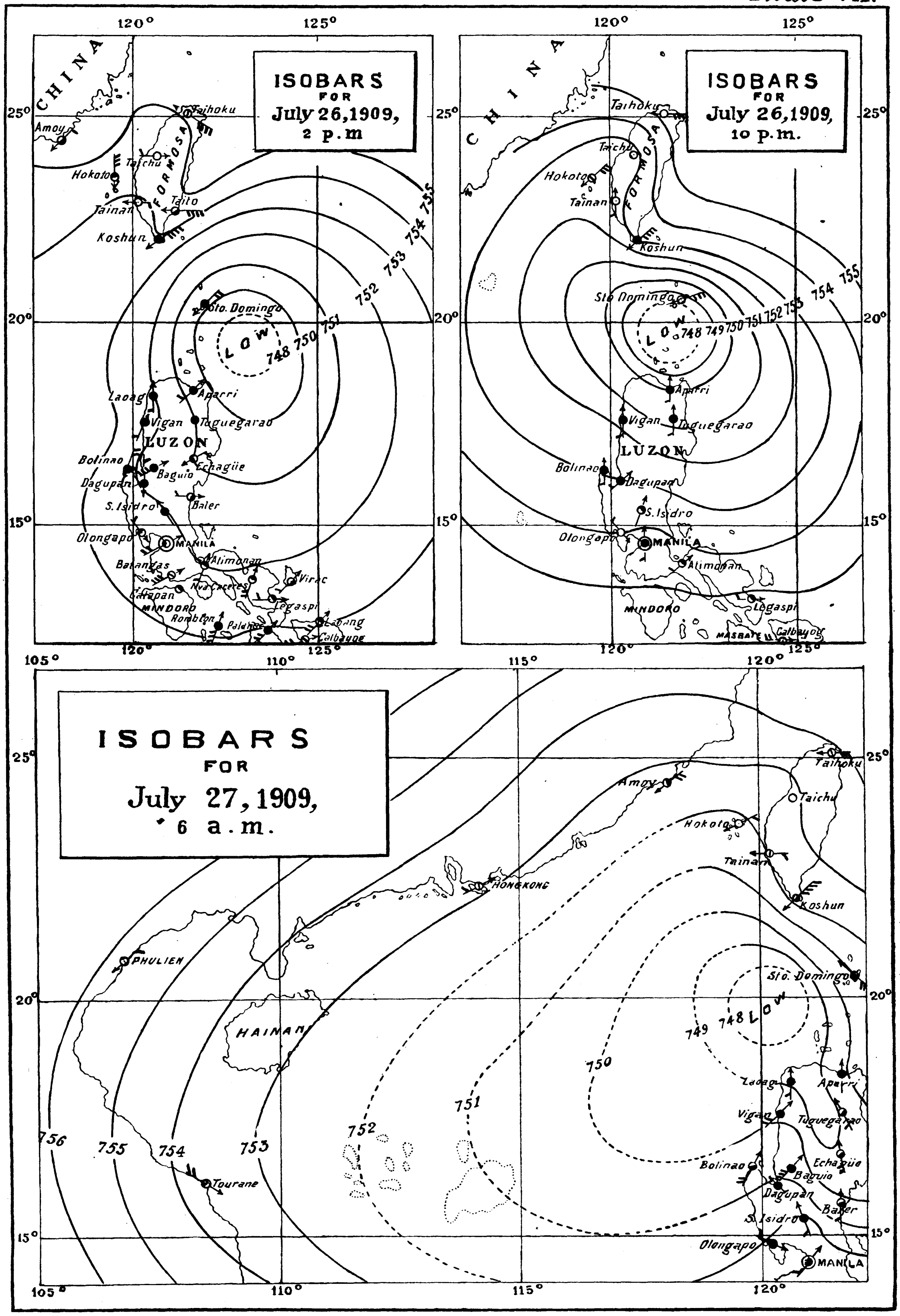

APPROXIMATE TRACKS OF THE TYPHOONS
JULY 24 TO 30
AND
JULY 27 TO AUG. 2,
1909.
CHINA
KOREA
SEA OF JAPAN
NIPPON
SHIKOKU
KIU-SIU
WHANG-HAI
OR
YELLOW SEA
TUNG-HAI
OR
EASTERN SEA
ZI-KA-WEI
Oshima
Naha
LIUKIU, OR LOO-CHOO ISLANDS
MEIACO-SIMA GROUP
Ishigakihima
Taihoku
Taichu
FORMOSA
Tainan
Taito
Kashun
Hokoto
Amoy
Swatow
HONGKONG
BASHI CHANNEL
BALINTANG CHANNEL
Sto. Domingo
Aparri
Laoag
Vigan
Tuguegarao
Echagüe
Baguio
Bolinao
Dagupan
S. Isidro
Olongapo
MANILA
Atimonan
LUZON
CHINA SEA
PACIFIC OCEAN
2nd, 10 p.m.
2nd, 2 p.m.
2nd, 6 a.m.
1st, 10 p.m.
1st, 2 p.m.
Aug. 1st, 6 a.m.
31st, 10 p.m.
31st, 2 p m
31st, 6 a.m.
30th, 10 p.m.
30th, 2 p.m.
30th, 6 a.m.
29th-30th
28th
27th, 6 a.m.
26th, 10 p.m.
26th, 2 p.m.
26th, 6 a.m.
29th, 2 p.m.
29th, 6 a.m.
27th 28th
25th, 6 a.m.
24th
115°
120°
125°
130°
135°
40°
35°
30°
25°
20°
15°

Plate VII.



N.B.- The barometric readings have been reduced to standard gravity weight to the barometric height observed at Hokoto, was satisfied with stating on the same day (28th) that the typhoon was northwest of Luzon, moving westward, while at 1 p. m. of the 29th it placed the same once more to the west of Balintang Channel, designating it as stationary.

From the afternoon of the 28th onward, the Observatory was cut off from telegraphic communication with northern Luzon, which made it impossible to trace even the approximate distribution of isobars for the northern part of our Archipelago. It seemed, however, certain that after all the existence of two cyclonic centers had to be admitted, but there were no means of locating them, let alone ascertaining their directions of advance.

From the observations received later by mail it became clear that one of these two vortices had crossed Luzon, moving from west to east, and that this was the disturbance indicated on July 30 by the observations of Formosa and the Loochoos Islands to the east of Bashi Channel moving northeast.

That the latter cyclonic center can not have been identical with the one which passed through the Balintang Channel on July 26 and 27, is proved by the difference in form and extent of the two phenomena as shown by a comparison of the isobars on Plate VII with those on Plate VIII. Moreover a typhoon which, after having first moved westward and then toward southwest, finally doubles on its track and passes to the east, would be a spectacle never before seen in the Philippines. In fact this appears so utterly incredible, that we could admit it only on the strength of a great number of observations which excluded all possibility of doubting. As, on the other hand, the observations made at Hokoto in the evening of the 27th and during the 28th and 29th seem to point out the presence in the Formosa Channel of a more or less developed cyclonic center, we believe that there is sufficient warrant for the supposition that the typhoon of the Balintang Channel recurved west of the Bashi Channel, taking a northerly direction and filling up in the Channel of Formosa; while the second center—of which more in the following paragraph—formed in the China Sea to the west of northern Luzon, July 27–28.

THE TYPHOON OF NORTHERN LUZON, JULY 27 TO AUGUST 2, 1909.

As already stated, it is our opinion that this typhoon originated July 27 to 28 in the China Sea; that is, on the left side of the other disturbance, the typhoon of the Balintang Channel. Hence we have here a case in which a secondary cyclone became very soon independent of its primary and greatly exceeded the latter in intensity and diameter. The shape of the isobars for 6 a. m. of July 27 (Plate VII) is similar to that usually observed in Europe when the formation of a secondary center is in preparation.[1] We must, however, confess that these curves are based upon relatively few data and hence can not be considered definitive, but only probable.

It is not our intention to give here a complete discussion of this extraordinary typhoon as to its formation and track, the latter of which is represented on Plate VI. We shall confine ourselves to place before the reader abundant material from which he may judge for himself the grounds on which we have traced the part of its path which lies across the Island of Luzon. The rest of the track from the east of Balintang and Bashi Channels up to Japan and Korea, offers not the slightest difficulty to those who have before their eyes the Daily Weather Maps published by Tokio Observatory.

In the first place we present the observations made at Vigan and Laoag, which show that the storm center passed north of the former and south of the latter station.[2]

[1] See Angot, "Traité Elémentaire de Météorologie," pp. 317–320.

[2] The vortex must have passed over or very close to the port of Salomague in which the steamer *Buen Viaje* was wrecked.

METEOROLOGICAL OBSERVATIONS FOR JULY 28 TO 30, 1909.

Date and hour.	Laoag.						Vigan.					
	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Rainfall.	Remarks.	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Rainfall.	Remarks.
July 28:	*mm.*		*0-12.*		*mm.*		*mm.*		*0-12.*		*mm.*	
Noon	749.45	SE	3	u	0.8		748.86	SSE	5	oq	2.8	
6 p. m	47.17	ESE	4	or	9.7		46.24	SSE	4	oq	42.4	Fresh winds from SSE with heavy rain.
8 p. m	47.77	ENE	4	or	17.8		46.84	SSE	3	oq	35.3	
10 p. m	48.03	E	4	or	31.7	Heavy rain and fresh winds from E.	47.34	SE	6	oq	15.0	
Midnight	47.10	------	------	------	------		44.76	SSE	9	oq	7.4	Whole gale from SSE with rain.
July: 29												
2 a. m	44.30	------	------	------	------		41.95	SSE	11	oq	7.9	Hurricane winds from SSE with heavy rain.
4 a. m	42.40	------	------	------	------		39.57	SSE	12	oq	39.1	
6 a. m	39.14	NE	7	oq	8.9	Moderate gale with rain	34.04	SSE	12	oq	31.8	
7 a. m	37.38	NE	8	oq	10.2		30.39	S	12	oq	------	The hurricane winds veered very rapidly from S to W and WNW decreasing gradually in force.
8 a. m	35.93	NE	9	oq	9.7	Whole gale from NE backing gradually to W.	37.04	W	11	oq	------	
9 a. m	38.88	NNW	9	oq	22.9		44.64	WNW	9	oq	------	
10 a. m	42.09	WNW	9	oq	21.6		47.07	WbyN	8	oq	17.8	
2 p. m	47.45	W	9	oq	36.4		48.93	WbyS	3	or	55.9	
July 30:												
6 a. m	53.92	WSW	3	o	------		54.80	WSW	1	o	13.7	
2 p. m	55.08	SW	3	o	1.5		56.05	S	2	od	2.3	

Plate VIII shows the distribution of isobars at 10 p. m. of the 27th, 10 p. m. of the 28th and 6 a. m. of the 29th. Finally, on Plate IX we have united the barograms which we believe to be of special interest for the study of this typhoon to wit, those of Vigan, Laoag, Aparri, Tuguegarao, Echague, and Santo Domingo de Basco (Batanes Islands).

The steamer *Taming,* en route from Hongkong to Manila, likewise felt this typhoon, as is evident from the following observations made on board and kindly placed at our disposal by the captain in command of the liner:

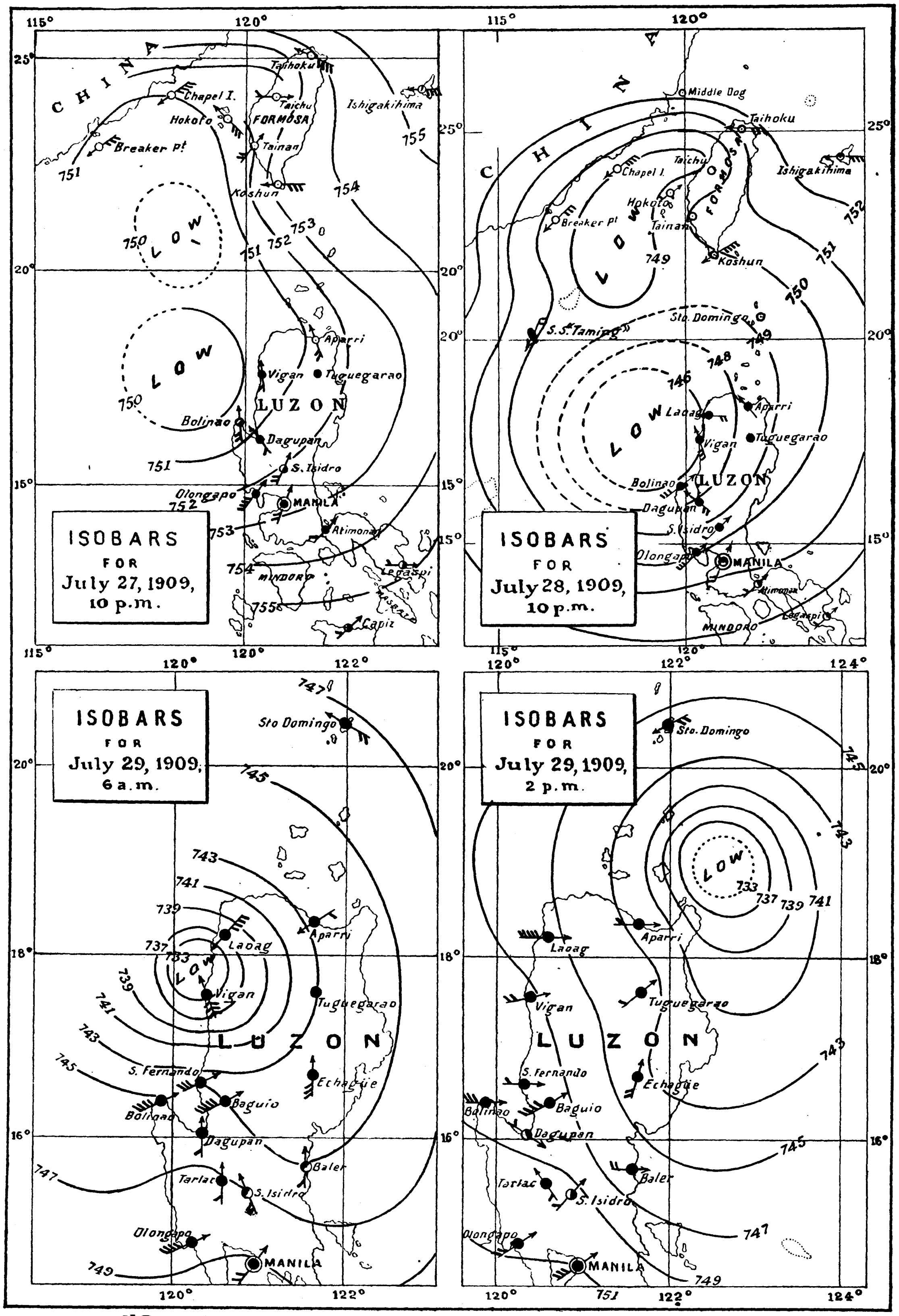
METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "TAMING," JULY 28 TO 30, 1909.

[Captain, Mr. G. H. Pennefather.]

Date and hour.	Position. Latitude N.		Position. Longitude E.		Pressure.	Wind. Direction	Wind. Force.	Weather.	Remarks.
July 28:	°	′	°	′	*mm.*		*0-12.*		
8 a. m	22	02	114	31	754.11	ENE	3	b	Moderate easterly swell.
Noon	21	36	114	56	53.86	E by N	4	b, c	Rough sea from NE.
4 p. m	21	04	115	16	51.32	NE	5	b, c	Do.
8 p. m	20	27	115	41	51.06	NE by N	4	b, c	Do.
Midnight	19	56	116	07	52.59	NNE	2	b, c	Heavy ENE swell.
July 29:									
4 a. m	19	20	116	33	50.30	NE	4	o, c, q, r	Heavy confused sea.
8 a. m	18	49	116	59	51.83	NE	3	o, q	High confused sea.
Noon	18	17	117	22	52.59	Variable	1	o, c, q, r	High easterly sea.
4 p. m	17	56	117	44	52.59	SW	2	b, c	Do.
8 p. m	17	14	118	11	54.37	SW	2	b, c	Heavy confused swell.
Midnight	16	42	118	36	55.64	WSW	3	b, c	Moderate SSW swell.
July 30:									
4 a. m	16	11	119	01	55.13	WSW	4	b, c	High southerly swell.
8 a. m	15	36	119	25	56.91	NW	3	b, c, p	Heavy southerly swell.
Noon	15	11	119	55	57.92	SW	4	o, c	Moderate cross sea.
4 p. m	14	40	120	05	58.18	SW	2	o, c	Moderate SW swell.
8 p. m	Manila Bay				58.43	SW	2		

NOTE.—The barometer readings seem to be 0.8 mm. too high.

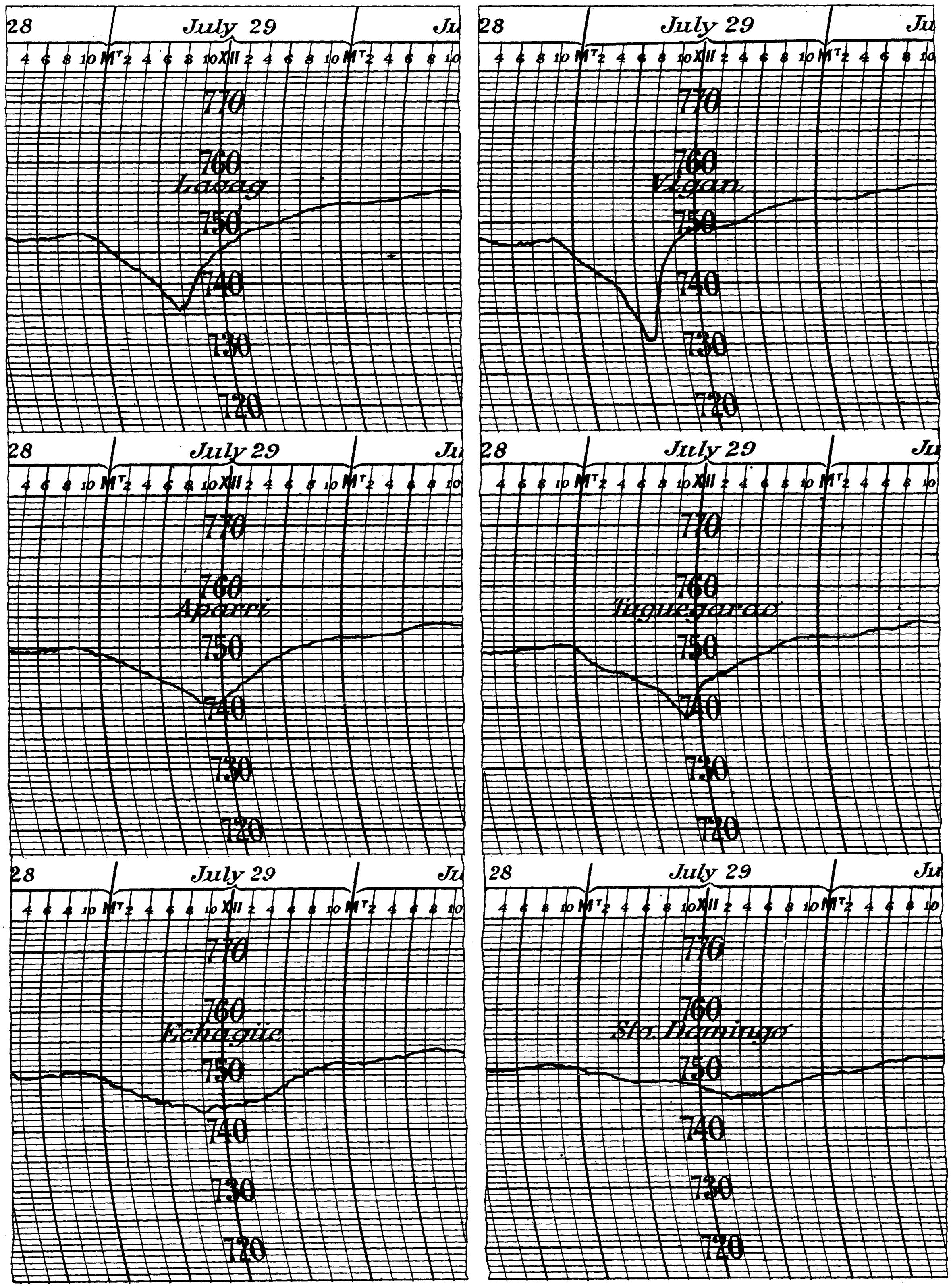
Plate VIII



N.B: The barometric readings have been reduced to standard gravity.

BAROGRAPHIC RECORDS

Plate IX.



In order to show still more clearly how the vortex, after entering Luzon between Vigan and Laoag, moved in an almost due east direction and, about four hours later, passed between Aparri and Tuguegarao, we submit in the following table the more salient observations made at the two latter stations on July 28, 29, and 30:

METEOROLOGICAL OBSERVATIONS FOR JULY 28 TO 30, 1909.

Date and hour.	Aparri.						Tuguegarao.					
	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Rainfall (daily total, beginning 6 a. m.).	Remarks.	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Rainfall (daily total, beginning 6 a. m.).	Remarks.
July 28:	*mm.*		*0–12*		*mm.*		*mm.*		*0–12*		*mm.*	
Noon	750.65	SSE	2	o			750.44	SE	1	od		
6 p. m	49.47	SE	1	o			49.13	SW	1	o		
8 p. m	49.77	Calm		o			49.57	Calm		o		
10 p. m	50.07	Calm		o			50.11	Calm		op		
Midnight	48.95	SE	1	op	14		49.96	Calm		o	8.9	
July 29:												
2 a. m	47.90	SW	1	o			47.10	Calm		op		
4 a. m	45.96	NE	2	od			45.91	Calm		o		
6 a. m	44.75	ENE	2	od			44.56	Calm		o		
8 a. m	43.36	ENE	2	od			43.12	SW	5	op		
10 a. m	40.97	ENE	2	op			39.60	SW	6–7	op		
11 a. m	40.59	NE	3	op		Winds inclining to N.	38.75	SW	7	od		At 11.30 a. m. the barometer began to rise rapidly and the winds decreased in intensity.
Noon	41.62	NE	3	op		At 12.30 p. m. winds blew from NW; and at 2 p. m. from SW quadrant till 3 p. m. when they blew again from NW and N becoming strong with heavy rain.	42.33	SW	2	o		
1 p. m	43.12	NW	2	op			44.33	Calm		c		
2 p. m	44.03	W	2	op			45.22	SW	1	o		
4 p. m	46.27	NW	4	oq			47.08	Calm		o		
6 p. m	48.47	W	2	op	68.1		48.61	Calm		o	44.2	
July 30:												
6 a. m	52.51	Calm		o			52.74	Calm		o		
6 p. m	54.64	NW	2	c			54.27	NW	1	c		

The small map in the lower right corner of Plate VIII exhibits the distribution of isobars at 2 p. m. of the 29th. From it we learn that, after having traversed Luzon, the typhoon assumed at first a northeast direction which it retained until it was east of the northern part of the Loochoos Islands. There the storm recurved toward northwest, moving along the western coasts of Kiusiu Island and Korea, and finally penetrated into Manchuria on August 2.

This track is indeed very abnormal. According to the ordinary law of typhoons, their initial direction is toward west or northwest; subsequently they either retain these directions or recurve toward north or northeast. In the present case, however, almost exactly the contrary happened: the typhoon moved first toward east and northeast and then recurved toward north and northwest. It is possible that on some future occasion we revert to this phenomenon to examine into the probable causes of this extraordinary path.

We close our remarks on this typhoon by transcribing the warnings issued by Manila Observatory in connection with it, after the same had been located to the northeast of Luzon:

July 29, noon: Typhoon northeast of Luzon, direction unknown.

July 30, 10.50 a. m.: Typhoon east of the Bashi Channel, moving northeast.

July 31, 10.40 a. m.: Typhoon east of Naha (Loochoos Islands), moving northeast.

THREE DEPRESSIONS IN THE CHINA SEA.

Manila Observatory announced during this month three other depressions which, however, do not appear to have acquired any great development.

To the first of these was called the attention of Hongkong, Phulien, etc., in the following cablegram:

July 7, noon: Low pressure area over northern part of China Sea. A typhoon may develop in it to the east-northeast or northeast of the Paracels.

July 8, 11.40 a. m.: Depression in northern part of China Sea.

The ulterior course of this depression was set forth in the ordinary daily weather notes for July 9 to 12, as is shown by the following excerpts from the said notes:

July 9, 12.20 p. m.: * * * The depression of the China Sea seems to continue moving very slowly toward the Gulf of Tongking.

July 10, 12.10 p. m.: The depression of the preceding days seems to have been almost stationary southwest of Hongkong.

July 11, 11.45 a. m.: The depression of the China Sea is approaching very slowly the Hainan Straits, moving apparently to north-northwest.

July 12, 11.45 a. m.: The depression of the preceding days lies over the Continent north of Hainan, moving northward.

The following storm warnings were received from Hongkong:

July 9, 9.30 p. m.: Typhoon southwest of Hongkong; direction of motion unknown.
July 11, noon: Typhoon near Hainan Straits, moving north.
July 12, noon: Typhoon on mainland north of Hainan, moving north.

The available data are too scant to enable us to give to the track of this depression a greater value than probability. The observations made on board the steamer *Taishan* while en route from Swatow to Saigon may be of some interest, especially as the winds observed on the 9th, 10th, and 11th agree pretty well, though not entirely, with the supposed position of this center of low pressure.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "TAISHAN," JULY 9 TO 12, 1909.

[Captain, Mr. J. T. Laing.]

Date and hour.	Position.		Pressure.	Wind.		Weather.
	Latitude N.	Longitude E.		Direction.	Force.	
July 9:			*mm.*		*0—12.*	
8 p. m	Off Breaker Point.		754.91	SE	3	b, c
July 10:	°	°				
4 a. m	22	115½	52.37	SE	3	b, c
Noon	21	115	51.61	SSW	4	b, c
8 p. m	20	114	50.09	S	3	b, c, q
July 11:						
4 a. m	19½	113	50.34	SE	3	o, q, r
8 a. m	19	113	50.09	SSW	5	o, q, r
Noon	18¾	112¾	50.09	WNW	6	o, q, r
8 p. m	18	112	50.59	SWbyW	5	c, o
July 12:						
4 a. m	17¾	111	50.34	SWbyS	4	c, o
Noon	16½	111	51.61	S	5	b, c
8 p. m	15½	110¾	52.63	SSW	4	b, c

At the station of Lamko light-house (northwest of Hainan) the winds came from west-northwest during the whole afternoon of the 10th and nearly throughout the succeeding night, while during the 11th, at least after 9 a. m., they blew from southwest. This seems to indicate that the depression entered the mainland to the north of Hainan before noon of that day.

The first signs of the second depression in the China Sea were noticed by this Observatory in the morning of July 17, and hence the weather note for that day stated:

There are signs of a low pressure area over the China Sea west of the Archipelago.

At 5 p. m. the following advice was sent to the foreign central observatories:

July 17, 5 p. m.: Typhoon west of Luzon, more than 100 miles distant; direction unknown.

Further information was cabled to them on the 19th:

July 19, noon: Typhoon over northern part of China Sea, moving west-northwest.

In the daily weather notes we followed the course of this typhoon or depression until the morning of the 22d, the weather note of which day stated:

The typhoon of the China Sea entered northern Indo-China yesterday afternoon.

During these days Hongkong Observatory favored us with the following notices:

July 19, noon: Typhoon northeast of Paracels, moving west-northwest.
July 20, noon: Typhoon in Hainan, moving west-northwest.
July 21, 11.30 a. m.: Typhoon in northern part of Gulf of Tongking, moving west-northwest.

The passage of this depression or typhoon by the south of Hainan manifested itself clearly at the station of Lamko light-house by fresh to strong winds which veered from north-northeast to east-northeast, east and southeast. These observations form the contents of the following table:

METEOROLOGICAL OBSERVATIONS MADE AT LAMKO LIGHT STATION, JULY 20 AND 21, 1909.

Date and hour.	Wind.		Weather.	Sea.		Remarks.
	Direction.	Force.		State.	Direction.	
July 20:		0-12.				
3 a. m.	NE	3	c, v	----	----	
6 a. m.	NE	3	o, v	C	E	
9 a. m.	NE	3	o, v	C	E	
Noon	NE	3	o, m	C	E	12.35 p. m.: Rain set in till 2.40 p. m.
3 p. m.	NNE	4	o, m	C	E	
6 p. m.	NE	5	o, m	C	E	
9 p. m.	ENE	6	o, m	----	----	
Midnight	ENE	6	o, m	----	----	
July 21:						
3 a. m.	ENE	6	o, m	----	----	
6 a. m.	E	6	c, m	M	E	
9 a. m.	SE	6	c, m	M	E	
Noon	SE	4	c, m	M	E	
3 p. m.	SE	4	c, m	C	E	
6 p. m.	SE	4	c, m	C	E	
9 p. m.	SE	4	c, v	----	----	
Midnight	SE	3	c, v	----	----	

Thanks to the data kindly communicated to us by the director of the meteorological service of Indo-China, we are able to present on Plate X the configuration of isobars at 4 p. m. of the 21st and to determine with considerable precision the point where the depression entered the northern part of Indo-China.

The last of the three depressions was very similar to the preceding in its shape and extent as well as in its path. It, nevertheless, had a somewhat greater westerly inclination and, consequently, entered the continent slightly more south than that of the 21st.

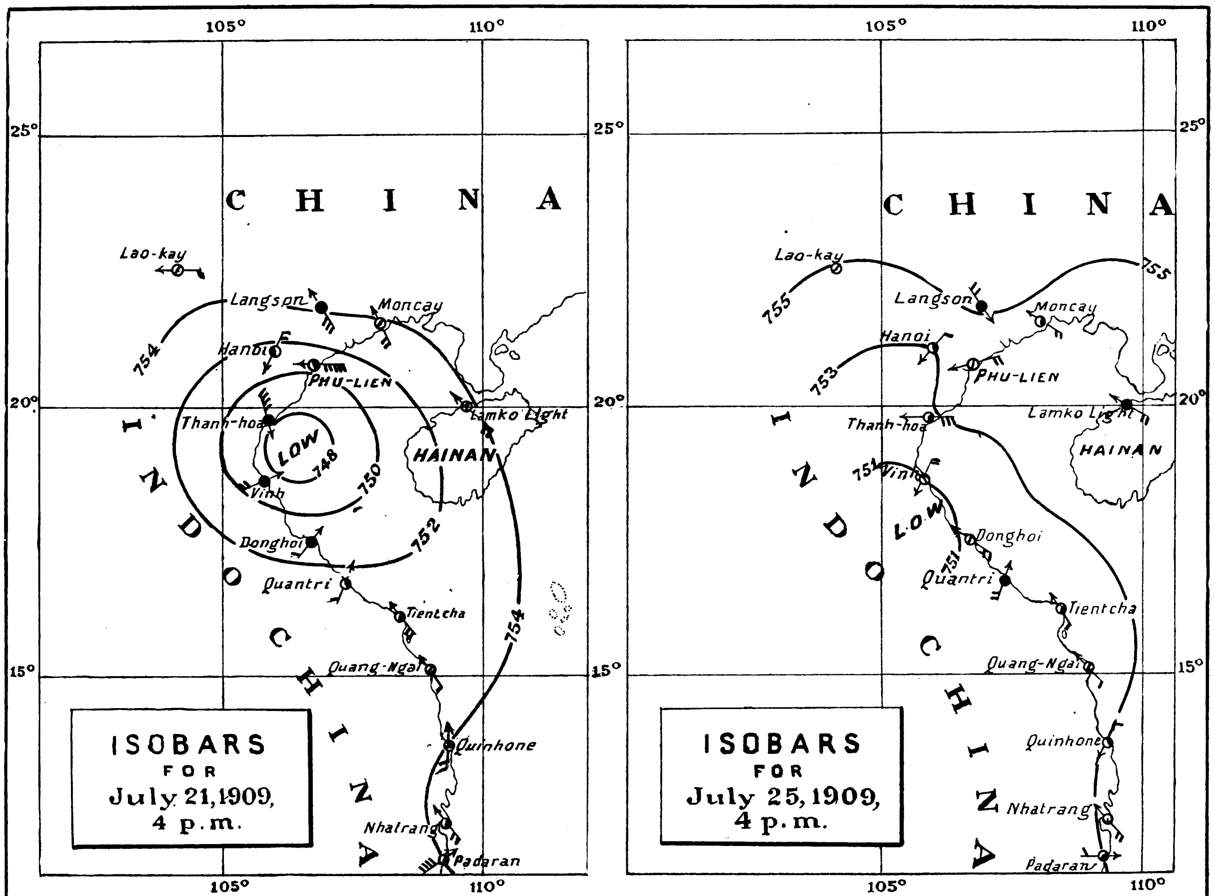
The Observatory announced the existence of this depression to Hongkong, etc., in the evening of the 23d by the following dispatch:

July 23, 6 p. m.: Typhoon [or depression] over northern part of China Sea, moving west-northwest.

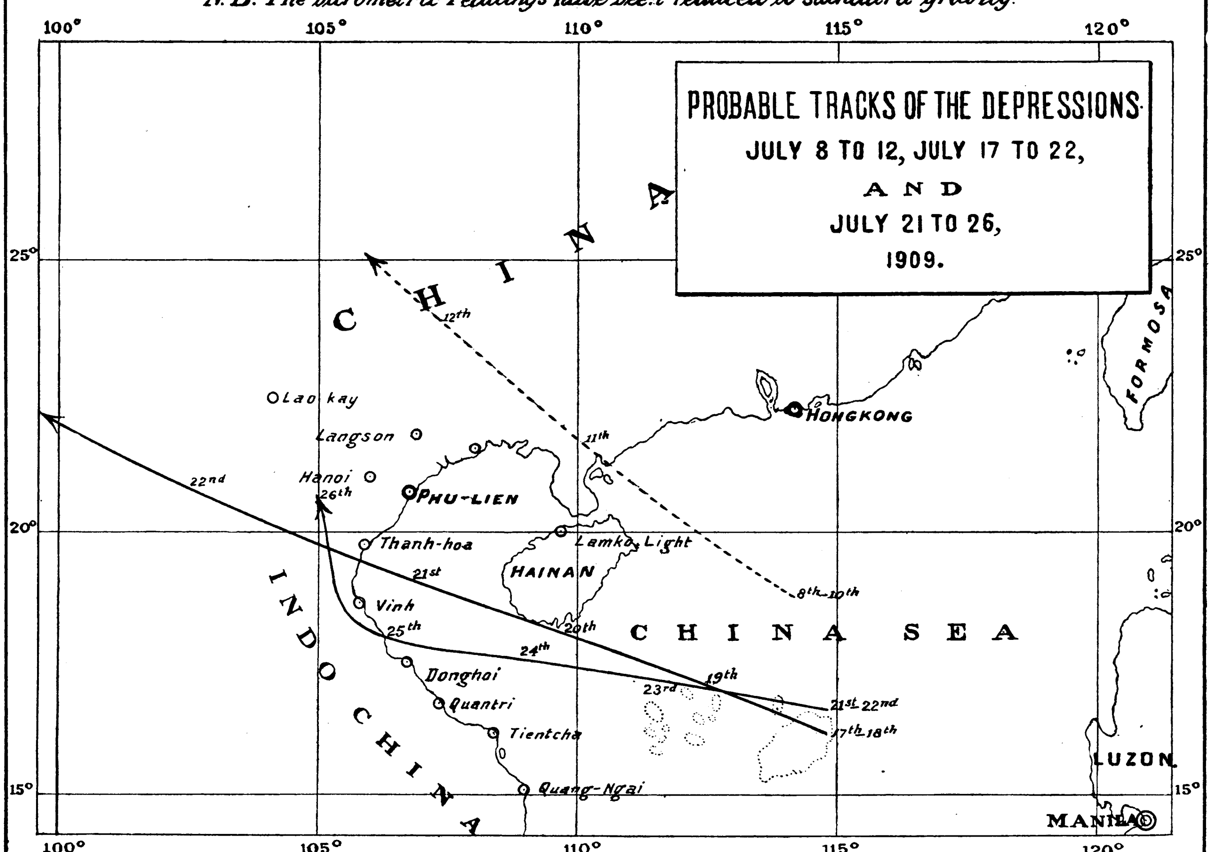
During the afternoon of the following day we received this cablegram from Hongkong:

July 24, noon: Typhoon [or depression] north of Paracels, moving west-northwest.

Plate X.



N.B. The barometric readings have been reduced to standard gravity.



The influence exercised by this depression on the station at the Lamko light-house was on the whole very much like that of the depression on the 20th and 21st, as is shown by the following table:

METEOROLOGICAL OBSERVATIONS MADE AT LAMKO LIGHT STATION, JULY 24 AND 25, 1909.

Date and hour.	Wind.		Weather.	Sea.		Remarks.
	Direction.	Force.		State.	Direction.	
July 24:		0–12.				
3 a. m	NNE	4	o, m, v			2 a. m.: Rain set in till 12.30 p. m.
6 a. m	NNE	5	o, m, v	M	E	
9 a. m	NNE	6	o, m, v	R	E	
Noon	SE	6	o, m, v	R	W	
3 p. m	SE	4	o, v	M	W	
6 p. m	ESE	4	o, v	M	W	
9 p. m	ESE	4	c, v			
Midnight	ESE	4	c, v			
July 25:						
3 a. m	ESE	3	c, v			
6 a. m	ESE	2	c, v	G	E	
9 a. m	ESE	2	o, m.	G	E	
Noon	ENE	3	o, m, v	C	E	11.45 a. m: Rain set in till 6.15 p. m.
3 p. m	ESE	3	o, m, v	C	E	
6 p. m	ESE	3	o, m, v	C	E	
9 p. m	ESE	3	o, v			
Midnight	ESE	2	o, v			

The probable tracks of the three depressions mentioned as having occurred in the northern part of the China Sea, are shown in the lower half of Plate X.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—No es de extrañar que, habiendo sido tantas en número las depresiones ó tifones que han influído este mes en Filipinas, la media mensual de la presión atmosférica sea en todas las estaciones inferior á la de Julio del año pasado. La de Manila difiere de la normal en —0.45 mm. y de la media mensual de Julio 1908 en —0.77 mm. Las mayores presiones se observaron el 16 en la región septentrional del Archipiélago y el 19 ó 20 en la región meridional. Las presiones más bajas tuvieron lugar el 28 ó 29, ó sea, durante el tifón que, según veremos luego, atravesó el norte de Luzón la madrugada del 29.

La temperatura media mensual difiere poco, así de la normal como de la media de Julio, 1908. Las de Aparri y Atimonan son las que se separan más de la del año pasado; sin embargo, las diferencias no pasan de 0.9° C.

Precipitación acuosa.—Efecto natural de tantas depresiones y tifones ha sido la abundancia de lluvias observada en un buen número de estaciones, especialmente en el centro y norte de Luzón. Solamente nueve estaciones dan un total de lluvia inferior al del año pasado. Son notables las cantidades de agua 327.7 mm. y 190.8 mm. recogidas en el intervalo de solas 24 horas en Baguio y Vigan respectivamente durante el tifón del 28 y 29.

DEPRESIONES Y TIFONES.

Durante este mes tres baguios han cruzado la región septentrional de nuestro Archipiélago y se ha notado además la influencia de tres depresiones que formadas en el Mar de China se han movido al W ó WNW en dirección á Indochina ó al Sur de China. Diremos algo de cada una de estas depresiones ó tifones, deteniéndonos de una manera particular en precisar cuanto sea posible aquella parte de sus trayectorias que por falta de datos y sobre todo por interrupción de algunas líneas telegráficas fué imposible señalar al tiempo de su ocurrencia.

EL TIFÓN DE HAIPHONG, 12 Á 16 DE JULIO 1909.

Este tifón pertenece al tipo de los que se forman en el Pacífico cerca de Filipinas, pues ni las observaciones de Yap ni las de Guam dan indicios algunos de haberse sentido su influencia en las Carolinas Occidentales, ó Marianas.

El primer aviso de tifón fué remitido por el Observatorio de Manila á 11 a. m. del 12 en estos términos:

Día 12, 11 a. m.: Tifón al E de Luzón, distancia mayor de 300 millas; dirección desconocida.

Fué muy notable la rapidez con que se movió este baguio viniendo á atravesar el norte de Luzón por el S de Aparri y N de Tuguegarao la mañana del día 13. En este día se enviaron estos tres avisos de tifón á los servicios meteorológicos Extranjeros del Extremo Oriente.

Día 13, 9 a. m.: Tifón al E de la parte norte de Luzón, distancia menor de 300 millas, moviéndose al NW.
Día 13, mediodía: Tifón cruzando la parte de Luzón, moviéndose al WNW ó NW.
Día 13, 5 p. m.: Tifón al WNW de Aparri, moviéndose al WNW.

Del Observatorio de Hongkong recibimos estos dos telegramas el mismo día 13.

Día 13, 11 a. m.: Tifón al NE de Luzón, moviéndose al WNW.
Día 13, 1 p. m.: Tifón en el norte de Luzón, moviéndose al WNW.

En la Lámina IV damos un mapa de isobaras de Filipinas y la curva barográfica obtenida en Aparri durante el paso del baguio por el sur de aquella estación. Á juzgar por esta curva y por la poca fuerza de vientos observada aun en las estaciones más próximas al vórtice, el tifón hubo de estar muy poco desarrollado cuando atravesaba el norte de Luzón. En ningún report hallamos anotada fuerza del viento mayor de 8, escala Beaufort, y aun esta máxima fuerza sólo se observó en la parte posterior de la tormenta, cuando se hallaba el vórtice en el Mar de China y comenzaba tal vez á adquirir mayor desarrollo.

Bien pudo ser que el tifón se hubiese deformado al penetrar en la isla y aun acaso dividido en dos centros parciales. Nos inducen á suponer esto último los dos hechos siguientes: (1) En Laoag dominaron durante toda la mañana del 13 vientos del NE los cuales saltaron al SSE á 1 p. m. Esto indicaría que el vórtice pasó muy cerca por el sur de dicha estación. Sin embargo, el Observador nos puso un telegrama extraordinario haciéndonos saber que, según telefonema recibido de Cabo Bojeador (unas 16 millas al norte de Laoag), el barómetro había bajado allí á 743 mm. siendo así que la mínima de Laoag fué 749.90 mm.

(2) Los vientos observados en Laoag toda la mañana del 13 fueron muy ligeros (fuerzas 1 y 2 de la escala Beaufort), al paso que los vientos del SSE que empezaron á soplar á 1 p. m. adquirieron bastante fuerza. Si existían dos centros ciclónicos, uno al norte y otro al sur de Laoag, ya se comprende que los vientos debidos á entrambos debían neutralizarse hasta que se hallasen aquellos en el Mar de China y correspondiesen á los dos, vientos del cuadrante del Sur.

Una vez en el Mar de China el tifón adquirió mayor desárrollo, como puede verse con la simple comparación del mapa de isobaras de 10 a. m. del 14 con el de 10 a. m. del día anterior. Para hacer más fácil esta comparación damos dichas isobaras en la Lámina IV. En la misma lámina publicamos una curva barográfica trazada por medio de observaciones horarias hechas á bordo del vapor *Taming*.

Habiéndose hallado este barco dentro de la región vortical creemos será de interés publiquemos en una tabla (véase el texto inglés) las preciosas observaciones que nos remitió el Capitán Mr. O. Sommerville. Según estos datos, el vórtice se hallaba á 10.30 a. m. del 14 en los alrededores de 19½° Lat. N y 114½° Long. E.

El día 14 envió el Observatorio este anuncio de tifón:

Día 14, 11 a. m.: Tifón en la parte N del Mar de China, moviéndose al WNW.

Y en la mañana del 15 se decía lo siguiente en la nota ordinaria del tiempo:

La presión atmosférica se halla muy baja en los alrededores del Golfo de Tonking. El tifón de los días anteriores parece moverse al presente hacia el oeste.

Del Observatorio de Hongkong recibimos los mismos días 14 y 15 estos avisos de tifón:

Día 14, 11 a. m.: Tifón al SSE de Hongkong, moviéndose al WNW.
Día 15, mediodía: Tifón en la parte N del Golfo de Tonking, moviéndose al W.

Sentimos que en la estación de Faro Lamko, NW de Hainán, no se hiciesen observaciones barométricas durante este mes de Julio. Sin embargo, la dirección y fuerza de los vientos allí observadas los días 15 y 16 señalan perfectamente el paso del vórtice por el Sur y no lejos de dicha estación. Véase la tabla meteorológica que acompaña el texto inglés.

Desde Hainán se dirigió el baguio al norte de Indochina viniendo á pasar por encima de Phulien y Haiphong entre 4 y 5 a. m. del 16. Gracias á la generosidad de M. J. Ferra, Director del Servicio Meteorológico de Indochina, podemos publicar en la Lámina V la distribución de isobaras á 10 a. m. del 16 juntamente con las curvas barográficas de Phulien y Haiphong. Del report que para nuestro uso se dignó preparar M. A. Beljonne, Meteorologista Auxiliar del Observatorio de Phulien, tomamos los siguientes interesantes datos referentes al tifón en la costa de Indochina:

Hacia las 8 p. m. del 15, empiezan á caer algunas gotas, que muy pronto se convirtieron en lluvia torrencial. Á eso de 10 p. m. el viento, siempre del NNW, va aumentando en fuerza. Una hora más tarde, el barómetro comienza á bajar rápidamente. El descenso, al principio de 1.9 mm. por hora, alcanza pronto valores próximos á 3 mm. El tifón avanza, parece inclinar su trayectoria hacia el W y tiende á penetrar en la costa por el E de Phulien. La presión, en efecto, continúa bajando muy rápidamente (4.0 mm de 2 á 2.30 a. m. del 16). Las rachas, constantemente del NNW, aumentan en intensidad lo mismo que la lluvia. El horizonte completamente cerrado. Á las 3^h 30^m el viento se inclina hacia el N¼NW y luego sucesivamente al N¼NE y NE; soplan aún rachas violentas que se debilitan casi súbitamente hacia las 4.20 a. m. En este momento el barómetro cesa de bajar. Alcanza la mínima, 725.3 al nivel del mar la que conserva hasta las 4.40 a. m. Durante este tiempo, aunque á intervalos hay pequeñas ráfagas, la lluvia se reduce á algunas gotas y pasan algunos minutos de calma relativa. La variación de los vientos en los alrededores del centro fué la siguiente:

El 16 de 2.40 á 3.10 a. m.—NW.
El 16 de 3.10 á 3.28 a. m.—NNW.
El 16 de 3.28 á 3.33 a. m.—N ¼ NW.

El 16 de 3.33 á 3.35 a m.—Dos minutos de rachas del NNE violentas.

El 16 de 3.35 á 3.40 a. m.—N ¼ NE ráfagas violentas.

El 16 de 3.40 á 4.50 a. m.—NE, violento primero, con oscilaciones hacia el ENE después, súbitamente muy débiles de 4^h 20^m á 4^h 40^m (calma relativa).

El 16 de 4.50 á 4.52 a. m.—Dos minutos de rachas de NE ¼ E.

El 16 de 4.52.—S ¼ SE. Se reanuda la tempestad.

En el momento del paso del centro, mientras que la lluvia era escasa, sólo algunas gotas, presentóse el fenómeno, bastante raro, de la elevación de la temperatura. El termómetro pasa de 22.7° á 25.0° entre $3^h.4$ y $4^h.9$ confirmando en parte la hipótesis del movimiento descendente local y excepcional del aire de las regiones elevadas, que se manifestaría probablemente por encima de la calma central.[1] Hacia las 5 p. m. pues, avanza la fase posterior del tifón. El viento que ha saltado bruscamente al S ¼ SE sopla otra vez con rachas violentas. El barómetro sube de nuevo, al principio con rapidez, el ascenso alcanza de 3.5 mm á 4.8 mm por hora, sube luego más lentamente. * * *

* * * * * * *

Las máximas velocidades del viento se obtuvieron en el Observatorio el día 16. En la parte anterior del tifón entre 3 y 4 a. m. los vientos de NNW á NE alcanzaron la velocidad 140 kilómetros por hora, ó sea, cerca de 40 metros por segundo (38.9 m). En la parte posterior entre 7 y 8 a. m. registramos para vientos de la parte del sur 124 kilómetros por hora, ó sea, 34.4 metros por segundo. Á intervalos algunas rachas de poca duración parece llegaron á ser de 50 metros por segundo.

M. Berny, observador de Haiphong, hace la siguiente descripción del paso del baguio sobre su estación.

El viento comenzó á soplar como fuerte brisa del NNW desde 6 p. m. del 15 y alcanzó su máxima intensidad en dirección NE á eso de 4^h 40^m a. m. del 16, hora en que se calmó, pero, para volver á soplar con igual violencia que antes á 5 a. m. y con dirección SSE. Á 4^h 30^m a. m. se registró la mínima barométrica 725.7 mm.

Vamos á terminar la discusión de este baguio indicando su velocidad de traslación desde que penetró en Filipinas hasta que se internó en el Continente. Para ello hemos tomado las siguientes posiciones del vórtice: 10 a. m. del 13 (menor distancia de Aparri), 10.30 a. m. del 14 (menor distancia del vapor *Taming*), mediodía del 15 (en Hainán al SW de Lamko), 4.30 a. m. del 16 (menor distancia de Phulien) y 10 a. m. del 16 (al NW de Hanoi). Las velocidades halladas son las siguientes:

	Millas por hora.
10 a. m. del 13 á 10.30 a. m. del 14	16.3
10.30 a. m. del 14 á mediodía del 15	11.0
Mediodía del 15 á 4.30 a. m. del 16	10.1
4.30 a. m. del 16 á 10 a. m. del mismo día	12.9

Si consideramos, pues, toda la trayectoria descrita por este tifón en los tres días completos comprendidos entre 10 a. m. del 13 y 10 a. m. del 16, tenemos una velocidad media de 12.6 millas por hora.

EL TIFÓN DEL CANAL DE BALINTANG, 24 Á 29 JULIO 1909.

Este tifón pertenece en cuanto á su origen al mismo tipo que el anterior. Se formó el día 24 en el Pacífico al E y no muy lejos de la parte central de Filipinas. El 24 y 25 se notó bien su influencia en Visayas y Mindanao con vientos algo frescos y racheados del tercer cuadrante, y algunas lluvias y ligero descenso de los barómetros.

El Observatorio envió á Hongkong, etc., el primer anuncio de tifón á 11 a. m. del 25 en estos términos:

Día 25, 11 a. m.: Tifón al E de Luzón, distancia menor de 300 millas, moviéndose al NNW.

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[1] [Nota por el Sr. A. Beljonne.] Véase Angot, "Traité de Météorolgie." La elevación de temperatura, en el momento de pasar el centro, fué observada igualmente en Haiphong como lo testifica la curva del termómetro registrador de esta estación, el cual de 3^h á 4^h próximamente pasó de 24.9° á 26.4°. Al hallarnos en el centro, las nubes han debido reducirse simplemente á una capa más tenue. En efecto, personalmente no hemos notado el esclarecerse del cielo que se ha convenido en llamar "el ojo de la tempestad," ni se ha visto estrella alguna en Phulien en este momento. Si ha habido elevación de temperatura, no se ha producido, por el contrario, disminución de humedad. Los higrómetros registradores del Observatorio marcaban el grado de saturación.

Según puede verse en la trayectoria que damos en la lámina VI, el baguio conservó la dirección al NNW hasta la mañana del 26 en que se inclinó decididamente al W. Sin embargo, á 11 a. m. del 26 contando sólo con las observaciones de Filipinas, Formosa y Liukiu, pero no con las de las Islas Batanes, creyó el Observatorio que el baguio tendía más bien á recurvar hacia el Japón y así envió este aviso de tifón:

Día 26, 11 a. m.: Tifón al E del canal de Balintang, moviéndose al N.

Del Observatorio de Hongkong recibimos el 25 y 26 estos telegramas:

Día 25, 12.30 p. m.: Tifón al E de Luzón, moviéndose al NW.
Día 26, 12.30 p. m.: Tifón al E del canal de Balintang, moviéndose al NW.

El día 27 no nos cabía la menor duda de que el tifón había atravesado el canal de Balintang moviéndose muy inclinado al W y así enviamos á Hongkong y demás Servicios Meteorológicos del Extremo Oriente este telegrama:

Día 27, 1 p. m.: Tifón al W del canal de Balintang, moviéndose al W ó WNW.

Para que nuestros lectores puedan ver por sí mismos cómo el vórtice atravesó el canal de Balintang por el sur de Santo Domingo, Islas Batanes, damos en la Lámina VII la distribución de isobaras á 2 p. m. y 10 p. m. del 26 y 6 a. m. del 27.

El día 28 se había complicado notablemente el estado de la atmósfera en los alrededores del norte de Luzón y sur de Formosa, haciendo muy difícil precisar la dirección del tifón. Por una parte el barómetro de Hokoto (Islas Pescadores) marcaba una altura menor y una bajada más notable que el de Koshun, lo cual inducía á sospechar que el baguio se inclinaba al norte: pero por otra se observaba un descenso tan marcado en los barómetros de la costa occidental del norte de Luzón que ó se hacía preciso admitir la existencia de un nuevo centro ciclónico ó debía suponerse para el tifón de los días anteriores una inclinación de la trayectoria al SW. Y como quiera que esta última suposición parecía la más probable dado que se han dado algunos casos, aunque raros, de tifones moviéndose al SW ó WSW en el Mar de China, en el canal de Formosa y aun en el Pacífico al E ó NE de Formosa, nos resolvimos á emitir nuestra opinión de que la trayectoria del baguio se había inclinado al SW. El Observatorio de Hongkong, tal vez por no poseer tantos datos como nosotros, sobre todo de la costa occidental de Luzón, ó quizá por dar más peso á la altura barométrica de Hokoto (Pescadores) se contentó con decir el mismo día 28 que el tifón se hallaba al NW de Luzón moviéndose al W, y á 1 p. m. del 29 lo situó de nuevo al W del canal de Balintang, pero estacionario.

Desde la tarde del 28 quedó el Observatorio incomunicado con el norte de Luzón haciéndose con esto enteramente imposible la mañana del 29 el trazar ni siquiera con alguna probabilidad la distribución de isobaras en la región septentrional de nuestro Archipiélago. Parecía cierto que debían admitirse dos centros ciclónicos; pero no había medio de situarlos y menos de dar su dirección.

Por los datos que recibimos después se vió que uno de estos centros cruzó el norte de Luzón moviéndose de W á E; y éste fué el que señalaban las observaciones de Liukiu y de Formosa la mañana del 30 al E del canal de Bashi moviéndose al NE.

Que no se pueda identificar este centro ciclónico con el que atravesó el canal de Balintang el 26 y 27 lo prueba el hecho de ser tan diferente la forma y extensión del uno, de la forma y extensión del otro, como puede verse comparando las isobaras de la Lámina VII con las de la Lámina VIII. Á más de que sería un caso nunca antes observado en Filipinas que un baguio se dirija al W primero, al SW después, y por último volviese enteramente atrás en dirección al E. Nos parece esto tan absurdo que únicamente lo podríamos admitir en caso de poseer multitud de observaciones que no diesen lugar á la menor duda. Por otra parte como las observaciones de Hokoto de la noche del 27 y de los días 28 y 29 parecen indicar la existencia de un centro ciclónico más ó menos desarrollado en el canal de Formosa, creemos poder suponer con bastante probabilidad que el tifón del canal de Balintang recurvó hacia el norte al W del canal de Bashi viniendo á deshacerse en el canal de Formosa, y que el otro baguio de que hablaremos luego se formó en el Mar de China del 27 al 28 al W del norte de Luzón.

EL TIFÓN DEL N DE LUZÓN, 27 JULIO Á 2 AGOSTO 1909.

Según queda indicado, creemos se formó este baguio del 27 al 28 en el Mar de China, ó sea, al lado izquierdo del otro tifón del canal de Balintang. Tenemos, pues, aquí el caso de un ciclón secundario que vino á ser pronto independiente y de mucho mayor intensidad y extensión que el ciclón principal. La forma de las isobaras de 6 a. m. del 27 (Lámina VII) es parecida á la que suele observarse en Europa cuando se prepara la formación de un centro secundario.[1] Sin embargo, hemos de confesar que estas isobaras las hemos trazado con datos relativamente pocos y así no podemos darles más que un valor provisional y algo probable.

No es nuestro intento ahora entrar aquí en una completa discusión de este baguio tan excepcional en su formación como en su trayectoria la cual damos en la Lámina VI. Sólo pretendemos dar á nuestros lectores abundancia de datos para que puedan por sí mismos ver en qué nos fundamos al trazar la parte de la trayectoria de este tifón á través de la Isla de Luzón. La otra parte de la trayectoria desde el E de los canales Balintang y Bashi no ofrece dificultad alguna teniendo á la vista los mapas diarios publicados por el Observatorio de Tokio.

En el texto inglés damos en primer lugar en una tabla las observaciones hechas en Vigan y Laoag por las cuales se verá el paso del vórtice por el norte de la primera estación y sur de la segunda.[2] Además, en la Lámina VIII publicamos la distribución de isobaras á 10 p. m. del 27, 10 p. m. del 28 y 6 a. m. del 29.

Por último, en la Lámina IX hemos reunido las curvas barográficas que creemos han de ser de especial interés para el estudio de este tifón, es decir, las de Vigan, Laoag, Aparri, Tuguegarao, Echagüe y Santo Domingo de Basco (Islas Batanes).

El vapor *Taming,* en viaje de Hongkong á Manila, sintió algo la influencia de este baguio según se echará de ver examinando las observaciones que nos remitió el capitán de dicho barco y que publicamos en una tabla en el texto inglés.

Para que mejor se vea todavía cómo el vórtice después de haber penetrado en Luzón por entre Vigan y Laoag se dirigió casi al E y vino á pasar unas cuatro horas más tarde por entre Aparri y Tuguegarao, hemos reunido en otra tabla (véase el texto inglés) las principales observaciones hechas en estas dos últimas estaciones los días 28, 29 y 30.

En el último mapita de la Lámina VIII va la distribución de isobaras á 2 p. m. del 29. Por ellas se ve que el tifón después de haber cruzado la Isla de Luzón empezó á moverse luego al NE, dirección que conservó hasta llegar al E de la parte septentrional de las Islas Liukiu en donde recurvó al NW; de suerte que después de moverse á lo largo de las costas occidentales de Kiusiu y Korea se internó en la Manchuria el día 2 de Agosto.

Esta trayectoria es en verdad muy anormal. De ley ordinaria los tifones se mueven primero al W ó NW y ó bien conservan esta dirección hasta que se deshacen en el Continente, ó recurvan al N y NE. En el caso presente, al contrario, el tifón se movió primero al E y NE y recurvó luego al N y NW. Tal vez en alguna otra ocasión procuremos examinar cuales pueden haber sido las causas de una trayectoria tan extraordinaria.

Terminamos lo referente á este baguio copiando los siguientes avisos de tifón que dió el Observatorio sobre este tifón desde que se le pudo situar al NE de Luzón:

Día 29, mediodía: Tifón al NE de Luzón; dirección desconocida.
Día 30, 10.50 a. m.: Tifón al E del canal de Bashi moviéndose al NE.
Día 31, 10.40 a. m.: Tifón al E de Naha (Islas Liukiu) moviéndose al NE.

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[1] Véase Angot "Traité Elémentaire de Météorologie" págs. 317 á 320.

[2] El vórtice hubo de pasar por encima ó muy cerca del puerto de Salomague en donde tuvo lugar el naufragio del vapor "Buen Viaje".

TRES DEPRESIONES EN EL MAR DE CHINA.

El Observatorio de Manila anunció este mes otras tres depresiones en el mar de China, las cuales no parece llegasen á adquirir gran desarrollo.

La primera fué anunciada á Hongkong etc. con los siguientes telegramas:

Día 7, mediodía: Área de baja presión en la parte N del Mar de China. Es posible se desarrolle en ella un tifón al ENE ó NE de Paracels.

Día 8, 11.40 a. m.: Depresión en la parte N del Mar de China.

El curso ulterior de esta depresión fué seguido por el Observatorio en las notas ordinarias del tiempo de los días 9, 10, 11 y 12, según podrá verse por las partes de dichas notas que copiamos á continuación:

Día 9, 12.20 p. m.: * * * La depresión del Mar de China parece continúa moviéndose muy lentamente hacia el Golfo de Tongking.

Día 10, 12.10 p. m.: La depresión de los días anteriores parece haber estado casi estacionaria al SW de Hongkong.

Día 11, 11.45 a. m.: La depresión del Mar de China se va acercando muy despacio al estrecho de Hainán moviéndose aparentemente al NNW.

Día 12, 11.45 a. m.: La depresión de los días anteriores se halla en el Continente al N de Hainán moviéndose hacia el N.

De Hongkong recibimos los siguientes avisos de tifón los días 9, 11 y 12.

Día 9, 9.30 p. m.: Tifón al SW de Hongkong; dirección desconocida.
Día 11, mediodía: Tifón cerca del estrecho de Hainán moviéndose al N.
Día 12, mediodía: Tifón en el Continente al N de Hainán moviéndose al N.

Pocos son los datos que poseemos para poder dar á la trayectoria de esta depresión un valor más que algo probable. Las observaciones hechas á bordo del vapor *Taishan* en viaje de Swatow á Saigón pueden ser de algún interés toda vez que los vientos observados los días 9, 10 y 11 obedecían bastante, aunque no del todo, á la supuesta posición de este centro ciclónico. En la estación del Faro Lamko (NW de Hainán) los vientos soplaron del WNW toda la tarde del 10 y casi toda la noche siguiente, y del SW el día 11, al menos desde 9 a. m. Esto parece suponer que la depresión penetró en el Continente al N de Hainán antes de mediodía del 11.

Los primeros indicios de la segunda depresión del Mar de China fueron notados por este Observatorio la mañana del 17 y así se dijo en la nota ordinaria del tiempo de dicho día:

Hay indicios de un área de baja presión en el Mar de China al W de Filipinas.

El mismo día 17 á 5 p. m. se envió á Hongkong etc. este aviso de tifón:

Tifón al W de Luzón, distancia mayor de 100 millas: dirección desconocida.

El 19 á mediodía se telegrafió de nuevo en estos términos:

Tifón en la parte N del Mar de China, moviéndose al WNW.

En las notas ordinarias del tiempo de los días siguientes se fué siguiendo el curso de este tifón ó depresión hasta la mañana del 22 en que se decía lo siguiente:

El tifón del mar de China penetró ayer en el N de Indochina.

El Observatorio de Hongkong nos remitió á su vez estos telegramas:

Día 19, mediodía: Tifón al NE de Paracels moviéndose al WNW.
Día 20, mediodía: Tifón en Hainán moviéndose al WNW.
Día 21, 11.30 a. m.: Tifón en la parte N del Golfo de Tongking moviéndose al WNW.

El paso de esta depresión ó tifón por el S de Hainán fué notado perfectamente en la estación de Faro Lamko con vientos frescos y fuertes que rolaron del NNE al ENE, E y SE. Véase la tabla que publicamos en el texto inglés.

Gracias á los datos que nos ha facilitado el Director del Servicio Meteorológico de Indochina podemos ofrecer á nuestros lectores en la Lámina X la distribución de isobaras á 4 p. m. del 21 y señalar con bastante precisión el punto por donde penetró la depresión en el N de Indochina.

La última depresión fué muy parecida á la anterior así en su forma y extensión como en su trayectoria. Se movió, sin embargo, algo más inclinada al W y por consiguiente penetró en el Continente algo más al S que la del día 21.

El Observatorio la anunció la tarde del 23 á Hongkong, Phulien, etc. con este telegrama:

Día 23, 6 p. m.: Tifón (ó depresión) en la parte N del Mar de China, moviéndose al WNW.

Del Observatorio de Hongkong recibimos el siguiente aviso de tifón la tarde del 24:

Día 24, mediodía: Tifón (ó depresión) al N. de Paracels moviéndose al WNW.

La influencia que ejerció esta depresión en la estación del Faro Lamko fué en un todo semejante á la de la depresión del 20 y 21. Véanse las observaciones en el texto inglés.

Las trayectorias de estas tres depresiones formadas en el parte norte del Mar de China pueden verse en la Lámina X.

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.	Air temperature.[2] Mean.	Maximum.	Minimum.	Underground temperature. 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	757.15	26.3	31.5	22.4	29.4	29.8	30.1	30.2	29.8	29	84.1	21.2	-------	1.7
2	56.23	26.7	33.3	22.6	29.4	30.8	30.1	30.3	29.8	29.1	81.4	21	-------	2
3	56.76	26.3	33.2	22.6	29.6	30.8	30	30.4	29.7	29	85.6	21.6	-------	1.4
4	57.41	25.6	29.9	22.7	29	29.5	29.9	30.1	29.7	29	90	21.9	-------	.9
5	57.41	27.1	32.6	23.1	29	30.1	29.7	30	29.6	29	83.8	22.2	-------	1.9
6	57.56	25.8	29.2	23	29.3	29.8	29.9	30	29.6	29	84.2	20.8	-------	1.4
7	57.04	25.9	29.7	22.9	29	29.7	29.7	29.9	29.6	29	86	21.3	-------	1.5
8	57.43	25.5	30	23.5	28.9	29.6	29.7	29.7	29.6	29	89.5	21.7	-------	1
9	57.71	25.6	30	22.4	28.8	29.7	29.5	29.8	29.6	29	85.8	20.8	-------	1.4
10	57.35	26	30.8	22	28.3	30.1	29.5	29.7	29.6	29	86.2	21.3	-------	1.8
11	56.89	27.4	31.2	24	28.9	30.5	29.6	29.8	29.6	29.1	79.7	21.5	-------	2.4
12	56.57	26	29.5	23.3	29.1	29.4	29.7	29.7	29.5	29	84.8	21.1	-------	1.6
13	56.77	25	28.6	23	28	29	29.2	29.4	29.4	29	89.8	21.2	-------	.9
14	57.92	25.4	29.7	22.5	28	29.1	29	29.4	29.3	29	87.4	20.9	-------	1.3
15	58.70	26.6	32.2	22.5	28.1	30	29	29.4	29.3	29	82.9	21.1	-------	2.1
16	59.29	25.4	32.1	21.9	28.6	30	29.3	29.4	29.3	29	86.8	20.8	-------	1.5
17	57.24	25.4	29.5	23	28.6	29.9	29.4	29.5	29.3	29	90.5	21.8	-------	.8
18	57.23	26.7	32.4	22.7	28.4	30	29.3	29.6	29.3	29.2	84.4	21.7	-------	2.9
19	58.76	26.5	32.3	23	29	30.2	29.3	29.6	29.3	29	86	21.9	-------	1.5
20	58.91	25.5	30.1	22.5	28.5	29.7	29.4	29.5	29.3	29	88.8	21.4	-------	1.4
21	58.08	25.2	30.0	22.9	27.9	29	29	29.1	29.2	29	90	21.3	-------	1.1
22	57.35	26.4	31.7	22.3	28	29.6	28.8	29	29.3	28.9	86.3	21.8	-------	1.8
23	57.23	26.9	32.9	23.2	28.7	30.4	28.9	29.2	29.2	29	85.6	22.3	-------	1.5
24	56.29	26.5	31.5	23.6	29.1	30.4	29.1	29.4	29.2	29	86.7	22.1	-------	1.3
25	55.66	26.3	29.7	23.8	29	29.3	29.4	29.4	29.2	29	87.3	22.1	-------	1.5
26	54.96	26.1	28.2	23.4	28.4	28.4	29	29	29	29	89.4	22.4	-------	1.5
27	54.43	25.2	26.7	23.6	27.4	27.1	28.7	28.4	29	28.9	93.1	22.1	-------	.4
28	52.17	25.8	28.5	24.4	26.8	26.9	28	27.9	28.9	28.9	90.3	22.3	-------	1.9
29	52.17	26	27.8	22.6	26.7	26.2	27.7	27.4	28.8	28.9	88.6	22.1	-------	1.4
30	56.72	25.5	28.9	22.9	26.4	26.4	27.3	27.4	28.9	28.9	92	22.3	-------	1.7
31	57.47	27.3	31.2	23.5	27	28.2	27.3	27.7	28.8	28.9	86.7	23.3	-------	1.6
Mean	756.87	26.1	30.5	23	28.4	29.3	29.2	29.3	29.3	29	86.9	21.7	-------	1.5
Total														47.1
Departure from normal	— .45	— 1	— .3	— .7	-------	-------	-------	-------	-------	-------	+ 2.2	— .7		-------

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.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0–10.*			*h. m.*	*mm.*	
1	SE, NE	134.5	15	NNW	8.1	A.-Cu. E	Cu.-N. E	3 20	-------	≡° d° a. ⊤ ☈° p.
2	NE	180	19	NNW	4.8	Ci.-S. NE	Cu. SE	7 20	4.5	≡ ⊤ a. ● ☈ p.
3	N	167	16	NW	5.9	Ci.-S.	Cu.-N. SE	6 35	35.8	≡ a. ⊕ ☈ ●² p.
4	ESE	130	16	NW	9.4	Ci.-S.	Cu. SE	0 05	4.4	≡° a. ⊕ p. ●° a. p.
5	NW	164	14.5	NW	7.4	Ci.-S. S by E	Cu.-N. E	5 15	1.8	≡° ○° a. ⊤ ● p.
6	Variable	111.5	9	WNW	9.3	Ci.-S.	Cu. E	0 45	6.6	≡° ○° a. ● a. p.
7	SE	106.5	15.5	SE	9.9	Ci.-S.	Cu. E	1 20	1.6	≡° ●° ○° a. d° p.
8	ESE	123.5	17.5	SW	9.8	Ci.-S.	S.-Cu. SSE	0 30	2.3	d a. p.
9	ESE, S	152	19	WSW	9.8	Ci.-S.	Cu.-N. SW	0 00	7.7	≡° d ○° a. ⊤ ● p.
10	E	106.5	20	WNW	9.6	A.-Cu. E	S.-Cu. E by S	1 45	3.9	≡ ○° a. p p.
11	WSW	281	34.5	WSW	9.5	Ci.-S. NE	Cu. SW	4 00	6.4	≡ a. ↙° ● p.
12	NW, WSW	317.5	34	WSW	8.7	Ci.-S.	Cu.-N. W quad.	0 45	2.9	≡ ○° a. ● p.
13	SW quad.	268.5	34.5	WSW	9.8	Ci.-S.	Fr.-N. SW	0 00	16.7	↙° p. ● a. p.
14	SE quad.	91	10	ESE	9.8	Ci.-S.	Cu. SSE	0 05	7	≡° d° a. ☈ ● p.
15	ESE	156.5	14	W	9.2	Ci.-S.	Cu. NE	5 20	3	≡ a. ☈ ● p. ○
16	W	180	22.5	NW	6.9	Ci.-S. S	Cu.	5 40	9.9	≡° a. ☈ ● p.
17	Variable	81.5	10.5	N	9	Ci.-S.	Cu.-N. ESE	0 55	9.6	● a. ○ d ⊤ p.
18	SE quad.	157	19.5	SW	7.9	Ci.-S. E by N	Cu.-N. S by E	4 50	-------	≡° ○ a. ☈ p.
19	S quad.	151.5	27	WSW	8.9	Ci.-S.	S.-Cu. S	1 15	16.6	≡° ○ a. ☈ ● p.
20	SW	252.5	36	WSW	9	Ci.-S.	Cu.-N. WSW	2 45	66.9	●° ≡ a. ● p.
21	WNW	148	13	SW	7.7	Ci.-S. NE by N	Cu.	3 10	48.8	≡ a. ⊤² ● ☇ p.
22	SW	155	18.5	SW	8	Ci.-S. E	Cu.-N. E	6 05	8.4	≡° ○° a. ⊤ ● p.
23	ENE, SE	99	14.5	SE	8.2	Ci.-S.	Cu. ESE	6 20	-------	≡ ○ a. ☈ d° p.
24	ENE	84.5	10.5	WSW	9.2	Ci.-S. SE	Cu. ESE	4 45	23.6	≡° a. ⊤ ● p. ○ ⦶
25	NW quad.	198	29	W by S	9.5	Ci.-S. NE	Cu. WSW	1 50	2.6	≡°a. ○ ↙°p. ☈ ●°
26	WSW	431	35.5	WSW	10	-------	Fr.-N. SW	0 00	63.3	↙° ● a. p.
27	SSW	561.5	40	SW	10	-------	Fr.-N. SW	0 00	88.7	↙° ● ⊤ a. p.
28	SSW	632.5	36.5	SSW	10	Ci.-S.	Fr.-N. SW	0 00	48.8	⊤ a. q° a. p.
29	WSW	899	51	WSW	10	-------	Fr.-N. WSW	0 00	43.9	☈ a. q a. p.
30	SW	278	24	SW	9.8	Ci.-S.	N. W	1 10	26.1	↙° ● a. d ⩛ p.
31	SW	173	21	SW	6.8	Ci.-S. E	Cu. W	6 50	-------	≡ a.
Mean	-------	224.9	22.5	-------	8.8	-------	-------	2 40	-------	
Total	-------	-------	-------	-------	-------	-------	-------	82 40	561.8	
Departure from normal	-------	—48.7	-------	-------	+ 1.1	-------	-------	—70 12	+168.7	

[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. 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	756.80	26.6	30	22.9	84	SE	1.2	8.7	Ci.-S.	Cu.-N. E	0.8	⚡ p.
2	56.15	27.3	29.7	24	82.5	Variable	1.3	9.3	Ci.-S.	Cu.-N. ENE	3.9	●° a. ⚡° p.
3	56.64	26.8	28.6	23.6	84	SE	1.2	9.2	Ci.-S.	Cu.-N. E	9.7	● a.
4	57.51	26	28	23.3	86.8	SE	1.8	9.7	Ci.-S.	N. E	7.8	● a. d p.
5	57.15	26.7	32.8	22.8	82	N quad.	1.8	7.5	Ci.-S.	Cu.-N. E	------	
6	57.25	26.3	28.8	23.6	84.2	Variable	1.5	10	A.-S.	N. Variable	18.4	●° a. ↙ ●° p.
7	57.85	26.1	28.8	21.9	81	S	2.5	10	Ci.-S.	N. SW	------	●² a. d p.
8	58.12	27.5	30.7	24.3	78.5	NNE, SE	1.7	8.7	Ci.-S.	Cu. SW	------	⚡ p.
9	58.26	27.6	30.8	23.5	78.5	SE	1.8	8	Ci.-S.	Cu. SW	------	
10	57.87	27.6	30.7	24.3	80.3	N, SE	1.8	8.8	Ci.-S.	Cu.-N. S, SSW	.5	● p.
11	57.15	27.6	33.2	24.4	82	Variable	1.5	9.5	Ci.-S.	N. SSW, W	3.8	d° a. ● p.
12	57.18	26.4	28.8	24.8	78.3	N, SE	1.8	9.5	Ci.-S.	Cu.-N., N. W	------	↙ a. d° p.
13	58.05	27.8	32.2	25	76.2	SE quad.	1.8	8.3	Ci.-S.	Cu. S	------	
14	58.41	26.9	29.9	23.1	82.3	SE	1.5	8.3	Ci.-S.	Cu. SSW, N	------	⚡² ⊤° p.
15	58.44	26.4	30	23.1	84.5	SE, N	1.8	8.3	Ci.-S.	Cu.-N. N	13.5	● ⊤ ⚡ p.
16	58.74	26	30.8	22.4	84.2	WNW, SE	1.5	9	Ci.-S.	N. E	5.3	● a. p.
17	57.50	26.7	32.8	22	82.7	WNW	1.3	7.3	Ci.-S.	Variable SW	11.7	●° a. ☈² ● ↙° p.
18	58.17	27.5	29.9	22.7	81.1	SE	1.5	9	Ci.-S.	Cu. SSW	3.3	● a. ● ☈² p.
19	58.97	27.6	30.7	24.6	81.5	WNW, SE	2.2	9.8	Ci.-S.	Variable SW	2.8	● a. ↙ p.
20	58.81	27.2	31.9	24.6	79.2	Variable	2	10	Ci.-S.	N., Cu. SSW	.5	●° a. ☈ ● p.
21	58.25	26.9	31.2	23.7	76.8	SE, SW	2.8	9	A.-Cu., Ci.-S.	Cu. NW	------	
22	58.04	27.4	33.6	25	75.5	SW quad.	2.5	8	Ci.-S.	Cu.-N. NW	------	⊤² ⚡ p.
23	57.77	27.6	30.3	24.7	79.7	SE	2.2	7	Ci.-S.	Cu.-N. SW	11.9	● ⚡ p.
24	57.02	27	29.5	24.7	79.4	SW	3.3	9.8	A.-S.	Cu.-N. SW	1	↙ ●° a. ⚡ p.
25	56.93	27.6	32.5	24,5	75.3	SSW	4.7	9	Ci.-S.	Cu. SSW	2.5	⌣ p.
26	57.30	27.8	30.2	25.2	75.8	SW	3.2	8	Ci.-S.	Cu.-N., Cu. SW	.5	● ↙° a. d p.
27	57.25	28.6	31.8	26	72.7	SSW	3.7	7.2	Ci.-S.	S.-Cu., Cu. SW	------	⌣ p.
28	56.06	28.8	31.6	26.2	73.2	SSW	3.5	8.2	Ci.-S.	Cu. SW	------	⌣° p.
29	56.19	29	32.3	26.5	69.8	SSW	2.8	8.7	Ci.-S.	Cu. SW, NNE	------	⌣ p.
30	58.38	28.6	32.5	26.4	70.9	SW	3.2	5.8	Ci.-S.	Cu. SW	------	
31	58.48	28.6	32	25	74.6	SSW	2.3	6.2	Ci.-S.	Cu. SW	------	
Mean	757.64	27.3	30.9	24.2	79.3	------------	2.2	8.6	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	97.9	

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. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	757.02	26.5	31	23.5	86.5	Variable	0.5	7.2	Ci. NE, S	Cu. E	------	● a. Ω° p.
2	56.24	26.5	31.5	23.3	87.7	Variable	.4	7.3	Ci.-S. N	Cu.-N. S	8.4	○ a. p. d° p.
3	56.71	26.6	30.5	23.8	87.8	Variable	.2	9.2	A.-Cu. E	N.-Cf. E	14.7	⚡ ⌒ ● a. ☈●° p.
4	57.32	25.6	29	23.6	90.2	Calm	------	9.5	Variable	Cu.-N. ENE	7.9	● a. ⌣ ⌣ p.
5	57.27	25.7	30	23	87.2	Variable	.5	8.3	Ci.-S. E	Cu.-N.	------	●° a. ☈ d° p.
6	57.33	25.2	29.6	23.2	91	NW, ESE	.2	10	A.-S.	Fr.-N. SW	22.1	Ω² a. ●° d° p.
7	57.70	25.5	28.6	23.2	90.2	SW, SSW	.2	9.5	A.-S., A.-Cu.	N.-Cf. S, SW	7.1	● a.
8	58.21	26.9	31.7	23.5	82.8	WSW	.6	8.2	A.-Cu. SW	S.-Cu. W	------	Ω a.
9	58.28	26.4	31.5	22.9	82.7	SW	.8	7.2	Ci.-S. NE	S.-Cu. SSW	15.5	Ω² ● a. ⚡ Ω° p.
10	58	26.5	30.5	23.3	87.3	NNW, E	.3	9.5	A.-Cu. NW	Cu. SW	1	●² a. d° p.
11	57.16	26.2	30.1	23.5	86.8	SW	.2	9.8	A.-Cu. NW	Cu., Fr.-N. SW	30.5	d a. p.
12	57.27	25.8	31	22.8	87.2	SSE, W	.4	9.5	A.-Cu. SW	N.-Cf. WSW, W	2.3	● a. Ω° d° p.
13	58.28	27	31	23.2	83.3	ENE, E	.2	7.5	A.-Cu. SW	S.-Cu.	------	Ω° a. p.
14	58.56	26.6	30.6	23.4	86.6	NNW, E	.2	6.8	A.-Cu. N	Cu.-N. ENE	------	⚡² Ω² ☈ª Ω² p.
15	58.61	26.4	31.1	23.2	86.7	W, E	.2	5.3	Ci. ESE	N.-Cf. NE	10.4	Ω² ⚡° a. ●² p.
16	58.68	25.2	28.7	23.2	92.3	W	.7	9	Ci.-S. NE	Fr.-N. NW	8.9	●° a. p.
17	57.65	25.9	30.9	22.6	88.3	Variable	.6	8.7	Ci.-S. NE	N.-Cf. W	3	⌒ ●° p.
18	58.12	26.8	30.8	23.2	87	E, NNW	.2	7.7	Ci.-S. E	Cu. S	------	Ω² a. ○ Ω° p.
19	58.81	27.3	31.6	24.7	82	W, WNW	.7	7.5	A.-Cu. SW	Cu. W	4.3	Ω² ●° a. Ω° ⚡ p.
20	58.93	24.8	27.9	22.9	92.3	SW	.3	9	A.-Cu. S	Fr.-N. SW	49.5	☈ d a. ● p.
21	58.04	26.1	31.1	22.2	85.5	W quad.	1.1	8.2	A.-Cu. E	Fr.-N. WSW	22.4	●² a. ↙° ● p.
22	58.12	26.1	31.2	23.1	85.8	WSW, WNW	.7	5.5	Ci.-S. E	Cu. W	------	Ω² ⚡² p.
23	57.72	26.9	31.9	22.7	83.5	W	.9	4.7	Ci. S	Cu. WSW	1.5	Ω² a. ⚡² a. p.
24	56.76	27.6	31.8	24.2	80.6	SW	2.3	7.8	Ci.-S. W	Cu. SW	------	d ⌒ a. ⚡² p.
25	56.28	28.2	31.7	25	73.8	SW	3.2	7.8	A.-Cu. SE	Cu. SW, WSW	------	↙ ◯ a. ↙° p.
26	56.89	28.6	32.5	25.7	72	SW, quad.	2.4	8.8	Ci.-S.	Cu. SW	------	○ ↙° a. p.
27	57.20	29.2	33.8	25.8	70	SW	.8	5.8	A.-Cu. SE	Cu. SW	------	⌣ p.
28	56.14	28.5	33.6	25.1	74.7	SW	.5	5.8	Ci.-S. N	Cu. SW	------	Ω° ◯ a. ⌣ p.
29	56.17	28.7	34.7	24.3	71	SW	.6	5	Ci.-S. N	Cu.	------	Ω² a.
30	58.02	29	34	25.4	74.7	SW, quad.	.6	3	Ci.	Cu. SW	------	≡° a.
31	58.51	28.8	34.1	24.5	75.8	SW, quad.	.6	3.2	Ci.	Cu. SW	------	Ω° a. ⚡ p.
Mean	757.61	26.8	31.2	23.7	83.7	------------	.7	7.5	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	209.5	

[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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	756.88	27.1	31	23.9	78.7	E	5.8	6	Ci.-S. E	Cu.-N. ENE	18.5	Ω ⛈ ⚡ ● ⋓
2	56.34	26.9	30.8	23.5	80.5	NE, E	4.3	6.2	Ci.-S.	Cu.-N. ENE	1.5	≡° Ω ● ⛈ ⚡ ⊖
3	56.77	26.9	30.6	24.2	79.8	SE, S	5.5	7.8	Ci.-S.	Cu.-N. ENE	5.6	≡° ●° a. ⛈ a. p.
4	57.54	25.7	29.5	23.4	86.8	S	4.5	7.2	Ci.-S.	N.-cf. E	59.2	Ω ⛈ ⊤ ●² d ⋓
5	57.22	27.5	31.1	24.5	75.7	S, ENE	7.2	6.2	Ci.-S.	Cu. ENE	5.8	≡° Ω ⊖ a. ⛈ ● p.
6	57.27	25.4	29.6	24.2	87.8	Variable	4.7	8	Ci.-S.	Cu.-N. SSE	8.6	≡° a. ⛈ ● a. p.
7	57.74	25.6	29	22.5	80.4	S, SSW	5	7.8	Ci.-S.	Cu. SW	------	≡° ●° ◯ a. ⛈ p.
8	58.26	26.8	30.3	23.9	78.8	SSW, SSE	5.1	6.7	A.-Cu. S	Cu.-N. SW	.5	≡° Ω² a. ●° ⛈ p.
9	58.31	26.7	30.6	23.8	78.9	Variable	6.4	6.5	Ci.	Cu. SW	6.1	Ω² a. ● d ⛈ p.
10	57.95	26.6	30	23.9	81	S, SW	5	7	A.-Cu. E	Cu. WSW	.5	Ω a. ●° ⛈ p.
11	57.31	25.7	29	24.3	87.9	Calm	2.8	8.7	Ci.-S.	Cu.-N. WSW	4.8	≡ Ω² ⚡ a. ⛈ ● p.
12	57.26	25.3	28.8	23.4	81	W, SW	5.4	8.5	Ci.-S.	N.-cf. WSW	2	≡° ●° d a.
13	58.02	27.4	31	23.9	72.7	SW, SSW	6	5.8	A.-Cu. S	Cu. SW	------	≡° Ω a.
14	58.64	26.9	30.5	22.8	78.3	S, E	5.4	6	Ci.-S.	Cu.-N. SW	7.9	≡° Ω ● a. ⛈ p. ⚡
15	58.62	26.7	31.8	22	78.1	E	6.8	5.7	A.-Cu. ENE	Cu. NE, ENE	21.6	Ω a. ⚡ ⛈ ●² p.
16	58.76	25.2	29.2	21.7	86.8	Variable	4.7	7	Ci.-S. E	Cu. N	60.2	≡° a. ⚡ ⛈ ●² p.
17	57.50	26.6	30.9	22.5	81.4	SE	4.4	6	Ci.-S. E	Cu. SSW	------	≡° ●² a. ⛈ ⚡ p.
18	58	27.7	31.8	23.4	75.2	S	6.9	6.2	Ci.-S.	Cu. S	31	Ω° a. ⛈ ● p.
19	58.98	27.4	31	23.7	78.5	SW, SE	5.5	6.8	A.-Cu. S	Cu.-N. SW	1.3	● a. ⛈ ⚡ a. p.
20	59.09	25.8	28.5	24.3	82.1	SW	2.8	8	Ci.-S., A.-Cu.	Cu.-N. W quad.	3.3	Ω² d ⛈ a. ⚡ p. ●°
21	57.96	26.6	30	23.7	76	Variable	5.2	6.7	Ci.-S.	Cu.-N. W	8.1	Ω ◯ a. ⛈ ● p.
22	58.08	26.9	30.5	23.5	73.8	SSW	7.6	5.7	Ci. E	Cu. SW, WSW	6.6	≡° Ω a. ⛈ ●° p.
23	57.80	26.6	30	23.5	79.6	SW quad.	5.8	6.2	Ci.	Cu. SW	2	●° a. ⛈ ⚡ d² p.
24	56.85	26.1	29.5	24.1	81.5	W quad.	7.4	7.2	Ci.-S.	Cu.-N. SW	21.6	Ω a. ⛈ ● a. p.
25	56.44	28.1	31	24.6	68.3	SW	14.3	7	Ci.-S. ENE	Cu. SW	------	●° a. ⛈ p.
26	56.87	27.8	31.5	25.3	66.2	SW quad.	13.3	5.8	Ci.-S. E	Cu. WSW	------	≡° ◯ a. ⋓ p.
27	57.11	28.3	30.6	25.5	66.8	SW quad.	11.9	5.8	Ci. NNE	Cu. SW	------	≡° Ω a. ◯ ⊖ p.
28	55.95	28.5	30.9	26	69.3	SW quad.	13.6	7	Ci.-S.	Cu. SW	------	◯² a. ◯ ⋓ p.
29	55.94	29	31	26.5	67.7	SW	15.9	6.7	Ci.-S. NNE	Cu. WSW	------	◯ a. p. ⋓ p.
30	58.18	27.5	30	25.1	71.1	W	8.4	5.7	Ci.-S.	Cu. SW	2.3	≡° a. ● p. Ω a. p.
31	58.35	27.9	31.3	24.4	69.7	SW	9.1	4.2	Ci.	Cu. SW quad.	------	≡° Ω a. ⛈ p.
Mean	757.61	26.9	30.4	23.9	77.4	------	7	6.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	279	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	757.01	26.9	31.6	23	82.1	N, NW	5	7.8	Ci.-S.	Cu.	10.2	⊤ ● ⚡ p.
2	56.42	27.1	31.9	24	81.8	SW, NE	5.6	7.2	Ci.-Cu. ENE	Cu. NE	.5	⛈ a. ● ⊤ p.
3	56.84	26.4	30	23.5	86.2	E, SW	6.6	9	Ci.-S.	Cu.-N. ENE, WSW	6.1	⛈ a. p. ●° p.
4	57.45	25.3	29.5	23.5	90.2	N	5.5	9.3	Ci.-S.	Cu.-N.	12.7	● a. p. d° p.
5	57.38	26.6	31.5	22.9	82.6	NE	6.1	7.2	Ci.-S.	Cu. E, ENE	------	d° p.
6	57.63	25.7	29.2	24.4	85.7	NE, N	5.2	9.3	Ci.-S.	Cu.	5.8	●° a. p.
7	57.84	25.8	28.8	23.9	85.2	SW	8	9	A.-Cu. WSW	Cu.	.3	● a. d p.
8	58.26	26.1	29.6	23.4	86	SW	7.2	8.3	Ci.-S.	Cu. SW	14.2	● a. p.
9	58.46	27	29.5	23.9	79	SW	13.7	8.2	Ci.-S.	Cu.-N. SW	------	● a.
10	57.92	27.4	29.7	24.1	81	SW	9.9	6.5	A.-Cu. WSW	Cu.	------	
11	57.43	26.4	28.4	23.6	81.3	SW	10.3	9.5	Ci.-S.	Cu., Cu.-N.	7.4	d° a. p. ● p.
12	57.39	25.9	27	24	81.8	SW	16.4	9.7	Ci.-S.	Cu.-N. SW	4.8	● a. d p.
13	58.02	27	29.6	25	76.4	SW	14	8.3	A.-Cu. SW	Cu.	------	
14	58.59	27	30.5	24	79.5	SW	5.9	7	A.-Cu. E	Cu.	------	Ω a. ⚡ ●° p.
15	58.87	26.9	31.4	23.5	79.9	E	5.3	7.7	A.-Cu. E	Cu.	10.9	⊤ ● p.
16	59.11	25.4	31.5	22.9	87.7	NE, W	5.3	7.5	Ci. E	Cu.-N. NE	20.1	⛈ ●² ⚡ p.
17	57.97	26.1	30.2	24	86.8	NW	6.5	7.3	Ci. E	Cu. NW	.8	⛈ d p.
18	58.25	26.3	29.3	24	84.7	SW	10.2	7.8	A.-Cu. SW	Cu. SW	11.2	⊤ ● d a. ⚡ p.
19	59.37	26.3	28.9	23.6	84.2	SW	11.1	8	Ci.-S.	Cu.	8.4	● a.
20	59.18	26.4	28.6	23.6	85.3	S, SW	7.9	9	Ci.-S.	Cu.	------	● a. d p.
21	58.21	26.9	29.8	24.5	74	SW	9.6	8	A.-Cu. E	Cu.	------	
22	58.12	26.4	29.7	23.8	84.3	SW	12.4	6	Ci.	Cu.	------	d° ⚡ p.
23	57.95	26.8	29.6	24.6	84.2	SW	11.5	6.5	Ci., Ci.-S.	Cu. SW	5.6	⊤ ● ⚡ p.
24	56.98	26.8	29.8	25	85.7	SW	14.9	7.7	Ci.-S.	Cu. SW	1.8	d ⊤ ⚡ p.
25	56.89	26.6	29.5	24.5	81.8	SW	20.6	9.2	A.-Cu. E	Cu. SW	23.9	● a. p.
26	56.96	27.5	29.6	24	81	SW	27.5	9	Ci.-S.	Cu., Cu.-N. SW	18	↙ ● a. p.
27	57.25	26.6	29.5	23.5	82.8	SW	24.4	8.3	A.-Cu.	Cu. SW	44.2	● a. p. ⛈ ⊤ p.
28	55.71	27.7	29.5	23.4	80	SW	29.1	8.8	Ci.-S.	Cu. SW	.5	↙ ● a. ⊖ p.
29	56.02	28.2	29.5	24	79.8	SW	33.6	8.7	A.-Cu.	Cu. SW	18.8	● a. d ⊖ p.
30	58.56	26.8	28.2	23	84	SW	20.9	9.3	Ci.-S.	Cu. SW	5.1	● a.
31	58.70	27.4	29.5	26	85.7	SW	21.2	8.3	A.-Cu.	Cu. SW	.3	● a. ●° ⊤ ⚡ p.
Mean	757.77	26.6	29.7	23.9	82.9	------	12.6	8.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	231.6	

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.						Rain, 24 hours beginning 6 a. m.	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	25.2	29.9	22.3	90.2	N	4.5	8.3	A.-Cu.	NE	Cu.-N.	E, SE		------	Ω² ≡ d° a. ☈ ϟ p.
2	56.21	24.5	30.3	21.3	89.2	N quad.	3.7	6.7	A.-Cu.	E	Cu.	E		0.5	Ω ≡° ⌒° d° ⋃° ϟ
3	56.73	24.9	30.1	21.5	89.2	NNE	3.9	8.2	Ci.-S.		S.-Cu.			7.1	Ω ≡° a. ☈ ● ϟ p.
4	57.31	25.5	29.5	22.3	87.3	Variable	4.4	9.8	A.-Cu.	E	Cu.-N.			2.3	☈ ● Ω ≡ ●° ϟ
5	57.23	24.7	29.8	21.9	90.5	N	4.1	8.8	Ci.-S.		Cu.-N.	E		17.5	Ω ≡ a. ● ☈ d° p.
6	57.31	24.9	29.4	22.3	90.1	N	4.7	9.8	A.-Cu.	S	N.			41.7	d ≡° a. ⊤ ϟ p. ●
7	57.63	25.3	29.1	23.1	89.3	N, SSE	4.8	8.3	A.-Cu.	SE	Cu.-N.			1.3	≡ ●° a. ∞ p.
8	58.20	25.2	28.4	22.9	89.4	N quad.	3.3	8.3	Ci.-S.		Cu.-N.			1.8	d ≡ ⊤ a. ϟ² ⊤ p.
9	58.27	26.2	30	21.9	83.3	Variable	5.5	5.5	A.-Cu.	W	Cu.	SW		------	Ω ≡° a. ϟ p.
10	57.93	24.5	29.4	22.8	93.2	E quad.	5.2	6.3	A.-Cu.	NW	N.	W by S		55.4	Ω a. ●² ⊤° p. ϟ ≡
11	57.30	25.2	28.3	22.8	88.8	Variable	3.8	6.7	Ci.-S.		Cu.-N.	W		8.4	d° ≡° a. p. ϟ p.
12	57.22	24.1	28.4	22.5	90	E quad.	6.2	6.7	Ci.-S.		N.	S		23.1	≡° ● a. ☈ ↙° ● p.
13	58.08	25.6	29.3	22.6	85.5	SSE	5.5	8	Ci.	NNE	Cu.-N.			1.8	≡° ●° ☈ a. ϟ p.
14	58.57	25.2	30	21.6	84.8	SE quad.	4.3	5.8	A.-Cu.	E by N	Cu.			2	Ω ≡° a. ☈ ●° ϟ p.
15	58.48?	24.8	30.8	20.5	85	Variable	5.5	4	Ci.		Cu.	NE		11.9	Ω ≡° a. ● ϟ p. ☈
16	58.59	24.8	29.2	21	86.8	N quad.	4	6	Ci.	E	Cu.-N.	E		7.9	Ω ☈ ●° ⊤ d ≡
17	57.70	25.4	28.8	22	85	Variable	4.2	5.7	Ci.-S.		Cu.-N.	SSE		2.3	Ω ≡° ☈ ● a. ϟ p.
18	58.04	26.2	29.6	21.8	82.8	ESE, SSE	5.6	4.5	Ci.	E by N	S.-Cu.	SE		9.4	Ω ≡° ● ☈ ⊤° ∞ ϟ
19	58.95	26.1	30	22.8	84.7	NE quad.	4.5	6.5	Ci.-S.		Cu.-N.			47.5	● ≡° a. ☈ ϟ p.
20	59.09	25.3	28.3	22.4	85.4	N quad.	5.4	6.7	A.-Cu.	SE	Cu.-N.	NW		3.3	●² ⊤ a. ≡° ☈ d°
21	58.26	25	29	22.8	87.7	SE quad.	5.2	6.7	Ci.-S.		Cu.-N.	W		13.7	Ω ≡° ● ☈ ⊤ d
22	57.90	26.1	29.9	23.2	82.2	SE quad.	6.4	5.3	Ci.	E	Cu.-N.	S, W		------	Ω ≡° a. ϟ p.
23	57.73	26.2	30	23	79.8	Variable	4.8	4.5	Ci.	E	Cu.-N.	SE		------	Ω ≡° a. ☈ ϟ ⊕² p.
24	56.74	26	29.9	22.9	85.5	SE quad.	6.1	6	Ci.-S.	E	Cu.-N.	SE		11.2	Ω° ≡° ☈ ϟ ● ⊕°
25	56.43	28.1	30.2	23.4	75	S	18.1	9.7	Ci.	E	Cu.-N.	W		------	●° ≡° a. ⊕ p. ↙°
26	56.72	28.6	30.9	26.8	72.8	S quad.	18.6	9.7	A.-Cu.	W	Cu.-N.	SW		------	∞ ⊕° p.
27	56.92	28.6	31	25.5	73.4	S, SSW	17.6	8.5	Ci.-S.		Cu.-N.	SW		------	≡° a. d° ∞ ⊕° ↙ p.
28	55.78	28.7	30.9	27.4	71.8	S	22.6	9.3	Ci.-S.		Cu.-N.	SSW, SW		------	∞ a. ◯ a. p.
29	55.84	29.3	31.3	28	69.6	S	26.1	7.8	Ci.-S.	N	Cu.-N.	SW		------	≡° a. ⋃ p.
30	57.91	28.3	31	24.7	78.2	S	13.6	7	Ci.-S.		Cu.-N.	SW		------	∞ a.
31	58.41	27	30.3	23.2	81	SSE	7.6	5.5	Ci.-S.		Cu.	W		9.1	≡° a. ☈ p.
Mean	757.56	26	29.8	23	84.1	------	7.7	7.1	------		------			------	------
Total	------	------	------	------	------	------	------	------	------		------			279.2	------

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).	Mean.	Maximum.	Minimum.	Relative humidity (mean).	Prevailing direction.	Force (mean).	Amount (mean).	Upper.		Lower.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C	°C.	°C.	P. ct.		0-12.	0-10.					mm.	
1	757.32	26.2	30.5	23.7	88.2	W	0.5	8	Ci.	SW	Cu.-N.	E	8.6	● a.
2	56.64	26.5	31	23.5	88.1	NW, ESE	.7	8	Ci.	SW by S	Cu.-N.	E	5.1	● d a. ⊕² p.
3	56.96	26.9	31	23.7	86.9	SE quad.	.2	8.5	Ci.	SW	Cu.-N.	SE	2.5	⊕² ◯² a. ● p.
4	57.70	26.3	29.9	24	90.3	E, ESE	.2	8.2	Ci.-S.		Cu.-N.	ESE	6.1	● a. p.
5	57.90	25.2	31.2	22.5	89.3	Variable	.8	9.2	Ci., Ci.-S.	SSW	N.	ESE, E	69.6	◯° a. ↙° ● ☈² p.
6	57.70	25.7	28.7	22.5	89.3	Variable	.7	9.7	------		Cu.-N.	SE	17.5	● a. p.
7	57.96	26.2	31	23.3	87.3	SE	.8	9.5	Ci.		Cu.-N.	SE	9.2	● a.
8	58.42	26.6	29.9	23.5	85.5	E, N by E	.3	8.5	Ci.-S.	ENE	Cu.-N.	SSW	------	● a ϟ p.
9	58.24	27.3	31.7	23.4	80.5	NNW	.3	7.8	Ci.-S.	NE	Cu.	W	------	d ϟ p.
10	58.29	25.5	31.5	22.5	88.3	S	.2	9.2	Ci.	NE	N.	W	25.9	●² ↙ ☈² d p.
11	57.30	25.5	30.9	23.2	89.9	Variable	.5	10	------		N., Cu.-N.	WNW	1.6	● d a. p.
12	57.02	25.2	31	23.3	88	NNW	1	9.2	Ci.	E	N.	NW	45.1	●² ↙° d ☈ p.
13	58.35	26	30.8	22.9	86.8	S	.2	8.5	Ci.	E by S	Cu., N.	NW, SSW	15.7	● a. p.
14	58.88	26.2	31	23.7	86.8	NW, ESE	.5	7	Ci.-S.	NE	Cu.-N.	S, SW	------	
15	58.92	27.3	32.2	22.4	79.2	NW, SSE	.8	3.8	Ci.	NE	Cu.	SSE	------	Ω² ≡° a.
16	58.83	25.8	30	23.9	86.2	Variable	.8	7.3	Ci.-S.	NE	Cu.-N.	NNW	------	Ω² a.
17	57.79	27	32.8	23	82.8	NW quad.	.7	7.2	Ci.	WNW	Cu.-N.	S	------	
18	58.38	27.4	32	24.7	81.8	SE quad.	.3	8	Ci.-S.	NW	S.-Cu., Cu.-N.	S	99.8	⊤ ●² ☈ p.
19	59.12	27.5	32.7	23.4	85.7	Variable	.5	9	Ci.	NE	N.	SSW, NW	11.4	● d a.
20	59.01	26.4	30	23.5	82.4	NW quad.	1.3	7.7	Ci.-Cu.	NE	Cu.	WNW	2	● a.
21	58.11	26.8	30.5	23.7	78.8	W quad.	.8	7.5	Ci.-S.	NE	Cu.	WNW	------	
22	58.14	27.2	32.5	23.1	78.9	Variable	.3	5.5	Ci.-S.	E	Cu.	NW	.8	Ω² a. d² p.
23	57.92	27.6	32.3	24	80.5	W	.7	5.8	Ci.	E	Cu.	NW	------	
24	56.65	27.4	32	24	82.7	WNW	.3	5.7	Ci.	E	Cu.	W, WNW	1.3	
25	56.16	27.1	33.1	23.9	81.8	NW	.8	9	Ci.	NE	Cu.-N.	WSW	4.1	● a. p.
26	56.48	28.3	32.8	25	70.3	SW	.8	8	Ci.-S.	NE	Cu.-N.	SW	------	◯² a.
27	56.88	28.4	32.9	23.5	67.8	SW	.7	6.2	Ci.	NE	Cu.	WSW, W	2.3	● ⌒ p.
28	55.58	28.9	33.1	25	62.8	S	.8	7.3	Ci.	NE	Cu.	WSW	------	◯² a. p. ⋃² ⊕² p.
29	55.56	29.4	33.8	25.6	61.5	S quad.	1.5	7.2	Ci.	NNE, NE	Cu.	SW	------	◯² a. p. ⋃² ⊕² p.
30	57.70	30	34.7	26.9	61.8	S	1.2	7.2	Ci.	NE	Cu.	W	------	◯² a.
31	58.38	28.5	33.8	23.7	75.1	Variable	.5	4.7	Ci., Ci.-S.		Cu.	WNW, W	7.4	Ω a. ● ϟ p.
Mean	757.69	27	31.7	23.7	81.5	------	.6	7.7	------		------		------	
Total	------	------	------	------	------	------	------	------	------		------		336	

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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	--------	27.7	32.5	------	87	NE	0.2	9.3	Ci.-S.	Cu.-N. SE	11.7	● a. p. ⊏ p.
2	--------	27.6	31.9	------	87	E	.2	8.3	Ci.-S.	Cu.-N. S, E	3	●² a. ⊤° p.
3	--------	27.6	32.2	------	86.3	Variable	.5	8.8	Ci.-S.	Cu.-N. S	2	⊏ ● a. d° p.
4	--------	26.4	30.6	------	90.2	NE	.5	9.7	Ci.-S.	Cu.-N. E	29.5	● p.
5	--------	26.7	30.8	------	90.8	NNW, NNE	.2	8.2	Ci.-S. S	Cu.-N. E	4.3	● a. d ≡° p.
6	--------	26	28.8	------	90.8	N quad.	.2	9.8	Ci.-S.	N.	35.1	● a. p.
7	--------	25.4	30.2	------	91.2	Variable	.3	10	Ci.-S. E	N.	26.9	● a. p. ⊤° p.
8	--------	25.2	31.2	------	93.1	SSE, NW	.3	8.8	Ci.-S. E	Cu.-N. S	20.6	●² p.
9	--------	26	30.2	------	90.5	NNE	.3	8.8	Ci.-S.	Cu.-N. S E, S	10.2	● ⊤ p.
10	--------	27.1	31.3	------	89.2	S quad.	.7	9.2	Ci.-S.	Cu.-N. SE, SW	------	
11	--------	26.1	28·9	------	92.5	ESE	.2	10	Ci.-S.	N E	3.1	d° a. p.
12	--------	25.1	31.8	------	93.8	W	.2	9.5	Ci.-S.	N Variable	3.3	⊤ a. d° p.
13	--------	26.7	32.4	------	85.6	SW quad.	.8	7.8	Ci.-S. ESE	Cu.-N. SE	------	↯° p.
14	--------	26.5	31.1	------	89.3	Variable	.3	8	Ci.-S. SE	Cu.-N. Variale	------	d° p.
15	--------	27.1	30.4	------	87.3	NNE	.2	7.2	Ci.-S.	Cu.-N. S	20.3	d° a. ● ⊏ p.
16	--------	27.1	31.8	------	87.2	N quad.	.8	8.2	Ci.-S.	Cu.-N. NW	3.3	● ⊏ a. ↯° p.
17	--------	27	30.8	------	88.2	NE	.5	9	Ci.-S.	Cu.-N. SE	------	● a. ⊏ ⌒ p.
18	--------	26.2	31.7	------	89.5	Variable	.5	7.8	Ci.-S. ESE	Cu.-N. ESE	6.4	⊤ p.
19	--------	26.1	29.6	------	91	WSW	.2	9.7	Ci.-S.	N.	.5	d° a.
20	--------	26.3	29	------	90.7	WNW	.3	9	Ci.-S.	Cu.-N., N.	.8	≡° d° a. ↯° p.
21	--------	26.1	29.9	------	88.5	WNW	.3	8.7	Ci.-S. SE	Cu.-N. NW, N	.8	p ↯° p.
22	--------	26.3	30.6	------	89.2	Variable	.5	8.2	Ci.-S. SW	Cu., Cu-N. W	23.6	Ω° a. ●² p.
23	--------	26.4	31.5	------	91.5	ESE, NE	.3	8,2	Ci.-S.	Cu.-N. SW	20.1	●² ⊏ ↯° p.
24	--------	26	30.3	------	91.7	W, E	.3	6.7	Ci.-S.	Cu.-N. SE, W	13.2	≡° a. ● ↯° p.
25	--------	27.4	32.9	------	87.7	SW quad.	1	8.3	Ci.-S. NE	Cu.-N. SW	------	∪° ⊕ p.
26	--------	28.2	34.5	------	84	SSW	.7	8.2	Ci.-S.	Cu.-N. W	2.8	⌒ a. ● p.
27	--------	27.7	35	------	85.3	SW quad.	.8	6.7	Ci. N	S.-Cu. SW	1.8	p° p.
28	--------	28.4	34.6	------	83.5?	SSW	1.7	7.3	Ci.-S., Ci.	Cu.-N. SW	------	∪² ⊕² ⊤° p.
29	--------	28.9	34.8	------	82.8?	SSW	1.7	7.7	Ci.-S.	Cu.-N. SW	------	∪° ⊕° ↯° p.
30	--------	27.8	33.3	------	84.2	WSW	.5	7.8	Ci.-S. NW	Cu.-N. SW	------	⊕ p.
31	--------	28.4	34.1	------	85.2	W quad.	.7	7.2	Ci.-S.	Cu. SW	------	⊤ p.
Mean	--------	26.8	31.6	------	88.5	------------	.5	8.5	------------	------------	------	
Total	--------	------	------	------	------				------------	------------	243.3	

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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	757.47	25.1	30.5	22.6	91.2	N	0.8	7.2	Ci.-S.	S.-Cu. SE	14.2	Ω d a. ● ⊤ ↯ ⊕ p.
2	56.70	21.9	30.5	22.1	92.5	N, NE	1	8.2	Ci.-S.	S.-Cu. SE	1.5	● a. ⊤ ●° ↯ ⊕ p.
3	57.16	25.4	30.5	22.7	90.2	N	1	7.3	A.-Cu.	S.-Cu. E	2.5	∪ Ω d ⊤ ●° ↯
4	57.88	25.5	29.7	22.5	90.3	N, S	.8	8.7	Ci.-S.	S.-Cu. SE	10.2	Ω a. ⊤ ● p.
5	57.82	24.9	30.2	22.2	91.7	N	.3	8.5	Ci.-S.	N. SE	33.8	● ⊤ p.
6	57.88	25.2	28.7	23.3	91.7	NE	.5	9.8	A.-Cu.	Fr.-N S	19.6	◕ a. p.
7	57.97	25.1	29.7	23	92	Variable	.7	9.8	A.-Cu.	Variable	10.2	●° a. p.
8	58.42	25	30.8	22.9	90.5	Variable	.7	8.3	A.-Cu. WSW	S.-Cu. SW, W	38.9	●² ↯ p.
9	58.47	25.7	30.2	21.9	87.5	Variable	.8	8.3	A.-Cu. NW	S.-Cu. W	5.3	p. a. ↯ d p.
10	58.14	24.5	30	23.2	95.5	N, W	.7	9.3	A.-Cu.	N. W	42.9	⇙ ● ⊏ a. ● p.
11	57.50	24.9	27.5	23.3	92.2	NW quad.	1.3	9.7	A.-Cu.	N. NW	15.7	●° a. p.
12	56.85	25.1	27.7	22.8	91	W	2.8	10	A.-Cu.	N. W	19.6	● ⇙° a. p.
13	58.21	26.2	31.4	23	86.8	SW, S	1.3	8.7	A.-Cu. SW	S.-Cu. W	------	d a.
14	58.80	25.8	31.6	23	88.9	Variable	.8	7	A.-Cu NE	Variable	2	⊤ d ↯ p.
15	58.90	25.4	31.6	21.6	87.5	Variable	1	4.2	Ci.	Cu. SE	20.6	Ω a. p² ⌒ ⊤ ↯ p.
16	59.06	25	31.4	22.6	91.5	NE, N	.8	6.5	Ci.-S. E	N. NE	17.3	● a. p. ⊤ p.
17	57.94	25.4	29.5	22.3	88.8	Variable	.7	5.8	Ci.-S., A-Cu.	S.-Cu.	------	●° a. ↯ p.
18	58.31	26.4	30.8	22.5	86.2	Variable	.8	5.2	A.-Cu.	S.-Cu. S	1.8	↯ p.
19	59.38	25.8	29.5	23.8	89.2	NW quad.	.8	8.5	A.-Cu.	S.-Cu.	.8	◕° a. ↯ p.
20	59.22	24.8	29	22.7	89.7	NW	1.2	8.2	A.-Cu.	S.-Cu. NW	25.4	d ● ⇙° a. ↯ p.
21	58.07	25.4	28.6	23.2	91.8	WNW	1.3	9.2	A.-Cu.	S.-Cu. WNW	29.5	● a. p p.
22	58.16	26.6	29.4	23.1	85.2	Variable	1.2	6.3	A.-Cu.	S.-Cu. W	------	d a. ↯ ∪ p.
23	58.02	26.8	32.2	23.2	85.3	N	1	5.7	Ci.-S. E	S.-Cu. S, SW	------	⌒ a. ↯ p.
24	56.80	27.1	31.9	22.8	84.3	W quad.	1.3	5.3	A-Cu., Ci-S	S.-Cu. W	------	↯ p.
25	56.16	28.2	30.5	25.8	80.7	W quad.	3.3	9	Ci.-S.	S.-Cu. W	2.5	p° a. ∪ p. ⇙°
26	56.48	28.5	30.6	27	76.8	WSW	3	9.5	A.-Cu.	S.-Cu. W	------	↯ ⊕ p.
27	56.64	28.9	31.3	27.7	73.5	SW quad.	3	7.7	A.-Cu.	S.-Cu. W	------	∪ ↯ p.
28	55.40	29.2	31.6	27.6	73.5	WSW	3.3	9	A-Cu., Ci-S	S.-Cu. W	------	⇙° a. p. ⊕ p.
29	55.32	29.3	31.5	28.3	73.5	WSW	3.8	9	Ci.-S.	S.-Cu. W	------	⇙° a. p.
30	57.68	28.3	30.5	27	79.3	W	4.2	9.5	A.-Cu., Ci-S	S.-Cu. W	------	⇙° a. p. ⊕ p.
31	58.49	28.5	30.9	26.7	80.5	W	2	3.5	Ci., Ci.-S.	S.-Cu. WNW	------	⊕ a. p. ↯ p.
Mean	757.72	26.2	30.3	23.8	86.8	------------	1.5	7.8	------------	------------	------	
Total	--------	------	------	------	------				------------	------------	314.3	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	757.15	27.6	33	22.9	78.8	E, ENE	4.1	3	Ci. ESE	Cu. ESE	0.3	↯ ● p.
2	56.40	27.4	32.8	22.6	79.2	E, NE	3.9	6.3	Ci.-S. W	Cu. ESE	1.5	◯° ↯ p.
3	56.80	28	32.1	24.5	80.2	E	4.9	7.7	Ci.-S.	Cu. E	6.9	●° a. d° p.
4	57.64	26.6	30.5	22.5	86.2	NE	4.4	9.7	Ci.-S. NW, NNW	Cu. E	30.5	● a. ●² ⌈↯ ↯ p.
5	57.78	27.3	32.2	23.2	83.3	E	5.7	8.3	Ci.-S. SSE	Cu. ESE	37.3	● a. ●² p.
6	57.75	25.3	28.2	22.1	89.5	E, NE	3.7	10	Ci.-S.	N. E	13.5	● a. p.
7	57.67	26	31.1	23.2	86.2	E	1.9	10	Ci.-S.	Fr.-N. SSE	15.7	● d p.
8	58.18	25	30.7	22.5	91.7	Calm	1.2	9.3	Ci.-S. ENE	N.	33.5	●² d p.
9	57.87	26.9	32	22.6	81.8	Calm	1.9	8.7	Ci.-S.	N., Cu. WSW	1.8	d² a. d° p.
10	57.46	26.7	31.9	23.7	85.3	W, WSW	1.7	9.3	A.-Cu. NNW, NW	N.	17.5	d a. ● p.
11	56.74	25	26.5	23	91.3	SW	1.7	9.8	Ci.-S.	Fr.-N. WNW	51.8	d ● a. d ↯ p.
12	55.82	24.5	29.6	21.9	92.5	W, WSW	3.5	9.8	Ci.-S.	Fr.-N. WNW	116.8	●² d² a. p.
13	57.50	27	32.5	22.4	82.7	WSW, SW	3.1	7.5	Ci.-S.	Fr.-N. SSW	.5	d ●² ◯ a.
14	58.49	26.2	31.6	23.1	88.2	WSW, SE	1.6	9	Ci.-S.	N.	.5	d ↯ p.
15	58.82	26.9	31.8	21.7	82.9	E	2.5	4	Ci. NE, NW	Cu.	.5	↯ p.
16	58.89	26.3	32.7	22.6	86.7	E	2	8	Ci.-S., Ci. ESE, ENE	N.	53.6	d² a. ●² ⊤ d p.
17	57.56	26.2	30.8	21.8	87.4	ESE	--------	5.5	Ci.-S. NW	Cu.	.3	d a. p.
18	57.88	26.8	32.3	22.5	86.4	ESE	--------	5.3	Ci. N	Cu.-N SSE	2.5	● a. ↯ p.
19	59.13	25.7	28.7	22.6	87.8	WSW	--------	8.5	Ci.-S.	N. SW	4.8	● d² a. ↯ p.
20	58.87	25	30	23	90.8	WNW	--------	7.7	Ci.-S.	Variable WNW	10.7	● d² a. p.
21	57.57	25.4	29.2	22.2	88.7	Calm	--------	7.7	Ci.-S.	N.	4.1	● a.
22	57.64	26	31.6	22	87.7	E	--------	6.5	Ci.	Cu.-N. SSW	7.1	● p.
23	57.58	27.4	32.1	23	81.7	SSE	--------	5.8	Ci., Ci.-S.	Cu. S.	.5	d° a. d ↯ p.
24	56.42	26	31.7	23	87.5	NE, W	--------	6.3	Ci.-S.	Cu. S, SSW	1.8	d a. d² ⊤ ↯ p.
25	55.52	26.2	30.9	23.4	87.5	W	8.4	7	Ci.-S.	N. SW	11.9	d a. ● p.
26	55.60	27	31	24.5	84.2	W	9.5	9.7	Ci.-S.	Fr.-N. SW quad.	2.8	● a ↯ ⊤ ● p.
27	55.75	27.6	33	24.1	78.8	W quad.	11.4	8.3	Ci.-S.	Cu. SW	2.3	↯ ●° a. d° ● p.
28	54.02	28.4	33.3	24.3	74.8	SW quad.	12.4	9	Ci.-S. N	Cu. SW	1	d a.
29	53.67	28.3	32.3	24.7	76.7	SW	15.8	8.8	Ci.-S.	Fr.-Cu. SW	11.7	● a. ◯ ⊕ p.
30	56.55	27.1	30.8	24.5	82.3	WSW	12	9.5	Ci.-S.	Fr.-N. SW	2.5	● d° a. d ● p.
31	57.56	27.9	33.5	24.1	84.5	W quad.	8.5	4.5	A.-Cu.	Cu.-N. SW	1.5	d a. ● d ⌒ p.
Mean	757.17	26.6	31.3	23	84.9	--------	5.5	7.8	--------	--------	--------	
Total	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	447.7	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	757.05	27	30.7	23	86.2	N.	--------	7.7	Ci.-Cu. NE	Cu. E	--------	⌓ ≡² ⊕° ↯° ⏀°
2	56.16	27.2	33	23.4	87.3	Variable	--------	5.7	Ci. ESE	Cu. E, SE	--------	d° ⌈↯° ↯ ⏀° p.
3	56.66	27.1	33	23	85.8	SW	--------	7	Ci. NE	Cu. E	--------	⌓° ⊕² ⌈↯ d° ↯° ⏀²
4	57.54	25.6	30.7	23.4	89.8	SW	--------	8.3	Ci.-Cu. E	S.-Cu. NE	10.2	⌓° d° a. ⌈↯° ● ⏀° p.
5	57.49	27.1	33.1	22.6	83.8	NE	--------	8	Ci. ENE	Cu. E	11.2	⌓° ◯° ⊕° ⏀° ⌈↯ ●
6	57.41	26.2	30	23.1	87.7	Variable	--------	10	Ci.-S.	S.-Cu. NE	30.2	●° d a.p. ↯° p.
7	57.30	24.8	27.7	22.8	93.8	SW	--------	10	Ci.-S.	Fr.-N. SSW, SE	11.7	⏀° a. ⌒° p. ●° d°
8	57.39	25.6	31.8	23	90.8	Variable	--------	10	Ci.-S.	S.-Cu. SE	63	● a. p. ⌈↯° ●² p.
9	57.48	26.5	31	23.1	86.7	S	--------	9.8	Ci.	S.-Cu. SW	--------	● a. ↯° p. d° a.p.
10	56.98	26.6	30.7	22.5	85.6	SSW, SW	9.2	10	A.-Cu. NW	S.-Cu. SW	--------	d° ↯° p.
11	56.36	27	30.7	22.3	83.2	SW	6.8	9.2	Ci.	S.-Cu. W	.8	●° d² ⌈↯° p.
12	55.72	25	25.9	22.8	87	SW	7.6	10	Ci.-S.	Fr.-N. W	8.9	d² ⌈↯ ● a. ●° p.
13	56.46	26.5	30.9	22.7	80.8	SW	--------	9.8	A.-Cu. W	S.-Cu. SW	4.8	d a. ⌈↯° d² p.
14	57.87	25.7	30.3	21.5	86.5	SW	--------	9.8	Ci.-S.	Cu. SSE	--------	d² ⌈↯° a. ◯² ↯° p.
15	58.56	26.8	32	22.4	84	NNW, SW	9.5	8.7	Ci.	S.-Cu. Variable	.5	⌓ d² a. ⌈↯° d ↯° p.
16	58.87	26.1	30.8	21.8	86.5	SW	11.6	7.3	Ci.	S.-Cu. N	30.2	◯° a. ↯° ●° p.
17	57.15	26.6	31.9	22.7	85.7	Variable	8.1	8.5	Ci.-S.	S.-Cu. NW	1	● ◯² a. d² p.
18	57.22	26.6	31.1	22.3	86.7	Variable	7.4	7.3	Ci. E, ESE	Cu. SE	1.3	⌓² d° a. p. ↯² p.
19	58.46	26.9	31.7	23.5	85.7	SW quad.	--------	9.8	Ci.-Cu. SE	S.-Cu. SW	--------	d² a. ↯° p.
20	58.60	25.2	28.5	24.1	90.3	SW	7.6	8.8	Ci.	S.-Cu. W, N by W	3.6	● a. ⌈↯° p.
21	57.70	25.6	29.2	23.3	88	SW	7.5	7.7	Ci.	S.-Cu. N	30.7	d° ●° a. p. ↯° p.
22	57.46	26.1	31	23.5	89.8	SW	3.2	8.3	Ci.	S.-Cu. SSE	.5	● a. d² ↯ p.
23	57.46	26	30.7	22.6	91.2	NW by N	2.7	8.7	Ci. ENE	S.-Cu. Variable	--------	⌓° a. d² ↯° p.
24	56.34	26.2	30.2	23.3	88.9	SW	5	9.2	Ci.-Cu. E	Cu. SE, N	--------	⌓² ≡° d° a. ⌈↯° p.
25	55.30	26.6	31.8	23.9	86	SW	4.2	9.3	Ci.	S.-Cu. SW	--------	↯° ⌓° d° ⌈↯° ⌣° ⏀°
26	54.68	27.6	31.7	24.1	79.3	SW quad.	6.1	9.8	Ci.-S.	S.-Cu. WSW	2.3	d° a. d² ↯° p.
27	54.55	26.6	30.4	25.2	84.8	SW quad.	8.2	10	Ci.-S.	S.-Cu. SW	15.3	d° ●° a. p.
28	52.54	26.9	29.4	24.6	81.9	SW quad.	11.2	10	Ci.-S.	S.-Cu. SW	5.3	●° a. d a. p.
29	52.10	27	28	24.9	82	SW quad.	20.9	10	A.-Cu. WSW	S.-Cu. SW, WSW	5.8	↙ ●° ⊤° a. ↙° p.
30	55.95	27.2	32.4	24.3	79.5	SW	19.6	10	A.-Cu. W	S.-Cu. W	--------	d² a. ↙° a. p.
31	57.07	27.8	31.8	25.3	80.9	SW, WSW	12.9	8.8	A.-Cu. W quad.	S.-Cu. W	--------	d a. p. ⊤° ↯° ⏀² p.
Mean	756.71	26.4	30.7	23.3	86	--------	8.9	9	--------	--------	--------	
Total	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	237.3	

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.			Rain, 24 hours beginning 6 a. m.	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	757.09	27.1	31.5	23.6	87.3	N quad.	1.2	8	Ci.-S. NE	Cu. NE by E	------	⚡ ⛈ p. ◯° a. p.
2	56.07	27.6	33	23.7	82.2	Variable	1.2	6	Ci.-S. NE by N, E by N	Cu. ESE	------	◯° p. ⛈ a. p.
3	56.43	27.7	33.4	24.1	80.2	NNE	1.1	8	Ci.-S. ENE	Cu. SE, ESE	1.5	◯° a. ⛈ d° ∪° p. ⚡
4	57.17	26.9	29.9	24.5	82.7	NNE	1.2	9.5	Ci.-S. NE	Cu.	3.2	⚡ ⛈ p. ●° a. p.
5	57.34	27.6	32.3	23.6	78.7	NE quad.	1.3	8.5	Ci.-S.	Cu. E	4	⊤ ⚡ d° p.
6	57.32	26.9	31.7	23.7	80.8	NE quad.	1.3	9.7	Ci.-S.	Cu.-N.	13.3	≡ ● ⛈ d° ◯°
7	56.80	25.2	27.8	23.4	90	NE quad.	1	10	Ci.-S.	Cu.-N. SE, ESE	12.2	≡ ●° a. ⚡ d p.
8	56.99	25.5	28.4	23.8	88.3	Variable	1.5	9.8	Ci.-S.	Cu.-N. SSE	23.5	Φ ● a. ●^{2} ↙° p.
9	57.37	25.3	28	23.5	87.3	S	1.3	10	Ci.-S.	Cu.-N. SW by S	29.9	≡ d a. ↙ ● p.
10	57.28	25.4	28.3	23	90.8	N, NNE	1.1	10	Ci.-S.	Cu.-N. SW	62.8	⌒ ● a. ↙ ●^{2} p.
11	56.96	25.2	29.6	22.5	89.5	Variable	1.1	9.5	Ci.-S. N	Cu. WSW	18.5	●^{2} ↙ ⛈ p. d a. p.
12	56.54	24.5	26.8	23	93.7	N quad.	1.5	9.7	Ci.-S.	Cu.-N. WNW, W	5.6	d a. p.
13	56.46	24.3	25.6	22.3	94.2	NE, SSW	2	10	Ci.-S.	N. SSW	206.7	●^{2} a. p. ↙ ● p.
14	57.64	25	28.2	22.9	89.3	Variable	1.1	10	Ci.-S.	Cu.-N. S	6.3	⌒ a. ↙ ● ⛈ p. d
15	58.45	26.1	30.5	23	86.8	WSW	1	10	Ci.-S.	Cu. SSE	9.1	⌒ ● ⛈ a. ◯° ⚡ p.
16	59.11	26.4	32.4	22.6	83.3	NW quad.	1.2	8.7	Ci.-S.	Cu.-N. N	5.3	⌒ ● ⛈^{2} p.
17	56.97	25.3	28.9	23.2	90.8	NNE, E	1.3	9.7	Ci.-S.	Cu.-N.	4.5	d ≡ ◯° ⌒ p. ⛈
18	56.96	26.9	31.3	24.4	83.9	NE quad.	1	8.2	Ci.-S.	Cu. S by E	.5	⛈^{2} p.
19	58.56	26.7	29	24.5	86.2	Variable	1.5	10	Ci.-S.	Cu.-N. S	2.3	↙° d^2 p. ⛈ a. p.
20	58.87	25.6	28.5	23.6	89.5	NNE, SW	1.2	9.7	Ci.-S. N	Cu.-N. SW	.1	● ↙° a. d ≡ p.
21	57 87	25.4	27.8	22.6	90.2	N, SW	1.4	8.5	Ci.-S.	Cu.-N.	.8	≡ ⛈ p. d a. p.
22	57.24	26	28.9	22.8	88.8	NNE, SW	1.3	7.7	Ci.-S.	Cu.-N. SE, SSW	12.7	≡ ● a. ⚡ p. d
23	56.97	26.6	31	24.1	90.2	NE quad.	1	8.8	Ci.-S.	Cu. E by S	22.6	d ◯° a. ⛈^{2} p. ≡
24	56.11	26.9	30.4	24.7	89	NNE	1.2	8.8	Ci.-S.	Cu.	------	⛈ p. d ◯° a. p.
25	55.59	25.6	28.4	23.7	92.7	Variable	1.2	10	Ci.-S.	Cu.-N. S by W	21.7	⌒ ↙ ● ◯^{2} ∪ d ●°
26	54.92	25.5	28.1	23.5	91.8	NNE, NW	.9	10	Ci.-S.	Cu.-N. SW, WSW	80.1	≡ ⌒ ↙ ● p. d
27	53.79	26.6	27.6	24.6	86.8	SW quad.	3.7	10	Ci.-S.	Cu.-N, N. SW by W	79.4	⊤ a. ↙ ● a. p.
28	51.36	26.9	28.1	23.5	87.7	SW	5.5	10	Ci.-S.	Cu.-N. SW by W	81.1	↙ ● ⛈ a. ⛈^{2} ●^{2} ↙ p.
29	52.06	26.3	28.7	23.5	84.2	W quad.	4.2	10	Ci.-S.	Cu.-N. W	88.9	↙ ● ⛈ a. p.
30	56.66	25	26.9	23.9	94	Variable	.8	10	Ci.-S.	Cu.-N. W	68.4	d ●^{2} a. d ● ≡ p.
31	57.59	25.8	29.3	23.4	93.5	Variable	.9	9.2	Ci.-S.	Cu.-N. W by N	11.2	≡ ◯° ↙ ●° ⌒ ● d
Mean	756.66	26.1	29.4	23.5	87.9	------------	1.5	9.3	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	876.2	

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	757.19	27.5	33.4	23.7	77.7	ESE, SE	0.6	4.7	A.-Cu. E	Cu. E	------	Ω^2 ≡° a.
2	56.28	27.4	34	22.2	79.5	ENE, SE	.9	4.8	Ci.	N.-cf. ESE	2.3	Ω^2 ≡ a. ●° ∪^{2} p.
3	56.45	27.6	34.3	22.6	78.8	ESE	.5	6.2	Ci. E	Cu.	.3	Ω ≡ a. ◯^{2} ⊤ ⚡ p.
4	57.39	26.4	31	23	84.3	ESE	.6	8.3	Ci. E	N., Fr.-N.	5.1	d° a. ⚡ p.
5	57.49	27.2	32	23	75.5	ESE	1.1	8.3	Ci. NE	Cu.-N. E	8.6	●° a. ⚡ p.
6	57.60	25.5	29.8	23.3	84.7	SE, NE	.8	9.8	Ci.-S., A.-S.	N. ESE	5.6	●° a. d° a. p.
7	57.08	24.8	28.9	22.8	89.8	NE quad.	.9	9.8	Ci.-S.	N. SE	14.7	≡ ●° a. ●^{2} p.
8	57.23	25	29.5	23.2	91	ENE, ESE	.7	9.3	A.-S.	N. SE	13.7	Φ^2 a. ⊤ ●^{2} p.
9	57.32	26.1	31.4	23	83.2	SE quad.	1.2	8.7	Ci.-S.	S.-Cu., N. S	------	◯° ⚡ ⊤ p.
10	57.29	26.2	31.5	23.4	83.9	SSE, SSW	.8	9	Ci.-S.	N. S, SSW	6.1	Ω a. ●^{2} p.
11	56.67	26.5	32.4	23.1	84	E quad.	.8	8	Ci.-S.	N., Cu. SW	13.5	⊕^{2} a. ●^{2} d° p.
12	56.18	25.8	31.9	23	87.5	ESE	.7	8	A.-Cu. N	Cu. SW	38.4	≡ Ω^2 a. ●^{2} ⛈ p.
13	56.29	24.5	27.9	23.1	93.5	S quad.	1.5	10	A.-S.	N. SSW	21.8	d a. p. ●^{2} p.
14	57.63	26	29.6	22.8	84.2	S quad.	.9	9.7	Ci.-S.	N. S	.8	⊕^{2} a. ⚡ p. d° a. p.
15	58.50	27	33	22.7	78	SE quad.	.8	8.7	Ci.-S., Ci.	N.-cf. SE	------	◯° a. ⊤ ⚡ p.
16	58.97	26.5	33	22.1	81	Variable	.9	6	Ci.	Cu.-N. N	------	≡° Ω° a. ⚡ ⊤ p.
17	57.20	25	29.6	23	88.5	E quad.	.8	9.5	Ci.-S., A.-S.	N. E	16.5	d a. p. ⌒° ●° p.
18	57.26	25.8	31.8	23	87.6	ESE	1.5	9.2	A.-S.	N. E	82.3	Ω^2 ≡ a. ●^{2} ⛈ p.
19	58.39	26 6	33.1	23	85.7	ESE	.6	8.5	Ci.-S.	Cu.-N. SE	3.8	≡ Ω^2 a. ⊤ ⚡ ●° p.
20	58.67	26.1	31.6	23.2	87.2	SSE, ESE	.7	8.2	Ci.	N.-cf. SSW	6.9	●^{2} d° p.
21	57.83	25.6	31.6	23	89	E quad.	.6	7.8	Ci.	Cu., N. N, NE	12.2	≡ a. ●^{2} ⊤ ⚡ p.
22	57.16	26.7	32.3	23.1	84.7	SE	.5	8.3	Ci.	S.-Cu. SE	1.3	≡ a. ⚡ ⊤ p.
23	57.17	26.9	32	23.6	84.2	ESE	.8	8	Ci.-S. NE	Variable	------	d° a. ⊤ ⚡ p.
24	56.16	26.9	32	24	85.3	E quad.	.5	8.3	Ci.-S.	N.	17.8	⊕° a. ⚡ p.
25	55.73	25.5	31	22.2	91	E quad.	.5	8.5	Ci.-S.	N. SW	8.1	●^{2} a. p. ⛈ a.
26	54.87	25.9	29.3	23.9	92.3	SE quad.	.5	9.8	Ci.-S.	N. SW, SSW	7.6	d° ⚡ p.
27	53.67	25.2	------	24	93.7	S quad.	1.9	9.5	Ci.-S.	N. SSW	97	●^{2} a. p.
28	51.23	24.8	------	23.5	95.8	S quad.	1.7	10	Ci.-S.	N. SW	61	●^{2} a. p. ⛈ p.
29	51.02	24.5	------	23.5	94	SW quad.	2.1	10	Ci.-S.	N. SW	18.3	⛈ d° a. Φ° ●^{2} p.
30	56.30	24.6	------	23.6	94.5	SSW, SSE	.5	8.8	Ci.-S.	N. SW	9.7	● a. ≡ p.
31	57.32	26.8	------	24	88.5	SW quad.	.4	6.8	Ci.	N. SW	.8	Ω^2 d° a. ⊤ d° p.
Mean	756.63	26	31.5	23.1	86.4	------------	.9	8.4	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	474.2	

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. 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	757.01	27.6	35.4	24	83.5	Variable	8.2	5.8	Ci.	Cu. S	0.3	☇ a. ☈ d° ⦶ p.
2	56.10	27.7	35.9	23.9	83.3	SE	9.2	5.8	Ci.	Cu. S	79	☈ d ●² p.
3	56.45	27.7	34.4	23.4	81.5	SE	9.5	4.8	Ci.	S.-Cu.	1	⦶ a. ☇ ⊤ d² p.
4	56.97	27.6	33.9	23.5	83.3	SE quad.	9.1	8.7	A.-Cu. ENE	S.-Cu. SSE	------	☇ p.
5	57.26	28.5	35.4	23.7	78.7	SSE	11.3	6.7	Ci.-S.	S.-Cu., Cu.	------	d° ☇ ⊤ p.
6	57.29	27.3	33.9	23.8	83.1	SE	10.1	9.8	A.-Cu.	S.-Cu.	20.8	d° ● p.
7	56.59	26.2	32.2	23.2	85.5	SSE, SE	14.7	9.2	A.-Cu.	S.-Cu.	------	d a.
8	56.59	26.4	31.4	23.8	83.2	SE, SSE	17.8	10	A.-Cu.	S.-Cu. SE	11.7	⊤ ● d p.
9	56.70	26.4	31.8	23.6	83.8	SE	14.9	10	A.-Cu.	S.-Cu. S quad.	7.6	d² a.
10	57.09	25.3	32	23.2	91.8	SE	11.2	9.7	A.-Cu.	S.-Cu. SE	4.6	p a. ⊤ p p.
11	56.58	27	33.9	23.5	85.5	S	7.2?	9.2	Ci.	S.-Cu. SE, WSW	2.6	p ● p.
12	56.14	26.9	32.9	23.2	87	Variable	9.2	6.8	Ci.	S.-Cu. WSW	39.6	≡° a. p ● p.
13	55.57	24.4	26.4	22.8	97.2	SE	10.8	10	------------------	N. SE	35.5	● d a. p.
14	56.88	26	29.2	23.3	84	SE	19.2	9.2	A.-Cu.	S.-Cu. SE	.3	d ☇ p.
15	58.25	27.2	33.4	23.3	80.5	S quad.	10.8	10	A.-Cu.	S.-Cu.	------	○ a. ☇ p.
16	59.10	27.8	32.3	23.6	82.7	SE, NW	12	5.3	Ci.	S.-Cu., Cu.	------	☇² p.
17	56.72	26.6	30.1	24.1	86.7	SE	12.2	10	A.-Cu.	S.-Cu. SE	1.8	≡° a. d² ⌒ p.
18	56.73	27.7	33.8	23.9	78.8	SE	13.6	8.2	Ci.-S.	S.-Cu. SE	------	☇ p.
19	58.17	26.8	34.2	24.4	86.3	SE	12.6	8.5	A.-Cu.	S.-Cu. SE	14.5	p² ⊤ d p.
20	58.54	26.6	33.2	23.8	87.7	Variable	7	7.8	Ci.	S.-Cu.	3.8	⊤ p d² ☇ p.
21	57.82	26.4	32.5	23.7	87	Variable	6.8	7.7	A.-Cu., Ci.-S.	S.-Cu.	44.7	d a. p ● ☈ p.
22	57.05	26.8	33.5	23.1	87.8	SE	7.9	8.2	A.-Cu., Ci.-S.	S.-Cu. SE	81	≡° ⌒ d ☈ p ●²
23	56.87	27.5	34.5	23.6	85.4	SE	9.3	8.5	Ci.-S., A.-Cu.	S.-Cu. SSE, SE	------	● a. ☈ ⌒ ☇ p.
24	56.06	27.5	34.6	24.5	83.8	Variable	7.7	8	Ci.-S.	S.-Cu.	30.5	p ☈ ☇ p.
25	55.37	26.6	33.4	23.8	86.2	E	7.2	9	Ci.	S.-Cu. SE	------	☈° p.
26	54.42	26.1	31.5	24	91	SW, S	7.1	8.8	A.-Cu., Ci.-S.	N. W	55.6	p ●² p.
27	52.95	25.5	29.8	23.9	92.2	SE, SW	10.1	10	------------------	N. SW	58.9	● a. p.
28	50.55	24.1	25	23.4	96.8	SE	14.6	10	------------------	N. SE, SW	150.3	● ⊤ a. p. ☇ p.
29	50.47	25.5	28.7	23.3	88.8	NW quad.	23.8	10	A.-Cu.	N. W	25.2	● a. p. ψ p.
30	55.91	26	27.7	24.3	92.2	Variable	10.4	8.8	Ci.-S.	S.-Cu., N. W	6.1	⌒ ● a. d p.
31	57.32	26.8	30.7	23.7	88.8	N quad.	6.9	6.8	Ci.-S.	Cu.-N. W	------	≡ a. d a. p.
Mean	756.31	26.7	32.2	23.7	86.3	------------	11	8.4	------------------	------------------	------	
Total	--------	------	------	------	------	------------	------	------	------------------	------------------	675.4	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 8.5 meters; gravity correction not applied, —1.65 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.	Rain.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	757.19	28	31.5	24.9	85	NNW	1.5	9.5	Ci.-S.	Cu.-N.	0.3	Ω° ≡° a. ☈ ●° p.
2	56.26	28	30.9	25.5	84.8	SE, WNW	1.7	8.7	Ci.-S.	Cu.-N.	6.1	Ω ≡° a. ☈ ● p.
3	56.56	27.8	31.9	23.8	83.7	SE quad.	1.7	9	Ci.-S.	Cu.-N.	------	Ω ≡° a. ☈ ⦶ p.
4	56.99	28.3	32	24.9	83.2	SE quad.	1.3	9.8	Ci.-S.	Cu.-N.	6.9	Ω ≡° ○² ⌒ ●° ☈ ⦶
5	57.55	27	31.8	23.7	87.3	Variable	2	6.5	A.-Cu.	Cu.-N.	53.1	Ω ≡° a. ☈² ●² p.
6	57.24	27.1	31.5	23.9	86.8	SE quad.	2	1	Ci.-S.	Cu.-N.	7.9	☈° ●° p.
7	56.51	26.5	30.9	24.3	86.3	SE	3	9.5	Ci.-S.	Cu.-N.	2.3	☈° ●° p. ↙°
8	56.28	26.9	30.6	24.9	83.2	SE quad.	3.2	9.7	Ci.-S.	Cu.-N.	------	↙° a. p.
9	56.30	25.9	28.3	24.7	87.7	SE quad.	3.7	9.8	Ci.-S.	Cu.-N.	19	↙° ●° p.
10	56.63	25	26.2	23.8	94.2	SE quad.	2	10	------------------	Cu.-N. SW	7.1	●² a. ●° p.
11	56.56	26.1	30.6	23.1	89.7	SE quad.	2.5	10	Ci.-S., A.-Cu.	Cu.-N.	3	●° a. p.
12	56.24	26.5	29.9	24	89	SE quad.	1.7	8	A.-Cu.	Cu.-N.	24.1	≡° ⊤ a. ⌒² p. ●
13	55.21	24.5	25.3	23.5	95.5	SE quad.	2.7	10	------------------	N.	67.6	● a. ↙° ●² p.
14	56.47	25	28.3	23.1	91.3	SE, SSE	3.7	10	------------------	Cu.-N. S	.3	↙° a. p. ☈° d ⊤ p.
15	58.29	26.7	30.6	24.2	86.1	SE quad.	2	10	------------------	Cu.-N.	.3	●° ☇ p.
16	59.30	27.8	31.8	23.7	85	NW quad.	2	9	Ci.-S.	Cu.-N.	2	Ω ≡° ○² ☈ ⌒ ●°
17	56.67	28.2	30.5	25.5	86	NNE, ESE	2.5	10	Ci.-S.	Cu.-N.	.7	●° a. p.
18	56.59	27.2	32.5	24.9	86.8	SE quad.	2.2	10	Ci.-S.	Cu.-N.	34	d ≡° a. ☈ ● p.
19	58.05	26.6	28.9	24.5	89	SE quad.	2.7	10	Ci.-S.	Cu.-N.	.5	≡° ↙° a. ☈° d ⌒ p.
20	58.66	26.7	31.5	23.5	88.7	SE quad.	1.3	9.7	Ci.-S.	Cu.-N.	7.6	≡° ○° a. ☈° ●° p.
21	57.85	26.6	30.3	23.7	90.5	Variable	1.3	9.8	Ci.-S.	Cu.-N.	13.5	d a. ☈ ⌒² ● ☇ p.
22	57.09	26.7	30.9	23.5	89.7	SE quad.	1.7	9.2	Ci.-S.	Cu.-N.	2.5	●° ☈° p.
23	56.87	26.6	31.8	24.5	90.5	ESE	1.7	9.7	Ci.-S.	Cu.-N.	29	☈² ● p.
24	56.17	26.6	31.9	23.9	89.5	SE quad.	1.5	10	Ci.-S.	Cu.-N.	26.9	☈² ● ☇ p.
25	55.49	26.8	29.3	24.5	91.2	SE quad.	1.5	9.5	Ci.-S.	Cu.-N. SSW	------	●° a. ⊤° p.
26	54.43	25.3	26.8	24.5	94 9	SE quad.	1.8	10	------------------	Cu.-N.	34.3	● a. p. ☈° p.
27	52.29	25	26.1	24.3	96.3	SSW	3.2	10	Ci.-S.	Cu.-N.	53.6	● ☈° a. ↙ ● p.
28	49.11	25	27.1	23.8	94.8	SW quad.	4.7	10	------------------	Cu.-N., N.	66.3	↙ ● a. p.
29	50.20	25.3	26.1	24.8	95.8	W quad.	5.8	10	------------------	N., Cu.-N.	15.7	↙ ● a. p.
30	56.01	26.3	28.7	25	94.2	W quad	2.3	10	Ci.-S.	Cu.-N. W	29.2	● a.p. ☈²p. ○° ⊕°
31	57.36	26.4	28.2	24.4	94.5	SE quad.	1.3	8.7	Ci.-S.	Cu.-N.	11.2	● a. p.
Mean	756.21	26.5	29.8	24.2	89.4	------------	2.3	9.3	------------------	------------------	------	
Total	--------	------	------	------	------	------------	------	------	------------------	------------------	525	

METEOROLOGICAL DATA, ETC.—Continued.

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1512.5 meters; gravity correction not applied, —1.66 mm.]

Day.	Pressure (mean).	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	635.08	18.2	23	15.5	------	Variable	14	7.9	Ci.	Fr.-N. WSW	14.5	≡ Ω² a. ≡² ⊤ ● p.
2	34.86	19	22.5	15.4	------	S, E	11.7	6.7	Ci.	Cu., N.	8.1	≡° Ω² a. ≡² ● p.
3	35.22	18.6	23	14.9	------	Variable	13.9	8	Ci.	Fr.-N.	18	Ω² a. ≡² ● ⛈ p.
4	35.67	18.9	21.9	15.1	------	Variable	------	9	Ci.-S., A.-Cu.	Cu. E	------	○ ⊕² ≡ p.
5	35.84	18.8	23.5	15.3	------	E quad.	15	7	Ci.-S., Ci.	Fr.-N. E	1	≡° a. ⊤ ≡² ● p.
6	35.67	18.2	21.5	15.4	------	E	17.8	10	Ci.-S.	Fr.-N.	6.4	d a. ≡° d° ○° ⊕ p.
7	34.82	16.9	19.1	15	------	E	30	10	Ci.-S.	N. ESE	.5	d ⊕ a. p. ≡° ↙° a.
8	34.58	17	20.1	14.8	------	E	35.2	9.6	A.-Cu.	Fr.-N. ESE	.8	≡° ⊤ a. d ↙ a. p.
9	34.80	17	19.7	13.9	------	SE quad.	23	9.6	A.-Cu., A.-S.	Fr.-N. SE	3	≡° a. ● ≡² p.
10	35.04	17.7	22.8	15.1	------	Variable	11.6	9.4	Ci.-S., Ci.-Cu.	Fr.-N. S, SW	13.7	≡° a. ● ≡² p.
11	35	18.2	22	15.5	------	W	------	8.6	Ci., A.-Cu.	Fr.-N. WSW	43.2	≡ a. ⊤ ● ≡² ↙° p.
12	34.48	16.9	20.9	14.9	------	W	------	8.1	Ci.	Fr.-N. NE	99.1	● ≡² p.
13	33.46	16	16.7	15	------	SW quad.	23.8	10	------	N.	37.8	● ≡ a. p.
14	35.02	16.1	18	14.6	------	E	22.9	10	A.-S.	Fr.-N. SE	1.3	≡² d² a ↙ a. p.
15	36.52	17.4	23.1	14.8	------	E	15.6	10	Ci.-S.	Cu.	3.3	≡² ⊤ ● p. ○² ⊕
16	37.21	18	21.1	15.3	------	Variable	12.4	7.6	Ci.	S.-Cu. WNW	------	Ω a. ≡ ⊤ ● ⌒° p.
17	35.32	17.5	22.9	15.4	------	E	21.7	10	A.-Cu. E	S.-Cu. ENE	2.8	● ≡ p.
18	35.25	18	21.4	15.4	------	E	19.8	9.3	Ci. S	S.-Cu. SE	5.6	● a. p.
19	36.24	18	22.9	15.7	------	E, ESE	21.9	9.3	Ci.-S., A.-Cu.	S.-Cu. ESE	31.2	≡ ⛈ ●² p.
20	36.62	17	20.8	15	------	Variable	10.6	9.7	Ci.-S.	N, NE by E	38.6	≡² ● ⊤ p.
21	35.78	17.4	20.9	14.7	------	SW quad.	8.5	9	Ci.-Cu. NW	Cu., N.	39.3	≡° Ω a. ≡² ● ⊤ p.
22	35.20	17.1	21.4	15	------	SW quad.	10.4	8.1	Ci. ESE	Cu.	7.6	Ω ≡ a. ≡² ● p.
23	35.34	18	22.4	15.8	------	SE quad.	20.1	9.4	A.-Cu. SSE	S.-cf. ESE	11.4	d a. ● ≡ ⛈ p.
24	34.74	17.8	23.5	15.8	------	E	14.9	8.9	Ci.-S.	N.	20.3	≡ ● ⛈² p.
25	33.84	17.4	21.9	15	------	W quad.	13.2	8.7	Ci., A.-Cu.	N.	28.7	Ω ≡° a. ● ≡ p.
26	32.79	16.8	19.2	14.9	------	W quad.	26.8	10	A.-S.	N.	79	Ω a. ● p. ≡² a. p.
27	31.01	17	17.9	15.3	------	SW	57.1	10	------	N.	142.2	≡ ↙ ● a. p.
28	28.74	16.4	17.4	14.5	------	SW	58.7	10	------	N.	173.5	↙ ● a. ↙ ●² p. ≡
29	28.11	------	------	------	------	W	------	10	------	N.	327.7	↙ ●₂ a. ↙ ● ≡ p.
30	34.05	------	18.3	------	------	W	------	10	------	N.	43.7	● ≡² a. p.
31	35.56	------	22.7	------	------	W	------	9.4	Ci.	S. WNW	1.5	≡ ●° a. ≡² p.
Mean	634.58	17.5	21.1	15.1	------	------	21.2	9.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	1203.8	

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	757.08	27.7	32.1	24.5	79	S quad.	0.8	2	Ci.	Cu.	0.3	⛈ d² ⌽ p.
2	56.24	28.1	33	24.2	76	Variable	1.2	3.3	Ci., Ci.-S.	Cu.	------	ζ° p.
3	56.67	27.8	33.1	24.8	80.5	NE, SW	1.3	2.7	Ci.-S.	Cu.	------	⛈ d ζ° ⌽ p.
4	57.05	28.5	33.1	24.7	76.1	S quad.	.8	3.5	Ci.-S.	Cu.	------	⛈° d° ζ° ⌒ p.
5	57.59	28.1	34.1	25.3	80.8	Variable	.8	2.8	Ci.-S.	Cu.	1.5	⛈ ●° ζ° ⌽ p.
6	57.22	27	32.6	25	85.8	Variable	1.2	7	Ci.-S.	Cu.	4.6	● ⛈ p.
7	56.61	26.6	31.4	24.4	88.8	SE quad.	1	6	Ci.-S.	Cu. WSW	36.8	d a. ● ⛈ p.
8	56.06	27.2	32.1	24.4	84.5	Variable	1	7.3	Ci.-S.	Cu.	.3	d ⛈ p.
9	56.07	27.8	32.1	24.8	77.7	SE, S	1.8	6	Ci.-S.	Cu.	.5	
10	56.36	27.7	31.7	24.4	78	S quad.	1.8	8.3	Ci.-S.	Variable	2.8	d° a. p. ● a.
11	56.45	28	32.4	24.9	78.6	SE quad.	1	6	Ci.-S.	Cu., N.	1.8	d a. p. ● p.
12	56.14	26.9	32.1	24	83.2	S quad.	1.3	2.8	Ci.-S.	Cu.	56.9	⛈ ●² p.
13	54.37	24.7	26.9	23.2	93.2	SE quad.	3	8.7	Ci.-S.	N.	176	●² a. p. ↙° p.
14	56.04	27.1	31.5	24	78.8	S quad.	1.7	8.2	Ci.-S.	S.-Cu.	------	d° p.
15	58.69	27.3	32.7	23.8	81.3	Variable	1	8.8	Ci.-S.	S.-Cu.	1.3	⛈ ● p.
16	59.36	27.1	32.4	23.4	84.3	Variable	1	3	Ci.-S.	Cu. NNE, NW	------	d ⛈° p.
17	56.56	28.5	34.9	24	76.7	NE	1.3	4.8	Ci.-S.	S.-Cu.	------	d p.
18	56.63	27.2	32.4	24.1	80.8	Variable	.8	5	Ci.-S.	Cu. SW	5.6	ζ° ⛈ ● p.
19	58.12	27	32.9	23.7	82.9	Variable	.8	4.7	Ci.-S.	Cu.	21.8	⛈ ● p.
20	58.91	26.8	31.9	23.7	84.5	NNW	1	8.3	Ci.-S., A.-Cu.	S.-Cu.	2	●° ⛈ p.
21	57.95	26.3	30.4	23.5	87.3	Variable	1	5.7	Ci.-S.	Cu.-N., NNE, WSW	.8	● ⛈ p.
22	57.07	26.6	31.6	23.5	84.5	Variable	1	5.2	Ci.-S.	Cu. SW	3.6	● p.
23	57.24	27	32.5	24.3	84.9	Variable	.8	7.8	Ci.-S.	Cu. S, NE by N	.3	d ζ° p.
24	56.18	27.8	32.5	24.5	83.3	NNW	1	7.2	Ci.-S.	Cu.	5.3	⛈ ● ζ° p.
25	55.58	26.3	32.1	24	87.8	Variable	1	7.5	Ci.-S.	Cu., S.-Cu.	15.5	d a. p. ● ⛈ p.
26	54.25	25.2	26.9	24	92.7	Variable	1.3	10	Ci.-S.	N.	33.8	● a. p.
27	51.65	24.7	26.7	23.5	97.3	S quad.	2.2	10	------	N. SSW	102.4	●² a. p.
28	48.44	25.2	28.6	22.4	90.7	SE quad.	4.3	10	------	N. SSW	190.8	↙ ●² a. p.
29	46.14	25	26.3	23	94.2	Variable	6.8	9.8	Ci.-S.	N.	87.4	↙² a. ●² a. p. ⌽ p.
30	55.74	26.3	28.9	24.8	90.3	S	1.5	8.7	Ci.-S.	N. SW	12.2	● a. p. ≡° a. ⌽ p.
31	57.30	26.9	29.7	24.1	85.8	S quad.	1.2	1.2	Ci.-S.	Cu.	------	≡° ⌒ a. ⌽ p.
Mean	755.99	26.9	31.3	24.1	84.2	------	1.5	6.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	764.3	

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.	Prevailing form and its direction.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
		Mean.	Maximum.	Minimum.		Prevailing direction.	Force (mean).	Amount (mean).	Upper.	Lower.		
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	756.88	28.7	35.5	23.4	79.5	E, SW	0.3	4.2	Ci.	Cu. S	------	Ω² a. ⛈ ⚡ p.
2	55.78	28.8	36.2	23.7	76.1	S, SE	.8	4.8	Ci.	Cu.	------	⛈ ⚡ p.
3	56.64	28.6	36	24	79.2	S	.7	7.7	Ci.	Cu. SE, S	------	Ω a. ⊕ ⚡ p.
4	57.48	27.8	32	23.8	80.7	S	.2	6.7	Ci.	Variable SW	------	Ω² a. d ⌒ p.
5	57.67	28.9	34.8	23	74	SW	.5	5.7	Ci. NE	Cu. S	------	Ω ◯² a. ⚡ p.
6	57.69	28.1	33.5	24	81.2	SE	.8	7.7	Ci.	Cu.-N. S	2	d a. ⛈ p.
7	57.22	27.8	33.4	23.6	77.7	SE	1.7	7	------	Cu.-N. SE	3.8	● a. ↙° a. p.
8	57.39	27.6	32.8	23.5	80.2	SW	1.7	7.3	Ci.	Cu.-N. S	------	● a. ↙ ⚡ p.
9	56.49	28.6	35.7	24	73.8	SE	1.2	7.7	Ci.-Cu. SE	Cu.-N. S	3.6	⚡ ● p.
10	56.15	27.8	33.8	23.5	80	Variable	.5	7.3	Ci.	Cu. S, SE	------	d a.
11	56.07	28.6	35	23.1	78.2	NE	.5	5.7	Ci.	Cu.-N. NE	------	Ω a. ⌒ ⛈ ⚡ p.
12	55.69	26.8	33.3	23.7	84	N quad.	.7	6.8	Ci.	Cu.-N. N	49	Ω a. ● ⛈ p.
13	53.50	25.2	28.6	22.1	89	SE	2.7	9.2	Ci.-S.	N. SE	85.3	↙ ●² a. ● p.
14	56.75	27.6	32.5	23.2	81.3	SE	1.5	6.5	Ci.-S.	Cu. SE	------	
15	58.26	28.4	34.7	22.6	78.5	N	.2	7.5	Ci.-S.	S.-Cu. S	------	Ω² ◯° a. ⚡ p.
16	59.25	27.4	33.5	23.5	84.2	NE	.8	6.8	Ci.-S.	S.-Cu. N, NW	6.6	Ω a. ● ⚡ p.
17	57.78	27.4	32	24.3	86.8	NW, SE	.3	8.3	Ci.	Cu.-N. SE	15.5	● ⌒ a. ● ⚡ p.
18	57.62	26.9	32.4	23.8	89.3	SE	.2	9.8	Ci.-S.	Cu.-N. S, SE	4.8	● a. ◯² ●° p.
19	58.25	27.8	33.4	24	84	SE	.3	6.8	Ci.	S.-Cu.,Cu. SE	------	Ω° a. ⚡ p.
20	58.18	28.1	33.7	24.5	84.5	NW	.8	5.7	------	Cu. ENE, E	------	d a. ⚡ p.
21	57.95	26.5	32.8	23.5	85.5	NW	.3	8.8	Ci.-S.	Cu.-N. NW, E	2	d a. ⛈ ● p.
22	57.13	27	33	23	83.2	SE	.2	7.8	Ci.-S.	Cu.-N.	2.5	d a. ● p. ◯²
23	57.66	27	30.6	24.1	87.2	NE	.2	8.3	Ci.-S.	Cu.-N., S.-Cu.	------	d ⚡ a. ⊕ p.
24	56.54	27.1	32	24	84.1	NW	.5	8.2	Ci.-S.	Cu.-N.	------	d p.
25	55.48	25.5	32	22.8	88.2	NW	1	8.3	Ci.-S.	N. NW	21.3	● p.
26	53.47	25.2	27.5	22.3	88	S	.2	10	------	Cu.-N.	------	● a. d a. p.
27	51.46	26.2	33.5	24	90.4	Variable	1	8.7	Ci.-S.	N.	129	●² p.
28	50.24	25.9	29.2	24	91.2	SW	.7	9.3	------	Cu.-N. S	8.9	●² a. ● p.
29	46.06	24.6	28.6	22.8	93.7	SW	1.3	10	------	N.	44.2	● a. p. ↙ a.
30	53.63	26.5	34	22.1	87.3	NW	.2	7.2	Ci.-S.	Cu.-N. NW	------	◯² a. ⊕ p.
31	55.94	28.8	35.5	22.9	77.3	SW, NW	.8	4.2	Ci.	Cu., Cu.-N. NW	------	Ω² a. ⊕ p.
Mean	756.01	27.3	33	23.4	83.2	------	.7	7.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	378.5	

APARRI.

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

Day.	Pressure (mean).	Temp. mean.	Temp. max.	Temp. min.	Relative humidity.	Wind direction.	Wind force.	Cloud amount.	Upper.	Lower.	Rain.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		km. p. h.	0-10.			mm.	
1	757.26	28.4	34.1	24.4	79.7	Variable	11.2	1.5	Ci. NE	Cu.-N.	------	⊤° ⚡ p.
2	56.28	28.2	33.5	24.5	78.3	S, NW	11.8	4.2	Ci. E	Cu.-N.	------	⛈ p.
3	56.91	28.2	34	24.6	80	Variable	11.4	6.7	Ci.-S.	S.-Cu. E	------	◯ ⚡ p.
4	57.64	27.4	32	25	81.8	S quad.	9.8	8.5	Ci.-S. NE	Cu.-N. SSE	------	
5	57.87	28.1	35	24.6	74.8	SE	10.3	3.8	Ci. E	Cu.-N. SE	------	⊤° p.
6	57.90	27.7	33	23.8	85?	SE quad.	10.5	4.3	Ci.-S. SW	S.-Cu. SE	------	◯ p.
7	57.38	26.6	33	24	85.3	SE	13.8	5.3	Ci. NE	S.-Cu. E	4.1	● ⊤° ⚡ p.
8	57.50	27.2	32.6	23.2	76.5	SE quad.	14.5	7	Ci.-S. E	S.-Cu. S	------	⚡ p.
9	56.92	27.2	33	24	79.8	SE quad.	15.2	5.5	A.-Cu. E	Cu.-N. SW	9.9	⛈° ↙° ● p.
10	56.61	26.9	32.7	23.2	82.2	Variable	11.1	1.8	Ci.-S. S	S.-Cu.	------	⊤ ⌒ p.
11	56.50	27.5	33.5	23.7	82.2	Variable	8.8	3	Ci. E	Cu. S	5.6	⊤° ⚡ p.
12	56.18	27.6	33	23.9	84.5	Variable	9	6	Ci.	Cu.-N. NE	37.6	⛈ p ● a. p.
13	53.22	27.2	30.5?	23	84.7	SE	23.1	8.3	Ci.-S.	N. N, NE	6.1	● ⛈ a. ↙° a. p.
14	57	26.9	31.9	24.5	83.2	SE	10.1	7.8	A.-S.	S.-Cu.	.5	⚡ p.
15	58.66	27.3	32.6	23.6	84.5	Variable	8.8	6.2	Ci. W	Cu.-N. SE	------	⛈° p.
16	59.83	27.2	31.9	23.1	89.1?	S, N	8.1	3.8	Ci. SE	Cu.-N. SE, NE	31.5	⛈° p.
17	58.48	27.4	32.5	24.1	87.7	Variable	11.2	6.2	Ci. NE	Cu.-N.	3.8	⛈ a. ● a. p.
18	58.04	25.1	28.2	23.6	94.2	SE	7	10	------	S.-Cu., N. SE	6.6	● a. p. ⚡ p.
19	58.62	27.4	32	23.5	84.2	SE	8.7	6.8	Variable	Cu.-N. S	------	⚡ p.
20	58.73	28	32.5	25.1	85.7	SW, NE	10.7	2	A.-Cu. E	Cu -N. NE	------	⊤ ⚡ p.
21	58.70	26.7	33	23.8	87.3	SW	7.9	7.2	Ci. E	Cu.-N. E, NE	6.4	◯ ● p.
22	57.49	25.9	30	23.4	90.2	Variable	6	10	A.-S.	S.-Cu. E	------	●° a. ⚡ p.
23	57.92	26.6	31.5	24.3	86.7	S	9.1	10	A.-Cu. E	S.-Cu. S	------	
24	57.19	26.4	31	24	86.5	SW, NE	5.6	10	A.-Cu. N	Cu.-N. E	48.3	● ⛈ p.
25	55.95	24.8	28.5	22.6	92	NE, W	8	8.7	A.-Cu. E	N. E, NE	82.3	●² a. p. ⌒ a.
26	53.07	23.9	28.4	22.5	95.2	SW	12.7	10	------	N. W	58.7	●² a. p.
27	51.94	25.3	27.4	23.6	91.3	Vari ble	10.9	10	Ci.-S.	S.-Cu. W	48.8	●° a. p. ↙ ● p.
28	50.33	25.4	28.2	23.1	95	SE	8	10	------	S.-Cu. W	14	● a. p.
29	46.20	25.4	29.2	23.4	93.8	SW, ENE	17.4	10	------	N. S	68.1	↙ ● a. p.
30	53.63	26.9	32	23.5	------	Variable	8.3	7	Ci. W	S.-Cu.	------	◯ ⊍
31	56.34	27.2	32	23.6	83.5	Variable	10.2	3.7	Ci. E	S.-Cu., Cu.-N.	------	◯ ⊕
Mean	756.33	26.8	31.7	23.8	85.5	------	10.6	6.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	432.3	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	22.2	95	72	9	7	50.8	d° a. ↙° ●² p.
2	30.6	22.1	88	75	9	9	1	↙ a. p. d² p.
3	29	22	88	91	9	10	14.5	● a. p.
4	30.6	22.2	96	71	10	9	------	Ω ≡ a.
5	31.6	22	95	88	9	10	30.2	↙° ●°a. d° ●²p.
6	28.8	21.1	97	85	10	10	10.7	Ω ≡ ↙ a. ● p.
7	29.3	22.3	89	78	10	8	------	
8	32.4	20.8	96	68	7	5	------	Ω² a.
9	30.3	21.7	93	72	8	8	2.8	Ω ↙ ● a.
10	34	21.1	95	61	8	7	------	Ω ↙° a.
11	31.7	21.4	95	64	8	9	------	Ω a. ↙ ↯ p.
12	31.9	22.2	92	80	7	10	27.4	Ω ●° a. ●² p.
13	33.5	21.6	93	62	10	7	------	Ω² a.
14	32	22.9	92	58	8	8	------	Ω a. ↙ ↯ p.
15	30.8	22.1	92	87	8	10	1.8	Ω ↙ ● a. d ⌈↯
16	31.9	21.8	92	65	7	7	------	Ω a.
17	31.2	22	96	84	8	10	23.9	Ω ●² a. ↙ ● p.
18	30.4	21.9	96	73	10	7	47	● a. ↙ a. p.
19	29.1	22.7	89	76	8	10	8.1	Ω° ↙ ● a. ↙° p.
20	31.2	23.6	88	72	10	8	------	Ω° a. ↙ ↯ p.
21	31.9	22.2	94	65	7	8	8.6	Ω² a. ↙ ● p.
22	31.9	20.7	93	73	8	8	------	Ω° a. ↙ p.
23	31.9	22.6	92	71	8	7	?	Ω² a. ↙ p.
24	31.4	22 .	97	66	10	8	13.7	● a. ↙ ●° p.
25	32	23.2	92	67	8	9	------	Ω a. d ↙ p.
26	32.2	24.1	93	51	6	8	------	Ω² a. ↙ p.
27	32.1	24.1	89	69	6	7	------	Ω° a. ↙ a. p.
28	33	24.2	85	61	7	8	3.6	● a. ↙ a. p.
29	31.8	23.8	93	67	8	7	1.5	Ω° ●° a. ↙ a. p.
30	32	23.6	94	73	7	7	------	Ω a.
31	32.9	21.2	91	70	8	5	------	Ω a.
Mean	31.5	22.3	92.6	71.5	8.3	8.1	------	
Total	------	------	------	------	------	------	245.6[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	30.3	22.5	96	81	10	6	19	Ω ↙ a. ↙ ● p.
2	29.8	23.5	92	84	10	10	42.4	↙° a. ● a. p.
3	29.3	22.5	96	77	10	10	21.3	● p.
4	29	22	96	79	10	10	18.8	↙° ● a, p° p.
5	29.3	22	96	90	4	9	5.1	Ω a. ↙ ●° p.
6	32.8	22.5	96	83	10	10	15.2	d a. ↙ ● p.
7	27.8	22	96	92	10	10	8.4	● p.
8	29.8	22	96	79	1	10	3.8	Ω a. p p.
9	32.3	21.5	96	83	0	9	2.5	Ω a. p ⌒ p.
10	31.8	22.5	96	73	2	8	------	Ω a.
11	31.6	21.5	96	72	1	8	------	Ω a.
12	30.9	22	88	92?	10	8	------	Ω ≡ a, ⊤ p.
13	34.8?	21.4	96	84	3	3	------	Ω a.
14	28.8	22	96	87	10	10	20.8	Ω ≡° a. ↙° ● p.
15	30.5	22.5	96	78	10	10	------	p° a. ↙° p.
16	30.3	22.5	96	82	8	8	1.5	● a. ↙ p.
17	29.3	22.7	93	85	8	10	146.8	Ω a. ↙ ●² p.
18	28.3	21.5	99	86	10	10	------	d a. ↙ p.
19	30.3	21.8	96	95	10	10	10.7	Ω a, ↙ ● p.
20	29.3	21.5	94	90	10	10	1.8	d ↙° a. p° ↙° ↯
21	27.9	22.5	96	85	10	10	15	Ω p° a ↙ ● p.
22	29.9	22	92	78	10	7	------	Ω a. ↙ a. p.
23	30.8	22	96	81	5	9	14.2	Ω ≡° a. ↙ ● p.
24	29.5	22.2	94	91	10	10	22.1	↙ ● a. p.
25	33.3	22	96	85	10	9	------	Ω ↙ a. ↙ p° ⌒ p.
26	32.3	21.9	96	85	7	9	------	Ω a. ↙ p.
27	31.3	22.4	97	72	5	4	------	Ω a. ↙ p.
28	32.8	22	96	60	5	5	------	Ω a. ↙ p.
29	32.5	22	96	73	2	9	------	Ω a. ↙ p.
30	30.3	22	96	78	3	5	------	Ω ≡ ↙ ⊤ a.
31	32.5	22	96	53	0	3	------	Ω a.
Mean	30.6	22.1	95.4	81.1	6.9	8.4	------	
Total	------	------	------	------	------	------	369.4	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	24	86	78	6	5	11.2	≡ a. ●° p.
2	28.5	23.5	91	73	9	9	12.2	d° a. ●° a. p.
3	28.4	23.4	83	80	10	10	5.8	●° ≡ a. d° ↙ ●°
4	28.4	22.9	96	78	10	10	------	≡ a. d° ↯ p.
5	29.6	22.6	90	73	6	7	1,3	◯° ⊤ ↙ p.
6	28.5	22.4	78	100	10	10	4.6	d a. ↙ ●° Φ ∪ p.
7	28.7	20	86	81	9	10	4.6	≡ a. ↙ d° p.
8	29.7	21.9	87	76	7	5	------	Ω ≡° a.
9	32.8	23.3	87	75	4	7	------	Ω ≡° a. ◯ d° p.
10	30.3	23.3	89	63	6	7	------	Ω ≡° a. ◯ p.
11	30.7	23	84	76	3	5	------	Ω ≡ a.
12	29.9	23.7	87	75	10	8	------	Ω ≡ ◯ a. ⊤ p.
13	31.2	22.9	88	68	4	7	------	Ω ≡° a. ⊤ p.
14	31	24	87	70	6	8	1.8	∪ Ω° ≡ a. ⊤ ◯ ↯
15	30.7	23.2	95	72	10	9	.5	d ≡ a. ◯ a. p.
16	31.5	23	88	78	8	7	------	d d° a. ↯ p.
17	29.4	22.9	87	80	9	9	20.3	Ω° ≡° a. ◯ ●° p.
18	27.9	22.5	98	88	10	7	2	●° ↙ a. d° d p.
19	29.4	23.2	93	87	8	9	------	d° a. ↙ p.
20	29.1	23.4	84	73	9	8	------	≡ a.
21	------	22.5	90	74	8	10	3.3	≡ a. d° a. p.
22	------	22.2	------	78	8	8	2	≡ a. ◯ ●° p.
23	------	21	------	80	9	9	1.8	d° ●° p.
24	------	21.4	------	85	10	9	4.6	p° ◯ p p.
25	------	20.1	------	76	10	8	------	≡ a. ⌒ d° p.
26	------	24.5	------	75	10	8	------	≡° a. ◯ ∪ p.
27	------	24.2	------	70	8	8	------	Ω° ≡ a. ◯ p.
28	------	23.5	------	73	9	9	------	Ω ≡° ◯ a. Φ p.
29	------	23.9	------	72	4	9	------	Ω ≡ a. ⊕ ◯ ⊤° d°
30	------	23.5	------	83	4	7	------	≡° a.
31	------	23.4	------	79	2	3	------	Ω ≡ a. ↙° p.
Mean	29.7	22.9	88.3	77.1	7.6	7.9	------	
Total	------	------	------	------	------	------	76	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	32.6	22.3	99	70	8	7	22.4	≡ a. ● p.
2	31.7	22.1	97	79	6	7	27.7	Φ ● p.
3	30.4	22.9	97	78	7	8	------	
4	30.3	22.3	96	81	6	7	------	
5	32.1	22	96	66	5	7	25.9	● ⌈↯ p.
6	29.1	22.6	97	80	8	9	10.9	● ⌈↯ p.
7	31.3	22.6	97	87	10	7	13.5	● a.
8	32.1	22.1	97	76	5	8	------	
9	32	21.8	96	73	5	6	------	⊤ p.
10	30.8	23.1	96	83	8	5	18	
11	31.6	23.7	97	74	9	7	25.7	● a. p.
12	32.5	22.1	95	72	6	5	17.8	● ⌈↯ p.
13	32.3	21.9	97	77	6	9	------	
14	32.1	22.1	97	71	5	7	------	
15	31.6	22	97	69	6	8	------	
16	31.8	20.9	98	69	5	6	------	
17	31.6	22.1	97	71	6	5	31	● ⊤ p.
18	30	22.5	90	80	7	8	24.4	● p.
19	30.4	22	96	68	8	8	------	
20	31	22	96	67	6	7	------	⊤ p.
21	31.7	21.7	96	66	5	6	------	↯ p.
22	32.1	22.1	97	70	5	5	------	
23	32.9	21.8	96	67	6	5	------	
24	31.3	22.9	97	70	5	6	38.4	● ⌈↯ p.
25	31.7	21.8	98	69	7	7	------	
26	32.1	22.4	96	68	6	5	------	Φ p.
27	31.6	22	98	74	5	8	44.4	● ↙ ⊤ p.
28	32.1	21.6	96	72	5	7	------	
29	31.8	22.4	88	73	5	5	------	
30	31.9	21.8	99	71	5	5	------	
31	31.9	22.4	95	75	6	7	------	
Mean	31.6	22.2	96.3	73.1	6.2	6.7	------	
Total	------	------	------	------	------	------	300.1	

[1] 30 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

COTABATO.

[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	21.5	94	54	9	5	2.5	≡² ↙° a. ●° p.
2	30	22.5	91	67	9	7	3.8	● ↯ p.
3	31	23.4	87	73	9	5	5.1	● p.
4	29	18?	90	74	10	9	7.6	● p.
5	30	23	97	65	10	8	50.8	≡² a. ●² ⊤ p.
6	28.9	23	96	70	10	10	53.3	d a. ●² p.
7	28.5	22	93	71	9	8	4.6	●° p.
8	31	21.2	97	59	8	8	------	≡ a. ↙° ↯ p.
9	31	21.2	91	68	2	3	------	Ω a. ↙° p.
10	30	19.1	93	68	8	9	------	↯ p.
11	32	22	88	74	4	10	------	↙ a. p.
12	30.1	22.1	91	68	8	9	------	d a. ↯ p.
13	32	22.4	94	68	2	6	------	Ω ≡ ↙° a. ↯ p.
14	31.8	22.3	91	70	2	9	19.8	Ω ≡ a. ⌈↯ ● p.
15	31.5	20.1	95	62	8	5	50.8	⌈↯ ●² p.
16	29.6	20	91	68	8	10	------	d a. ↯ p.
17	30.8	22.8	90	70	8	4	50.8	Ω ≡ ↙° a ↙° ●²
18	29	22.8	85	77	10	9	21.6	●° a. ● ↯ p.
19	29.5	21.4	95	73	8	10	2.5	↙° a. ● ↯ p.
20	29	21.8	93	75	9	7	------	Ω a. ↙° d p.
21	30.5	20	89	70	10	6	2.5	≡ a. ↙ ● p.
22	31.5	18.5?	93	67	8	6	5.1	↙° d ● p.
23	30	20.8	90	65	4	3	5.1	≡² a. ↙° d ● p.
24	30	21.4	90	71	10	10	20.3	● a. p. ↙ p.
25	29.5	19.9	97	70	4	3	7.1	Ω a. ↙ ● p.
26	30: 2	20.7	91	69	3	3	------	≡² a. d ↙ ⊍² p.
27	31.2	21.5	97	70	2	3	------	Ω ≡² ↙° a. ↙ ⊍²
28	32	21.2	91	69	2	6	------	≡ a. ↙° p.
29	32	22.1	90	63	3	3	------	Ω a. ↙° ⊍ p.
30	31.6	21.6	90	64	4	2	------	≡² a. ↙ a. p.
31	32	22	93	64	3	5	10.2	Ω ≡² a. ↙ ● p.
Mean	30.5	21.4	92	68.3	6.6	6.5	------	
Total	------	------	------	------	------	------	323.5	

CAGAYAN, MISAMIS.

[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	22.1	92	67	4	9	25.4	⌈↯ ● p.
2	31.7	21.2	96	72	4	9	.8	d ⊍ ↯° p.
3	30.7	22.9	93	80	10	10	9.4	d° p.
4	29.7	23.2	95	88	10	19	12.4	d a. ●° p.
5	31.4	21.1	95	80	7	9	2.5	d² ⌈↯ p.
6	30.9	22.8	96	92	9	10	28.2	d° a. ● p.
7	30.6	22.4	97	70	10	9	.3	d° d p.
8	32.1	22.1	92	62	10	8	------	⌈↯ ↙ p.
9	33	21.6	98	60	3	5	------	Ω ≡° a. ⌈↯ p.
10	33.8	22.4	98	61	10	7	------	Ω a. ⊤° ∞° p.
11	31	22.1	87	67	9	9	.5	d° a. d ⊤° ↯ p.
12	31.1	23	94	67	10	10	11.4	●° ⌈↯ p.
13	32.9	21	92	64	4	7	------	∞° p.
14	31.5	21.7	90	70	10	9	------	↙ d² ⌈↯ p.
15	32.3	20.9	92	65	6	6	20.3	⌈↯ p.
16	29.5	22.1	97	74	9	10	19	● d° ⌈↯ a. p.
17	31.7	21.7	96	70	10	7	25.7	● a. d ●² ⌈↯ p.
18	31.5	21.5	96	70	7	9	20.3	●² d° a. ● d ⌈↯
19	32.3	22.1	96	58	10	10	16.5	d a. p. ↙ ● ⌈↯ p.
20	30.7	22.2	95	64	10	9	.3	d° p.
21	32.8	21.8	92	58	9	9	4.8	⌈↯ ↙ ● p.
22	32.4	21.7	92	59	5	8	------	∞ p.
23	32.4	21.9	91	64	2	9	15.2	↙ ● p.
24	32.7	23.1	97	73	10	9	33.8	● a. p. ⌈↯ ↙ p.
25	30.9	22.1	97	78	5	8	1.5	● a. d ↙ ⌈↯ p.
26	33.2	22.3	96	66	9	8	------	≡ a. d° ⌈↯ ⊍ ∞
27	32.7	21.7	92	70	6	9	------	≡° a d° ⌈↯ ⊍² p.
28	34.4	21	94	47	5	8	------	↙ p.
29	35.8	21.9	94	59	7	6	------	Ω² a.
30	34.4	22.3	91	63	3	6	------	Ω a. ↙ p.
31	34	22.2	91	58	0	5	------	Ω² a. ↙ p.
Mean	32.1	22	94	67.6	7.2	8.3	------	
Total	------	------	------	------	------	------	248.3	

DAPITAN.

[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maximum.	Minimum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0–10.			
1	33.4	22.6	92	64	8	6	2.3	≡ a.
2	31.8	23.7	92	66	10	10	------	● ∩ a. ⊤ p.
3	32.7	23.1	95	60	10	10	------	≡² a. ↯ ⊤° p.
4	28.8	23.2	96	79	10	10	6.9	d ● a. ⊍ ↯ p.
5	33	21.8	96	60	8	9	?	● ⊤ p.
6	29.9	22.8	93	76	9	10	12.2	● a. p. ↙ p.
7	31	21.9	92	70	10	7	------	
8	30.7	------	96	------	5	------	------	
9	------	22.9	94	66	7	6	------	Ω a.
10	------	23.1	------	60	------	6	------	
11	32.9	23.1	94	61	10	10	?	Ω a.
12	31.2	24.5	97	74	10	10	------	● a.
13	33.4	23	95	65	7	7	------	
14	33.7	23	97	68	8	10	5.6	Ω a. ⌈↯ ● p.
15	32.1	22.8	93	59	6	4	16	● ≡ a. ● ⌈↯ p.
16	31.8	23.1	93	69	10	8	------	◯ ↯ p.
17	33.2	22.7	97	65	7	8	------	Ω a. ⌈↯ p.
18	32.4	22.5	96	58	8	6	------	
19	32.1	22	95	73	10	8	5.6	● ∩ p.
20	32.7	22.5	91	75	10	10	3.6	↙ ● p.
21	33.1	22.5	95	74	10	10	2.5	↙ ● p.
22	33	21.5	96	63	8	7	------	⊍ p.
23	33	22.9	88	71	7	8	------	Ω a. ↯ p.
24	32.7	22.5	92	70	8	9	10.9	Ω a. ↙ ● p.
25	33	22.1	94	63	7	8	------	◯ p.
26	34.1	22.7	86	62	7	6	------	◯ ⊍ p.
27	34	23	86	60	8	9	2.3	● ⊍ p.
28	34	22.5	92	60	9	7	------	Ω a. ⊍ p.
29	35	24.3	85	61	5	4	------	⊍ p.
30	------	22.1	97	61	6	9	------	Ω a.
31	------	------	------	------	------	------	------	
Mean	32.5	22.8	93.3	66	8.2	8	------	
Total	------	------	------	------	------	------	67.9[1]	

BUTUAN.

[ϕ=8° 56′ N; λ= 125° 32′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	22.4	95	89	7	9	16	Ω a. ↙ ● ⌈↯⊕p.
2	32.6	22.5	96	88	6	10	4.3	Ω a. ↙ ● ⌈↯ p.
3	29.3	23	97	74	10	10	.3	Ω a. d p.
4	28.7	23.6	96	86	10	10	7.9?	● a. p.
5	31.8	23.7	96	69	10	7	1.3	Ω d° a. ● p.
6	31.1	23.5	95	72	10	10	46.5	Ω a. ● p.
7	28.7	23.4	96	78	10	10	------	● a. ⊤ ●° p.
8	30.6	23.4	97	71	9	9	.3	Ω a. ⌈↯ d p.
9	31.6	23.5	96	63	7	8	------	Ω ⊕ a. ◯ p.
10	30.5	23.6	95	81	9	9	------	Ω a.
11	29.5	23.6	94	70	7	8	1	Ω ●° a.
12	31.3	22.7	93	69	10	9	1.5	⊤ Ω p° a. ⌈↯ ●°
13	32.5	23	96	71	7	7	------	Ω ↙ a. ↯ p.
14	32	22.9	92	75	8	10	2.5	Ω ⌈↯ a. ● p.
15	30.6	22.7	94	89	6	8	2.8	≡ a. ● d° p.
16	25.7	22.4	96	93	8	10	4.8	p° ● a. d° p.
17	31	22.5	97	62	9	5	6.1	Ω a. ⌈↯ ● p.
18	29.3	23	95	79	9	10	------	Ω a.
19	30.5	23.4	92	67	10	7	21.1	Ω a. ⌈↯ ●² p.
20	29.5	23.2	96	66	10	9	------	↙ a. ⊤ p.
21	31.1	23	96	58	7	9	------	Ω a. ⊕ a. p.
22	31.1	23	93	58	8	8	------	Ω ⊕ a. ⊕ ↯ p.
23	31	24.1	94	64	4	6	1.8	Ω ⊕ a. ● p.
24	31	22.8	94	70	7	6	12.7	≡ ◯a. ∩ ↙ ● ⌈↯
25	30.2	23	96	65	4	7	.3	Ω ⊕ a. ◯ ⊤ ∩ d
26	31.3	23.6	95	56	9	9	------	Ω ⊕ a. ◯ ⊍ p.
27	31.1	23.3	93	59	8	8	------	Ω ⊕ a. ⊍ p.
28	33	23.4	93	59	7	7	------	Ω a.
29	34	23.2	92	60	7	7	4.6	Ω a. ● ⌈↯ p.
30	32.5	23.5	91	62	2	2	------	Ω a. ⌈↯ p.
31	32.1	22.9	88	62	1	5	------	Ω a. ⊤ p.
Mean	30.9	23.2	94.5	70.5	7.6	8	------	
Total	------	------	------	------	------	------	135.8	

[1] 28 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	23.5	97	83	10	8	------	ϖ^2 ⟨ ⊍^{2} p.
2	31.4	23.8	96	86	10	8	------	⟨^{2} ⊍ ϖ^2 p.
3	31	24.4	95	92	10	10	------	d ϖ ⟨^{2} ⊍ p.
4	30	23.8	96	91	10	10	20.8	d p a. ⌈ζ^2 p.
5	28.5	23.3	92	86	10	8	------	d ⟨ p.
6	33.3	24.6	92	90	10	10	50.8	d ● a. d ≡^{2} ⟨^{2}
7	31	23.2	92	84	10	10	46.7	●^{2} d a. p. ⟨^{2} p.
8	29	23.9	96	78	10	10	------	d ≡^{2} a. ⟨^{2} d p.
9	30	24	97	76	10	10	17.5	d a. p. ↙ ● ⌈ζ p.
10	30.9	23	91	87	10	7	39.6	d ● ⌈ζ p.
11	30.4	23.2	93	87	10	10	22.1	d ≡^{2} a. d ⌈ζ^2 ●
12	29	22.8	95	93	10	10	51.1	d° a. ↙ ●^{2} d ≡^{2} ⟨
13	28.6	23.4	93	83	10	10	7.9	↙ d^2 a. d ⟨^{2} p.
14	29.4	23.6	96	84	10	10	------	d ⊤^{2} p.
15	30	23.4	96	85	10	8	29.5	↙ ● p.
16	30.5	21	93	94	10	10	34.5	d ● a. d ⟨^{2} p.
17	29	23.2	96	84	10	7	24.4	⟨^{2} ↙ ● p.
18	30	23.1	97	86	10	8	------	⟨^{2} ↙ p.
19	30	24.4	96	80	10	6	54.4	↙ ●^{2} ⌈ζ^2 p.
20	30	21.5	97	77	10	10	19.3	d ≡^{2} a. d ⟨^{2} ↙ ●
21	29.2	23.2	94	87	10	10	------	⟨^{2} ⊍° p.
22	29.3	23.6	92	89	10	10	7.9	⊍ ↙ ● p.
23	29.9	23.7	95	78	10	9	69.6	d a. ⊍° d ●^{2} ⌈ζ^2
24	30.6	24.5	95	79	10	9	------	↙° a. ⊍ ⟨^{2} ϖ^2 p.
25	30	24.4	90	81	10	10	------	⟨^{2} ⊍ ϖ p.
26	30.5	24	91	80	10	10	------	d ≡^{2} a. ⊍ ϖ^2 ⟨ p.
27	29.5	24	93	77	10	8	------	ϖ ⊍ ⟨^{2} p.
28	29.5	------	94	86	10	7	------	
29	29.8	26.4	94	85	10	10	------	ϖ p.
30	29.5	24.5	89	83	10	7	------	⊍ ϖ ⟨ p.
31	31	23.6	92	86	3	4	12.4	● ⌈ζ^2 p.
Mean	30.1	23.6	94	84.4	9.8	8.8	------	
Total	------	------	------	------	------	------	508.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	22.5	91	85	10	10	6.1	● ⌈ζ ϖ p.
2	31	22.9	91	88	7	10	5.1	● ⊤ d p.
3	30	23.5	94	84	10	10	15.7	d a. ● p.
4	27.1	23.6	97	95	10	10	39.6	↙° ● a. p.
5	29.5	22	96	81	2	10	12.2	● d ⌒ ⟨ p.
6	27	23.2	96	88	10	10	41.1	● a. p.
7	29.2	22.7	96	87	10	10	6.4	d° ●° a.
8	29.5	22.7	95	88	10	10	22.9	● d a. ●^{2} p.
9	29.6	23.1	95	84	10	10	------	
10	30	23.8	89	82	10	10	18.3	●° p.
11	27.6	21.6	92	93	10	10	28.4	⊤ ● a. ● p.
12	25.4	22	97	96	10	10	5.3	↙° ● a. ●° p.
13	29.4	22.4	92	81	10	10	------	↙° d a.
14	30.1	22.8	91	82	10	10	------	
15	30	22.9	90	74	8	10	1.3	d a. p. ⊤ p.
16	30.4	22.6	94	84	10	10	22.4	d a. p. ● p.
17	29.7	23	97	80	10	10	------	
18	29	23.5	93	82	10	8	10.7	● a. p.
19	29	23.8	96	83	10	10	21.1	↙° ● p.
20	27	22.1	95	80	10	10	14.2	● a. p.
21	25	22.1	95	96	8	10	149.6	● a. p. v p.
22	28.4	22.5	96	89	10	10	2	● d° a.
23	30.1	22.7	95	85	3	10	7.6	●° a. p. ● p.
24	30.4	22.7	96	85	9	10	6.4	d° ● p.
25	30.5	23.6	98	85	10	10	16	↙ ● a. p.
26	29.6	25.3	88	80	10	10	10.2	p a. ⌈ζ° ↙ ● p.
27	30	25.5	85	81	10	8	27.4	● a. p. ↙ ⌈ζ p.
28	30.1	22.9	88	82	10	8	1.8	↙ ● a. ●° p.
29	30.1	25	87	81	10	10	42.2	↙ ● a. ⊍ p.
30	27.4	23	96	89	10	10	3.6	● a. p.
31	30.5	25.6	95	80	10	10	26.2	p a. d ● p.
Mean	29.1	23.1	93.4	84.8	9.3	9.8	------	
Total	------	------	------	------	------	------	563.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	23.1	95	70	10	9	------	d a. ⟨° p.
2	32.1	23.4	95	67	9	8	2	d a. ●° p.
3	29.4	23.5	99	82	9	10	8.9	d a. ◯° ⟨^{2} ●^{2} p.
4	30.5	23.4	96	84	10	10	------	●° ⟨^{2} p.
5	32.1	23.4	96	72	9	6	------	◯° a. ⌒^{2} ⟨^{2} p.
6	28.4	23.8	95	95	10	10	55.6	⌒° ●^{2} a. ●^{2} ⟨^{2} p
7	30.7	22.6	96	76	10	9	------	d a. p. ⟨^{2} p.
8	32.9	22.9	92	64	10	10	2	⌈ζ^2 ●° p.
9	33.6	23.4	92	61	10	8	------	⊤ ⌒ d ⟨ p.
10	31.7	24.4	90	74	9	10	------	⟨^{2} d p.
11	27.6	24.6	91	80	10	10	------	⊤ a. d p.
12	28.1	22.8	92	75	10	10	3	d ↙ ●^{2} a.
13	34	23.4	91	56	9	9	------	◯° ⊤° ⟨^{2} p.
14	32.6	23.8	91	71	10	10	------	⊤ a. p. ⟨^{2} p.
15	32.1	22.6	92	72	10	8	31	⊤ a. d ⟨^{2} ●^{2} p.
16	29.6	22.4	97	82	9	10	55.1	⟨^{2} d ●^{2} p.
17	31.8	23.3	96	77	9	9	9.1	⌒ a. ● ⌈ζ^2 ◯^{2} p.
18	32.3	23.1	95	71	9	9	16	●^{2} ⊤^{2} p.
19	31.1	23.6	96	76	10	9	------	d p.
20	29.9	24.1	95	74	10	9	11.2	⊤ d ●^{2} a. ⟨^{2} d
21	30.6	23.9	91	70	10	9	2	d° ●° p.
22	31.8	22.8	92	71	8	9	------	⌈ζ^2 d p.
23	32.1	23.3	94	68	5	8	------	d ⊤° ⟨^{2} p.
24	32.9	24	92	66	10	9	------	◯^{2} a. p. ⊤^{2} ⟨° p.
25	32.5	24.4	82	57	8	9	------	↙ ⊍^{2} ⟨^{2} p.
26	31.9	25.4	76	58	9	9	------	◯^{2} a. ↙ ⟨° p.
27	32.2	25.5	73	61	8	9	------	↙ ◯° ⊍^{2} ⟨^{2} p.
28	33.3	25	70	54	10	8	------	↙ a. p. ◯° ⊍^{2} p.
29	34.1	26.4	68	57	10	8	------	◯^{2} a. ↙ a. p.
30	31.6	26	80	64	10	9	------	◯^{2} ↙ p.
31	35.3	23.7	82	54	2	6	6.6	≡° a. d ⌈ζ^2 p.
Mean	31.7	23.8	89.7	69.6	9.1	8.9	------	
Total	------	------	------	------	------	------	202.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	23.2	93	74	9	10	16	● ≡ a.
2	29.7	23.3	96	80	10	6	3.3	● a.
3	30	23	96	73	8	9	5.8	● ≡ a.
4	29.1	23.5	95	85	8	10	10.7	≡ a. ↙ ● a. p.
5	29.5	21.8	97	74	8	7	77.2	Ω ≡ a. ↙ ●^{2} p.
6	27.1	22.4	97	86	10	10	99.6	●^{2} a. p.
7	29.9	23.1	96	80	10	9	?	●^{2} a.
8	30.1	23.2	96	76	8	6	3.8	Ω ≡ a. ↙ ● p.
9	32.8	22.2	93	69	7	10	1	Ω ≡ a. ◯ a. p.
10	27.3	23.7	96	90	10	10	37.6	● ≡ a. ●^{2} p.
11	29.2	22.4	94	79	10	10	11.2	≡ ⊤ a. ● a. p.
12	29.8	23.4	93	70	10	10	10.7	≡ a. ↙ ●^{2} ⟨ p.
13	29.2	23	96	80	8	8	19.6	≡ a. ↙ ●^{2} p.
14	29.3	23.2	95	78	6	5	3.3	≡ a. ● p.
15	32	21.1	96	72	4	5	12.2	Ω ≡ a. ⟨ ●^{2} p.
16	30.8	22.3	94	77	8	10	11.4	≡ ◯ a. ● a. p.
17	30.6	23.8	95	74	5	10	1.3	≡ a. ◯ ● p.
18	30.9	22.7	97	68	8	9	9.1	≡ a.
19	31.7	23.5	93	74	10	10	22.1	● ≡ ◯ a. ⌈ζ ●^{2}
20	31.3	23.4	89	66	10	10	------	≡ a. ◯ a. p.
21	32.1	23.6	92	72	10	9	------	
22	30.9	21.9	93	68	3	8	------	Ω ≡ a.
23	31.1	22.7	91	67	2	8	------	Ω ≡ a. ◯ p.
24	31	22	93	73	4	6	15.2	Ω ≡ a. ⊤ ● p.
25	32.7	23.2	93	61	8	10	------	Ω ≡ ◯ a. ⌈ζ ⊍ p.
26	31	23.2	95	69	10	10	------	Ω ≡ a.
27	31.6	22.9	93	60	5	8	------	≡ ◯ a. ◯ ⊍ p.
28	32.7	22.3	95	55	10	9	------	≡ ◯ a. ◯ ⊍ p.
29	32	22.6	95	55	6	10	------	Ω ≡ ◯ a. ◯ ⊍ p.
30	33.2	22.7	92	62	4	6	------	
31	33.7	23.6	88	62	2	9	------	Ω ≡ a.
Mean	30.7	22.9	94.1	71.9	7.5	8.6	------	
Total	------	------	------	------	------	------	371.1	

METEOROLOGICAL DATA, ETC.—Continued.

PALANOC.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	26.2	92	------	7	6	------	
2	33.6	26.2	95	70	8	8	------	
3	33.4	26.5	90	73	9	9	4.1	⊤ p.
4	32	26.2	95	90	10	9	2	
5	33.5	25	89	68	8	7	2.3	
6	30.8	25.2	95	85	9	10	12.7	
7	29.5	25	98	89	10	10	6.4	
8	28.4?	25	98	90	9	10	49.8	
9	32.2	23.2	95	79	9	7	------	
10	32.4	26.4	99	79	9	10	9.1	
11	27.5?	23.5	98	92	10	10	29	⊤ p.
12	25	24.6	100	97	10	10	38.6	
13	31.2	24.5	93	79	9	7	------	
14	31	24.5	97	73	9	8	2	⊤ p.
15	33.8	24	97	------	10	6	1	⊤ p.
16	31.8	25	97	75	9	8	18.8	⊤ p.
17	32.5	24.2	97	96	8	9	13.7	
18	31.4	25	98	86	7	9	7.4	⊤ p.
19	30	25	92	85	10	10	2.8	
20	29	25	89	80	9	8	10.9	
21	25.6	23.6	95	96	10	10	41.7	⊤ p.
22	28.5	24	98	93	8	9	6.1	
23	29.8	24.8	97	96	7	8	29.2	
24	31.2	24.5	99	90	8	9	1.8	⊤ p.
25	29.5	25.5	92	76	10	10	.8	
26	30.6	25.2	90	78	9	10	8.9	
27	31	24.4	89	73	9	6	29.5	
28	30.5	24.5	92	83	9	6	1	
29	30.5	23	92	92	9	10	2.8	
30	30.2	22.6	90	85	9	10	------	
31	30.5	26.6	98	------	6	9	.3	
Mean	30.7	24.8	94.7	83.9	8.8	8.6	------	
Total	------	------	------	------	------	------	332.7	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	24.5	97	84	9	3	6.4	↯°a. ●^{2}⛈^{2}∪⊕^{2}
2	31.6	24.5	90	70	10	8	1.8	●°a.p.∪^{2}⊕^{2}⛈°
3	31.2	23.6	96	76	9	5	40.6	●°a.⛈^{2}●^{2}⊕°p.
4	30.7	23.5	95	76	10	9	15.7	●° a. p.⛈°●^{2}p.
5	31.5	22.8	97	73	10	9	13	d° a. ⛈↙° ●p.
6	27.5	23.5	96	90	10	10	15.7	d ● a. p.
7	29.5	22.5	94	76	10	10	8.6	↙° ●° a. p.
8	29.6	22.5	94	72	10	10	12.2	●°↙°a ●↙°d↯°
9	30.7	23.5	92	75	10	9	8.4	↙°p°a.↙°●↯°p.
10	30.7	24	82	70	10	9	.5	p°↙°a↙° ●° ↯°
11	29.5	25.1	85	80	10	10	2.8	d°●°a.●°↯°↙°
12	27.6	24.2	94	84	10	10	2.5	●° ⊤° a. d°p↙°
13	30.7	24.9	83	66	10	10	2	↙°a.∩°↯^{2}●°p.
14	31.2	23.7	84	66	9	10	.8	da.⛈°d°●°p.
15	32	23.4	95	68	10	8	1.3	⛈ d° ●° p.
16	30.6	23.2	96	70	8	8	63.5	⛈ ●° ● p.
17	29.1	24.1	95	75	10	9	11.7	● a. p. ○° p.
18	31.2	23.4	94	69	7	8	2.3	●° a. p.
19	27.6	24.5	91	86	10	10	12.7	●° a. p. ● p.
20	27.1	23.4	95	86	10	10	8.4	●° d° a. p. ↯●p.
21	26.2	23.3	95	97	10	10	74.2	●° d° ↙° ⛈^{2}●^{2}
22	31.4	22.6	96	74	10	9	.8	d a. p. ∪° p.
23	31.8	23.9	94	66	8	7	5.3	∪^{2} ⊕° ● p.
24	29.2	23.5	95	84	9	10	.8	●°d°∩°∪^{2}⊕°⊤^{2}
25	29.8	24.8	90	78	10	10	20.6	d° ●° ↙° ○ ● ↯
26	28.5	23.5	92	84	10	10	22.4	↙° ●°d°a.p. ⊤●
27	31.2	24.1	84	85	10	10	24.4	↙° d° ●^{2} ⊤^{2} ●°
28	31.2	------	86	------	10	------	13.7	↙° d° a. ↙° ●p.
29	29.8	24	90	83	10	10	8.1	↙° d° a. p. ● p.
30	29.3	25.1	83	84	10	10	6.9	↙° d a. p. ⛈° ●
31	32.1	24.5	93	73	6	3	.3	↙° d a. ⛈°∪°p.
Mean	30.1	23.8	91.7	77.3	9.5	8.8	------	
Total	------	------	------	------	------	------	408.4	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	31.3	23.8	97	74	8	8	------	↙° p.
2	30.8	23.5	97	83	9	10	------	
3	31.2	23.9	97	97	3	10	26.4	●^{2} a. d p.
4	31.3	23.6	90	78	8	8	3.6	● a.
5	32.2	22.7	92	78	7	7	35.8	↙° ●^{2} p.
6	25.9	22.9	97	95	10	10	14.7	● a. p.
7	29.2	23.7	92	83	8	8	9.1	
8	29.2	23.6	95	94	8	10	30	●^{2} a. p.
9	30.5	22.6	97	82	6	8	34	●^{2} a. p. ↙° p.
10	28.5	22.8	98	89	10	10	11.9	●^{2} p.
11	28	23.3	92	92	10	10	49.8	↙° ●^{2} a. p.
12	29.1	23	92	98	10	10	11.9	● a. ↙° a. p.
13	28.5	22.3	92	74	10	4	.8	↙° a. p.
14	29.3	24	98	88	9	10	15.7	●^{2} a. p.
15	30.6	22.1	98	68	4	5	7.6	↙° p.
16	29.7	23.6	91	85	7	8	66	●^{2} a. p.
17	29.1	22.9	96	97	6	7	27.9	
18	31.3	22.7	95	83	6	9	41.7	●^{2} a. ● p.
19	28.1	23.4	98	82	9	9	6.1	●^{2} a. ● p.
20	28.2	23.7	98	87	10	9	45.7	● a. p.
21	28.8	23.1	95	83	8	7	7.6	● p.
22	30.1	22.7	95	88	4	8	3.8	● p.
23	30.6	23.4	97	74	5	7	.3	
24	30.4	23.1	97	87	6	8	------	
25	30.1	24.1	89	78	8	8	------	↙° a. p.
26	30.1	25	91	75	9	8	------	
27	31.3	24.4	84	65	7	7	------	↙° p.
28	31.6	24.3	91	65	9	10	------	↙° p.
29	32.1	24.7	86	65	7	8	------	↙° a. p.
30	30.8	26.1	82	71	8	9	------	↙° p.
31	32.7	24.5	92	72	3	7	------	
Mean	30	23.5	93.6	81.6	7.5	8.3	------	
Total	------	------	------	------	------	------	450.4	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	31.3	24	90	72	8	5	4.6	● a. p.
2	31.5	23.8	88	68	8	8	11.7	↯ p.
3	31.3	25	90	74	6	8	------	● a. d p.
4	31.2	26	84	76	5	10	1.5	⊤ ● p.
5	31.6	24.5	87	71	6	5	43.2	↙ ●^{2} p.
6	28	23	92	95	10	10	23.4	↙ ● a. p.
7	29	24.4	92	81	10	10	45.7	d a. p. ● p.
8	29.8	23.1	91	81	10	10	8.6	● p.
9	30.8	22.8	90	71	10	8	3.8	●° p.
10	30	24	88	85	6	10	26.9	● p.
11	28	22.6	87	91	10	10	48.3	⊤ ● a.
12	28	22	90	85	10	10	43.7	⊤ ↙ ● a.
13	30.8	22.6	91	78	6	5	------	
14	29.5	23.2	88	84	8	10	2	● a. d ⊤ p.
15	30.5	22.1	90	71	6	6	2.5	
16	31	22.8	78	67	10	6	42.7	●° a. ⊤ ●^{2} p.
17	30.1	22.2	91	73	10	10	------	
18	30	23	82	70	5	10	------	
19	29.2	23.1	85	83	8	10	------	
20	28.6	23.2	91	79	10	10	12.7	d a. ● p.
21	28.6	23	91	84	10	10	1.5	● ° p.
22	29.3	22.8	91	84	8	8	2.5	d ● p.
23	30.6	23.5	91	71	6	8	------	
24	30.2	23.8	90	79	8	10	36.8	d ● p.
25	32.5	24.8	93	71	10	10	------	∪ p.
26	29.9	24	86	71	10	10	5.1	● ⛈ p.
27	31.2	24.2	89	66	10	8	------	∪ p.
28	31.1	24	85	68	8	10	2	↙ ● p.
29	31	24.2	76	69	8	8	1.3	● a. d p.
30	29.5	24.2	78	72	10	10	------	d ↙ ⛈ p.
31	32	25	83	66	6	8	------	↙ p.
Mean	30.2	23.6	87.7	76	8.3	8.7	------	
Total	------	------	------	------	------	------	370.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	25.8	80	77	1	4	2	
2	31	25.8	84	67	2	3	11.4	
3	31	25	84	70	1	6	2	
4	30.6	26	84	68	10	10	------	
5	31	26.4	84	71	6	3	2.5	
6	31.4	24	84	66	5	8	------	
7	31	24.4	90	67	10	6	3.8	
8	29.8	23.8	84	67	10	8	------	
9	29	23.8	89	81	9	10	22.1	
10	30.4	24	83	65	8	10	------	
11	30.8	26	84	66	8	7	2	
12	30	25	84	71	7	8	7.6	⊤ p.
13	29	24	89	77	6	8	1.3	
14	30	25.8	84	71	8	8	16.5	
15	29	23.8	92	84	10	10	27.9	
16	29	24	81	75	8	10	10.2	
17	30	24	88	84	10	8	8.9	
18	30	24.6	92	71	8	5	22.9	
19	28.6	23.8	84	75	10	10	4.6	
20	28.4	24	84	81	6	9	37.6	
21	27.4	22.8	93	88	10	10	11.2	
22	29.4	24.6	87	77	5	10	48.3	
23	29.2	22.8	91	87	10	10	114.3	
24	27.2	23	88	92	10	10	30.5	↙° a.
25	28	23	91	85	10	10	10.2	
26	29	23	90	77	10	10	------	
27	28	23.8	92	80	10	8	4.6	
28	29.6	24.4	84	78	8	9	1.3	
29	30	25.2	89	71	10	8	1.3	
30	30	24	92	71	10	9	.8	
31	30	24.6	95	77	10	8	------	↙° a.
Mean	29.6	24.4	87.1	75.4	7.9	8.2	------	
Total	------	------	------	------	------	------	405.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	24.5	93	63	9	8	3.8	● ⌒ [ϟ a.
2	32.3	23.2	90	66	7	7	------	ϟ p.
3	32.2	23.6	90	68	10	8	34.2	[ϟ p.
4	27.8	23.4	96	88	10	10	4.2	d a. p. ⊤ p.
5	31.2	22.2	95	71	10	9	29	↙ ● p.
6	30.5	22.2	97	73	10	10	35.8	● p.
7	27.7	23	94	84	10	10	4.6	● d a.
8	30	22.4	96	96	10	10	53.1	●^{2} d p.
9	29.8	22.5	96	76	10	10	------	d a.
10	30.7	22.5	97	70	10	10	.5	d p.
11	31.3	24	93	71	10	10	------	
12	29.2	24.4	86	86	10	10	------	↙° ●° a. p.
13	31.4	23.5	92	73	10	10	7.9	● ⊤ p.
14	29.8	22.9	96	76	10	10	3.3	d ● p.
15	30.5	22.9	92	76	10	10	------	⌒ p.
16	31.6	22.4	90	72	4	4	1.3	[ϟ ↙ ● p.
17	30.6	24.3	86	78	10	10	36.1	d ● a. ⊤ ● p.
18	32	22	92	88	7	10	30.2	d ●^{2} [ϟ p.
19	29.7	23	96	72	10	10	1.3	●^{2} [ϟ a.
20	29.5	23.6	96	82	10	10	1.3	⊤ d ↙ ● p.
21	28.8	23.1	92	76	10	10	------	↙° a. p.
22	31	22.6	96	74	10	10	.8	⊤ d p.
23	30.7	23	96	76	10	10	17	[ϟ ●^{2} p.
24	31.5	23	90	84	10	10	------	[ϟ ⊍ ϖ p.
25	31.5	22.3	90	75	10	10	.5	⊍ ϖ p.
26	30.7	24.1	98	77	10	10	4.8	d a. p.
27	29.8	24	96	89	10	10	41.1	⌒ a. d a. p. ● p.
28	29.4	23.1	97	85	10	10	21.8	d a. p. ● p.
29	30	23.4	84	70	10	10	17	● a. p. ↙ p.
30	30.7	23.5	96	75	10	10	1.8	↙ p.
31	29.8	23.6	97	85	10	10	------	d a.
Mean	30.5	23.2	93.4	77.3	9.6	9.5	------	
Total	------	------	------	------	------	------	351.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	23.1	98	80	8	4	0.3	●° d° ⌒^{2} ϟ ϖ ●
2	32.1	23.4	98	78	5	7	14.2	ϟ ϖ p.
3	31.7	23.6	97	79	6	9	14.2	d° ● a. ⊕ ◯ ● ϟ
4	32.4	25	84	85	8	10	47.2	↙ ● d⌒ a. [ϟ^2 ●
5	32.2	22.9	97	------	8	8	45	◯ ⊕ a. ↙ ● ϟ p.
6	31.5	23.8	98	94	10	10	52.6	≡ a. ● a. p.
7	30.1	23.6	99	90	10	9	3.3	↙ ●^{2} a. ⊕ ◯ [ϟ d
8	30	24.8	96	89	9	8	------	d° p.
9	32	22.9	97	72	8	8	------	[ϟ p.
10	30.6	24.3	96	91	9	10	2.3	●° p.
11	27.1	24	97	95	10	10	78.7	≡ ●° a. d° ● [ϟ
12	29.9	22.8	97	94	10	8	14.5	●° a. ● ϟ p.
13	30.5	22.7	97	92	9	8	6.9	d° a. ϟ p.
14	31.1	23.8	99	91	10	7	5.8	● ⊤ ⊕ ◯ a. ● [ϟ
15	31	22.2	99	97	9	8	6.6	d° a. d^2 ● ϟ p.
16	31	22.6	96	91	9	9	32.3	d ● a. ↙ ●° ⊤ p.
17	31	22.6	99	77	9	8	.5	d^2 a. ⊕ ◯ d° ⌒
18	30.5	26.1	94	81	7	8	32.5	⊕ ◯ ϟ p.
19	27.9	23.7	97	92	10	10	21.3	● ⊤ a. ● ϟ p.
20	30	23.4	97	89	9	10	------	⌒ a. d° p ϟ p.
21	30	23.2	89	87	9	8	23.9	d° a. ● p.
22	30	22.3	99	89	9	8	.5	d° ϟ p.
23	31.9	24.5	98	------	4	6	------	ϟ p.
24	32.1	23.3	98	------	9	8	14.5	d° [ϟ ● ⌒ p.
25	29.6	23.7	98	98	9	9	15.7	⊕ ◯ d° ●° ⊤ ϖ ⊍
26	30.4	25.5	97	------	10	10	2	⊕ ◯ ● ϟ p.
27	32.5	25	94	75	10	7	------	[ϟ ↙ ϖ ⊍ d° p.
28	33.2	24.7	94	66	9	8	------	⊕ ◯ ↙ ϖ ⊍° p.
29	34	25.7	77	65	10	9	------	↙ a. p. d° ϖ p.
30	30.1	26.4	85	82	9	9	------	d° a. p.
31	33.1	25	96	70	5	4	.3	●° ϟ p.
Mean	31	23.9	95.4	84.8	8.6	8.2	------	
Total	------	------	------	------	------	------	435.1	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.4	22	97	81	3	8	------	⊤ p.
2	34.3	21.3	98	59	4	8	3.0	≡° a. ●° p.
3	31.6	22.1	97	88	6	8	10.7	●^{2} p.
4	31.9	22.3	98	84	7	8	45.7	≡° a. ●^{2} p.
5	32.6	22.4	98	69	8	8	11.7	≡° a. ● p.
6	32.6	22.5	97	82	9	9	------	
7	30.6	22.7	97	71	9	9	11.9	● p.
8	30.4	22.6	96	92	9	9	11.4	d a. ●° p.
9	31	22.5	97	70	9	8	11.9	d a. ● p.
10	30.6	22.7	97	78	9	9	------	
11	27.2	22.8	93	91	9	10	11.2	● d p.
12	28.8	23	97	77	10	9	31.1	●^{2} a. ●° p.
13	28.2	23.6	97	94	8	9	23.1	● p.
14	30.8	22.6	57	86	7	8	6.4	●° a.
15	32.4	22.6	98	67	8	9	------	
16	32.1	22.4	97	69	8	8	24.4	⊤° ↙° ●^{2} p.
17	31.5	22.7	98	92	9	9	13.2	≡° a. ● p.
18	31.2	------	98	------	6	------	6.6	●° p.
19	31	22.1	97	73	8	8	3	d a. ●° p.
20	28.5	23.1	97	86	10	9	25.4	●° a. p.
21	28.2	22.5	98	95	10	10	15.6	●° a. p.
22	32.2	22	98	70	9	10	.5	●° p.
23	33.8	23	98	65	6	8	6.6	●° p.
24	32	23	98	78	10	8	16.8	≡ a. ●° p.
25	27.2	23.3	98	92	9	9	11.7	●° p.
26	29.2	23.6	97	81	9	9	2.8	●° a. p.
27	31.5	24.4	85	69	8	6	9.9	↙° ●° p.
28	31.5	24.4	86	69	7	8	1.3	↙° a. ↙ ●° p.
29	31	25.1	80	74	10	10	2.5	↙ a. p. ●° p.
30	30.9	24	95	85	9	9	2.5	●° p.
31	32.6	24	98	75	9	7	1.3	d a. ●° p.
Mean	31	22.9	95.9	78.7	8.1	8.6	------	
Total	------	------	------	------	------	------	322.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.4	21.9	93	69	6	6	------	⛈ d° p.
2	33.8	22.3	96	57	6	6	1.3	● a. ↙° p.
3	33.9	22.4	96	65	6	7	4.1	Ω a. ● d p.
4	31.2	22.5	97	77	6	9	3.8	● p.
5	33.3	21.1	94	61	7	6	14.2	● a. p. ↙° p.
6	30.8	22	97	90	7	9	23.9	● a. p.
7	27.6	22.2	98	84	10	9	23.9	● a. p.
8	30.3	22.3	97	89	9	10	3.3	●° a.
9	31.6	21.9	98	74	10	9	1	● a. p. ↙° p.
10	31.5	21.5	97	75	7	7	2.8	
11	32.7	23	92	70	6	7	1.5	↙° a.
12	29.3	22.4	92	82	9	9	23.1	↙ ● p.
13	32.3	21.6	92	71	10	9	.8	d° d a.
14	31.4	21.8	92	66	9	9	2.5	d a. p.
15	32.3	21.4	97	61	6	7	------	◯ p.
16	32.6	21.8	96	66	3	9	3.8	Ω a. ⊤ ● p.
17	32	22	97	71	10	9	30.2	● ≡² a. ⛈ ●² p.
18	32.4	21.7	97	68	6	9	20.3	⊤ p.
19	30.7	22.5	97	72	8	7	.3	d p.
20	31	22.4	97	89	6	10	4.8	d p.
21	30.8	22.1	97	76	10	9	11.9	● a. p. ⊤ p.
22	31.6	20.9	97	68	6	9	------	⊤ p.
23	31.7	21.9	97	79	7	7	------	⊤ p.
24	31.8	22.1	97	68	6	7	------	◯ ⊎ p.
25	32.9	22	97	73	6	7	------	◯ ⊤ p.
26	32	23.9	86	72	8	7	8.4	◯ a. ↙° ● p.
27	28.7	23.1	93	89	9	10	37.1	↙° a. ↙ ● ⛈ p.
28	29.3	22.4	88	78	10	10	25.1	⊤ a. ↙ ● a. p.
29	30	22.5	96	78	10	10	67.3	↙ ● ⛈ a. ↙ ● ⊤°
30	32.3	21.9	97	63	9	7	4.6	↙ ● p.
31	31.3	23.4	97	75	10	9	------	
Mean	31.5	22.2	95	73.4	7.7	8.2	------	
Total	------	------	------	------	------	------	320	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.2	20.9	97	64	6	9	------	Ω a. d ⊤° p.
2	30.5	21	98	62	7	8	1.8	Ω ≡ a. ⛈ ●° p.
3	30.8	21.7	98	62	8	7	7.9	● ⊤° p.
4	30.5	22	99	62	9	9	3.8	d a. ● ⊤° p.
5	30.9	21.5	98	62	7	9	21.3	Ω a. d ⊤ p.
6	29	20.8	97	66	10	9	64	●° a. ●² p.
7	26.6	20	97	78	10	10	------	●° a. d p.
8	27.2	21	98	72	9	8	10.2	●° a. p.
9	27.5	20.8	98	72	9	8	17.8	d a. ↙° ●² p.
10	27.2	21	99	73	7	9	------	d a. p.
11	27.3	21	99	72	7	9	2.8	Ω ≡ a. ●° p.
12	27	20.6	98	71	10	10	29	d a. ⊤² ● ↙° p.
13	27	20.5	98	75	10	9	------	●° a. d p
14	27.6	21.3	99	72	8	10	53.3	Ω a. ●² ⊤² p.
15	29.8	22	98	63	7	8	------	↙° a. p.
16	29.8	22	97	65	7	8	9.7	●° ⊤° p.
17	28.6	21.5	98	69	9	10	12.7	d ●² a.
18	27.2	21.3	98	75	6	9	23.1	Ω ≡ ●² a. ⛈ p.
19	27.2	21.3	98	75	9	10	53.6	d a ●² ⊤ ↙° p.
20	27	21	97	75	10	10	73.2	●² a. ●° p. ↙° a. p.
21	27.1	20.4	98	74	9	10	61.2	●° a. p. ⊤ ↙° p.
22	27.6	21.2	97	72	7	8	24.4	●² ⊤° p.
23	27.7	21.3	98	71	7	8	4.8	↙° a. ●° ⊤° p.
24	28.8	21.7	97	67	5	8	------	⊤° p.
25	27.6	21.6	98	71	8	9	14	↙° a. ● p.
26	27.2	20.9	98	72	10	10	74.4	↙° d a. ↙° ● ⊤²
27	26.8	20.2	98	72	10	10	80.8	↙ ● a. p,
28	26	19.7	98	79	10	10	53.3	↙° a. ↙ ● p.
29	27.1	19.8	97	73	10	9	22.1	● a. p. ⊤° p.
30	27.7	20	97	72	8	10	13.2	d a. ● a. p.
31	28.2	21.6	98	70	7	8	------	d p.
Mean	28.1	21	97.8	70.3	8.3	9	------	
Total	------	------	------	------	------	------	732.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.7	20.4	98	63	10	9	------	
2	33	20.6	99	58	10	6	------	⌒ p.
3	28.9	20.1	98	76	8	8	------	
4	31.2	20.4	92	70	10	6	65	● p.
5	25.1	20?	96	97	8	9	75.7	● p.
6	27.7	20.3	98	84	8	10	4.1	● a.
7	28.4	21.2	93	91	8	8	20.1	● p.
8	27.4	19.9	97	75	6	9	.1	p p.
9	28.5	19.5	98	74	10	8	------	
10	28.9	21.3	97	75	10	8	------	
11	25	20.8	97	97	10	10	31.7	● p.
12	30.3	19.8	98	75	10	8	8.9	● a.
13	29.2	19.1	98	75	10	8	20.6	● p.
14	30.5	20.5	97	70	8	8	------	
15	30.2	19.2	98	86	10	8	------	
16	30.4	20.4	98	86	10	8	8.9	● p.
17	29.9	20.7	97	73	10	6	11.2	● a. ⌒ p.
18	30.7	21.3	98	70	7	8	------	
19	30.9	20.3	96	70	8	6	31.7	● p.
20	28.6	21.2	89	82	8	8	------	
21	27.7	19.4	99	83	10	8	10.4	● p.
22	29.8	19.8	98	81	8	9	.3	p ⌒ p.
23	30.3	20	97	73	10	8	------	
24	30.4	21.6	98	75	4	6	2	p p.
25	28.9	20	97	70	10	10	------	
26	28.3	21.5	97	97	10	10	2.5	● p.
27	24.5	21.2	99	97	9	10	31.2	● p.
28	24.6	20	93	97	9	8	32	● p.
29	27	20.4	99	94	10	9	42.2	● p.
30	30	21.8	96	90	8	8	14.2	● p.
31	30.5	21.7	98	86	8	8	8.1	● a.
Mean	29	20.5	96.9	80.3	8.9	8.2	------	
Total	------	------	------	------	------	------	421.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.5	22.9	96	64	3	7	------	Ω ≡° a. ⟨ ϖ² p.
2	35.5	22.8	97	52	0	6	11.4	Ω² ≡° a. ⛈ ↙° ●°
3	34.4	22.4	98	60	1	4	------	≡ a. ⛈ ↙° p.
4	36.1	23.1	94	49	10	10	.8	⊎² ϖ Ω ≡° a. ⟨ ϖ
5	33.8	22.8	95	56	5	7	7.1	●° a. ◯ ↙° ⟨° p.
6	31	23.3	97	71	10	10	5.3	● a. d° ⟨° ●° p.
7	29.8	23.1	97	92	10	10	10.4	↙ ● d² p.
8	30.3	23.1	97	92	10	10	15.5	●° ⊤ ● p.
9	30	23.1	97	74	10	10	8.1	d ↙° a. ↙° ●° p.
10	30.9	22.9	96	89	9	10	7.1	● a. d° ↙ ●° ⊤°
11	33	22.8	98	61	10	7	2.3	d° ⌒ d ⛈° p.
12	32.3	23	97	89	1	10	10.9	↙ ● d° ⛈ d² p.
13	27.1	22.9	98	90	10	10	41.7	●° d° ● a. p. ↙° p.
14	28.8	22.3	99	76	8	10	------	↙° a. p. ◯ p.
15	32	22.5	97	66	5	10	------	Ω ≡° a. ◯ ⟨° p.
16	34.2	22	96	58	2	4	6.4	Ω ≡° a. ●° ⛈ ↙°
17	29.2	22.4	97	85	10	10	11.7	● d° a. p.
18	31.7	23.1	97	69	7	8	3.8	◯² a. ● p.
19	32	23.2	98	69	10	7	.8	↙° ⛈ ●° p.
20	32	23.5	98	79	10	10	5.6	≡ a. ● ⊤ d° p.
21	32.5	23.2	98	69	9	8	5.8	≡ a. ⛈ d° ↙° ●°
22	32.7	22.5	97	69	8	5	1.5	≡ a. ⟨° p.
23	32.6	23.5	97	64	8	10	.5	●° a. ◯ ⟨° p.
24	33.6	24	97	63	10	5	------	●° a. ⛈° ⊎ ϖ p.
25	32.5	23.2	97	84	10	10	.3	Ω ≡² a. d° d p.
26	29.5	23.3	97	94	10	10	25.7	≡² ●° d° a. d ● ⊤
27	28.6	23	97	87	10	10	87.1	● d° a. p ●² p.
28	25.4	22.8	99	99	10	10	60.5	●² ⛈ d° a. p. ↙
29	27.5	22.3	97	98	10	10	14.5	⛈ ↙ ● d° ⟨° ⊎ ϖ
30	27.5	22.8	98	95	6	10	3.6	●° d a. ◯° ⊎² ϖ
31	31	22.7	91	85	2	7	------	Ω² ≡² ◯² a. d° ⊕²
Mean	31.3	22.9	96.9	75.7	7.5	8.5	------	
Total	------	------	------	------	------	------	348.4	

METEOROLOGICAL DATA, ETC.—Continued.

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	23.8	99	70	5	4	1.3	d^{2} a. ⊍ ⊖ p.
2	31.8	22.8	91	73	1	3	------	d° a. ⊖ p.
3	32.2	22.9	91	67	3	7	1.8	d° p.
4	30	24	99	72	9	9	51.1	d° T d^{2} a. ●^{2} p.
5	30.2	22.8	96	71	7	8	30.2	d° a. ●° T ↙° p.
6	29.5	22.6	95	75	10	10	84.6	↙ ●° a. ●^{2} p.
7	26.2	23.2	96	92	10	10	82.8	●^{2} ≡ a. ●° a. p.
8	24.8	23.5	93	95	10	10	168.4	↙ a. ●^{2} a. p.
9	29.5	23.2	97	81	10	10	.3	d° a.
10	31.5	23.4	91	66	10	9	------	⌒° a.
11	32.1	24.8	81	83	7	10	3.3	⌒° a. ●° p.
12	32.5	23.4	87	69	2	9	20.6	
13	28	23.3	96	81	10	10	7.1	●° a. d° p.
14	30.2	23	98	73	10	10	4.1	
15	30	23	95	81	10	10	------	
16	31.2	22.9	92	69	5	5	------	d° p.
17	28	23.5	94	84	10	10	131.1	●° a. ●^{2} a. p.
18	27.8	23.6	97	86	10	10	5.1	d° p.
19	30	23.6	98	76	10	8	------	d° a.
20	30.8	23.3	94	78	10	9	5.3	
21	31	23.5	96	71	8	10	25.4	⟨ ●° p.
22	31.1	22.5	96	64	8	3	11.9	●° a. T p.
23	29.8	23.9	96	79	10	10	38.1	
24	30.5	23.4	93	73	9	9	------	
25	31.7	23	92	67	8	10	------	↙° p.
26	30.6	23	88	81	10	10	9.7	d° ↙ p.
27	29	24	92	81	10	10	39.4	
28	26	23.7	91	95	10	10	64	●° a. p.
29	27.2	24	88	84	10	10	2.5	↙ d° p.
30	30.2	25.3	74	80	10	10	------	⊍ p.
31	33	25	87	61	10	1	------	
Mean	29.9	23.5	92.7	76.7	8.5	8.5	------	
Total	------	------	------	------	------	------	788.1	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	33.2	23.5	93	61	2	4	------	Ω a. d° ⌒° p.
2	33.6	23.2	92	68	2	5	6.4	Ω a. ⌒° ⟨° ● p.
3	33	22.8	94	66	2	5	------	Ω a. d° p.
4	32.6	23.4	93	71	4	9	1	Ω a. d° p° p.
5	33.5	23.8	95	62	2	5	------	Ω a. ⟨° p.
6	30.9	24.4	93	76	6	9	7.4	Ω a. ⌒° ⟨° ● p.
7	32.5	23.3	95	66	8	6	------	Ω a.
8	33.8	24.3	94	59	8	7	------	Ω a. ↙° p.
9	33	24.3	75	59	6	9	3.3	Ω ↙ a. ● p.
10	32.8	23.4	89	87	10	10	2	Ω a. ●° p.
11	34.2	24.3	91	57	3	5	18.3	Ω a. ●^{2} p.
12	31.8	22.9	94	77	1	7	8.4	Ω a. ● p.
13	26.2	23.3	95	91	10	10	26.4	Ω ●° a. ● p.
14	30.4	23.4	73	64	8	10	------	Ω a.
15	32.4	24.8	82	68	10	9	9.7	Ω a. ●^{2} p.
16	31.7	22.1	91	74	1	5	3.3	Ω a. d° ⌈↯° ●° p.
17	30.5	24.1	95	82	10	7	3.7	Ω a. ●^{2} p.
18	32.8	23.8	96	69	4	6	1.5	Ω a. d° ●° p.
19	33.2	23.2	94	68	3	5	12.2	Ω a. ⌈↯^{2} ●^{2} p.
20	32.1	23.3	96	67	7	9	4.6	Ω a. ⌈↯° ●° p.
21	31.4	22.8	96	72	3	7	4.6	Ω a. T^{2} ●° p.
22	32	22.7	91	65	2	6	15.5	Ω a. ●^{2} p.
23	32.5	23.6	94	79	7	10	7.4	Ω a. ●^{2} p.
24	32.2	23.6	96	72	2	8	51.6	Ω a. ⌈↯^{2} ●^{2} p.
25	32.2	23.1	94	73	3	5	13.3	Ω a. ●^{2} p.
26	29.5	23.6	96	96	9	10	48.3	Ω a. ●^{2} p.
27	27	23.9	92	95	10	10	83.3	●^{2} a. p.
28	26.2	23.5	91	92	9	10	82.8	●^{2} a. p. ↙^{2} p.
29	27.2	23.3	96	94	10	10	74.8	↙ a. ●^{2} a. p.
30	28.4	23.2	92	94	10	10	36.3	●^{2} a. p.
31	31.9	22.8	97	74	3	5	------	Ω a.
Mean	31.4	23.5	92.1	74.1	5.6	7.5	------	
Total	------	------	------	------	------	------	526.1	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	35.8	20.6	97	52	9	6	------	Ω^{2} ⌈↯ ↙° ⌒° d° ⊖^{2}
2	36.1	19.4	96	48	2	4	------	Ω^{2} a. ⌈↯ ⌒° d° ↙°
3	36.1	19.8	97	49	4	6	31.5	Ω^{2} ≡ ◯ ⌈↯^{2} ↙° ●^{2}
4	31.2	18.4?	99	78	9	9	.3	≡ d° ⊕° ⌈↯ ⌒° ⊖°
5	32.8	19.9	96	82	2	9	2	Ω^{2} ≡ d° a. ⌈↯ d°
6	32	20.3	97	63	10	9	7.4	d^{2} ≡ ◯^{2} ↙° ⊕^{2} ●°
7	28.6	20.5	97	87	10	10	11.7	d^{2} p^{2} a. d° p° ⌒°
8	29.3	20	99	73	10	10	1.3	●° d° p^{2} a. ⌈↯ ↙°
9	33.7	20.3	96	66	9	7	3	Ω° ⊕^{2} d ⌈↯ ↙° d^{2}
10	34.6	20.6	98	59	9	9	11.9	⊕° a. ⌈↯ ● ↙° p.
11	34.1	19.9	100	60	9	6	------	≡^{2} ↙° a. ⌈↯ d° ↙°
12	32.8	21.5	97	67	9	9	31	≡ ⌈↯ ◯^{2} d^{2} ● ↙°
13	28.4	19.6	97	79	10	10	19	d ↙° a. ◯ ↙° p.
14	32.7	19.9	96	60	9	10	------	⊕^{2} ↙ a. p. ⌈↯ p.
15	34.4	19.9	97	57	9	9	.3	Ω^{2} ◯° a. ⌈↯ ◯^{2} d^{2}
16	33.8	20.4	97	63	10	6	3	≡ a. ⌈↯ ⌒ d° p.
17	32.5	21	96	67	10	10	5.1	↙ ● d ◯ ⌈↯ ⊕^{2}
18	30.1	20.3	98	78	10	10	1	d^{2} d° ⊕° a. ⌈↯ p.
19	33.6	20.4	98	65	10	8	2	d° d^{2} a. ◯ ⌈↯ ⌒
20	34.8	21.2	97	84	9	9	2	⌈↯^{2} a. ●° d° ◯ p.
21	34	20.6	97	94	10	10	10.2	≡ d° ⌈↯ ↙° ●^{2}
22	32.3	20.1	98	66	8	9	1.3	≡ ◯° a. ⌈↯ ◯^{2} d°
23	31.1	20.9	97	71	10	9	.5	d^{2} ≡ d° ◯ ⌈↯ ⌒°
24	34.1	20.8	98	59	8	9	8.6	≡ ⌈↯ d° ◯^{2} ●° ↙
25	31.3	20.7	98	75	10	9	14.5	≡ d a. ⌈↯ ● p.
26	32.1	20	98	67	9	10	1.3	≡ ◯° a. ↙° d° ⌈↯
27	33	21.5	86	74	9	10	16.3	d° ↙° a. d^{2} ◯ ●°
28	25.6	21	99	96	10	10	29	d° ●° a. ↙° ●^{2} p.
29	28.6	20.3	83	68	10	10	4.8	↙° a. p. d° ● p.
30	33.2	19.6	99	63	9	9	------	≡^{2} ⊕° a. ◯ p.
31	33.7	19.5	97	60	6	4	------	Ω^{2} ◯^{2} a. ◯ ⌈↯° p.
Mean	32.5	20.3	96.6	68.7	8.6	8.5	------	
Total	------	------	------	------	------	------	219	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature.		Relative humidity.		Cloudiness		Rain, 24 hrs. beginning 6 a. m.	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	24.5	87	74	5	7	------	Ω^{2} ≡^{2} a. ⌈↯ p.
2	31.1	24.5	84	63	4	3	------	Ω^{2} ≡^{2} a. ⌈↯ d° ⌒°
3	31.4	25	83	63	2	4	1.3	Ω^{2} ≡^{2} a. ⌈↯ ●° ⊖°
4	31	25	83	70	8	9	------	Ω^{2} ≡^{2} a. ⌒° ⟨ d°
5	31.5	25.7	81	68	4	7	62	Ω ≡ a. d ●^{2} ⌈↯^{2}
6	29.9	25	86	75	9	9	------	d a. p.
7	29.9	26	86	75	9	9	23.9	Ω ≡ a. d° ● T°
8	30.2	25	85	78	10	9	2	●° T° p.
9	31.4	25.4	88	65	8	9	1.3	↙ ●° T° p.
10	31.5	25.5	84	62	10	8	------	d a. ↙ p.
11	31.5	25.7	83	63	9	8	8.6	≡ a. ●° ⌈↯° p.
12	30.2	25	84	74	0	9	88.9	≡ a. ↙ T° ● p.
13	25.5	23.9	87	90	10	10	64	↙ ● a. p.
14	30	23.9	89	71	10	10	------	d° a. ↙ p.
15	30.4	24.9	83	68	10	10	9.1	Ω^{2} ≡^{2} a. ⌈↯ ● p.
16	30.4	23.8	86	72	3	8	2.3	T° ●° ⟨ p.
17	32.6	24.5	83	71	10	9	1.8	↙ T° ●° ⌒ p.
18	30.4	25.5	86	71	8	7	7.1	Ω^{2} ≡^{2} a. ●° ⌈↯° p.
19	30.4	24.5	87	71	3	7	28.2	Ω ≡ a. ● ⌈↯^{2} p.
20	29.9	24.4	86	73	7	8	8.9	Ω ≡ a. ●° ⌈↯ p.
21	29.6	24.2	84	74	7	8	3.6	≡ a. ⌈↯° ●° p.
22	30.1	24.6	87	71	6	7	1.8	Ω ≡ a. T° ●° p.
23	30.2	24.5	87	75	8	9	3.8	Ω ≡ a. ⌈↯ ●° p.
24	30.3	25.4	88	73	7	9	28.4	Ω ≡ a. ⌈↯^{2} ● p.
25	30.2	24.6	83	70	5	6	65.8	≡ a. ⌈↯° ●^{2} p.
26	27.4	24.1	87	86	10	10	69.8	● a. p.
27	25.6	24.6	88	92	10	10	160	↙ ● a. p.
28	27.5	24.5	76	85	10	10	155.7	↙ ● a. p.
29	26.7	24.4	88	92	10	10	95.8	↙^{2} ●^{2} a. ● p.
30	28.2	24.7	88	87	10	10	2.5	T° a. ●° a. p. ⊖^{2} p.
31	30.5	24.2	31	75	9	8	------	≡ a. ⊍° p.
Mean	29.9	24.8	85.1	74.1	7.5	8.3	------	
Total	------	------	------	------	------	------	896.6	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.7	22.5	96	67	0	6	1.3	≡ a. ⊤ ● ⊕² p.
2	33.4	23	91	66	0	6	------	⌓ ≡ a. d ⌈ζ p.
3	32.8	23.2	94	68	0	10	.8	⌓ a. ⊤ ● ⊍ p.
4	34	23.7	94	62	2	8	------	⌓ ≡° a. d ϟ p.
5	32.4	25	93	72	1	10	26.2	⌈ζ ● p.
6	33	22.6	96	66	2	10	4.3	⌓ a. ⌈ζ d p.
7	32.8	23.5	97	86	2	10	7.9	⌓ a. ● ⌈ζ p.
8	32.9	23	96	63	10	7	.8	⌈ζ ● p.
9	33.3	24.4	96	63	2	6	18.3	● ⌈ζ p.
10	32.9	23.4	94	63	9	8	------	↙° p.
11	34	24.1	91	63	5	7	3.6	⌓ a. ↙° ⊤ ● p.
12	33	22.8	96	60	0	7	117.6	⌓ a. ●² ⌈ζ² p.
13	25.9	22.9	98	97	10	10	83.8	● a. p. ↙² d p.
14	32.2	23	97	63	10	9	14	⌈ζ ↙° ● p.
15	31.8	23.2	96	71	9	9	5.3	● ϟ p.
16	33.5	22.6	96	70	0	8	------	⌈ζ d p.
17	35.4	23.5	96	50	4	6	------	↙ d p.
18	32	24.8	88	77	10	10	2.8	d ● ⌈ζ p.
19	31.7	23.5	97	75	3	6	43.2	⌈ζ ●² p.
20	30.8	22.2	96	82	10	10	1	d a. p. ● ⌈ζ p.
21	33.2	22.9	97	71	5	6	5.6	⌓ a. ● ⌈ζ p.
22	32	23.5	96	75	8	10	17.3	● ⌈ζ p.
23	31.8	23.2	97	71	10	10	1.5	● ϟ p.
24	32.8	23.9	98	70	10	8	4.6	⌓²≡² a. ⌈ζ ● ⌒
25	32.2	23.9	97	88	6	10	18.3	⌓² ≡ a. ● ⊤ p.
26	25	23.4	97	91	10	10	83.1	● a. p.
27	27.1	23.3	94	94	10	10	49.3	↙ ● a. p.
28	29.8	22.7	90	71	10	10	72.1	↙ ● a. p.
29	26.5	22.7	94	97	10	10	100.6	↙² ● a. p.
30	30.6	24.3	89	79	10	10	1.5	d. a. ● p.
31	32	24.4	96	69	8	5	------	
Mean	31.7	23.4	94.9	72.9	6	8.5	------	
Total	------	------	------	------	------	------	684.8	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.5	24.2	92	64	7	3	------	⌓² ↙ a. ≡ ⌓ p.
2	32.7	24	92	69	2	9	------	↙° a. p. ◯ ⊍° ⌓°
3	32.1	24	89	66	10	10	------	↙ a. ◯° p.
4	32.5	24.3	89	64	10	9	3.6	d° ↙ v a. ⊍° ●°
5	32.6	25.4	82	64	3	4	2.4	↙° v a. ↙ ●° ⌒°
6	32	26.4	80	75	7	6	5.1	↙ ●° a. p. d° p.
7	32	25.8	87	63	4	5	.3	●° a. ↙ ⌒ a. p.
8	32	27.3	76	65	3	3	------	↙ a. p. ⌒° p.
9	32.2	26.8	81	64	7	7	2.5	↙ p° a. ↙ ●° ϟ p.
10	33.3	25.9	87	66	4	7	------	⌒° a. ⌓² p.
11	32.4	24.2	92	67	3	6	1.3	⌓² ≡ ↙ d a. ≡ p.
12	31.9	24.9	94	70	3	7	10.6	d ●° a. ↙ ● ⌈ζ
13	30.4	25.3	83	74	10	10	13.2	↙ d a. ↙ ● p.
14	30.6	25	80	71	9	6	1.8	↙ a. p. ϟ² p.
15	31.5	25	84	66	4	5	3.8	↙ ●° a. ⌓ p° p.
16	32.4	24.6	89	61	2	3	2.5	⌓ ↙ a. ϟ² ↙ ● p.
17	32.2	26.4	83	75	8	8	3.3	↙ ●° a. p. ϟ° p.
18	27.9	24	81	91	10	10	40.8	⌒ ●° d° a. ● p.
19	30.9	23.7	82	77	10	10	2.3	↙° a. ↙ ϟ p.
20	31.6	26.1	88	69	8	4	1.5	● ⌒° ↙° a. ≡ p.
21	31.8	25.8	86	84	4	10	20.1	●° a. ↙ ● ϟ p.
22	29.7	23.9	85	82	10	10	69.6	↙ ● a. ↙ ●² p.
23	28.8	23.8	92	80	10	10	30.2	↙ ● a ↙° ●² ⌈ζ
24	31	24.6	86	79	5	8	3.8	↙ ●° ⌒² a. d° ↙° ⌈ζ
25	29.8	24.7	85	84	10	10	32.4	⌒° ● a. ϟ p.
26	29	24.8	92	85	10	10	28.7	↙ ●² d° a. ↙ ⊍°
27	28.9	23.3	84	96	10	10	117.1	↙° a. p. ●² p.
28	28.1	21.8	76	82	10	10	10.8	↙ ● a. d d° p.
29	27.5	23.6	90	91	10	10	57.9	↙ ● a. p.
30	30.4	23	90	84	10	10	------	↙ a. ⊍° ϟ° p.
31	30.3	26.8	88	81	10	9	------	↙ a. p. ≡° p.
Mean	31	24.8	86	74.5	7.2	7.7	------	
Total	------	------	------	------	------	------	465.6	

SEISMOLOGICAL BULLETIN FOR JULY, 1909.

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

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

2, $5^h\ 6^m\ 26^s$.* **Calapan** (N of Mindoro). Oscillatory earthquake of force IV; direction SW-NE. The center of this earthquake lay within the Island of Mindoro, some 150 kilometers from Manila, and probably in the neighborhood of Mount Halcon. The quake must have been felt throughout the island.

17, $17^h\ 12^m\ 3^s$.* **Iloilo** (SE of Panay). Earthquake of force III. The seat of disturbance was probably some 40 kilometers west-northwest of Iloilo, where the phenomenon must have had greater intensity since it gave a perfect record on the microseismographs at Manila, whose agitation lasted approximately eighteen minutes.

17, $22^h\ 30^m$. **Butuan** (N of Mindanao). Earthquake of intensity II; the direction of the weak shocks observed was SW–NE.

21, $8^h\ 5^m\ 41^s$.* **Northeastern Mindanao and southern Samar.** Earthquake of intensity IV, felt in Surigao, Butuan, and Borongan, whence it follows that it was perceptible in a large part of northeastern Mindanao, in southeastern Samar, and probably on the eastern coasts of Leyte. This disturbance was registered by the microseismographs at Manila and Batavia. From these two records we conclude that the epicenter lay in the Pacific Ocean, to the east of Surigao Strait, near parallel 10° N, some 700 kilometers from Manila and about 3,000 kilometers from Batavia: presumably in the deep trough found east of Mindanao and the Visayas by the German survey ship *Planet.*

22, $17^h\ 6^m$. **Samar and Leyte.** Earthquake of intensity III. The origin must be sought near the southeastern coast of Samar. The shock was well perceptible in the whole south of the said island and also in the northeastern part of Leyte.

23, $10^h\ 0^m$. **Gubat** (SE of Luzon). Oscillatory earthquake. Direction NW–SE; intensity III.

23, $21^h\ 1^m$. **Surigao** (NE of Mindanao). Earthquake of intensity II.

24, $13^h\ 4^m\ 46^s$.* **Aparri** (NE of Luzon). Earthquake of intensity III.

24, $22^h\ 40^m\ 50^s$.* **Northeastern Luzon.** Earthquake of force IV, perceptible throughout Cagayan Province. Direction of the oscillations, NE–SW.

These two earthquakes of northern Luzon have been registered by the Manila microseismographs and their records seem to prove that both proceeded from one and the same epicenter, lying about 500 kilometers to the north-northeast of Manila and east of the Babuyanes group of islands.

26, $9^h\ 30^m$. **Laoang** (N of Samar). Earthquake of intensity II.

30, $4^h\ 20^m$. **Tacloban** (NE of Leyte). Oscillatory quake. Direction E–W; force III; duration 4 seconds.

30, $5^h\ 15^m$. **Borongan** (E of Samar). Earthquake of intensity III. A number of distinct shocks were felt during about thirty seconds.

[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 observer 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. 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.*		
131	2	NNW-SSE	5 06 26	—	5 06 40	5 06 59	0.52	2.4	5 14	V. M.	Vertical Component 0.50 mm. Earthquake, IV at Calapan (Mindoro I.).
		WSW-ENE	5 06 27	—	5 06 37	5 07 16	.70	2.4	5 14	V. M.	
		WSW-ENE	5 06 26	—	5 06 39	—	—	—	5 15	H. P.	
132	4	NNW-SSE	23 25 15	—	—	—	—	—	23 46	V. M.	
		NNW-SSE	23 25 15	—	—	—	—	—	23 47	H. P.	
		WSW-ENE	23 25 15	—	—	—	—	—	23 44	V. M.	
		WSW-ENE	23 25 16	—	—	—	—	—	23 46	H. P.	
133	8	NNW-SSE	5 46 27	5 53 24	5 59 36	6 04 18	.01	10.4	7 05	V. M.	V. C. 0.09 mm. Eqke. in India.
		NNW-SSE	5 46 28	5 53 20	6 00 33	6 08 28	.13	8.4	7 37	H. P.	
		WSW-ENE	5 46 28	5 53 23	5 59 24	6 06 16	.01	12.4	7 07	V. M.	
		WSW-ENE	5 46 28	5 53 15	6 00 22	6 06 15	.30	10.2	7 35	H. P.	
134	13	NNW-SSE	21 21 00	—	—	—	—	—	22 00	V. M.	
		NNW-SSE	21 21 00	—	—	—	—	—	21 47	H. P.	
		WSW-ENE	21 21 01	—	—	—	—	—	21 56	V. M.	
		WSW-ENE	21 21 00	—	—	—	—	—	22 01	H. P.	
135	15	NNW-SSE	20 42 37	—	—	—	—	—	21 04	V. M.	
		NNW-SSE	20 43 30	—	—	—	—	—	20 59	H. P.	
		WSW-ENE	20 42 39	—	—	—	—	—	21 01	V. M.	
		WSW-ENE	20 43 30	—	—	—	—	—	20 58	H. P.	
136	16	NNW-SSE	14 00 52	—	14 01 07	14 01 09	.02	1.2	14 05	V. M.	
		WSW-ENE	14 00 54	—	14 01 08	14 01 20	.02	2.4	14 05	V. M.	
137	16	NNW-SSE	17 06 14	—	17 06 36	17 07 15	.64	2.4	17 20	V. M.	V. C. 0.21 mm.
		NNW-SSE	17 06 14	—	17 06 34	—	—	—	17 21	H. P.	
		WSW-ENE	17 06 14	—	17 06 37	17 07 21	.66	2.4	17 21	V. M.	
		WSW-ENE	17 06 14	—	17 06 32	—	—	—	17 20	H. P.	
138	17	NNW-SSE	17 12 02	—	—	—	—	—	17 30	V. M.	Eqke., III at Iloilo (E of Panay).
		NNW-SSE	17 12 13	—	—	—	—	—	17 36	H. P.	
		WSW-ENE	17 12 04	—	—	—	—	—	17 27	V. M.	
		WSW-ENE	17 12 15	—	—	—	—	—	17 32	H. P.	
139	19	NNW-SSE	12 30 17	—	12 30 40	12 31 00	.04	2.4	12 35	V. M.	V. C. 0.01 mm.
		WSW-ENE	12 30 18	—	12 30 48	12 31 16	.03	2.4	12 35	V. M.	
140	19	NNW-SSE	15 09 46	—	15 10 18	15 10 26	.10	2.4	15 13	V. M	V. C. 0.01 mm.
		WSW-ENE	15 09 46	—	15 10 13	15 10 26	.04	2.4	15 13	V. M.	
141	20	NNW-SSE	10 52 08	—	10 52 27	10 52 34	.04	2.4	10 56	V. M.	V. C. 0.01 mm.
		WSW-ENE	10 52 10	—	10 52 28	10 52 34	.05	2.4	10 56	V. M.	
142	21	NNW-SSE	8 05 41	—	—	—	—	—	8 31	V. M.	Eqke., IV NE of Mindanao, and S Samar.
		NNW-SSE	8 05 45	—	8 07 37	8 09 27	.07	7.5	8 50	H. P.	
		WSW-ENE	8 05 42	—	—	—	—	—	8 28	V. M.	
		WSW-ENE	8 05 45	—	8 07 44	8 09 10	.08	8.1	8 52	H. P.	
143	22	NNW-SSE	15 23 40	—	15 23 57	15 23 59	.38	2.2	15 30	V. M.	V. C. 0.47 mm.
		NNW-SSE	15 23 42	—	15 23 58	15 24 00	.15	.6	15 30	H. P.	
		WSW-ENE	15 23 41	—	15 23 58	15 24 35	.66	2.4	15 30	V. M.	
		WSW-ENE	15 23 41	—	15 23 58	—	—	—	15 29	H. P.	
144	23	NNW-SSE	0 51 22	—	0 51 37	0 51 46	.05	2.4	0 55	V. M.	V. C. 0.05 mm.
		WSW-ENE	0 51 22	—	0 51 40	0 51 43	.10	2.4	0 55	V. M.	
145	23	NNW-SSE	8 57 22	—	—	—	—	—	9 11	V. M.	V. C. 0.03 mm.
		NNW-SSE	8 57 21	—	—	—	—	—	9 15	H. P.	
		WSW-ENE	8 57 22	—	—	—	—	—	9 09	V. M.	
		WSW-ENE	8 57 22	—	—	—	—	—	9 09	H. P.	
146	23	NNW-SSE	16 54 44	—	16 54 57	16 55 08	.02	2.4	16 58	V. M.	V. C. 0.01 mm.
		WSW-ENE	16 54 44	—	16 54 58	16 55 00	.03	2.4	16 58	V. M.	
147	24	NNW-SSE	13 04 45	—	13 06 01	13 06 58	.20	2.6	13 29	V. M.	V. C. 0.03 mm. Eqke., III at Aparri (NE of Luzon).
		NNW-SSE	13 04 46	—	13 06 08	13 07 08	.11	5.1	13 28	H. P.	
		WSW-ENE	13 04 46	—	13 05 54	13 06 08	.19	2.4	13 27	V. M.	
		WSW-ENE	13 04 46	—	13 06 00	13 07 07	.11	6.6	13 29	H. P.	
148	24	WSW-ENE	22 08 38	—	22 09 04	22 09 06	.02	2.4	22 12	V. M.	V. C. 0.01 mm.
149	24	NNW-SSE	22 40 50	—	22 42 00	22 42 39	.04	2.4	22 54	V. M.	V. C. 0.02 mm. Eqke., IV Cagayan Province (NE of Luzon).
		NNW-SSE	22 40 57	—	22 42 02	22 42 21	.07	6.6	22 54	H. P.	
		WSW-ENE	22 40 51	—	22 42 04	22 42 21	.10	2.8	22 55	V. M.	
		WSW-ENE	22 40 59	—	22 42 02	22 42 22	.05	4.8	22 54	H. P.	
150	25	NNW-SSE	1 09 31	—	1 09 53	1 09 59	.05	2.4	1 13	V. M.	V. C. 0.04 mm.
		WSW-ENE	1 09 31	—	1 09 49	1 10 19	.04	2.4	1 13	V. M.	
151	26	WSW-ENE	6 02 09	—	6 02 24	6 02 26	.01	2.2	6 04	V. M.	
152	26	NNW-SSE	22 31 56	—	22 32 10	22 32 27	.06	2	22 35	V. M.	V. C. 0.03 mm.
		WSW-ENE	22 31 56	—	22 32 10	22 32 12	.08	2	22 35	V. M.	
153	27	NNW-SSE	9 05	—	—	—	—	—	9 25	H. P.	
154	27	NNW-SSE	11 33	—	—	—	—	—	11 48	H. P.	
155	27	NNW-SSE	23 33	—	—	—	—	—	23 58	H. P.	
156	30	NNW-SSE	19 10	—	—	—	—	—	—	H. P.	Eqke. in Mexico. It is difficult to know where this earthquake commences or ends due to continuous pulsatory oscillations produced by a typhoon.

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=9.6 seconds; WSW–ENE pendulum, T=9.9 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]

2, $5^h\ 6^m\ 26^s$.* **Calapan** (N. de Mindoro). Temblor oscilatorio, dirección SW–NE, intensidad IV. El origen de este temblor se hallaba dentro de la Isla de Mindoro, á unos 150 kilómetros de Manila: probablemente hacia las vertientes del monte Halcon; fué sin duda perceptible en toda la Isla.

17, $17^h\ 12^m\ 3^s$.* **Iloílo** (SE de Panay). Temblor de intensidad III. El origen estaba probablemente á unos 40 kms., al WNW de Iloílo, donde debió tener mayor intensidad, pues fué perfectamente registrado por los microseismógrafos de Manila, cuya perturbación duró unos 18 minutos.

17, $22^h\ 30^m$. **Butúan** (N de Mindanao). Temblor de tierra de intensidad II: notáronse débiles choques en dirección SW–NE.

21, $8^h\ 5^m\ 41^s$.* **NE de Mindanao y S de Sámar.** Temblor de tierra de intensidad IV; sentido en Surigao, Butúan y Borongan: fué por consiguiente perceptible en gran parte del NE de Mindanao, en la parte SE de Sámar y probablemente en las costas orientales de Leyte. Registráronlo los miscroseismógrafos de Manila y de Batavia. De los registros de ambos observatorios se deduce que su origen se hallaba en el Pacífico al E del estrecho de Surigao, cerca del paralelo 10° N, á unos 700 kilómetros de Manila y poco más de 3,000 kilómetros de Batavia; probablemente en la gran fosa del Pacífico, que se abre al E de Mindanao y Visayas reconocida por el *Planet*.

22, $17^h\ 6^m$. **Sámar y Leyte.** Temblor de tierra de intensidad III. El origen se hallaba cerca de la costa SE de Sámar; fué muy perceptible en toda la parte S de esta isla y en la parte NE de la de Leyte.

23, $10^m\ 0^h$. **Gúbat** (SE de Luzón). Temblor oscilatorio, dirección NW–SE, intensidad III.

23, $21^h\ 1^m$. **Surigao** (NE de Mindanao). Temblor de tierra de intensidad II.

24, $13^h\ 4^m\ 46^s$.* **Aparri** (NE de Luzón). Temblor de tierra de intensidad III.

24, $22^h\ 40^m\ 50^s$.* **NE de Luzón.** Temblor de tierra de intensidad IV. Fué perceptible en toda la Provincia de Cagayán y se notaron oscilaciones en la dirección NE–SW.

Estos dos temblores del NE de Luzón fueron registrados por los microseismógrafos y de sus registros aparece que ambos procedieron del mismo epicentro, situado á unos 500 kilómetros de Manila hacia el NNE, ó sea al E del grupo de las Islas Babuyanes.

26, $9^h\ 30^m$. **Laoang** (N de Sámar). Temblor de tierra de intensidad II.

30, $4^h\ 20^m$. **Tacloban** (NE de Leyte). Temblor oscilatorio, dirección E–W, intensidad III, duración 4^s.

30, $5^h\ 15^m$. **Borongan** (E de Sámar). Temblor de tierra de intensidad III: se distinguieron varias sacudidas durante unos 30^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.

BULLETIN FOR AUGUST, 1909.

METEOROLOGICAL BULLETIN FOR AUGUST, 1909.

By Rev. José Coronas, S. J.,

Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—This month has been so remarkable for the absence of depressions or typhoons in the Philippines and in the neighboring seas, that it is not surprising to see all our stations reporting a monthly mean of atmospheric pressure much higher than both the normal for this month and the monthly mean for August, 1908. That of Manila differs from the first by +0.66 millimeter, and from the second by +1.33 millimeters. The lowest pressures of the month were observed on the 29th in some stations of the Visayas, and on the 2d or 3d in all the other stations of the Archipelago. The highest pressures were registered generally on the 9th or 10th in some stations, and on the 14th or 19th in others.

The monthly mean temperature for this month differs very little from that of the preceding year in the stations of the Visayas, Mindanao, and southern Luzon; but in almost all the stations of Luzon north of Manila we find a positive difference greater than 1° C.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS AUGUST, 1909.

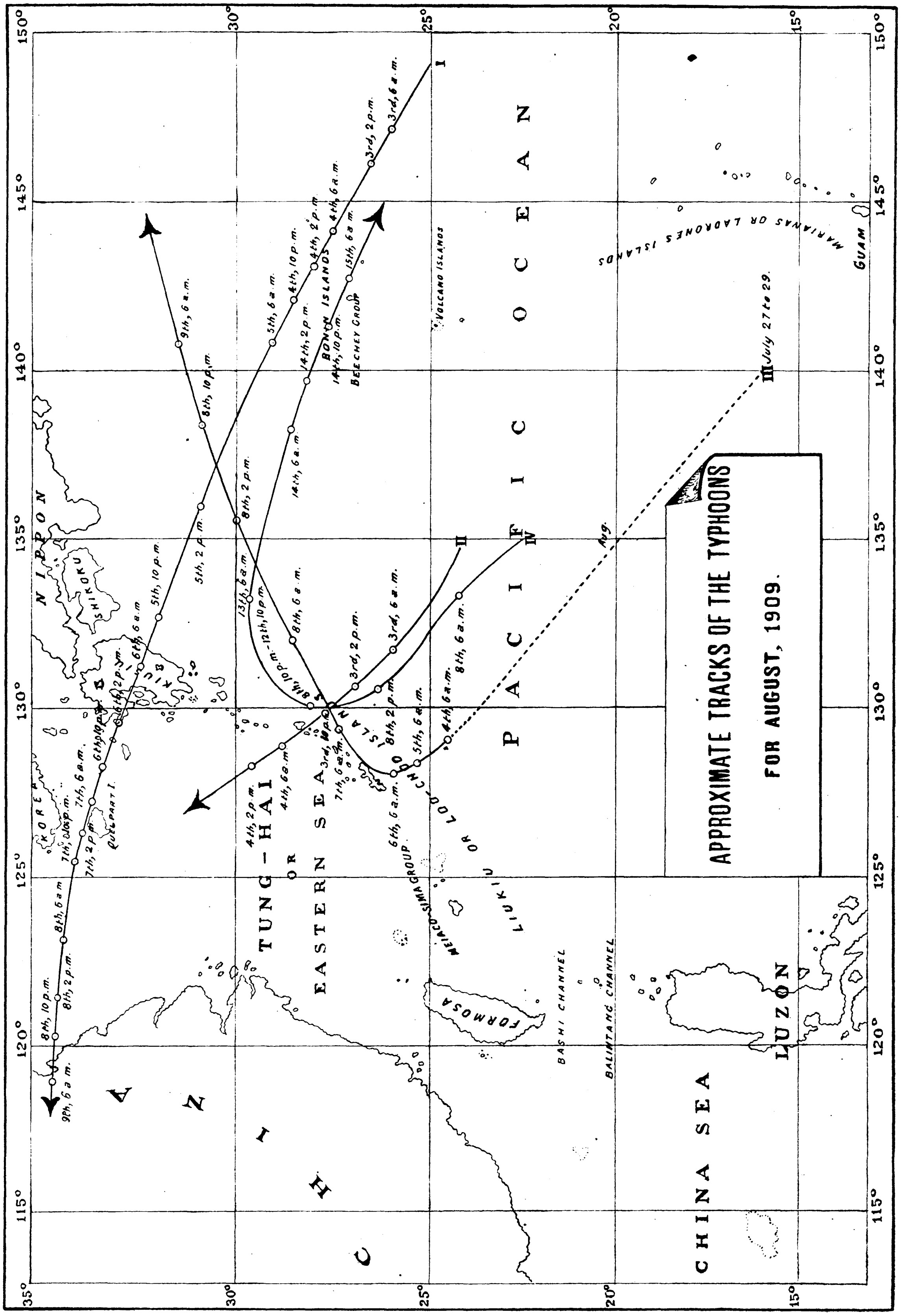
Station.	Pressure.						Temperature.					
	Mean.	Departure from August, 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from August, 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	758.23	+0.87	759.64	14	757.21	31	27.6	−0.3	32.8	31	21.9	3
Surigao	58.36	+ .92	59.71	10	57.43	29	27.1	− .6	34.1	9	21.5	26
Cebu	58.37	+ .95	59.90	14	57.36	29	27.2	0	32.3	7	22.5	14
Iloilo	58.51	+ .80	59.84	10	57.32	29	27.2	+ .1	34.4	31	22	22
Ormoc	58.33	+ .68	59.64	14	57.35	29	26.2	− .5	32.5	21	21.1	15
Tacloban	58.51	+1.16	59.82	14	57.48	3	27.8	− .2	34	6, 30	22.4	31
Capiz	------	------	------	------	------	------	27.2	+ .1	33.6	9	------	------
Calbayog	58.62	+1.13	59.79	19	57.65	2	27	− .9	33.6	9, 22	22.2	31
Legaspi	58.14	+1.32	59.46	19	56.65	2	28.1	+ .5	35.8	7	21.8	20
Atimonan	57.78	+1.25	58.85	19	56.18	3	28	+ .2	36	14	22.9	8
Manila	58.08	+1.33	59.35	9	56.64	2	27.4	+ .9	34.2	30	21.4	25
Olongapo	58.03	+1.39	59.30	9	56.58	2	26.8	+1.1	34.7	27	22.8	9
San Isidro	57.92	+1.10	59.04	9	56.34	2	27.4	+1.4	------	------	21.5	14
Dagupan	57.86	+1.43	59.03	9	56.17	3	27.7	+1.2	35.5	24, 27	22.4	19, 26, 27
Bolinao	57.89	------	59.09	9	56.11	3	27.5	------	33.6	31	23	23
Baguio	636.25[1]	------	637.28[1]	14	634.78[1]	3	18[2]	------	34.2	23	14.5	9, 11
Vigan	757.91	+1.62	759.29	14	756	3	27.5	+1.6	33.4	26, 30	21.7	28
Tuguegarao	57.22	+1.81	58.67	22	55.20	3	28.4	+1.5	37.2	24	22.5	29, 30
Aparri	57.46	+1.84	58.95	22	55.10	2	27.7	+ .8	34.5	25	22.5	18

[1] Not reduced to sea level.

[2] From 28 days only.

Precipitation.—With a few exceptions in the Visayas and Mindanao, all the stations of the Weather Bureau report this month a total amount of rainfall less than that for August, 1908. The differences are indeed very remarkable in several stations of central and northern Luzon, as may be seen in the table below. The water collected in the rain gauges of the Central Observatory has not exceeded 71.1 millimeters, an amount that differs from the normal for this month by −282.0 millimeters, and from the monthly total for August, 1908, by −573.9 millimeters. It

Plate XI.


APPROXIMATE TRACKS OF THE TYPHOONS
FOR AUGUST, 1909.
PACIFIC OCEAN
CHINA SEA
CHINA
TUNG-HAI
OR
EASTERN SEA
NIPPON
SHIKOKU
KIUSIU
KOREA
QUELPART I.
FORMOSA
LUZON
BASHI CHANNEL
BALINTANG CHANNEL
MEIACO-SIMA GROUP
LIUKIU OR LOO-CHOO ISLANDS
BONIN ISLANDS
BEECHEY GROUP
VOLCANO ISLANDS
MARIANAS OR LADRONES ISLANDS
GUAM
I
II
III
July 27 to 29
Aug.
150°
145°
140°
135°
130°
125°
120°
115°
35°
30°
25°
20°
15°

is noteworthy that since the foundation of the Observatory in 1865 there had been not a single month of August with so little rain, the minimum for the whole period of forty-four years having been that of August, 1890, with a total amount of 130.8 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF AUGUST, 1909.

Station.	Total.	Departure from August, 1908.	Rainy days.	Departure from August, 1908.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from August, 1908.	Rainy days.	Departure from August, 1908.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	204.8	— 22.6	17	+ 2	40.6	18	Legaspi	40.3	—105.1	14	— 6	12.7	19
Isabela, Basilan	283.1	+ 82.7	23	+ 6	34	2	Virac	17.3	— 51.7	5	— 5	6.1	24
Zamboanga	133.7	+108.5	21	+13	39.1	18	Nueva Caceres	92.9	-------	13	------	21.6	29
Davao	292.1	+136.9	9	+ 4	94	25	Batangas	32.4	— 23.4	10	— 7	16	30
Cotabato	260.6	-------	19	------	50.8	28	Atimonan	53.8	+ .9	10	0	18.8	15
Cagayan, Misamis	84.9	—144.2	20	+ 2	26.2	10	Silang	161.3	—424.2	7	—13	54.6	21
Butuan	188.5	+123.1	20	+11	43.2	7	San Antonio, Laguna	137.2	—116.3	14	— 1	47	15
Tagbilaran	165.5	+125.7	15	+ 8	47	2	Manila	71.1	—573.9	14	— 9	24	6
Surigao	77.5	— 15	12	+ 3	13.5	14	Olongapo	309.1	—839.1	17	—10	144.4	6
Maasin	334.5	+255.5	13	+ 9	58.4	14	San Isidro	125.2	—316.8	17	— 8	53.1	14
Cebu	147.6	— 22.9	14	+ 2	35.1	7	Tarlac	235.5	—281.8	18	— 8	43.9	15
Iloilo	72.8	—156.5	13	— 7	16	1	Baler	56.4	— 19.7	6	— 8	27.7	30
San Jose, Buenavista	268.9	—379.8	23	+ 1	38.9	4	Dagupan	217.3	—503.6	18	— 6	60.9	18
Ormoc	233	—105.1	19	+ 6	99.6	25	Bolinao	137.8	—727.6	17	— 8	31.2	22
Tacloban	166.1	+ 71	16	+ 5	47.5	11	Baguio, Benguet	366.9	—940.9	25	— 2	57.6	5
Capiz	161.4	— 73.4	15	+ 3	42.9	21	San Fernando, Union	91	—964.2	12	—15	27.7	5
Borongan	113.9	+ 52.9	15	+ 5	23.6	2	Echagüe	142	— 62.2	14	— 4	62.5	27
Calbayog	126.4	—221.9	15	+ 2	55.9	19	Candon	157.1	—766.9	13	—10	33.5	17
Palanoc, Masbate	30.9	—108.9	5	— 8	19.3	18	Vigan	326.1	—759.8	17	— 7	83.6	2
Romblon	114	— 21.8	14	+ 2	40.4	24	Tuguegarao	55	—162.6	10	— 7	14.5	30
Laoang	79.8	— .6	13	— 1	43.9	16	Laoag	130.6	—748.4	14	—12	52.1	4
Gubat	34.9	— 76.4	10	+ 1	10.2	18	Aparri	115.1	—143	9	—13	34.8	3
Sumay, Guam	252.9	— 47.1	21	— 8	50.8	26	Sto. Domingo, Batanes Is.	218.2	—301.5	12	—13	105.4	9
Calapan	58.4	-------	9	------	22.6	28							

DEPRESSIONS AND TYPHOONS.

As stated above, no depression or typhoon has been observed in the Philippines during this month. It was not so, however, in that portion of the Pacific Ocean between the Loochoos and the Bonin Islands and in the neighborhood of southern Japan, where several typhoons raged one after another during the first half of the month. Even three cyclonic centers existed at the same time on the 3d and 4th. Only one of them influenced very slightly the weather in Guam, Ladrone Islands.

Although these atmospheric disturbances have been of no importance for the Philippines, yet we give their tracks in Plate XI in order to have complete the series of the depressions and typhoons of the Far East which we are publishing monthly in this bulletin. With very slight modifications, these tracks of typhoons for this month are reproduced from the "Journal of the Meteorological Society of Japan, September, 1909."

We wish to call the attention of our readers to the fact that the typhoon IV (see Plate XI) remained almost stationary to the east of the northern part of the Loochoos Islands, from the evening of the 8th to the 12th, that is to say, for over three days, after which it moved to ENE, E and E by S toward the Bonin Islands. We remember very few cases of a typhoon remaining almost stationary for so long a time.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Habiéndose distinguido este mes por la ausencia de depresiones ó tifones en las cercanías de Filipinas, no es de extrañar que se haya obtenido en todas nuestras estaciones una media mensual de la presión atmosférica bastante superior á la normal de este mes y á la media de Agosto del año pasado. La de Manila difiere de la primera en +0.66 mm., y de la segunda en +1.33 mm. Las menores presiones se observaron el 29 en algunas de las estaciones de Visayas, y el 2 ó 3 en casi todas las restantes del Archipiélago. Las presiones más altas fueron registradas generalmente el 9 ó 10 en unas estaciones, y el 14 ó 19 en otras.

La temperatura media mensual difiere muy poco de la del año pasado en las estaciones de Visayas, Mindanao y sur de Luzón. En cambio casi todas las estaciones de Luzón al norte de Manila nos dan una diferencia positiva de más de 1° C.

Precipitación acuosa.—Exceptuando unas pocas estaciones de Visayas y Mindanao, todas las demás acusan este mes un total de lluvia inferior al de Agosto, 1908. Las diferencias son en verdad muy notables en varias estaciones de Luzón, según puede verse en el cuadro que acompaña el texto inglés. La cantidad de agua recogida en los pluviómetros del Observatorio central no pasa de 71.1 mm., diferenciándose de la normal de Agosto en —282.0 mm. y de la del año pasado en —573.9 mm. Es digno de notarse que desde la fundación del Observatorio en 1865 no se había observado aún un mes de Agosto con tan poca lluvia. La mínima de todo este período de 44 años había sido 130.8 mm. correspondiente á Agosto de 1890.

DEPRESIONES Y TIFONES.

Queda ya indicado arriba que se ha pasado este mes sin que se observase depresión ó tifón alguno en el Archipiélago. No sucedió lo mismo en la porción del Pacífico entre las Islas Liukiu y Bonín y en el sur de Japón donde los tifones se sucedieron unos á otros y aun llegaron á existir tres á la vez durante la primera mitad de este mes. Alguno de ellos influyó algo, aunque muy ligeramente, en nuestra estación de Guam, Islas Marianas.

Á pesar de haber sido estas perturbaciones atmosféricas de ninguna importancia para Filipinas, todavía queremos publicar aquí en la Lámina XI las trayectorias de las mismas á fin de no interrumpir la serie de trayectorias de las depresiones ó tifones del Extremo Oriente que venimos publicando mensualmente en este Boletin. Salvas ligeras modificaciones, estas trayectorias de este mes de Agosto están tomadas del "Journal Meteorological Society of Japan" de Septiembre, 1909.

Acerca de estos tifones solamente llamamos la atención de nuestros lectores sobre lo ocurrido con el tifón IV (Lámina XI). Este tifón estuvo poco menos que estacionario al E de la parte septentrional de las Islas Liukiu desde la noche del 8 hasta el día 12, ó sea más de tres días, después de los cuales se movió al ENE, E y E¼SE en dirección á las Islas Bonín. Poquísimos casos recordamos de tifones que hayan permanecido estacionarios por espacio de tantos días.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.[1]

[$\phi=14°\ 34'\ 41''$ N; $\lambda=120°\ 58'\ 33''$ E; barometer above sea, 14.2 meters; gravity correction not applied, —1.72 mm.]

Date.	Pressure, mean.	Air temperature.[2]			Underground temperature.						Relative humidity, mean.	Vapor pressure, mean.	Evaporation.[2]	
		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	757.47	27.1	31	24.3	28.1	29.3	28	28.2	28.8	29	88.1	23.4	--------	2
2	56.64	27.7	31.1	24.6	28.8	29.8	28.4	28.7	28.7	29	84	23.1	--------	2
3	56.72	26.8	30.8	23.6	28.7	29.8	28.5	28.8	28.7	29	84.7	22.1	--------	2
4	57.15	26.8	30.3	23.5	28.7	29.7	28.8	29	28.7	29	85.7	22.4	--------	2.1
5	57.57	26.9	30.8	24	28.8	29.7	28.9	29.1	28.5	29	84.5	22.2	--------	2.1
6	58.08	27.3	31.4	24.1	28.6	29.8	28.9	29	28.6	29	85	22.8	--------	2.5
7	58.16	28	31.4	24.2	29	30 1	29.1	29.3	28.6	29	80.3	22.4	--------	3.1
8	58.61	28.2	31.5	25.2	29.3	30.3	29.4	29.4	28.7	29	77.9	22.1	--------	3
9	59.35	27.8	31.3	23.6	29.4	30.3	29.4	29.6	28.7	29	79.7	22	--------	3.3
10	59.29	28.5	32	25.6	29.2	30.3	29.4	29.7	28.8	29	77.6	22.4	--------	3.1
11	58.63	28.4	31.8	24.9	29.5	30.6	29.5	29.7	28.6	29	78	22.4	--------	3
12	57.81	27.9	31.8	24.2	29.5	30.7	29.6	29.7	28.7	29	80.8	22.5	--------	2.7
13	58.68	27.7	32.3	24.8	29.8	31	29.8	30	28.8	29	83	22.7	--------	2
14	59.05	27.6	33.7	23.9	29.9	31	29.9	30.1	28.9	29	80.7	21.9	--------	2.4
15	58.30	27.3	31.7	23	29.7	30.9	29.8	30	28.8	29	82	22	--------	2.3
16	57.20	27.8	31.8	23.9	29.4	30 5	29.8	30	28.8	29	80	22	--------	2.8
17	57.38	27.6	32	24	29.6	30.7	29.8	29.9	28.7	28.9	81.2	22.2	--------	2.6
18	58.46	26.6	31.6	23.5	29.7	30.5	29.8	29.9	28.9	29	85.5	22.1	--------	1.5
19	58.90	27	31.4	23.6	29.3	30.4	29.8	29.9	28.8	29	83.1	21.9	--------	1.8
20	58.18	27.1	32.4	23.3	29.6	30.8	29.8	30	29	29	85.4	22.6	--------	1.9
21	58.43	26.6	32.1	23.3	29.8	30.8	29.9	30	28.9	29	84.4	21.6	--------	1.7
22	58.54	26.8	33.6	22.5	29.4	30.7	29.7	30.1	29	29	80.2	20.8	--------	2.3
23	58.37	27.6	33.8	22.5	29.4	30.6	29.8	30	29	29	77.4	21	--------	2.8
24	58.39	27.7	33.4	22.5	29.6	30.6	29.8	30	28.9	28.9	75.8	20.5	--------	3
25	57.95	28	33.7	21.4	29.5	30.8	29.9	30	28.9	28.9	73	20.1	--------	3.2
26	57.59	27.9	32.6	23.3	29.7	30.8	29.8	30.2	29	29	76.6	21.2	--------	2.8
27	58.04	27.8	33.8	23.2	29.6	31	29.9	30.2	28.8	29	77.9	21.4	--------	2.7
28	58.07	26.6	33	22.8	29.5	31	29.9	30.1	29	29	84.5	21.7	--------	1.8
29	57.86	27.3	33.9	23.2	29.9	30.9	30.1	30.2	29.1	29	83	22.3	--------	1.2
30	57.72	27.1	34.2	22.9	29.3	30.3	30	29.9	29	29	82.3	21.8	--------	1.9
31	57.82	26.9	32	22.9	29.3	29.8	29.8	29.8	29	28.9	83.3	21.8	--------	1.5
Mean	758.08	27.4	32.2	23.6	29.3	30.4	29.5	29.7	28.8	29	81.5	22	--------	2.4
Total	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	73.1
Departure from normal	+0.66	+0.3	+1.6	—0.1	--------	--------	--------	--------	--------	--------	—3.4	—0.5	--------	--------

Date.	Wind.				Clouds.					Sunshine.		Rain, 24 hours beginning midnight.	Miscellaneous.
	Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maxi-velocity.	Amount mean	Prevailing form and its direction.							
						Upper.		Lower.					
		Km.	Km.		0-10.					h.	m.	mm.	
1	SW	297	26.5	WSW	6.8	Ci.-S.		Cu.	W	8	25	1.8	● ≡° a. ◯ a. p.
2	WSW	389.5	27	WSW	7.3	Ci.	SE	Cu.	W	6	35	.8	≡ d° a. ⊤° ● p. ◯
3	WSW	245	27	SW by W	7.2	Ci.-S.	E	Cu.	W	5	00	1.1	≡° ● a. ↙° p.
4	WSW	301	33	SW	5.8	A.-Cu.		Cu.	W	7	25	14.4	● ≡ a. ●° p. ↙°
5	WSW	408.5	34.5	WSW	7.8	Ci.-S.	E	Cu.	NE	3	35	4.3	≡° a. ↙° ● p.
6	WSW	346.5	30	W	7.8	Ci.-S.	SE	Cu.	W	7	15	24	◯° a. ● a. p.
7	WSW	420.5	28	WSW	4.8	Ci.		Cu.	W	10	20	--------	≡° a. < p.
8	WSW	341	28	WSW	9	Ci.-S.	E	Cu.	W by S	8	25	--------	≡° a. ↙° p. ◯
9	WSW	344	25	WSW	7.7	Ci.-S.	NE	Cu.	W	6	50	--------	≡ ◯ a.
10	WSW	461	28	WSW	8.6	Ci.-S.	S	Cu.	W	4	35	--------	≡° a. ↙° p.
11	WSW	373	29	SW	4.8	Ci.-S.	ESE	Cu.	WSW	9	25	--------	≡° a ↙° p.
12	WSW	257	24.5	SW by W	6.5	Ci.-S.	E	Cu.	SW	9	00	--------	⌓ ≡° ◯ a.
13	WSW	149.5	16	SW	6.1	Ci.		Cu.	W	9	00	--------	≡° ◯ a.
14	NE, SW	181.5	16	SW	4.9	Ci.-S.		Cu.	E	8	25	--------	≡° a. ⛈ p.
15	SW	248.5	25	SW	7	A.-Cu.	E	Cu.	W by S	5	25	.5	≡° a. < ●° p.
16	W	250.5	23.5	WNW	7.4	Ci.-S.	E	Cu.	NW	6	25	13.5	● ⛈ a.
17	SW	350.5	32	SW	5.3	Ci.-S.		Cu.	SW	9	25	--------	≡° a. ⛈ p.
18	SW quad.	157	30.5	SW	7	Ci.		Cu.	NE	5	25	--------	⌓ ≡° a. d° ⛈ p.
19	SSW	119	13.5	SW	8	Ci.-S.	S, E	Cu.	SW	5	55	3.8	≡ a. ⛈ ● p.
20	W	122.5	13.5	W	5.1	Ci.		Cu.	E	8	00	--------	≡ a. ⛈ p.
21	NE quad.	204	19	NNE	7.8	Ci.-S.	E	Cu.	NE	6	10	.6	●° ≡ a. ⛈ d p.
22	NE quad	193	14	WSW	5	Ci.-S.		Cu.-N.	E	8	35	--------	≡° a. ⛈ p.
23	SE, WNW	201	14.5	WNW	2.9	Ci.	SW	Cu.	ESE	11	00	--------	⌓ a. ≡° a. p.
24	E, W	155	17	WNW	3.7	Ci.-S.		Cu.	E	11	15	--------	≡° a.
25	Variable	170.5	14.5	WSW	4	Ci.	E	Cu.	SW	10	50	--------	⌓ a. < p. ≡° a. p.
26	NE	145	12	WNW	7.9	Ci.-S.	E by S	Cu.	SW	1	25	--------	⊤ < p. ≡° ◯ a. p.
27	NNE	206.5	24	NNE	4.3	Ci.		Cu.	E	9	20	3.9	⌓ ≡° a ⛈ ● p.
28	NNE	168	14.5	ESE	7.9	Ci.-S.	SW	Cu.		4	15	.8	≡° a. ⛈ ● p.
29	NNE	136	10	SE	5.5	Ci.-S.	SSE	Cu.-N.	SE	7	05	1.3	≡ a. ⛈ ● p.
30	N, W	139.5	14	ENE	5.6	Ci.-S.		Cu.	NE	6	55	--------	⌓ ≡° a. ⛈ p.
31	NE	102.5	11.5	SE	8.6	Ci.-S.		S.-Cu.		3	35	.3	⌓ ≡ ◯° a. ⊤ p. ●°
Mean	--------	246.3	21.8	--------	6.4	--------	--------	--------	--------	7	16	--------	
Total	--------	--------	--------	--------	--------	--------	--------	--------	--------	225	15	71.1	
Departure from normal	--------	—39.5	--------	--------	—1.4	--------	--------	--------	--------	+81	16	—282	

[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.			Rain, 24 hours beginning 6 a.m.	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	758.27	28.9	31.7	26.7	73.8	Variable	2.2	8.8	Ci.-S.	Cu. SW quad	------	⚡° p.
2	57.28	28.4	31.5	22.4	76.5	SE	2.2	8.3	Ci.-S.	Cu. SW, SSW	47	●^{2} ⛈^{2} p.
3	57.62	27	29.3	21.9	81	SSE	2	8.3	Ci.-S.	Cu.-N., Cu. SW	.3	d a.
4	57.81	27.9	30.4	24.9	77	SSE	2	6.8	A.-Cu. NE	Cu. SW, WSW	------	⌒ p.
5	58.39	28.4	32.2	25.6	74.3	SSW	2.2	5.2	Ci.-S.	Cu. NE, SW	------	⚡ p.
6	58.68	28.6	30.7	26.1	76.8	S quad.	1.8	6	A.-Cu. ENE	Cu. SW	------	⚡ p.
7	58.54	28.4	32.7	24	76.5	NNE, SSE	1.5	7.2	A.-Cu. E	Cu. SW	------	⚡ p.
8	58.99	28	32.6	22.6	78.2	NNE, SE	1.7	5.8	Ci.-S.	Cu. E, SW	------	d° a. ⊤ p.
9	59.32	28.7	32	24.9	74.8	SSE	1.5	8	Ci.-S.	Cu.-N. E	------	d° a.
10	59.42	28.5	30.7	24.3	77.3	NNE, SE	2	6.7	------	Cu.-N. E, W	35	⚡ p.
11	58.86	28	30.4	22.4	81.5	SE	1.8	6.5	Ci.-S.	Cu. E	------	↙ ●^{2} ⛈ a. ⚡ p.
12	57.85	28.7	32.4	24.7	77.7	SE	1.5	6.2	Ci.-S.	Cu.-N. Variable	------	⚡ p.
13	58.70	27.4	31.2	24.2	82.3	NNE	1.7	7.7	Ci.-S.	Cu.-N. E	9.1	⛈ p.
14	59.64	26.1	27.7	23.7	85	Variable	1.5	9.2	A.-S., Ci.-S.	N. SW	3	● a. d p.
15	58.95	27.1	30.2	22.6	81.2	NNE, SE	1.8	4.8	Ci.-S.	Cu. SW	------	
16	57.78	27.4	31.7	23.7	76.5	Variable	2	6.7	Ci.-S. E	Cu. SW	2.5	● ⛈° p.
17	58.11	27.7	31.1	23.7	76.8	SE	2	7.2	Ci.-S.	Cu. SW	.4	d ⚡^{2} p.
18	59.22	27.3	30.7	23.5	78.3	Variable	2	9.3	Ci.-S.	Cu., Cu.-N. SW	1.1	
19	59.18	27.4	29.8	23.3	80.3	SE	1.5	8	Ci.-S.	Cu. W, SW	------	●° a.
20	58.09	27.1	30.7	23.4	81.2	SE	2	5.2	Ci.-S.	Cu. SW, E	.3	d ⊤ ⚡ p.
21	57.82	26.8	31.2	23.3	83.2	NNE, WNW	1.7	7	Ci.-S.	Cu.-N. E	8.6	d° a. p. ● p.
22	58.26	26.8	30.7	23.2	83	NNE	1.7	6.8	Ci.-S.	Cu. E	21.3	d° a. ● ⊤ p.
23	57.98	26.8	31.8	22.5	83.8	NNE	1.5	6.3	Ci.-S.	S.-Cu. SW	9.7	d a. ● p.
24	57.73	26.6	31.9	23.8	84.3	Variable	1.3	4.8	Ci.-S.	Cu. E	13.8	● ⚡^{2} p.
25	57.90	26.4	31.4	23.1	83.2	NE quad.	1.5	7	Ci.-S.	Cu., N. E	7.1	⊤ ● p.
26	57.46	27	31.8	22.1	79.8	NNE, WNW	1.3	6.2	Ci.-S.	Cu. E	------	⌒ p.
27	57.70	27.6	31.1	23.4	80	NNE, SE	1.5	4.5	Ci.-S.	Cu. E	------	⌒ p.
28	57.38	27.8	32.2	23.6	78.8	Variable	1.5	7.2	Ci.-S.	Cu.-N. E	.5	d° a. ● ⌣ ⚡ p.
29	57.40	27.7	31.4	24.1	80.8	NNE, SE	1.5	7.8	Ci.-S.	Cu.-N. E	------	
30	57.49	27.2	31.8	23.6	81.8	NNE, SE	1.3	8.2	Ci.-S.	Cu., Cu.-N. E	5.8	● a. ⊤ ⚡ p.
31	57.21	27.7	32.8	23.3	79.7	NNE, SE	1.5	8.3	Ci.-S.	Cu. E	------	⚡ p.
Mean	758.23	27.6	31.2	23.7	79.5	------	1.7	7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	165.5	

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.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.37	28.2	33	24.3	76.2	Variable	0.7	8.2	Ci.-S. NE	Cu. SW	------	d° a. ⚡° p.
2	57.55	28.4	33.5	24.6	74.8	WSW	.3	6.5	Ci. E	Cu. SW	------	
3	57.50	27.4	32.8	24.3	82	SW, WSW	.4	7.5	A.-Cu. E	Cu. SW	1	Ω a. d Ω p.
4	57.92	27.4	33.2	23.1	77.8	SW	.8	5	Ci. E	Cu. SW	1.3	Ω^2 a.
5	58.56	27.7	33.1	24.2	79.3	SW	.6	5.5	Ci. NE	Cu. SW	------	d ●° a. ⚡^{2} p.
6	58.79	27.2	32.7	23.3	81	Variable	.4	5.2	Ci. E	Cu.-N. W	------	Ω a. d° p.
7	58.50	27.3	32.4	22.6	81.5	NNE, WNW	.3	3.7	A.-Cu. SE	Cu. W	------	Ω^2 a.
8	58.83	27.8	32.9	22.7	77.3	NNE, W	.4	2.7	Ci.	Cu. S	------	⚡° Ω a. p.
9	59.47	28.2	34.1	23.5	79.7	NW, W by S	.2	6	Ci.-S. NW	Cu. SW	------	Ω^2 a. Ω p.
10	59.71	28	34	22.8	77.3	SSW, WSW	.2	6	Ci. NE	Cu. SW	5.3	Ω^2 a. ⚡^{2} ⛈ ●° p.
11	59.05	27.2	33.1	22.5	79.7	SW, W	.5	2.8	Ci.	Cu.	------	⚡° Ω^2 a.
12	58.18	27.4	32	22.9	80.1	W	.5	1.8	Ci.	Cu., Cu.-N.	------	Ω^2 a. ⚡ p.
13	58.78	26.9	31	23.4	82.2	NW	.3	5.7	Ci.-S. ENE	Cu., Cu.-N.	------	Ω^2 a.
14	59.69	25	26.8	23.6	90.3	W by N	.2	8.5	A.-S.	Fr.-N. SW	13.5	d° ⚡ ●° a. ●° p.
15	58.88	27	32	21.8	79.5	SW, S	.3	5.7	A.-S.	S.-cu., Fr.-cu. wsw	3.8	Ω^2 ⌒ a. ⚡ p.
16	57.60	27.6	32.9	23.2	78.7	W, SW	.8	5.2	Ci., Ci.-S.	Cu. SW	------	d ⛈ ⚡ a. ⛈ ⚡^{2} p.
17	58.11	27.4	32	24	80.4	SW	.4	7	Ci.-S. E	Cu. SW	10.7	⚡ a. ⚡^{2} p.
18	59.40	26.5	32.4	23.8	85	SW, SSE	.2	9.3	A.-S.	Cu.-N. SW	3	⛈ ● a. d° ⊤ p.
19	59.49	26.3	30.1	22.5	84.2	Variable	.5	6.5	Ci.-S. NE	Cu.-N. W	------	
20	58.24	27.3	32.1	22.6	82.2	Variable	.3	4.2	Ci. E	Cu. NE	------	Ω^2 a. ⚡ p.
21	57.99	27.4	31.6	23.4	80.7	E	.8	3.8	A.-Cu. SE	Cu. E	------	Ω^2 ≡ a.
22	58.39	25.6	27.1	24.2	90.3	SSE, NNE	.2	7.5	------	Fr.-N. E	8.4	⚡ d° a. ●° p.
23	58.26	26.4	30.5	23.4	90	NNE, E	.2	7.3	Variable SE	N.-cf. NE	6.9	d° ● a.
24	57.91	25.6	30.9	23	91.8	NNE	.5	6.2	Ci.-S. NE	Variable E	3.8	Ω^2 a. ●° a. p.
25	57.96	25.9	31.7	22.7	89.3	NNW, NE	.2	6.8	A.-Cu. E	Cu.-N. ENE	11.4	⚡^{2} Ω^2 d° a. ●° p.
26	57.68	26.3	30.9	21.5	83.5	E, NNE	.3	6.3	Ci.-S. NE	Cu. SE	------	Ω^2 ○ a. p.
27	58	27.8	32.6	23.1	81	E by N	.3	3.7	A.-Cu. SE	Cu.	------	Ω^2 a.
28	57.75	27.2	32.1	23.6	83.8	E quad.	.3	4.5	Ci. SE	Cu. E	2	Ω^2 a. ● Ω p.
29	57.43	27.7	32	23.7	83.7	NE quad.	.3	5.8	Ci.-S. NE	Cu., Cu.-N. E	------	Ω a.
30	57.52	26.9	31.8	23.5	85.2	E	.2	5.8	Ci. NE	Cu. E	6.4	Ω^2 a. ● p.
31	57.64	27.4	31.5	23.1	84.1	E	.5	6.2	Ci. NE	Cu. E	------	⌣ Ω^2 a.
Mean	758.36	27.1	31.9	23.3	82.3	------	.4	5.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	77.5	

[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.			Rain, 24 hours beginning 6 a. m.	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	758.30	27.8	31.4	24.9	73.2	SSW	7.6	5.3	Ci.-S. E	Cu. WSW	------	≡° Ω ◯ a. ⛈° a. p.
2	57.45	27.9	31.3	25.1	71.5	SW quad.	8.3	6.5	Ci.-S. E	Cu. WSW	10.7	≡° Ω ◯° a. ● ⛈ p.
3	57.64	27	31.2	24	78.2	SSW, S	6.5	6.7	Ci.-S., A.-Cu. SE	Cu.-N. WSW	4.6	Ω ● a. ↙° ● ⛈ p.
4	57.90	26.6	30.3	22.7	75.8	SSW	7.2	4.5	A.-Cu. ESE	Cu. WSW	------	Ω² a. ⌒ ⛈° p.
5	58.52	27.8	31	24.5	71	SW quad.	8.2	3.3	Ci. E	Cu. WSW, SW	------	≡° Ω a. ⛈° p.
6	58.73	27.8	31.9	23.8	71.2	SSW	7.3	3.7	Ci. E	Cu. SW	.8	≡° Ω² a. ⛈ ● p.
7	58.57	27.3	32.3	23	70.1	SE, S	5.2	2.8	Ci.	Cu. SW	35.1	Ω a. ⛈° p.
8	59.03	27.4	32	22.7	75.2	S, E	5.6	5.2	Ci.	Cu. WSW	------	● a. ⛈ a. p.
9	59.55	27.8	31.5	24.5	75.2	SE, SW	5.9	4.2	Ci.-S. E	Cu. S, SSW	------	Ω² a. ⚡° a. p.
10	59.60	27.6	31.5	24.1	72.2	S	6.1	3.8	Ci. E	Cu.-N. S, SSW	3.8	≡° ⚡ a. ● ⛈ p.
11	59.07	27.2	31	23.2	74.2	SSW	7.5	4.2	Ci.	Cu. SSW	4.8	● ⛈ a. p.
12	58.18	27.5	32	23.5	72.3	SSW, E	4.9	3.3	Ci. S	Cu. NNE	------	Ω² a. ⚡ ⛈° a. p.
13	58.94	27.2	31.4	23.5	72.2	E	5.2	5.2	Ci., Ci.-S.	Cu. E	10.9	≡° Ω a. ⚡ p. ⛈°
14	59.90	25	26.6	22.5	82.8	NW	3.4	8.5	Ci.-S.	N S	28.4	Ω ●² a. ●° p.
15	58.92	26.2	30.8	22.7	76.5	S	4.6	3.2	Ci.	Cu. SSW	------	Ω² ≡° a.
16	57.82	26.9	31.5	23.1	73.6	S	7.4	5.7	Ci.	Cu. SSW	1.3	Ω² ⊤ a. ● ⛈ p.
17	58.02	26.7	31	23.8	73.5	Variable	8	7	Ci.-S. E, ENE	Cu., Cu.-N. WSW	------	≡° Ω a. ⚡ ⊤ a. p.
18	59.30	26	30	23.4	76	SW quad.	6.5	8.3	Ci.-S.	Cu.-N. WSW	19	≡° a. ⛈ a. p. ● p.
19	59.36	26.3	31	23.3	75.3	SE, E	6.2	5.7	A.-Cu. S	Cu. SSW	------	≡° Ω² a. ⚡° a. p. ⛈°
20	58.25	27.4	31	24.1	73.1	E	6.7	3.2	Ci.	Cu. ESE	------	≡° Ω a. d ⛈° p.
21	57.86	27.6	30.7	24.6	71.1	E	6.8	4	A.-Cu. E	Cu. ENE	13.7	● a. ⚡ ⛈° p.
22	58.63	25.8	30.6	23.4	77.9	E	6.8	5	Ci.	Cu. E	2	≡° Ω a. ● ↙ ⛈ p.
23	58.22	27.3	30.7	23.1	73.7	E	8.5	4.7	A.-Cu. SSE	Cu. E	------	Ω ≡° a. ⛈° d p.
24	57.92	27.9	31.5	24.9	72.8	E	8.1	3.7	Ci.	Cu. E	------	≡° Ω² a. ⚡ ⛈° p.
25	58.16	26.3	31.5	23.8	77.8	S quad.	6.2	6.5	Ci.	Cu.-N. ENE	12.2	● a. p. ⛈ p.
26	57.69	26.5	31	22.8	72.9	SSE	4.7	4.5	Ci.-S.	Cu. E	------	≡° Ω² a. ⛈° p.
27	57.94	27.7	31.9	24	70.2	E	5.7	2.5	Ci.	Cu. E	------	≡° Ω² a.
28	57.65	28.2	31.9	25.2	71.9	E	7.3	3.7	Ci.	Cu. ENE	------	≡° a.
29	57.36	27.8	31.5	25	71.4	ENE, E	6.7	3.2	Ci.	Cu. ENE	.3	
30	57.44	28.4	31.9	24.8	68.3	E	8.3	4.3	Ci.	Cu. E	------	≡° Ω a. ⛈° p.
31	57.58	27.9	31.5	24.4	69.5	E	--------	3.8	Ci.	Cu. E	------	d a. ⛈ ⚡ p.
												≡° a. ⛈° p.
Mean	758.37	27.2	31.1	23.8	73.6	------------	6.6	4.7	------------------	------------------	------	
Total	--------	-----	-----	-----	-----	------------	--------	--------	------------------	------------------	147.6	

ILOILO.

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

Day.	Pressure (mean).	Temp. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind: Prevailing direction.	Force (mean).	Clouds: Amount (mean).	Upper.	Lower.	Rain.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*Km. p. h.*	*0–10*			*mm.*	
1	758.58	27.4	29.5	24.6	82.5	SW	19.8	6.5	A.-Cu. N	Cu. SW	16	⊤ ● p.
2	57.60	27.2	29.6	24.4	83.3	SW	13.8	6.7	Ci.-S.	Cu.	1.5	● a. ⛈ ⚡ p.
3	57.81	26.3	29.5	23.5	82.2	SW	11.1	7.8	Ci.-S.	Cu.	2	● d a.
4	58.03	27.2	29.7	24	80.2	SW	15.1	7.7	Ci. NE	Cu. SW	3	d p.
5	58.98	27.1	29.5	23.4	83.5	SW	16.8	4.7	Ci. NE	Cu. SW	1	● a.
6	59	27.8	30	25.6	81.1	SW	14.6	3.2	Ci.	Cu. SW	2.5	● ⌒ a. ⊤ ⚡ p.
7	58.76	27.6	30.5	23.9	79	SW	11 6	3.2	Ci. NE	Cu. SW	------	⊤ ⚡ p.
8	59.16	27.4	30	24.4	80.5	SW	13.3	4.8	Ci.-S. ENE	Cu. SW	------	⚡ a.
9	59.80	27.1	30.1	23	80.1	SW	15.1	5.2	Ci.-S., Ci. E	Cu.	------	◯ a. ⚡ p.
10	59.84	27.5	30.5	23.5	78.5	SW	16.3	3.5	A.-Cu. E	Cu.	------	Ω a. ⚡ p.
11	59.34	27.5	30	24.6	79	SW	16.4	5.3	Ci.	Cu. SW	------	⚡ p.
12	58.40	26.7	30.5	23	81.8	SW	10.2	4.2	Ci.	Cu.	------	Ω a. ⚡ p.
13	59.11	27.3	31.5	24.3	81.5	Variable	5.1	5.3	Ci. E	Cu.	1	Ω² a. ⊤ ●° p.
14	59.81	25.2	29	23.4	88.8	SW	6	7.8	Ci.-S.	Cu.-N. SW	6.6	● a. p.
15	59.16	26.8	29.5	24	81.3	SW	12.7	5.5	Ci.	Cu. SW	------	
16	58.10	27	29.9	23.5	80.2	SW	14.8	5.3	Ci. ENE	Cu. SW	------	Ω a. ⚡ p.
17	58.27	27.4	30.3	25.4	78.2	SW	15.9	5.7	Ci.-S. E	Cu. SW	1.5	d ⚡ p.
18	59.50	25.8	29	23.8	86.5	SW	13.7	8.3	A.-Cu.	Cu. SW	3.3	⊤ a. ● a. p.
19	59.50	26.6	30.3	24.4	81	SW	8.7	8	Ci. E	Cu.	------	d ⛈ p.
20	58.27	27.2	31.2	23.5	79.7	SW	6.3	6.3	Ci., A.-Cu.	Cu. E	------	Ω² a. ⌒ d ⛈ ⚡ p.
21	58.09	27	32	24.4	81.3	E, NW	6.2	5.7	Ci., A.-Cu.	Cu.	------	Ω ⊤ a. ⚡ a. p.
22	58.34	27	33	22	78.5	NE	9.9	5.8	Ci.	Cu. NE	11.7	Ω a. ⛈ ⌒ ⚡ p.
23	58.08	28	32.5	24.4	76.8	NE	11.4	6.8	A.-Cu. ENE, E	Cu. NE	------	⊤ ⚡ p.
24	58.16	27.5	33	22.4	80.7	N	10.4	6	Ci., A.-Cu.	Cu.	11.4	⊤ a. ⛈ ⚡ p.
25	58.13	26.1	31.9	23.4	88.7	N	7.3	9	Ci. E	Cu.	10.7	◯ ⊤ a. ⛈ ⚡ ● p.
26	57.66	26.8	32.1	23	79.8	N	5.8	7.8	Ci. E, ENE	Cu.	------	⊍ ⊕ p.
27	58.10	28.2	34.1	24.2	75.5	W	4.9	3	Ci	Cu.	.3	Ω a. ⊤ ⚡ p.
28	57.72	28.3	33	24.6	79.2	E	7.2	7.5	Ci. NE	Cu.	------	◯ a. ⚡ a. p.
29	57.32	28.5	33.6	24.8	77.7	E	8.5	5	Ci.	Cu. NE	------	⚡ p.
30	57.53	28.2	33.1	24.5	76.2	NE	8	7.7	Ci.	Cu. NE	.3	◯ a. ⊤ ● ⛈ p. ⚡
31	57.58	28	34.4	24.4	75.5	N	8.1	7.8	Ci.-S. E	Cu. NE	------	⊤ p. ⚡ a. p.
Mean	758.51	27.2	31.1	23.9	80.6	------------	11.1	6	------------------	------------------	------	
Total	--------	-----	-----	-----	-----	------------	--------	--------	------------------	------------------	72.8	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	758.24	26.9	30	23.3	82.3	S	7.5	6.7	Ci.-S	Cu.	------	⊤ ≡° a. ∞ ϖ° p.
2	57.49	26.9	30.1	23.7	81.8	N, SSE	6.9	6.7	Ci. E	Cu.-N. S	10.9	Ω ≡° a ⌈ϟ ϟ ϖ° p.
3	57.58	26.1	29.8	22.4	83	S	6.8	8.5	A.-Cu. NE, SE	Cu.-N. S	15.7	● Ω ≡° ⌒ ⌈ϟ ϟ d
4	57.80	26.3	29.9	23	83.5	Variable	6.3	7.5	Ci. SE	Cu.-N. SSW	------	● Ω ≡° a. ϖ° ϟ p.
5	58.42	27	30.5	23.6	79.6	SE quad.	8.1	6.7	Ci. E	Cu.-N. SSW	3.3	≡° a. ●° ⊤ ϟ p.
6	58.73	27.2	31.4	23.4	79.8	SE quad.	7.4	4.5	Ci. E	Cu. S	6.4	Ω ≡° a. ● ϟ p.
7	58 58	26.5	31.2	22.4	80.8	S	4.4	3.8	Ci.-Cu. E	Cu.-N. E	1.3	Ω ≡° a. ⌈ϟ p. ϟ
8	58.80	26.6	30.8	22.9	83.2	S	4.4	4.3	Ci. E by N	Cu.-N. E	------	● Ω ≡° a. ⌈ϟ ϟ p.
9	59.49	26.6	30.9	22.3	82.7	N, S	6.1	4	Ci. E	Cu.	------	≡° a. ϟ p.
10	59.61	26.6	30.9	22.9	83.4	N, SSE	5.3	2.3	Ci. E	Cu.-N. SE	31.5	⌈ϟ ϟ^{2} p.
11	59.06	26.8	30.5	22.2	81.1	SE quad.	7	4	Ci.	Cu. S	------	≡° ●^{2} a. ⊤ ϟ p.
12	58.17	26.4	31.8	22.6	84.5	Variable	4.2	2.2	Ci., Ci.-S.	Cu.-N. E	15.7	≡° ϟ a. ⌈ϟ ● ϟ^{2} p.
13	58.77	26.2	31.5	22	85	Variable	4.2	4.8	Ci. E	Cu.	.3	Ω d ≡° ◯ ⌈ϟ ϟ
14	59.64	24.9	27	23.6	89.3	SE quad.	3.5	6	A.-Cu. E	Cu.-N.	11.4	● d a. ≡ a. p.
15	58.86	25.7	30.2	21.1	80.7	S	3.8	3	Ci.	Cu. SE	------	Ω^{2} ≡ a. ⌈ϟ ϟ p.
16	57.81	25.8	30.4	21.8	82.3	SSE	5.7	3.7	Ci.-S. E by N	Cu. SW, W	3	≡° ⌈ϟ a. ⊤ ϟ^{2} d p.
17	58.24	26.1	29.9	22.2	83	SE quad.	7.8	5.5	Ci.-S. E	Cu. W	9.7	Ω ≡° ⌈ϟ ⊤^{2} ϟ^{2} ●°
18	59.37	24.5	28.4	22	91.7	NE quad.	4.3	6.7	Ci.-S.	Cu.-N. S	8.4	Ω ≡ ⌈ϟ ● ϟ d
19	59.37	26.4	30.2	23.2	82.3	SE quad.	4.4	5.7	A.-Cu. E by S	Cu.-N. S	------	ϟ ⌒ a. ⌈ϟ° p.
20	58.14	26.2	31.3	21.3	81	N, S	4.5	2.2	Ci.-S., Ci.	Cu. E	------	Ω ≡ a. ϟ p.
21	57.87	26·6	32.5	21.5	79	Variable	4	2.8	A.-Cu.	Cu.-N. E	------	≡° a.
22	58.45	25.4	31.2	22	86	NNE, S	5.3	5	Ci., Ci.-S.	Cu.-N. ENE	2.5	≡° a. ●° ⌣ p.
23	58.24	25.5	31.3	22	87.2	N	4.5	5.7	A.-Cu. E	Cu.-N. E	7.9	≡° Ω d ⌈ϟ ● ⌣° ⊤
24	58	26.3	32.1	23	85.5	Variable	4.4	7.2	Ci.-S.	Cu.-N. E, ENE	4.6	Ω ≡° ● ⌈ϟ ⊤° ϟ d
25	58.02	25	30.7	22.5	91.2	Variable	5.1	6	Ci.-S. SE	Cu.-N.	99.6	Ω ≡° ⌈ϟ ●^{2} ⊤ d ↙
26	57.63	25.5	30.2	21.4	85.2	Variable	4.1	5.5	Ci.-S. NE	Cu.-N.	------	≡° a. ⌒ p.
27	57.87	26.1	31.2	21.2	82.8	Variable	4.6	3.8	Ci.-S., Ci.	Cu. NE by E	------	Ω ≡° a. ϟ p.
28	57.62	26.6	32.3	21.7	81.3	Variable	3.7	3	Ci.	Cu.-N. NNE	------	Ω ≡° a. ϟ p.
29	57.35	26.9	32	22	80.1	Variable	5.4	4.5	Ci. W	Cu.-N. ENE, E	------	Ω ≡° a. ϟ p.
30	57.39	25.8	31.4	22.1	84.6	N quad.	4.3	6.3	Ci.-Cu. E by N	Cu.-N., Cu.	.8	Ω ≡° d° a. ⌈ϟ p.
31	57.60	26.6	31.7	21.6	81.5	N, SSW	4.1	5.7	Ci.-S., Ci.	Cu.-N. ENE	------	Ω ≡° a. ϟ p.
Mean	758.33	26.2	30.8	22.4	83.4	------------	5.2	5	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	233	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	758.11	28.8	33.2	24.9	76.7	ESE	0.5	6.3	Ci.-S. NE	Cu. W	------	ϖ^{2} ϟ p.
2	57.50	28.3	33	25	80.2	Variable	.7	6.3	Ci. NE	Cu. W	1	ϖ^{2} a. p. ● ⌈ϟ p.
3	57.48	28	33.2	25	79.2	Variable	.5	6.7	Ci.-S. E, N	Cu. SSW	2.5	Ω^{2} a ● ⌣° p.
4	57.84	27.7	32	24.6	80.9	Variable	.2	7.7	Ci., Ci.-S. E	Cu., Cu.-N. SW	9.1	● ⌈ϟ p.
5	58.31	28.2	33.7	24.2	77.2	W	.5	6	Ci. NE	Cu. W	7.4	● a.
6	58.81	28.8	34	24.5	75.8	Variable	.7	6.2	Ci. NE	Cu. W, WSW	------	⌈ϟ p.
7	58.60	28.8	33.8	24.5	75.5	SE quad.	.7	4.5	A.-Cu. SW	Fr.-Cu. SW	2.5	
8	58.85	28.4	33	25	78	ESE	.7	5.8	Ci., Ci.-S. E	Cu. WSW	------	● a. ϟ^{2} p.
9	59.61	28.6	33.5	25	77.4	SW, E	.7	6.5	Ci.-S., E by N	Cu. SW	------	ϖ° a. ϟ p.
10	59.76	28.4	32.8	24.8	78.3	Variable	.8	5.2	Ci.	Fr.-Cu.-Cu.-N. W	3	Ω^{2} a. ● ⌈ϟ^{2} p.
11	59.19	27.4	33	22.7	79.5	Variable	.5	6.5	Ci. NE	Cu. SW	47.5	●^{2} ⌈ϟ p.
12	58.30	28.4	33.6	22.9	77.2	Variable	.5	5.8	Ci. NE, NNE	S.-Cu. WSW	------	ϟ p.
13	59.15	28.4	32.6	25.4	76.3	SSE	.5	5.5	Ci.-S. E	S.-Cu.	------	◯^{2} a.
14	59.82	25.8	28.2	23.5	87.3	WNW	.5	8.2	A.-S.	Cu.-N. SW	10.9	● a.
15	58.85	27.6	32.8	22.8	76.8	NW	.5	4.7	Ci. SE	Cu. W	------	Ω^{2} a.
16	57.70	27.9	33.3	23	74.3	WNW	.7	5.2	Ci. E	S.-Cu.	------	ϟ p.
17	57.94	28.2	33.2	24	75.1	Variable	1	7.7	Ci.-S. E	Cu. WNW	3.8	ϟ p.
18	59.34	26.3	30	24.5	82.2	Variable	.8	8	Ci.	Cu.-N. NNW, N	------	● ◯° a.
19	59.65	27.4	31.8	24	78.5	SE quad.	.8	7.3	Ci.-S.,Ci.-Cu. NE	Cu. SW	------	⌒ a. ⊤ p.
20	58.55	28.5	32.7	24.6	76	SSE	1.2	3.7	Ci.-S.	Fr.-Cu. S	------	ϟ p.
21	58.37	28.1	32.4	25.2	79.7	SE quad.	.8	4.5	Ci.-S.	Cu.-N. SSE	2.3	ϟ ● a. p.
22	58.88	26.5	33	24.4	84.2	Variable	.8	5.8	Ci.-S. SW	Cu., N. NE, ESE	9.6	● ↙ a. d ϖ^{2} p.
23	58.66	26.6	31	24	87.2	Variable	.3	7.2	Ci.-S. N	Cu. E	6.6	⌒ ◯° a, ⊤ p. ●
24	58.47	26.9	32.4	24.5	88.2	NW quad.	.8	7.7	Ci.	Cu.-N., Cu. E	6.4	● d ⌈ϟ p.
25	58.34	26.5	32	23.5	85.6	W,WNW	1	8.3	Ci.-S. SW	Cu.-N., Cu. E	21.8	⊕ ◯ a. ⊤ ⌈ϟ p. ●
26	57.93	26.8	31.5	23	82.3	SE quad.	.7	7	Ci. SW	Cu. ESE	------	◯^{2} a. ϟ p.
27	58.20	28.3	33	24	80	Variable	.8	2.8	Ci.	Fr.-Cu. ESE	------	Ω^{2} a.
28	58.13	28.6	33	24.9	78.7	SE	1	4.2	Ci.-S. W	Cu. ESE	------	Ω^{2} a. ⌣^{2} p.
29	57.74	28.7	32.8	25	76.3	SE	.7	5,7	Ci.-S. SW	Cu. E	------	d° a. ⌣^{2} p.
30	57.86	27.4	34	24.2	82.3	W, ESE	.7	5.5	Ci.-S.	Cu.-N. E	1.8	● ϟ p.
31	58.01	26.9	32.5	22.4	84.5	ESE	.8	7.8	Ci.-S. SW	Cu. E	29.9	≡ a. ●^{2} ↙ ⌈ϟ^{2} ⌣° p.
Mean	758.51	27.8	32.6	24.2	79.7	------------	.7	6.1	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	166.1	

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. 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	-------	27.1	31.9	------	86.2	Variable	0.3	5.8	Ci.-S. NW	Cu.-N. S	2	⊤^{2} ≡° ↯° p.
2	-------	26.8	31.8	------	87.3	Variable	.3	5.3	Ci.	Cu. SE, S	------	⌓°a. ⊤ d°⊎°⊕° p.
3	-------	26.2	31.5	------	86.7	Variable	.3	7.7	Ci.-S.	Cu.-N. SE, S	14.2	d° a. ☈ p.
4	-------	26.6	31.8	------	88.5	Variable	.3	7.5	Ci.-S. S	Cu.-N. SW	3.6	☈ ● p.
5	-------	26.6	31.4	------	89.7	SW	.5	6.3	Ci.-S. NE	Cu.-N. SW	11.9	● ⊤ ↯° p.
6	-------	26.3	31.3	------	87.2	Variable	.5	4.2	Ci.	Cu.-N. SW	.8	⊤ d ⌒ ↯° p.
7	-------	27.5	32.8	------	84.8	Variable	.5	4.2	Ci.	Cu.-N. SE	------	
8	-------	27.8	31.7	------	86.8	N quad.	.5	6.8	Ci.-S. S	Cu.-N. SW	------	
9	-------	27.4	33.6	------	86.5	Variable	.3	5.3	Ci.-S.	Cu.-N. Variable	------	≡° ↯° p.
10	-------	27.6	32.1	------	84.3	SW	.5	6.5	Ci. NE	Cu.-N. S	------	≡° a. ⊤° ↯° p.
11	-------	27.2	31.6	------	84.3	Variable	.5	5.8	Ci.-S., Ci.	Cu.-N. W	------	↯° p.
12	-------	27.9	31.7	------	83	Variable	.5	4	Ci.	Cu.-N.	------	⌓° a. ⊤° < p.
13	-------	27.5	32	------	88.3	NNE	.2	5.8	Ci. NE	Cu.-N. NE	------	≡° ↯° p.
14	-------	26.3	31.1	------	92.8	ESE	.2	9.7	Ci.-S. SE	N.	7.6	d° a. ⊤° ● ↯° p.
15	-------	27	31.1	------	88.7	Variable	.5	4.7	Ci.-S. NE	Cu.-N. S	------	
16	-------	27.2	32.6	------	86	Variable	.5	3.8	Ci.	Cu.-N.	------	
17	-------	27.1	31.2	------	84.9	Variable	.5	5.8	Ci.-S.	N. W	------	☈° p.
18	-------	26	30.6	------	88.8	ESE.	.3	9.2	Ci.-S. NE	N. SW	4.3	d^{2} p.
19	-------	26.5	30.4	------	88.8	Variable	.3	8.3	Ci.	Cu.-N. NW, S	.8	☈° d p.
20	-------	27.2	31	------	87.8	NE	.5	5.7	Ci.-S.	S.-Cu. NW	31.2	⌓ ≡° a. ↯ p.
21	-------	27.5	31.2	------	87.3	N quad.	.5	5.3	Ci.	Cu.-N. E	42.9	☈^{2} ≡ a. ↯ p. ●^{2}
22	-------	27.7	32	------	87.3	ENE	.8	6.8	Ci.-S., Ci.	Cu.-N. SE	------	●^{2} ☈^{2} a. ⊤ ⊕^{2} p.
23	-------	27.6	31.5	------	86.7	ENE	.7	8.2	Ci.-S.	Cu.-N. E, S	.8	< p p.
24	-------	27.6	31.5	------	87.5	NE	.5	7.8	Ci.-S.	Cu.-N. E	12.7	● a. ☈° p.
25	-------	27.1	30.8	------	90	Variable	.2	8.8	Ci.-S. NE	Cu.-N. Variable	14.2	☈° p. ● a. p.
26	-------	27	30.6	------	88.7	NE	.2	7.3	Ci.-S.	Cu.-N. S, E	------	
27	-------	27.8	32	------	85.5	NE	.3	5.7	Ci.-S.	Cu.-N. SE, E	.5	≡ a. ☈ ⊕^{2} ⊎^{2} p.
28	-------	28.3	31.9	------	86.1	NE	.5	6.5	Ci.-S. SE	Cu.-N. NE	2.8	●° ☈ a. p.
29	-------	27.9	32.3	------	87.5	ESE, NE	.3	5	Ci.	Cu.-N. SE	9.1	≡° ↯ p.
30	-------	28	31.5	------	86.8	NW, NNE	.2	6.5	Ci.-S.	Cu.-N. NE, S	------	☈ ● a. ⊕° ⊎° ↯° p.
31	-------	28.3	33.1	------	87.3	NE	.3	6.8	Ci.-S.	Cu.-N. S	2	
Mean	-------	27.2	31.7	------	87.2	------------	.4	6.4	------------------	------------------	------	
Total	-------	------	------	------	------	------------	--------	--------	------------------	------------------	161.4	

ÇALBAYOG.

[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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.40	28.2	31.7	24.9	81.7	WSW	2.2	5.7	Ci.-S. ENE	S.-Cu. W	------	⌒° a. ↯ p.
2	57.65	28.7	33	26.2	78	W quad.	1.5	6.7	Ci.-S.	S.-Cu. W	------	↯ p.
3	57.67	27.2	31.9	24.4	82.8	Variable	1	8	Ci.-S.	S.-Cu. W	17.8	d a. ↯ p.
4	57.98	27.1	31.7	23.5	84.8	WSW	1.2	7.7	Ci.-S. E	Cu.	------	p^{2} ☈ a. ↯ p.
5	58.50	28	32.1	24.8	81.3	W quad.	1.5	5	Ci.-S., Ci.	S.-Cu. SW	5.1	p p.
6	58.92	28.2	32.2	24.6	80.3	WSW	1.3	3.7	Ci.	Cu.	------	↯ p.
7	58.86	27.6	31.9	24.1	83.2	SW, N	1.2	4	Ci.	S.-Cu., Cu. W	1.8	↯ p.
8	59.07	27.8	32.1	23.7	82	SW	1.7	5.5	Ci. E	S.-Cu. SW	3.8	↯ d a.
9	59.76	27.7	33.6	23.8	82.2	Variable	1	5.7	Ci.-S. E	S.-Cu. SW	------	●° a. ↯ p.
10	59.78	28.3	33.1	24.1	79.7	W	1.7	4.5	Ci.	Cu. W	------	d a.
11	59.26	27.7	32.4	24.1	82.4	N, SW	1.5	5.7	Ci.-S.	S.-Cu. W	------	↯ p.
12	58.38	27.7	33.2	23.3	83.5	N, WSW	.8	4.2	Ci.	Cu. W	------	⊤° ↯ p.
13	59.06	26.8	32.7	23.5	84	N	1	3.5	Ci.-S. ESE	Cu.	------	⊤° d° ↯ p.
14	59.70	26.2	29.7	23.4	87.3	N	1	8.2	A.-Cu. SE, E	S.-Cu. S, W	------	↯ a.
15	58.94	27.1	32.5	23.6	81.6	SW	.7	3.5	Ci.	Cu., S.-Cu.	------	
16	57.83	28.4	33.2	23.1	78.7	WSW	1.7	4.3	Ci.-S.	Cu. W	------	⌒ a. ↯ p.
17	57.94	28.4	31.7	25.2	78.7	W, SW	2.2	6	Ci.-S.	S.-Cu., Cu. W	.5	d a. ↯ p.
18	59.18	26.5	28.1	24.4	86.8	SW	1.2	7.8	A.-Cu.	S.-Cu. W	3.3	⊤ a. ↯ p. ●° a. p.
19	59.79	25.4	29.5	23.2	90.8	Variable	.7	7.8	A.-Cu.	S.-Cu. SW	55.9	●^{2} a. ↯ ●° p.
20	58.54	26.6	32.4	22.3	85.2	N	1	2.3		S.-Cu. E	------	⌓ a. d ⊤° ↯ p.
21	58.42	26.2	32.2	23	87.3	N	1.2	3.2	Ci.-Cu.	Cu. E	1.5	⊤° d p.
22	58.90	25.4	33.6	22.6	89.3	N, E	.8	5.2	Ci.	Cu. E	7.9	⌓ a. p. ⊤° ↯ ⊎ p.
23	58.88	26.2	33.5	22.7	88.3	NE	1	6.5	Ci.-S.	S.-Cu. E	------	⌓ a. ☈° d ⊎ p.
24	58.63	25.5	31.3	23.1	91.2	NE	1	6	A.-Cu.	Cu. E	7.6	⊤ a. ●° ☈° ↯ ⊎ p.
25	58.36	26	30.4	23	90	N, S	.3	6.8	A.-Cu., Ci.-S.	S.-Cu. E	3.6	⊤° ●° ↯ p.
26	57.97	26.5	31.6	23.4	86.5	N, S	.8	6.8	A.-Cu. SE	S.-Cu. E	.8	⊤° d° ↯ ⊕ p.
27	58.29	26.4	32.1	22.7	85.3	N	.8	2.8	Ci.-S.	S.-Cu. E	------	⌓ a. ☈° ↯ ⊎ ⊕ p.
28	58.16	27.4	33.4	22.7	83.3	N, SW	.8	3.2	Ci.-S.	Cu. E	------	d ☈° ↯ ⊕ p.
29	57.97	26.6	31.5	22.7	87.3	N	1	4.3	Ci.-S.	Cu. E	6.1	⌓ a. ● ⊕ ↯ p.
30	58.18	25.6	31.2	22.8	90	N	1	5.8	A.-Cu.	Cu. NE	10.2	⌓ a. ⊤° ●° ☈ ↯ p.
31	58.11	25.9	31.5	22.2	88.2	Variable	.8	5.8	Ci., A.-Cu.	Cu.	.5	d ⊤° ↯ ⊕ p.
Mean	758.62	27	32	23.6	84.6	------------	1.1	5.4	------------------	------------------	------	
Total	-------	------	------	------	------	------------	--------	--------	------------------	------------------	126.4	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	757.47	28.5	33.7	24.4	79.2	W, WSW	9.2	2.5	Ci., A.-Cu.	Cu. SW	0.8	●° a.
2	56.65	28.8	34	24.5	78.4	WSW	8.4	3.5	Ci.	Cu. WSW	6.9	●° a. ↯° p.
3	56.83	27.9	33.2	23.6	78.9	SW, S	7.7	2.5	Ci.	Cu. SW	1	● p.
4	57.27	27.7	33.8	23.6	78.5	SW quad.	6.8	2.5	Ci. NE	Cu. WSW	------	d° a. ↯° p.
5	57.69	27.5	33	23.6	79	WSW	8.3	2.5	Ci.	Cu. WSW	------	↯° p.
6	58.11	28.5	34.6	23.7	73.7	W	8.7	1.2	Ci.	Cu. WSW	------	↯° p.
7	58.09	28.8	35.8	24.6	73.8	W	6.9	.7	Ci.	Cu.	------	↯° p.
8	58.30	28.6	34.7	24.4	74.8	W	8.4	2.2	Ci. NNE	Cu. SW	------	↯° p.
9	58.92	28.7	34	24.6	73.3	WSW, W	9.2	1.8	Ci. E	Cu. SW	------	↯° p.
10	59.10	28.5	34.5	24.5	74.8	WSW	9	3.2	Ci.	Cu. SW	------	
11	58.52	28.5	34.3	24.5	74.6	WSW	7.8	4.8	Ci. E	S.-Cu.	------	⊍° a. ◯^{2} p.
12	57.86	28.7	34.6	24.1	75	WSW, SW	5.8	4.7	Ci. E	Cu. SW	------	◯^{2} a. ↯° p.
13	58.68	27.8	33.5	23	80.6	SE quad.	4.9	3.7	Ci. E	Cu. S	.5	Ω° a. ●° ↯° p.
14	59.32	27.2	32.7	23	80.2	SE, S	4.1	6.2	A.-Cu. E	Cu.	------	↯° a. ☈ ↯° d° p.
15	58.50	28	34.5	24	74.2	W	6.6	5.8	Ci. E	Cu. SW	------	↯° a. p.
16	57.22	27.3	31	24.2	81	W	6.2	4.8	A.-Cu. W	Cu.-N. SW	3	d° ●° a. ●° ↯° p.
17	57.46	27.2	33.6	24	81	W	7.8	5.7	Ci. E	Cu. WSW	1	↯° Ω ◯^{2} d° ●° ☈
18	58.72	26.7	32.8	24.4	84.3	W	5.6	6.8	Ci.-S.	Cu.-N., Cu. SW	3	≡◯° ●° ☈ d° ↯°
19	59.46	26.2	31.4	23.2	87.2	W, WSW	3.4	6.3	A.-Cu. SE	Cu. SW	12.7	● a. ●° ↯ p.
20	58.52	27.3	32	21.8	79	E quad.	5.9	2.3	Ci.	Cu. S	------	Ω^2 ≡° a. ↯ p.
21	58.29	28.6	32.5	23.8	75.2	SE	7.6	2.5	------	Cu.	------	Ω ≡° a. ↯ p.
22	58.71	28.8	32.3	25	75.7	E	8.7	3.3	Ci.	Cu. E	------	↯ ⊍ p.
23	58.66	28.5	32.3	25.9	77.5	E quad.	9.8	4.8	Variable	Cu.	3.8	p a. ↯° p.
24	58.56	29.3	33	25.6	74.5	NE quad.	9.1	5.8	Variable	Cu. E	2.5	p a. p ⊍^{2} ●° p.
25	58.09	28.8	32.2	25.7	75.3	E	7.6	6.8	Ci.-S. N	Cu.-N. NE	------	⊍° a. ⊍^{2} ↯ p. ◯^{2}
26	57.68	28.2	32.5	24.4	76.8	E	5.9	6.3	Ci.	Cu. SE	------	⊍^{2} a. ☈^{2} ⊕ ↯ p.
27	58.19	28.2	33.3	23.5	78.3	E	4.6	2.5	Ci.	Cu.	1	Ω ☈ a. ↯ ⊕° p.
28	58.02	28.7	33.8	23.9	77.3	E quad.	7.5	4	Ci. NE	Cu. E	.3	⊍ ●° a. ↯ p.
29	57.74	29.1	33.3	25	75.5	E	6.1	4.2	Ci.-S.	Cu. E	------	●° a. ↯ p.
30	57.90	27.6	33.2	23.5	81	E	4.1	5	A.-Cu. NE	Cu. E	.5	☈ ●° a. ↯ p.
31	57.92	27.7	32.8	23	81	E	5	4.3	Ci.-S., Ci.	Cu. E	3.3	☈ ● ⊍^{2} d° p.
Mean	758.14	28.1	33.3	24.1	77.7	------	7	4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	40.3	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; **barometer above sea,** 4 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	756.78	28.6	32.7	25.5	74.8	SW	------	7.2	A.-Cu. W, S	Cu. W	------	⊕^{2} a. p. ↯° p.
2	56.21	28.5	32.4	26	75.5	SW quad.	11.1	6.8	Ci. E	Cu. W	------	⊍^{3} a. p. ⊤° p.
3	56.18	28.2	33.6	24.6	76.7	SW	8.7	6.5	Ci. E	Cu. W	5.1	☈° ● p. ⊕° a. p.
4	56.56	27.7	32.6	23.7	78.7	SW	10.8	6	Ci. NE	Cu. SW	------	☈° p.
5	57.08	27.8	32.7	24.2	77.3	SSW	9.3	7.8	Ci.	Cu. SW	------	⊕° ⊍° a.
6	57.54	28.7	33.2	24.4	72.3	SW quad.	------	3.7	Ci. E	Cu. WSW	------	◯° a. ◯^{2} p.
7	57.67	28	33.6	24	76.4	SW	------	1.7	Ci.	Cu. SW, W	------	⊕° a.
8	57.99	27.6	33	22.9	77.8	SW	------	8	Ci. E	Cu. WSW, SW	------	⊕° ⊍° Ω° ◯° a.
9	58.55	27.9	33.2	23.5	77.2	SW	10	6.5	Ci.	Cu. W	------	Ω° a. ☈° p.
10	58.51	28.3	33.2	24.1	74	SW	10.1	7.2	Ci. E	Cu. W	------	↯° p.
11	57.88	28.9	34	25	72	SW	9.1	6.8	Ci. E	Cu. W	------	d° ↯° p.
12	57.22	28.6	34.1	24.3	75.2	SW	9.4	5.5	Ci.	Cu. W	------	
13	58.33	28.4	34.9	23.2	75.3	SW	------	4	Ci. E	Cu. SW	------	⌒° ↯° p.
14	58.81	28.1	36	23.7	81.7	SW, E	7.8	4.3	Ci. SE	Cu. S by W	.3	☈° d^2 ↯° p.
15	58.23	26.3	33.1	24.3	83.3	SW	11.1	6.5	A.-Cu. E	S.-Cu. SW, W	18.8	p^2 p.
16	56.72	27.4	33.2	24.4	80.2	SW	9.5	4.3	Ci.	Cu. W	.3	☈° a. ↯° d p.
17	56.87	27.3	32.5	23.9	82.3	SW	9.4	6.7	Ci. ENE, E	Cu. W	15.5	☈° ● ↯° p. d° a. p.
18	58.16	27	34.1	23.4	83.7	SW	8.7	6.8	Ci. ENE	N. W	1	◯° a. ☈° ● d° ↯° p.
19	58.85	27.1	32.5	23.3	81.5	SW	------	9.7	Ci.-Cu. E	Cu. W	1.8	☈° p. ↯° p.
20	58.31	27.5	33.5	24.1	82	SW	7.1	6.3	Ci. E	Cu. SE	------	Ω° ≡° a. ☈° ↯° p.
21	58.30	27.5	31.9	23.8	85.2	N quad.	11.2	4.8	Ci.	Cu. E	2.3	●° a. ☈° ↯° ⊕° p.
22	58.66	27.9	33.5	24	83.6	Variable	8.4	3.2	Ci.	Cu. E	------	↯° ≡° a. ☈° d° p.
23	58.36	28.4	33.5	24	80.9	NE quad.	10.8	4	Ci. E	Cu. E	------	Ω° a. ⊕° ↯° p.
24	58.36	28.6	32.7	23.8	77.7	Variable	12.4	2.5	Ci. S	Cu. E, N	------	∞° a. d° ☈° p. ↯
25	57.84	29	33.4	25.7	78.7	NE quad.	10.5	5.2	Ci. E	Cu. NE	------	◯° a. ☈° ↯° p.
26	57.53	27.8	31.5	24	81.8	SW, NNW	11.2	6.3	Ci.	Cu. N	------	☈° d° ↯° ⊕° p.
27	58.05	28	32.7	24.8	82.6	SW	9.4	6.5	Ci. NE	Cu. E	1.8	↯^{2} ◯^{2} a. ☈^{2} d p.
28	58.20	28	32.2	23.5	81.3	N quad.	13.4	7	Ci. NE, ENE	Cu. E, NE	------	↯° a. ☈° ↯^{2} p.
29	57.81	28.1	31.6	24.9	82.5	NW quad.	11.3	6	Ci.	Cu. ENE	1.5	⌒° a. ☈° ⊕° ⊍° p.
30	57.65	28.6	30.9	25.1	81	N quad.	11.5	6.3	Ci. E	S.-Cu., Cu. NE	1.8	⊕^{2} d ◯° a. ↯° p.
31	57.86	27.3	30.5	24.5	85.3	N	14.7	8.2	Ci. E	S.-Cu., Cu. NE	3.6	☈ a. d° ↯° ⊕^{2} p.
Mean	757.78	28	33	24.2	79.3	------	10.3	5.9	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	53.8	

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.			Rain, 24 hours beginning 6 a. m.	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	757.43	26.5	28.4	25.2	91.1	SSW	1.4	8.7	Ci.-S.	Cu.-N. W by S	19.5	≡° ↙ ●° ⛈ ● ⌒ d
2	56.58	26.2	29.3	24.1	90.7	Variable	.8	9.2	Ci.-S.	Cu.-N. WSW	25.9	≡ d a. ↙ ●° ● ⛈ p.
3	56.72	25.4	27.2	24	93.8	NNE	1	10	Ci.-S.	Cu.-N. SW	37.3	↙ ● p. d ● a. p. ≡
4	57.06	25.8	28.4	24.4	90.8	SW	1.2	9.3	Ci.-S.	Cu.-N. SW	19.4	d ≡ ●° a. p.
5	57.58	25.2	27.5	23.9	94.3	SW	1.8	9.8	Ci.-S.	Cu.-N. SW	31.7	⛈ a. d ● ↙ ●° a. p.
6	58.12	24.9	27.1	23.4	96.2	NNE, S	1.1	10	Ci.-S.	N, Cu.-N. SW	144.4	↙ ● p. d² ●² ⛈² a. p.
7	58.15	26.2	28.2	24	90.8	N, SW	1.5	7.2	A.-Cu.	Cu.-N. SW	.8	≡ ⌒ d a.
8	58.70	26.5	28.9	23.8	85.9	N, SW	1.3	8.5	Ci.-S.	Cu. W	------	Ω² ≡ ◯ °a. ⚡ p.
9	59.30	26.6	30	22.8	81.3	N	1.3	7.7	Ci.-S.	Cu. W by S	------	Ω² ≡° ◯° a. ◯² p.
10	59.29	26.7	28.7	24.3	84.2	N, SW	1.6	8.8	Ci.-S.	Cu.-N. W	------	≡° a. ◯° p.
11	58.68	26.7	29.3	23.9	84.4	Variable	1.5	7	Ci.-S.	Cu.-N. SWbyW, WbyN	------	Ω² ≡° d° a.
12	57.85	26.8	31	23.6	83.8	N quad.	1.2	6.5	Ci.-S.	Cu.-N. SW by W	------	Ω² ≡° d° ◯ a.
13	58.69	26.8	29.3	23.5	83.5	N	1.2	7.5	Ci.-S.	Cu.	------	Ω² ≡° a.
14	58.92	26.9	30	24	83.2	NNE	1.4	4.5	Ci.-S.	Cu., Cu.-N.	------	Ω a. ⊤ d° ⚡ p.
15	58.34	26.2	29.2	23.3	87.5	NNE, SSW	1.2	8	A.-Cu. EbyN	Cu.	2.3	Ω a. ●° ⚡ p.
16	57.43	26.4	29.8	24.8	85.5	Variable	1.1	8.3	Ci.-S.	Cu.-N. W	1	⌒ a. ●° a. p.
17	57.41	26.6	30.2	23.7	83.5	N, SSW	1.4	8	Ci.-S.	Cu.-N. W	1.4	⌒ d a. ⛈ p.
18	58.40	26	29.3	23.3	87.7	NNE	1.4	8.7	Ci.-S.	Cu.-N. NW	------	⚡ Ω a. ⊤ ≡ p. ◯
19	58.83	26.3	28.5	24.5	86.8	NNE	1.2	9.5	Ci.-S.	Cu.-N. SSW	.8	d ◯ ≡ a. p. ⚡ p.
20	58.14	26.8	30.3	23.6	83.2	NNE, SSW	1.2	7	Ci.-S.	Cu.-N.	------	◯° a. ∞ ⛈ p.
21	58.28	26.7	31.5	23.6	83.7	NNE	1.1	6.7	Ci.-S. NE	Cu.-N.	.8	≡ ⊤° ◯ ●° ⛈ ∞² ⌒
22	58.35	27	33.8	23.2	82.1	N quad.	1.4	6	Ci.-S.	Cu. NE	15.1	Ω a. d ● ⛈ p.
23	58.19	28	34	23.1	78.2	NNE, E	1.6	4.2	Ci.-S.	Cu.	------	
24	58.26	28.6	34.5	23.5	76.3	NE quad.	1.2	2.8	Ci.-S.	Cu.	------	Ω a.
25	57.88	28	33.9	24.5	76.6	Variable	1.3	6	Ci.-S.	Cu.-N., Cu.	------	Ω a. ⛈ p.
26	57.47	28.1	33.2	24.2	79.3	NNE, ENE	1.1	8.3	Ci.-S.	Cu. E	------	◯° ⛈ a. p.
27	57.91	28	34.7	24.6	79.5	NNE	1	6.2	Ci.-S.	Cu.-N., Cu.	5.4	⌒ a. ⛈ a. p. d p.
28	57.96	27.4	33.3	23.8	81.8	NNE	1.1	8	Ci.-S.	Cu.-N.	------	⍦° ϖ° p. ⛈ d a. p.
29	57.72	27.7	34.5	23.9	81	N quad.	1.3	5.7	Ci.-S.	Cu. ENE	1	Ω ⊕ a. ●° ⛈ p. ⚡
30	57.51	27.7	33.9	24	82.2	NE	1.3	5.5	Ci.-S.	Cu.-N.	2.3	⛈ ●° p.
31	57.72	28	33.9	24.1	82.7	NNE	1.2	7.8	Ci.-S.	Cu. ENE	------	ϖ p. ◯° ⚡ a. p.
Mean	758.03	26.8	30.7	23.9	84.9	------------	1.3	7.5	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	309.1	

SAN ISIDRO.

[ϕ=15° 22′ N; λ=120° 53′ E; barometer above sea, 3.5 meters; gravity correction not applied, −1.71 mm.]

Day.	Pressure (mean).	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	756.99	27	------	25	88.3	SE	0.6	7.8	Ci.-S.	N. SW	1.5	d° a. d² ⊤ p.
2	56.34	27	------	23.6	87.8	SE	.5	7.7	Ci.	Cu., N. SW	22.9	Ω² ≡ a. ●² ⛈ p.
3	56.41	27	------	24.3	86.7	SE, SSW	1	8.5	Ci.-S.	S.-Cu. SW	------	◯² a. ϖ² p.
4	56.74	26.9	------	24.4	87	SSE	1.4	8.3	Ci.-S., A.-Cu.	Variable S	8.9	ϖ° a. d² p.
5	57.29	26.8	------	24.2	88.5	SSW	1.2	8.7	Ci.-S.	Cu. S	1	⊤ d p.
6	57.94	26.5	------	23	87.2	NE, SSE	.8	7.3	A.-Cu.	N. SSE, SW	1	Ω² d² a.
7	57.84	28	------	24	82.7	S quad.	.7	5.2	A.-Cu. W	Cu.-N. SW	1	Ω² a. d² ⛈ p.
8	58.35	28.2	------	24.9	79	SSE	.8	5.5	Ci. NE	S.-Cu.	------	◯² a. p.
9	59.04	27.4	------	23.4	79.2	ESE	.8	5.8	Ci. NE	S.-Cu. SW	------	Ω² ◯² a. ◯° p.
10	59	27.7	------	23.5	79.5	Variable	.6	7	Ci. NE	S.-Cu.	------	◯² a. ⊕² p.
11	58.37	28.4	------	23.5	77.8	SW quad.	.7	6.5	Ci. NE	Cu. W, WSW	------	Ω² a.
12	57.60	28.6	------	24.4	77	E quad.	.8	6.5	Ci. NE	Cu. W	------	
13	58.51	29.2	------	24.8	76.2	Variable	.4	6.2	Ci. NE	Cu.-N. W	1.3	d° ⚡ p.
14	58.98	27.4	------	21.5	83.8	ENE, ESE	.9	5.5	Ci.	Cu. NW	53.1	●² ⛈ p.
15	58.09	25.8	------	22.2	86.7	SE quad.	1.3	6.2	Ci. NE	Cu. W	2	Ω² a. ◯² ● ⛈ p.
16	57.18	26.8	------	23.4	84.3	Variable	.8	6.3	Ci. NE	N. WNW	.5	Ω² a. ●° ⚡ p.
17	57.21	27.5	------	24.1	80.5	Variable	.6	7.2	Ci.	Variable WNW	1	Ω² ≡ d ⛈
18	58.28	27.1	------	23.9	83.3	Variable	.7	6.5	Ci. NE	Variable	1	Ω² a. d ⛈ p.
19	58.85	27	------	23	83.3	SE quad.	.6	7.7	Ci. NE	Variable S	3	⊤ d² ⛈ p.
20	58.20	26.9	------	22.8	82.3	NNW	.7	6.2	Ci. NE	Cu.-N. SW	------	Ω² ≡ a. ⚡ p.
21	58.38	26.5	------	23.6	84.3	N quad.	.8	7	Ci.-S. NE	S.-Cu.	------	⊕² a. d° ⌒° ⛈ p.
22	58.45	27.2	------	23.5	80.9	NNW	.9	4.8	Ci.	Variable	------	
23	58.31	28.4	------	23	74.1	ESE	1	4.3	Ci.	S.-Cu.	------	Ω² ≡ a.
24	58.36	28.4	------	23.2	71.5	SE quad.	1.3	4	Ci.	Cu. ESE	------	Ω² ∞° a. ⊤ ϖ² p.
25	57.86	29.3	------	23.9	69.4	NNE, ESE	.6	4.2	Ci. NE	Cu.-N.	------	Ω² a. ⛈ p.
26	57.58	27.5	------	23.5	77.8	NNE	1.5	7.2	Ci. NE	Variable	5.1	⛈ ● p.
27	58.08	28.1	------	22.5	75.8	NE quad.	1.3	7	Ci., A.-Cu. NE	Variable	19.3	Ω² a. ⛈ ● p.
28	57.88	27.4	------	22.4	81.5	Variable	.7	6.3	Ci.-S. E, NE	Cu.	------	⊤ d° p.
29	57.73	27.4	------	23.5	81.4	NNW	.9	6	Ci. NE	Cu.-N. SE	1.3	Ω² ≡ ◯² ⊤ ⚡ ●°
30	57.67	27.2	------	22.6	80.7	NE	1	5.7	Ci.-S.	Cu.-N. SE	------	Ω² ≡ a. ⚡ ⍦° p.
31	58.03	26.1	------	24.1	86.8	E quad.	.7	8.3	Ci.-S.	N. E, SE	1.3	d a. ⊕² ⍦° p.
Mean	757.92	27.4	------	23.5	81.5	------------	.9	6.5	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	125.2	

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.			Rain, 24 hours beginning 6 a. m.	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	27.4	32	24.5	84.8	Variable	8.1	7.5	A.-Cu.	S.-Cu.	0.8	d^2 [ζ p.
2	56.25	26.5	30.5	25	89.5	NE, N	6.1	10	A.-Cu.	S.-Cu. W, SW	7.4	⊤° a. [ζ d ⊕ p.
3	56.17	27.4	32.6	24.4	84.1	SE	8.1	9.8	A.-Cu.	S.-Cu. SE	3.6	⊤° p° a. d^2 p.
4	56.78	26.2	32.6	23.8	89.8	SE, S	8.8	9	A.-Cu.	S.-Cu. SE	26.1	⊕ a. p^2 [ζ d^2 p.
5	57.16	26.4	32.3	23.4	88.5	Variable	8.1	9.8	A.-Cu.	N. SW	17.2	p ● d^2 p.
6	57.66	26.7	31.5	23.8	89.3	SE	5.9	9	A.-Cu.	S.-Cu. SW	9.2	d ⊕ a. p d p.
7	57.79	28.2	33.3	24.7	81.2	SE, W	8.3	8.7	A.-Cu.	S.-Cu. SW	------	⊤° d a.
8	58.32	28.1	33	24.8	78.5	NW quad.	7.3	6.7	Ci.	S.-Cu. SW	------	⊕ a.
9	59.03	27.9	33.1	24.5	78.8	NW quad.	6.1	6.3	A.-Cu.	S.-Cu. W	------	⊕ a.
10	58.90	28.3	33	24.4	77.3	NW quad.	8.1	7	Ci.-S.	S.-Cu. W	------	
11	58.49	28.6	33.4	24.7	77	NW quad.	7.6	4.7	A.-Cu.	S.-Cu.	------	
12	57.56	28.4	32.8	24.5	77.2	NW quad.	10.3	3.5	Ci.-S., Ci.	Cu.	------	
13	58.53	28.4	33.1	24.5	77.8	NW, NNW	9.8	5.7	Ci.-S., Ci.	S.-Cu.	------	ϟ p.
14	58.78	28.9	32.9	26.5	78.8	NW	12.6	5.5	Ci.	S.-Cu.	------	ϟ° p.
15	58.19	28.1	33	23.5	79.3	SE, NW	10.7	6.8	Ci.	S.-Cu.	------	d ϟ p.
16	57.05	27	32.1	24.2	86.7	N quad.	9.1	7	Ci.	S.-Cu.	22.1	p ϟ ⊤ ⌒ p.
17	57.08	27.4	31.7	24	85.7	NW	8.6	7.2	Ci.-S.	S.-Cu. W	------	ϟ p.
18	58.20	26.7	33.4	22.5	86.8	Variable	7.6	7.5	Ci.	S.-Cu. W	60.9	●^{2} ϟ [ζ p.
19	58.68	26.4	33.6	22.4	88.2	SE, S	8.9	9.3	Ci.-S., Ci.	S.-Cu. S, SE	9.4	⊤ ϟ p ⌒ ● p.
20	58.19	27.2	33.8	23.1	84	Variable	8.2	8.3	A.-Cu., Ci.-S.	N.-cf.	15	p ϟ^2 [ζ p.
21	58.40	27.4	32.1	24.3	85.1	Variable	7.9	6.8	A.-Cu.	S.-Cu.	------	≡ Ω a. ⊤° a. p.
22	58.62	27.8	33.1	24	83.5	SE, NW	9.3	3.8	Ci.	Cu.	.5	⊤ d^2 ϟ^2 p.
23	58.22	28.7	35.4	23.1	79.7	SE, N	8.2	4.2	Ci.	S.-Cu.	------	⊕ p.
24	58.32	29.4	35.5	25.1	77.3	S quad.	8.4	4	Ci.	Fr.-Cu. NE	2.5	[ζ ϟ p ⊕ p.
25	57.78	29	35.4	24.7	80.6	Variable	8.4	4.2	Ci.-S., Ci.	S.-Cu.	3.3	⊤ a. p ⊕ p.
26	57.47	27.9	34.2	22.4	83.8	SE, NNW	9.4	7.3	Ci.-S.	S.-Cu.	33.3	ϟ a. p^2 [ζ^2 ϟ^2 p.
27	58.02	27	35.5	22.4	84.5	SE quad.	8.5	5.8	Ci.	S.-Cu.	1.8	ϟ a. ●° ϟ^2 [ζ p.
28	57.93	28.4	34.8	23.2	81	Variable	7.7	8	A.-Cu.	S.-Cu. S	------	ϟ ⊤ d° p.
29	57.76	27.8	35.2	23.8	85.8	SE	7.5	5.3	Ci.-S.	S.-Cu.	2.6	ϟ [ζ d^2 ∪ p.
30	57.57	28.2	35	23.5	83.3	Variable	8.1	4.2	Ci.-S.	S.-Cu.	1.3	⌒ d^2 [ζ ϟ p.
31	57.72	28.2	35.1	24.4	84.8	SE	6.8	5.7	A.-Cu.	S.-Cu.	.3	ϟ ⊤^{2} [ζ° d p.
Mean	757.86	27.7	33.4	24	83	------------	8.3	6.7	------------	------------		------------
Total	------	------	------	------	------	------------	------	------	------------	------------	217.3	------------

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).	Temperature Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind: Prevailing direction.	Force (mean).	Clouds: Amount (mean).	Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	756.99	26.8	29.5	24.8	93	S quad.	2	8.7	Ci.-S.	Cu.-N. SW	17.8	⌒ ⊤ ●° a. [ζ ● p.
2	56.17	25.8	26.9	24.9	95.2	S quad.	1.3	10	------------	Cu.-N.	5.8	● a. p [ζ p.
3	56.11	26.6	29.5	24.4	92.2	S quad.	2.3	10	A.-Cu.	Cu.-N.	2.3	[ζ a. ●° a. p.
4	56.57	26.2	29	24.5	92.2	SSE	1.5	10	Ci.-S.	Cu.-N. S	19	● a. p.
5	57.05	25.9	28.4	23.8	92.3	SE quad.	2.2	10	A.-Cu.	Cu.-N.	23.1	d a. [ζ° ●^{2} p.
6	57.62	26.3	29.6	24.1	92.2	SE quad.	2	10	------------	Cu.-N. SW	10.6	● [ζ a. p.
7	57.81	27.2	31	24.5	88.3	S quad.	1.8	9.8	Ci.-S.	Cu.-N. SSW, SW	------	
8	58.42	27.3	30.7	24.9	86.5	S quad.	2.3	9.3	Ci.-S.	Cu.-N.	------	◯° a.
9	59.09	27.3	31.5	24	87.8	S quad.	2.3	9.7	Ci.-S.	Cu.-N.	------	≡° Ω° a.
10	58.99	27.8	32.6	24.8	86.7	S quad.	2.2	9	Ci.-S.	Cu.-N. SW	------	
11	58.61	28	32.1	24.8	86.8	S quad.	2	8.2	Ci.-S.	Cu.-N. SW	------	≡° Ω° d a. ◯° p.
12	57.67	27.8	31.8	24.7	86.8	SSE	2.2	6.5	Ci.-S.	Cu.	------	≡° Ω° d a.
13	58.75	27.6	31.5	24.8	87.3	SSE	1.8	8.2	Ci.-S.	Cu.-N.	------	≡° Ω° d a. ϟ p.
14	59.05	27.8	32.4	23.8	85.8	Variable	1.8	6	Ci.	Cu.-N.	------	≡° Ω a. [ζ p.
15	58.33	27.8	31.6	24.5	86.3	SE, NW	1.7	8.2	Ci.-S.	Cu.-N.	------	≡° Ω a. ϟ p.
16	57.19	27.5	31.3	24.7	87	S quad.	2	8.5	Ci.-S.	Cu.-N.	15.2	≡° Ω° d a. ● ⌒ p.
17	57.11	27	29.8	24.9	88.7	S quad.	1.7	9.5	Ci.-S.	Cu.-N.	.5	● a. [ζ p.
18	58.23	27	31.4	23.9	89.4	S, SE	2.2	8.8	Ci.-S.	Cu.-N.	3.3	≡° Ω d a. [ζ ●° p.
19	58.56	27	30.9	23.5	89	S quad.	2	9.3	Ci.-S.	Cu.-N.	1	≡° a ●° ⌒ [ζ p.
20	58.13	27.4	31.1	24.8	89	SE quad.	2.2	9.5	Ci.-S.	Cu.-N.	1.5	≡° ⊤° ◯^{2} [ζ ⌒ ●°
21	58.51	27.4	31.3	25.1	88	Variable	1.5	9.7	A.-Cu.	Cu.-N.	.3	d ⌒ [ζ a. [ζ p.
22	58.73	28	31.9	23.7	87.2	S quad.	2.5	5.2	Ci.-S.	Cu., Cu.-N.	31.2	≡° Ω a. [ζ^2 ●^{2} p.
23	58.30	27.6	32.3	23	85.7	ESE, NNE	1.8	5.8	Ci.-S.	Cu.-N.	------	≡° a. ⊕° p.
24	58.37	29.3	33.4	25.7	83.5	Variable	1.7	6.2	Ci.-S.	Cu.-N.	------	[ζ ●° ∪° p.
25	57.85	28.8	32.9	25.9	84.9	SE quad.	1.5	5.5	Ci.	Cu., Cu.-N.	------	≡° Ω a. [ζ ∪° p.
26	57.45	28.2	32.6	25.8	85.4	SE quad.	1.8	8.8	Ci.-S.	Cu.-N.	.8	≡° ◯^{2} a. d [ζ°^{2} ↙° p.
27	57.96	27.8	32.7	24.1	84.9	S quad.	2.3	7.7	Ci.-S.	Cu.-N.	5.4	≡° Ω° a. [ζ ↙ ● p.
28	57.94	27.5	31.3	23.4	84.5	SE quad.	1.5	9.8	A.-Cu.	Cu.-N.	------	● a. ∪° p.
29	57.72	28.6	33.1	25	81.3	SE quad.	1.8	6	Ci.-S.	Cu., Cu.-N.	------	≡° a. [ζ d p.
30	57.59	28.6	33.2	25	82.5	SE quad.	1.8	4.7	Ci.-S.	Cu., Cu.-N.	------	≡° Ω a. [ζ p.
31	57.58	28.9	33.6	25.2	80.6	SE quad.	1.3	9	Ci.-S.	Cu.-N.	------	≡° Ω° a. [ζ d p.
Mean	757.89	27.5	31.3	24.5	87.5	------------	1.9	8.3	------------	------------	------	------------
Total	------	------	------	------	------	------------	------	------	------------	------------	137.8	------------

METEOROLOGICAL DATA, ETC.—Continued.

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1512.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).[1]	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	635.52	------	22.6	15.3	------	W	------	8	Ci.	Variable	24.1	Ω ● a. ≡ a. p. d² p.
2	34.90	------	19.7	16	------	W	22.3	10	Ci.-S.	S.-Cu.	22.3	≡² a. p. d² a. ● p.
3	34.78	------	22.4	15.6	------	W	15.2	10	A.-S.	Fr.-N. SW	11.7	≡² ● p.
4	35	17.3	22	15.2	98.8	W	15.2	9.2	Ci.-S., Ci.	Cu., N.-cf.	18	Ω ≡° a. ● ≡² p.
5	35.29	17.3	20.3	14.8	99.2	W	------	9.8	Ci.-Cu.	Cu.	57.6	Ω a. ≡ ● a. p.
6	35.69	17.1	19.3	15.6	100	W	24	10	------	------	22.4	≡² ● a. p. Ω² a.
7	36.17	17.3	20.7	16.5	100	W quad.	17.8	10	------	------	2	≡² a. p. d p.
8	36.56	17.4	20.5	15.8	92.7	W	17.6	9.8	Ci.-S.	S.-cf. WSW	------	≡² a. ≡° p.
9	36.95	16.7	20	14.5	96.8	W	22	10	Ci.-S.	Cu.	------	Ω ≡² a. d ≡ p.
10	37.09	17.4	21.4	15.6	96.5	W	19.2	9.8	A.-Cu.	S.-Cu. W	1.5	≡² a. ●° p.
11	36.96	18	22.9	14.5	92.3	W	15.3	9.5	Ci.-Cu. NW	S.-Cu. W	.5	≡² a. p. ● p.
12	36.13	18.1	22.9	15	93	W	12.9	6.2	Ci. E	S.-Cu. WNW	------	Ω² a. ≡ p.
13	36.84	18.9	23	16	95.5	E, WSW	8.6	9	Ci.	S.-Cu. SW	------	≡² Ω² a. ≡ ⊤ p.
14	37.28	18.5	23.7	16.3	92	Variable	11.2	6.5	Ci.	Cu.	8.4	Ω² a. ● Ω ⊤ p.
15	36.57	18.5	22.6	16.4	87.7	NW	16.7	8.2	Ci.	Cu.	.8	≡ d p.
16	35.52	17.2	23	15.4	97	W	15.9	9	Ci.-S., Ci.	S.-Cu. NW	8.1	● ≡ p.
17	35.37	17.8	21.5	15.7	95.8	W	15.1	10	------	Fr.-N.	4.3	≡² d a. ≡ ●° p.
18	36.30	17.3	20.9	15.5	97.5	Variable	12.3	8.2	Ci.-S., Ci.	N.	22.6	≡° a. ≡² ● ⌈ζ p.
19	36.69	18	22.7	15	90.3	Variable	13.1	8.2	Ci.	Cu. SE	24.6	≡ ⊤° ● p.
20	36.32	17.8	22	15.7	88.5	E	10.8	8.8	Ci.	S.-Cu. SE	8.9	○ a. ● ⊤ ⌒ p.
21	36.54	17.6	21.8	15.5	89.5	Variable	11.8	8	Variable	Fr.-N.	4.1	⊤ a. ≡² ●° p.
22	36.84	18.7	22.5	15.9	88.8	WSW	10.2	6.8	Ci.	Variable	19.3	Ω a. ≡² ⌈ζ ● p.
23	36.98	19.2	24.2	15.2	90.7	WSW	11.3	6.8	Ci.	N.-cf. E	------	Ω ≡² ⌒ ⊤ p.
24	36.93	18.8	23.7	16.2	92.7	Variable	12.3	7.5	Ci., A.-Cu.	Fr.-N. ENE	1.8	Ω² a. ≡² ⊤ ● p.
25	36.55	18.3	23.5	16	95.3	Variable	12.9	6.5	Ci.	N.	2	Ω² a. ⊤ ● ⌒ p.
26	36.17	18.6	23.4	16	89.8	E	12.5	8.5	Ci.-S., Ci.	Cu. S by E	3.3	Ω² a. ≡² ⌈ζ ⌒ p.
27	36.56	18.7	24	15.5	88.5	E	12.2	9.2	A.-Cu.	Variable	43.7	Ω a. ⌈ζ ● ⌒ ≡ p.
28	36.47	18.6	23	16	84	NE, WSW	10.2	7.5	A.-Cu. SW by S	Cu. ESE	------	⌈ζ d p.
29	36.32	18	23.7	16	93	NE	11.1	6	Ci., A.-S.	S.-cf. NW	10.4	Ω a. ≡² ⊤ ● p.
30	36.29	18.5	23	15.7	90.8	Variable	11.6	6.2	Ci.	N.-cf. ENE	16.3	Ω a. ≡ ⌈ζ° ● p.
31	36.31	18.1	22.7	16.1	96.7	W	10.4	8.5	Ci.-S., A.-Cu.	Fr.-N. NNE	28.2	Ω ⊤° a. ≡ ● ⌈ζ p.
Mean	636.25	18	22.2	15.6	93.3	------	14	8.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	366.9	

VIGAN.

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

Day.	Pressure (mean).[1]	Temperature. Mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	per ct.		0-12.	0-10.			mm.	
1	756.92	26.3	29.6	23.7	87.2	S quad.	1.2	5.5	Ci.-S.	Cu.-N.	22.6	≡° a. ● a. p.
2	56.12	25.1	27	23	93.3	SE quad.	1	9.8	Ci.-S.	N. SSW	83.6	● a. p. ⌈ζ ϖ p.
3	56	25.6	29.5	23	89.5	SE quad.	1.3	9	Ci.-S.	S.-Cu.	25.1	⌈ζ ● p.
4	56.58	26	30.6	23.7	86.5	Variable	1.2	5.7	Ci., Ci.-S.	S.-Cu., N.	4.8	● p.
5	57	26.3	30.1	23	81.3	SE quad.	1.2	5.2	Ci., Ci.-S.	Cu. SSW	51.6	ϖ ⌒ a. ● ⌈ζ p.
6	57.52	26.4	30	23.2	85.7	S quad.	1.2	8	Ci.-S.	Cu. SSW	19.3	ϖ ≡° a. ● a. p.
7	57.82	27.3	29.9	24.4	82.5	S quad.	1.5	8.5	Ci.-S.	S.-Cu.	2.5	● a. d p.
8	58.16	27.9	30.6	24.8	82.2	S quad.	1.7	4.2	Ci.-S.	Cu. SSW	------	ϖ ● ≡° a.
9	58.79	27.9	30.8	25.2	80.5	S	1.7	5.2	Ci.-S.	Cu.	------	⋓ ≡° a. d° p.
10	58.88	28.2	31	26	78.4	S quad.	1.8	5.8	A.-Cu.	Cu.-N. SSW	------	≡° a.
11	58.49	28.1	31.1	26.1	78.1	S	1.3	4.7	A.-Cu., Ci.-S.	Cu.	2.3	≡° a.
12	57.80	28	31.4	25	81.2	S quad.	1.5	2.7	Ci., Ci.-S.	Cu. S by W	------	● a.
13	58.84	28.3	31.6	25	79.9	S quad.	.8	3.5	Ci.-S.	Cu. SSW, SW	------	Ω d° a. ↯° Ω p.
14	59.29	28.1	32.5	24.8	79.2	Variable	1	1.8	Ci.-S.	Cu.	------	Ω a. ↯ d p.
15	58.27	27.6	31.9	24.6	79.2	SW quad.	.8	.2	Ci., Ci.-S.	Cu.	------	↯° p.
16	57.03	27.6	31.6	24.4	77.1	S	1	.8	Ci.	Cu. SSW	8.7	
17	57.26	27.6	31.1	24.9	81.9	SSW	1.2	6	Ci.-S.	Cu.-N. SW	------	● ⌒ a. d ↯° p.
18	58.23	27.2	31.5	24.2	81.5	SW quad.	.7	3.3	Ci., Ci.-S.	Cu.-N.	.5	d² p.
19	58.72	27.3	31.2	24.4	79.7	SE quad.	1	3.3	Ci.-S.	Cu. SW	1.8	●° ↯° p.
20	58.10	27.4	31.5	24.4	78.5	Variable	.8	5.3	Ci.-S.	Cu.-N.	------	↯° p.
21	58.61	28	32	24.5	78.2	Variable	1	3.8	Ci.-S.	Cu.	------	Ω a.
22	58.69	28	33	23.8	76.2	NW quad.	1.3	3	Ci.-S.	Cu.	29.7	⌈ζ° ● p.
23	58.56	28.1	32.2	23.1	80.1	Variable	1	2	Ci., Ci.-S.	Cu.	------	
24	58.64	27.4	32.5	24.5	76.8	SE quad.	1	1.8	Ci.	Cu.	3	⌈ζ ● p.
25	57.96	27.7	32.5	23.9	74.3	SE quad.	1	1.7	Ci.-S.	Cu.	------	⌈ζ° ⌒ ↯° p.
26	57.68	28.7	33.4	22.6	71.3	Variable	1.3	2.7	Ci., Ci.-S.	Cu.	35.3	● ⌈ζ p.
27	58.03	28.3	32.7	23	77.7	SE quad.	1	2.3	Ci.-S.	Cu.	2.3	⌈ζ° d ϖ p.
28	58.15	27.1	32.9	21.7	80.5	NE quad.	.8	4.3	A.-Cu., Ci.-S.	Cu.	33	⌈ζ ● ⋓ p.
29	57.81	27.8	33.3	23	75.3	Variable	.8	2	Ci.-S.	Cu.	------	⌈ζ° ϖ p.
30	57.57	28.5	33.4	24.5	78.7	E quad.	1.2	2.5	Ci.-S., A.-Cu.	Cu.	------	Ω a. ⌈ζ ●° ⋓ ↯° p.
31	57.80	28.8	33	25.4	78.2	SE quad.	1	2.5	Ci.-S.	Cu.	------	⌈ζ° p.
Mean	757.91	27.5	31.5	24.1	80.3	------	1.1	4.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	326.1	

[1] Not reduced to sea level.

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	755.86	28.3	35.3	24.3	81.7	NW	0.5	5.2	Ci.	Cu. W, SE	------	Ω ≡ a. ⌈ʑ p.
2	55.27	27.6	34.6	23.5	80.3	SW	.5	8.5	Ci.	Variable	5.8	Ω² ⋖ a. ⌈ʑ ● p.
3	55.20	27.6	35	23.4	84.8	Variable	.5	8.3	Ci.-S.	Cu. SE	9.7	● ⏝ p.
4	55.74	27.4	35.2	23.5	80.7	Variable	.5	8.5	Variable	Cu.-N., Cu. S	.8	⌈ʑ ● p.
5	56.03	27.3	35.1	22.8	82	NE, SE	.3	6	Ci.	Cu.-N.	5.1	⋖ a. ● p.
6	56.45	27.4	35.5	23.5	80.5	S	.7	8.2	Ci.-Cu. W	Cu. NW	2.3	● a. p. ⌈ʑ p.
7	56.58	28.7	34.5	23.5	81.5	SW, N	.3	7.2	Ci.-S.	Cu.	------	≡ ○² a. ⌈ʑ p.
8	56.58	29.3	35	24.2	80.8	SE, NE	.7	5.8	Ci.	Cu. W	------	Ω ○° a. ⋖ p.
9	56.89	29.3	35.7	23.7	73.8	S, SW	.3	5.7	Ci.-S.	Variable W	------	Ω a.
10	57.03	28.2	33	24	80.3	SW, N	.3	7.7	Ci.-S., A.-S.	S.-Cu. SW	------	Ω a.
11	56.60	29.8	36	23.9	74.2	Variable	.8	6.2	Ci., Ci.-S.	Cu. S	------	Ω ○² a.
12	56.19	29.6	36.6	24	------	NW	.5	3.3	Ci. ESE	Fr.-Cu. SW	------	Ω² a. ⋖ p.
13	57.72	29.3	36	24.3	------	NW	.7	6.3	Ci.	Cu. S	------	Ω a. ○² ⋖ p.
14	58.42	28.9	35.6	24.5	------	NW	.5	6.8	------	Cu. S	1.3	⋖ Ω a. ● ⌒ ⌈ʑ p.
15	57.29	29	35.7	24	------	NW	.3	5.3	Ci.	Cu. S	------	Ω ○° a. ⋖ p.
16	55.70	29.7	36	24.5	79.8	NE	.5	5	Ci.	Fr.-Cu. S	------	Ω a. ⋖ p.
17	55.84	29.9	36.6	24.2	77	NE	.7	5.7	Ci.	Variable S, NW	2.3	⋖ Ω² a. ● ⌈ʑ p.
18	57.79	27.8	35.7	24.4	82.8	SE	1	6.7	Ci., Ci.-S.	Cu.-N. SE	------	⌈ʑ p.
19	58.62	27.3	34.7	22.9	83	SE	1.2	6.3	Ci.	Cu.-N. SE	4.6	Ω a. ● ⌈ʑ p.
20	58.06	27.1	34.5	23	84	SE, NW	.8	7.7	Ci.	Cu. SE	------	d ⌒² a. ⌈ʑ p.
21	58.62	27.6	34.5	23.7	82.8	Variable	.8	7.2	Ci., Ci.-S.	Cu.-N. N	------	Ω ⌒² a. ●° ⌈ʑ p.
22	58.67	28.4	35.4	23.1	77.7	Variable	1	6	Ci.	Cu., Fr.-Cu. S	------	Ω² a. ⌈ʑ p.
23	58.32	28.9	36.4	23.7	80.2	S, NW	.3	4.2	------	Cu.-N. SE	------	Ω a. ⌈ʑ p.
24	58.35	30	37.2	25.1	74.3	SW, NW	.8	6	Ci.-S.	Cu. SW	------	Ω a. ⌈ʑ ⏝ p.
25	58.08	28.1	36.4	23	80.8	Variable	.5	4.2	Ci.	Cu. S, E	8.6	Ω² a. ⁄ ● ⌈ʑ p.
26	57.59	28	35.8	24	85	Variable	.5	5.3	Ci., Ci.-S.	Cu. S	------	d a. ⌈ʑ p.
27	57.97	28.8	36.8	23.5	77	Variable	.8	7.2	Ci.-S., Ci.	Cu. SW	------	Ω² a. ⌈ʑ ⌒ p.
28	58.43	27.5	36	22.8	80.2	SE	.8	7	Ci.-Cu.	Cu.-N. NW	------	Ω a. ⌈ʑ p.
29	57.98	28	35.8	22.5	79.2	NW	.3	3.8	Ci.	Cu. ESE	------	Ω a.
30	57.96	26.9	34	22.5	87.5	SE, NW	.3	4.2	Ci., Ci.-S.	Variable S	14.5	Ω² a. ● ⌈ʑ p.
31	57.94	28.8	36.3	22.9	78.5	SW, NE	.3	4	Ci.-S.	Cu.	------	≡° a. ⋖ p.
Mean	757.22	28.4	35.5	23.6	80.4	------	.6	6.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	55	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	756.04	27.5	31.9	23.6	83.2	Variable	4.8	2.3	Ci. E	S.-Cu.	------	⌈ʑ p.
2	55.10	27.4	32.4	24.4	82.5	S	10.9	5.8	Ci.-S. E	S.-Cu. W	3.3	● ⋖ ⌈ʑ p.
3	55.54	25.7	32.5	24	89.8	SE quad.	8.4	8.5	Ci. E	S.-Cu., N.	34.8	●² ⌈ʑ p.
4	56.02	26.2	32	23.4	87	SE quad.	11.3	7.8	A.-Cu. W	S.-Cu.	26.9	⋖ ⌈ʑ ● p.
5	56.12	26.6	33.5	23.5	86	SE, S	11.7	6.7	Ci. E	S.-Cu.	.3	⋖ ⌒●° p.
6	56.42	27.4	31.8	24	85.7	SSE	9.2	9.2	Ci.-S. SW	Cu.-N. W	------	⊕ ⌈ʑ ⋖ p.
7	56.57	27.8	33.4	24.2	82.9	S, N	11.3	6	A.-Cu. W	Cu.-N. W	.8	●° ⊤° ⋖ p.
8	56.64	28.4	33.8	24.5	75.5	SW, S	10.6	4.3	Ci. NE	Variable	------	⋖ p.
9	56.95	28.2	32.2	24.5	68.7	SW, S	16.1	7.3	Ci. N	S.-Cu. NW	------	
10	56.96	28.2	33	25.5	69.3	SW, S	15.5	8.5	A.-Cu. NW	S.-Cu. NW	------	○ p.
11	56.73	28.8	34	25.5	72.7	N, S	12.6	2.8	A.-Cu. W	S.-Cu.	------	
12	56.56	28.1	33.4	24.4	77	Variable	8.6	.8	Ci. E	Cu.	------	
13	58.25	28.4	33	24.6	79.2	S, N	6.2	5.3	Ci. E	Cu.	------	○ ⋖ p.
14	58.74	28.1	32.6	25.6	82	Variable	8.7	3.3	Ci. E	Cu.-N. W	------	○ ⋖ p.
15	57.54	27.8	32.6	24.2	82.7	Variable	12.7	1.5	Ci.	Cu. S	------	Ω a. ⋖ p.
16	56.04	28	33.5	23.6	76.5	S quad.	7.5	3	Ci. E	Cu.	------	Ω a. ⋖ p.
17	56.33	28.3	34	24	75.2	SW, NE	9.1	3.4	Ci. E	Cu., S.-Cu.	------	Ω a. ⋖ p.
18	58.01	28.1	34	22.5	79.3	SW, S	9.8	2.5	Ci. E	Cu. S	31	⌈ʑ ● ⋖ p.
19	58.76	26.8	32.1	23	80.7	N, S	12.7	5.2	Ci. NE	Cu.-N.	15.2	⌈ʑ ● p.
20	58.30	26.6	32.2	23	82.6	S	10.9	6.8	Ci.-S. SE	Cu.-N.	------	⋖ ⌈ʑ° p.
21	58.90	26.8	32	23.5	81.8	Variable	8	4.7	Ci.-S. E	Cu.-N.	2.5	○ ⊤° ⋖ ● p.
22	58.95	27.1	32.8	23.5	81.3	S, NE	11.7	1.3	Ci.-S. SE	S.-Cu.	------	⋖ p.
23	58.67	27.9	33.6	23.8	82.3	SW, NE	10	.7	Ci.-S.	Cu. S	------	
24	58.75	28.6	34	24.6	78.8	SW, NE	10.1	.7	Ci.-S.	Cu. S	------	
25	58.56	28	34.5	24.5	81.5	S, ENE	7.4	2.3	Ci.-S.	Cu.-N.	------	⊤° a. ⋖ p.
26	57.97	28.3	33.5	24.5	80.8	S, NE	9.2	.5	Ci.	Cu.-N.	------	⋖ a.
27	58.10	28.6	34.2	24.6	79.8	NE	10.2	.7	Ci.-S.	S.-Cu.	------	⋖ a.
28	58.49	27	33.6	22.6	80.2	S quad.	14	.8	Ci.-S.	S.-Cu.	.3	⋖ ⌈ʑ° ●° p.
29	58.42	27.9	33.5	23.4	78	S, ENE	9.7	.3	Ci.-S.	Cu.-N.	------	⌈ʑ° p.
30	58.29	27.6	32.4	24.6	84.7	S, NE	5.5	2	Ci.-S. E	Cu.-N. E	------	⋖ ⌈ʑ a. p.
31	58.41	28	33.5	24	80.8	Variable	10.1	.5	Ci.	Cu. E	------	Ω ≡° a.
Mean	757.46	27.7	33.1	24.1	80.3	------	10.1	3.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	115.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.2	23.7	92	69	9	7	------	Ω a. ↙° p.
2	31.2	22.1	95	88	6	10	3.8	Ω^2 ●°a. ↙° ●°p.
3	32.1	22.7	92	69	9	7	------	Ω^2 a. ↙ d p.
4	32.6	21.7	92	70	6	5	------	Ω a.
5	32.4	22.8	96	62	7	6	------	Ω a. ↙° p.
6	33.2	23.6	92	71	8	9	------	Ω a. d < p.
7	33.6	22.8	93	75	6	8	------	Ω a. ☈ p.
8	31.1	22.3	96	76	8	8	------	Ω a. ⌒ p.
9	32.2	21.3	93	72	7	9	2.5	Ω a. ●° p.
10	30.4	22.6	91	78	6	7	12.7	Ω^2 a. d ● p.
11	31.3	21.2	94	82	8	9	6.9	Ω a. ● p.
12	32.1	21	95	71	7	7	------	Ω a.
13	31.9	21.6	93	82	9	7	16	Ω a. ● ⌒ < p.
14	31.8	22.9	96	78	9	9	3	Ω^2 a. d d° p.
15	31.3	21.7	92	83	10	8	------	● ↙° d a. d° p.
16	31.5	21.6	92	70	7	8	------	Ω a. d ↙° < p.
17	31	22	94	72	9	9	7.6	Ω a. ● p.
18	30.4	23.3	92	93	9	10	40.6	● a. p. ●^{2} p.
19	32.2	20.9	97	75	9	9	------	Ω^2 ≡^{2} a.
20	32	20.7	92	68	9	8	------	Ω a.
21	28.4	21.5	97	81	8	8	4.3	Ω a. ● a. p.
22	30.3	21.7	95	80	9	8	16.5	Ω a. ● a. p.
23	32	21.1	97	75	7	9	5.3	Ω d a. d ● p.
24	30.4	21.8	97	91	7	10	15.7	Ω ≡ d a. ● p.
25	30.1	21.6	92	82	9	8	36.3	Ω ≡ ●^{2} ⊤ a.
26	32.1	20.7	94	88	9	8	14	Ω a. ● ⊤ d p.
27	30.3	21.1	96	85	7	10	4.1	Ω^2 ● ⊤ a.
28	28.3	21.5	97	88	7	10	13	Ω ● ⊤ a.
29	31.4	21.8	97	66	9	9	2.5	Ω^2 ● a.
30	30	21.2	97	84	9	8	------	Ω a.
31	30.8	21.4	94	76	8	8	------	Ω d° a.
Mean	31.3	21.9	94.3	77.4	8	8.3	------	
Total	------	------	------	------	------	------	204.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.7	22.2	96	57	10	6	------	Ω a. ↙ a. p.
2	30.5	22	96	94	5	10	34	Ω a. ↙ ● d ☈
3	29.8	22.2	97	74	10	4	.8	d a. ↙ p.
4	29.8	22	97	68	5	3	------	Ω a.
5	32.8	22	95	65	3	5	.3	Ω ≡° a. p° p.
6	30.5	21.6	95	97	6	10	11.4	Ω ≡ ↙ a. ↙ ● p.
7	32.3	22.2	97	73	10	10	16.8	Ω ↙° a. ⊤ ↙° ● ⌒
8	29.8	22.2	98	92	4	10	6.4	Ω a. ●° < p.
9	30.1	21.5	97	99	5	10	27.4	Ω ≡° p a. ● p.
10	30.4	22.1	96	92	10	10	29.2	● a. p° p.
11	29.9	21.5	98	71	9	9	4.3	Ω p a.
12	30.3	21.2	96	73	3	10	------	Ω ≡° ↙° a. p° p.
13	29.8	22	94	76	9	10	14.5	Ω ⌒ p a. ● p° p.
14	29.8	22.3	96	90	10	10	11.9	d a. p ● ⊤ p.
15	29.9	21.5	100	84	10	10	2.8	≡° d a. p p° p.
16	29.8	22.5	97	77	10	9	.5	Ω a. d p.
17	29.3	22.5	97	77	10	10	7.1	Ω ↙° ● a. ↙ p.
18	29.8	22	96	83	10	10	6.1	Ω d a. p a. p.
19	30.8	22.5	98	71	10	9	------	Ω a.
20	31.3	22.2	96	88	4	10	------	Ω ≡° a. p° p.
21	29.8	22.5	98	85	9	10	11.9	Ω a. d ↙ ☈ ●
22	31.5	22	97	70	10	8	------	Ω a.
23	31.3	21.5	98	71	2	4	------	Ω a.
24	29 7	22.5	96	96	10	5	21.3	Ω ⊤ p° a. ↙ ● p.
25	29.5	22.8	98	93	10	10	18.8	Ω ≡° d a. ● d p.
26	30.1	22	98	87	3	10	19.8	Ω p° a ● ⊕ p.
27	29.1	22	96	96	10	10	15.7	Ω p ☈ a. ● p.
28	29.8	22	98	78	10	10	8.6	Ω a. ☈ ↙° ● p.
29	29.8	21.2	98	78	3	10	------	Ω a.
30	30.5	22.2	96	78	10	5	10.2	Ω a. ↙ ● ☈ p.
31	31.3	21.2	97	80	10	10	3.3	Ω a. ↙ ● < p.
Mean	30.3	22	96.8	81.1	7.7	8.6	------	
Total	------	------	------	------	------	------	283.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	24.2	------	74	4	5	------	Ω° ≡ a.
2	------	21.7	------	78	10	8	1	≡ a. d ☈ p.
3	------	23.4	------	62	10	10	1.8	≡ a. d° ○° ●° p.
4	------	22.9	------	80	4	7	------	≡ a.
5	29.9	22.7	84	73	5	5	------	Ω° ≡ a.
6	30.6	23.4	88	69	4	6	------	Ω ≡ a.
7	31.3	24.4	86	65	10	7	.5	≡ a. d° ☈ d p.
8	30.2	23.9	91	77	9	8	.8	≡ a. d° p.
9	30.9	23.6	82	91	5	9	8.9	Ω ≡° a. p < p.
10	29.7	22.8	97	70	9	6	------	p ≡ a. d° p.
11	29.9	22.9	91	76	8	8	.5	Ω ≡° ⌒ ⊤ a. d p.
12	29.7	23.1	86	72	4	9	------	Ω ≡° a.
13	29.7	23.5	91	78	9	8	.3	≡ d° a. ○ < d
14	30	23.5	91	72	9	8	------	≡ a. ○ ⊤ d° p.
15	28.8	22.7	88	79	3	5	1.8	Ω ≡° a. < ●° p.
16	29.2	23	91	77	10	6	.5	≡ a. ☈ d p.
17	28.9	24.3	80	75	10	9	7.9	○ d° < p.
18	28.3	22.3	95	98	10	10	39.1	p ≡ a. p p.
19	29.7	22	90	62	10	8	------	p ≡ a.
20	30.5	22.8	83	71	9	6	1.5	≡ d° a. < d p.
21	30	23.7	96	72	9	5	8.6	≡ ⌒ a. ☈ p.
22	30.8	23	96	75	8	4	------	p ≡ a. < p.
23	30.3	23.2	84	73	9	3	------	d° ≡ a. < p.
24	29.1	23.6	88	77	10	9	11.2	☈ d° a. < p.
25	29	23	91	78	10	8	------	p ≡ ○ a. ⊍ p.
26	30.2	24	87	71	8	4	.3	≡ d° ○° a. < ⊍
27	29.6	23.9	92	83	9	8	------	d ≡ d° ○ ⊕ ☈ ⊍
28	29.2	23.7	91	79	9	9	9.4	≡ d° ○ ☈ ⊍ ●
29	29.7	21.6	89	76	4	6	.5	≡ a. ○ ⊍ < d p.
30	29.8	23.5	86	75	4	6	38.1	≡ a. ⊍ ☈ ↙ ● p.
31	30	21.6	95	77	10	8	1	p ≡ a. ☈ d° p.
Mean	29.8	23.2	89.2	75.3	7.8	7	------	
Total	------	------	------	------	------	------	133.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.1	20.9	100	66	5	6	------	☈ p.
2	30.8	22.1	99	70	7	8	25.9	● p.
3	31	22.3	97	75	6	6	------	
4	31.5	22.4	97	67	5	7	------	
5	31.8	22.6	96	71	5	5	------	≡ a.
6	31.6	22.1	96	68	5	5	21.8	● p.
7	3[illegible].1	22.9	95	68	5	6	------	
8	32.2	22.4	97	69	7	6	38.9	● ☈ p.
9	32.3	22.8	92	66	7	6	------	
10	32.6	22.3	97	68	5	6	------	
11	32.3	21.4	98	65	5	6	------	
12	32.6	21.2	95	69	5	5	21.6	
13	30.6	22.2	98	76	5	9	------	● a.
14	31.3	22.8	95	69	6	8	------	
15	31.3	21	99	71	5	6	21.6	
16	32	22.2	97	70	5	6	24.4	● a. p.
17	31.2	21	97	66	6	7	14.2	● p.
18	30.7	22.5	97	81	5	6	------	
19	30.9	21.4	99	81	7	9	------	☈ p.
20	33.4	21.9	96	73	6	5	------	
21	32.7	22.1	98	94	8	8	12.7	● p.
22	32.1	22	96	74	5	6	------	⊤ p.
23	33.1	20.5	99	72	5	6	------	
24	33.7	22	99	65	6	5	17	● p.
25	30.5	22.5	96	93	5	8	94	● p.
26	32.2	20.8	100	65	6	5	------	
27	32.2	22.2	99	66	6	5	------	
28	33.1	22.3	98	91	5	5	------	
29	32.4	22.2	99	72	5	6	------	
30	32.3	21.6	100	80	6	9	------	
31	32.2	21.1	99	80	8	6	------	
Mean	32	21.9	97.4	72.9	5.7	6.4	------	
Total	------	------	------	------	------	------	292.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31	21.8	90	63	10	5	------	↙° p.
2	30.4	------	93	70	8	8	33	●° a. ⊤ ↙ ●² p.
3	30.4	------	93	65	6	7	------	≡ ↙° a.
4	30.6	------	93	67	4	3	------	≡ d a. ↙ p.
5	31	21.6	91	64	2	3	2	↙° a. ↙ ●° p.
6	32.1	21.6	93	66	1	8	9.7	Ω ≡ ↙° a. ⊤ ● p.
7	31.4	21.6	93	59	5	2	------	Ω a. ↙° ⊤ d p.
8	32	21.6	95	61	1	4	------	Ω ↙° a. ↙° ⊤ d
9	32.4	22	93	62	3	5	------	≡ a. ↙° ☈ d p.
10	31	22.1	91	72	4	5	1.3	Ω ≡° a. ↯ ↙ ● p.
11	30.4	20	93	67	2	4	3.8	≡ ↙° a. ↙° ● ↯
12	31.2	21.2	93	61	4	2	------	≡ a. ↙° d ↯ p
13	31.6	21.6	96	66	2	8	40.6	↙ a. p. ⊤ ●² p.
14	29.1	21.6	91	69	9	8	4.6	●° a. ● ↯ p.
15	30.6	21.4	91	68	4	8	------	≡ ●° a. d ↯ ↙
16	31	21.4	98	65	3	4	2	Ω ≡° a. ↙° ●° ↯ p.
17	30	21.2	93	70	8	9	2.5	d a. ● p.
18	28.6	21.4	96	76	8	9	------	≡² a. ↙° ↯ p.
19	33	21.8	91	65	9	4	3.8	≡ ↙° a. ● p.
20	30.2	21.1	95	68	3	4	3.8	≡° ↙° a. ↙° ● ↯ ⌒
21	32	22.3	93	59	2	4	3.3	≡ ↙° a. ● ↯ p.
22	32.1	21.4	95	61	10	8	------	≡² ↙° a. ●° ↯ ⊍
23	33	21.2	93	58	2	3	14	Ω ↙° a. ☈ ●² p
24	32.4	------	93	62	8	3	3.8	≡ ↙° a. ↙° ● ☈
25	29.2	23.4	92	83	8	10	------	≡ d a. ⊍ ↯ p.
26	32.2	21.6	86	60	3	4	------	Ω ≡° ↙° a. ↙° ☈
27	33	21.4	95	59	3	5	33	Ω ≡ ↙° a. ☈ ●²
28	32.1	20.1	92	58	8	4	50.8	≡² a. ↙° ☈ ●² p.
29	32	19?	95	66	5	6	21.6	≡° a. ☈ ↙ ● p.
30	31.4	21.5	95	61	7	9	13.5	≡ a. ☈ ● ² p.
31	31.4	21.4	93	63	4	6	13.5	≡ a. ● ↯ p.
Mean	31.3	21.4	93	65	5	5.5	------	
Total	------	------	------	------	------	------	260.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.1	22.2	89	56	9	5	16	Ω a. ↙ ●² ↯ °p.
2	32.8	22.3	92	70	9	9	.5	d ↯° p.
3	31.4	22.6	94	68	7	9	.5	Ω ≡ a. ☈ d° p.
4	32.8	22.4	93	65	3	6	.3	Ω² a. d° p.
5	32.7	22.1	91	69	9	9	2.8	Ω² a. ↙ ☈ d p.
6	33	21.7	95	71	6	9	------	≡ a. ↙° ↯° p.
7	32.8	21.9	89	75	9	8	2.3	Ω° a. ↙° d° ●° ☈
8	32.7	21.1	95	67	1	4	------	↙ ☈ p.
9	33.1	21.4	90	66	4	8	8.6	☈ ↙ ● p.
10	33.4	21.9	94	66	6	7	26.2	☈ d° ↙ ● p.
11	32.5	21	94	66	3	6	1.8	⌒ ☈ d° p.
12	32.6	21.2	91	66	1	4	.5	⌒ ☈ d° p p.
13	32.6	21.6	92	69	3	9	------	Ω a. ↙ d° ☈ p.
14	30.8	23.1	91	73	10	9	6.1	Ω a. d° a. p.
15	30.9	20.5	92	67	2	8	1.8	↙° ☈ ●° p.
16	33.2	21.8	92	62	5	9	1.3	↙ ●° ↯° p.
17	31	20.6	92	62	9	9	------	↯° p.
18	33.2	22.2	91	72	9	10	6.6	Ω a. ● ☈ ↙° d
19	31.9	21.2	96	66	7	7	1.3	d° p.
20	32.6	20.7	94	66	1	7	.5	d° p.
21	32.8	20.9	93	69	4	9	------	☈° p.
22	32.8	21.6	92	65	4	9	------	Ω a. ⦶ p.
23	32.9	21.4	92	65	1	4	------	Ω² ≡° a. ○ ↯° ⦶°
24	33.9	21.8	93	79	3	9	.1	Ω² ≡° ↙° ☈ d° ⦶°
25	32.9	21:3	93	70	5	10	.6	Ω² ≡ a. ⊕ ☈ d° ⊍°
26	34	21.9	94	63	8	7	------	☈° ⊍° p.
27	35.1	22	91	59	2	5	------	Ω ≡° a. ↯ ⊍² p.
28	35.2	22.4	92	61	5	7	------	Ω° ≡° a. ☈ ⊍ p.
29	35.4	22	91	55	4	6	2	Ω° ≡° ↙ ☈ ● ⊍ ⦶
30	34.6	21.4	94	60	7	6	5.1	●° ☈ p.
31	33 2	22	95	62	8	6	------	☈ ⊍ ↙ p.
Mean	33	21.7	92.5	66.1	5.3	7.4	------	
Total	------	------	------	------	------	------	84.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	------	------	------	------	------	------	------	
2	------	------	------	------	------	------	------	
3	------	------	------	------	------	------	------	
4	------	------	------	------	------	------	------	
5	------	------	------	------	------	------	------	
6	34.9	22.5	93	66	9	9	3	Ω a. ⊤ ● p.
7	35	22.5	90	60	9	4	------	≡ a. ↯ p.
8	35.3	24.8	92	58	5	3	------	Ω a. ↯ p.
9	34.8	22.5	97	57	4	5	2.3	Ω a.
10	34.8	22.8	95	60	6	5	------	● a ↯ p.
11	34.3	24.3	91	72	6	5	------	Ω ⌒ a. ↯ p.
12	34.6	23.2	90	60	6	7	------	Ω a. ↯ p.
13	33.8	23.4	92	70	7	8	4.1	Ω a. ● p.
14	------	------	97	------	10	------	------	
15	------	------	------	------	------	------	------	
16	------	22.3	97	66	7	8	------	Ω a. ↯ p.
17	32.6	22	92	75	8	9	------	Ω ⌒ a.
18	32.4	21.9	92	74	7	10	3.6	↙ ● p.
19	33	22.7	92	70	8	5	------	● a. ↯ p.
20	32.3	22.4	90	66	7	4	------	Ω a. ↯ p.
21	32.2	22.3	91	66	8	5	?	Ω a. ☈ a. p. ● p.
22	33.4	23.4	91	66	8	4	------	
23	34.6	24.5	91	65	9	5	52.6	● a. ⊍ ↯ p.
24	33.3	------	91	------	8	------	3.6	●² a.
25	------	23	90	74	10	10	2.3	● a. ↙ p.
26	------	------	------	------	------	------	------	
27	------	------	------	------	------	------	------	
28	------	24.2	84	70	10	8	2.8	☈ a. ● ↯ p.
29	------	------	------	------	------	------	------	
30	33.6	23	92	67	8	9	2	Ω ● a.
31	32.8	22.6	92	68	10	8	48	● a. ↙ ● ☈ p.
Mean	33.8	23	91.9	66.5	7.7	6.6	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.3	23.5	96	64	6	7	0.3	Ω a. ○ ● ⌒ ☈ p.
2	30.1	23.4	95	68	8	10	3.3	Ω a. ● p.
3	30	22.8	96	66	7	8	.8	Ω a. ⊕ ⊤ ●° p.
4	30.8	22.6	98	64	5	8	------	Ω ⊕ a. ⊤ p.
5	32.5	23.2	92	64	7	7	------	Ω a. ☈ ⌒ d° p.
6	34.1	22.6	92	62	3	8	3.3	Ω a. ☈ ●° p.
7	32.5	23	93	60	8	5	43.2	Ω a. ☈² ● p.
8	31.2	21.6	97	64	1	5	------	Ω a. ⌒ ☈ p.
9	32.3	23.2	91	63	9	7	18.8	Ω a. ⊕ ☈ ●² p.
10	31	22.7	97	62	7	6	9.7	Ω a. ● ↯ p.
11	30.6	22.6	97	71	6	7	.8	Ω a. ↯ ●° p.
12	31	23	91	60	1	5	------	Ω a. ☈ p° p.
13	30.8	23.9	96	68	9	9	3.6	Ω ≡² ○ a. ● p.
14	27.6	22.5	93	77	10	9	------	Ω d° d a.
15	29.6	22.6	95	69	4	4	------	Ω a.
16	30.5	22.3	91	75	4	7	------	Ω a. ⊤ p.
17	30.5	22.5	96	69	9	9	.5	Ω ○ a.
18	29.5	22.5	92	79	10	10	3.3	●° a. p. ⊤ p.
19	29.9	22.7	95	67	10	7	------	Ω a. ⌒ ↯ p° p.
20	32	22.5	93	64	2	7	11.7	Ω a. p° ☈ ● p.
21	31	22.9	92	80	8	9	.1	p p.
22	26.5	22.5	97	94	7	10	2	Ω d° a. ● p.
23	31.1	23	96	75	8	8	2.3	d ⊕ a. ● p.
24	30.6	22.4	95	76	2	9	35.8	Ω a. ○ ●² p.
25	30.9	22	96	90	3	10	5.3	Ω a. ● d p.
26	31.6	22.1	96	65	6	7	------	Ω ○ a. ⌒ ↯ p.
27	32.8	23.3	95	66	1	6	14.7	Ω a. ↙ ● ⊤ p.
28	32.1	33.6	95	72	3	7	9.4	Ω a. ↙ ● ☈ p.
29	32	23.4	95	87	6	9	16	Ω ⌒ a. ● p.
30	31	22.1	97	90	10	9	3.6	Ω a. ☈ ● p.
31	32	23	92	65	6	6	------	Ω a. ↯ ⦶ p.
Mean	30.9	22.8	94.6	70.8	6	7.6	------	
Total	------	------	------	------	------	------	188.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	23	88	88	10	10	------	↯² ⊍ ϖ p.
2	29.6	24	93	88	10	8	12.2	● p.
3	30	23.6	90	88	10	8	------	↯ ⊍ ϖ p.
4	29	24.2	96	86	10	7	------	↯ p.
5	30	24.8	92	83	10	4	------	
6	32	25	86	73	10	6	------	
7	31.9	24.6	95	82	10	3	------	
8	31.8	23.8	94	86	10	10	------	
9	31	24.6	92	89	8	9	13.5	↯ ● p.
10	30	23.2	94	86	10	4	13.7	d ⌈↯² ● p.
11	31	23.5	96	85	10	5	21.3	
12	30	23.3	92	85	7	3	------	● a.
13	30	24.3	92	86	5	10	------	
14	29.8	22	93	90	10	10	58.4	↙ ●² a. d p.
15	28	22.9	96	84	3	4	------	
16	31.6	24.5	95	83	10	8	9.7	↙ a. p. ● p.
17	30.1	23.2	95	83	10	10	12.4	↙ a. p. ⌈↯² ● p.
18	30	24.2	92	83	10	10	49.5	● a. ↙ ●² ⌈↯ p.
19	29.5	23.8	93	81	10	3	------	d a. ↯ a. p.
20	29.5	23.1	97	86	3	5	------	↯² ⊍ p.
21	29.6	23.5	97	86	7	6	------	⊍ ϖ² p.
22	32	24	92	92	10	10	34	↙ ●² a. d ↯ p.
23	30.6	23.6	96	96	4	10	31.5	↙ ●² a. d ⌈↯ p.
24	29.4	23.8	92	84	4	10	------	↙ d ↯² p.
25	31	23.8	92	84	10	10	49.3	d ●² ↙° p.
26	30	21.8	95	85	10	10	------	↯ ϖ² ⊍ p.
27	29.5	22.8	96	85	3	2	------	↯ p.
28	31.3	23.8	96	74	10	7	------	∞² ⊍² ϖ ↯² p.
29	31.6	24.1	96	78	10	8	------	d d° a. ↯² ϖ² ⊍²
30	32.1	23.5	87	81	10	8	16	↙ ●² ⌈↯² p.
31	31.4	22.5	95	81	10	10	13	↙ ●² a. ↯ ⊍ ϖ p.
Mean	30.4	23.6	93.4	84.5	8.5	7.4	------	
Total	------	------	------	------	------	------	334.5	

SAN JOSÉ 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.3	23.5	92	88	10	10	5.1	● d a.
2	30	23.5	97	88	4	10	1.8	● a. p.
3	27.4	23.1	95	81	10	7	13.2	● a.
4	29.9	22.5	87	76	9	10	38.9	d a. ● p.
5	30	22.9	96	77	5	2	2.3	● p.
6	31	23.8	94	78	3	7	.5	● a.
7	31	23	90	74	4	4	------	
8	31.2	23	88	78	3	10	------	
9	31.6	23	87	74	7	8	4.3	d ● p.
10	31.5	22.9	92	75	2	5	.5	d a. p.
11	31.1	23.8	91	71	10	6	------	⌒ a. d p.
12	31.5	23.2	91	72	10	8	------	d° a.
13	31.6	23.6	91	82	3	10	.3	⌈↯ d p.
14	30	24.6	90	95	10	10	14.7	●° a. ↙° ● ⊤° p.
15	31.1	22.6	91	82	10	4	------	d° a.
16	30.6	22.6	96	69	2	4	13.7	● a.
17	30.5	23.4	95	90	10	10	34.5	d a. ● p.
18	28.1	23.5	96	91	10	10	24.1	⊤ a. ● a. p.
19	29.4	23	97	81	10	10	------	p° p.
20	31.5	23	88	77	6	9	2.5	d ⌈↯ ● p.
21	30.4	24.4	92	91	10	10	36.8	⌈↯ ● p.
22	31.4	22.6	96	75	10	4	------	⌈↯ p.
23	31.4	24	87	76	10	10	.8	●° p.
24	32	23.5	95	73	1	10	10.4	⌈↯ d ● ↙° p.
25	30	22.7	94	92	10	10	26.4	d ● a.
26	31.1	22.5	92	72	8	6	------	d° p.
27	31.6	23.1	90	77	0	4	25.1	●² p.
28	31	23.2	96	80	8	7	3.3	⊤ d° ● p.
29	32.9	23.3	92	77	7	10	.5	● ↯° p.
30	32	23.7	91	77	9	10	2.8	⊤ d ● p.
31	31.7	23.3	89	76	10	10	6.4	⌈↯ d p.
Mean	30.8	23.3	92.2	79.5	7.1	7.9	------	
Total	------	------	------	------	------	------	268.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.9	24.1	93	62	10	8	------	●² a. ↯° p.
2	34	24	91	56	10	8	------	↯² p.
3	33.2	23.6	94	59	10	9	7.1	d a. ⌈↯² ●° p.
4	33.1	22.6	92	61	9	5	------	◯° a.
5	34.5	24.3	90	53	8	5	------	↯² p.
6	34.9	23.6	88	62	2	5	------	⌈↯ d p.
7	33.3	22.9	91	62	2	6	------	≡² ◯° a.
8	33.1	24.2	92	63	2	5	------	↯² p.
9	34.9	24.3	91	55	9	8	15	◯² ⌒° ⌈↯ ●² p.
10	33.3	23.7	91	70	5	8	------	⌈↯² p.
11	33.2	23.7	91	68	10	7	------	⊤° d ↯² p.
12	33.9	24.1	91	64	3	6	------	d a. ↯° p.
13	31.1	24	92	74	5	10	------	◯² ↯² p.
14	26.9	24.1	94	86	10	10	7.9	d ● a. p. ⌈↯° p.
15	32.3	21.8	95	61	4	6	------	↯² p.
16	------	------	------	------	------	------	------	
17	------	------	------	------	------	------	------	
18	------	------	------	------	------	------	------	
19	------	------	------	------	------	------	------	
20	------	------	------	------	------	------	------	
21	------	------	------	------	------	------	------	
22	------	------	------	------	------	------	------	
23	------	------	------	------	------	------	------	
24	------	------	------	------	------	------	------	
25	------	------	------	------	------	------	------	
26	------	------	------	------	------	------	------	
27	------	------	------	------	------	------	------	
28	------	------	------	------	------	------	------	
29	------	------	------	------	------	------	------	
30	------	------	------	------	------	------	------	
31	------	------	------	------	------	------	------	
Mean	33	23.7	91.7	63.7	6.6	7.1	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34	24	85	63	8	7	------	◯° a. ⌈↯ p.
2	32.1	23.5	93	66	8	9	23.6	Ω ◯ a. ⌈↯ ● p.
3	32	22.4	97	70	6	8	9.7	Ω ≡ a. ● p.
4	31.4	22.9	97	73	6	5	4.1	Ω ≡ ◯ a. ⌈↯ ●
5	32.3	22.7	96	63	2	6	------	Ω ≡ a.
6	34.1	23	94	60	3	7	------	Ω ≡ a. ⊤ p.
7	32.6	22.4	95	69	4	5	------	Ω a.
8	32.2	23.1	92	69	6	7	3	Ω ● a. ⌈↯ p.
9	32.6	22.8	96	71	5	4	------	Ω ≡ a. ↯ p.
10	32.1	23.2	93	69	2	6	------	Ω a. ⌈↯ p.
11	32.5	23.6	95	69	2	8	------	Ω a. ⌈↯ p.
12	32.3	23.9	94	69	2	3	------	Ω a. ⌈↯ p.
13	32	23.1	95	70	5	6	------	Ω ◯ a. ↯ p.
14	30.4	24.2	95	76	10	10	3.8	≡ ● a.
15	31.7	21.7	94	61	2	4	------	Ω ≡ a.
16	33.2	22.3	93	62	2	5	------	Ω a. ↯ p.
17	33	22	93	67	8	7	10.7?	Ω ◯ a. ● ⌈↯ p.
18	29.3	23.6	95	74	10	10	.5	≡ a. ● p.
19	30.3	22.7	97	73	10	9	1	≡ ⌒ ● ◯° a.
20	31.2	22.4	93	68	3	5	------	Ω ≡ a. ↯ p.
21	31.6	22.7	93	66	4	6	.8	Ω a. ● p.
22	28.6	22.6	95	89	5	10	8.4	Ω ≡ a. ● p.
23	31.2	23.1	95	72	9	8	11.9	● a. p.
24	32.2	22.4	95	72	9	8	16.3	● a. p. ⊍ p.
25	31.1	23.6	95	73	10	8	8.4	≡ ◯ a. ● ↯ p.
26	30.7	22.8	97	72	10	4	------	≡ ◯ a.
27	32.3	23.1	95	68	3	4	------	Ω ≡ a.
28	32.7	23.2	96	66	4	6	1.5	Ω ≡ a. ● p.
29	32.2	23.5	94	67	5	6	9.4	Ω ≡ a.
30	32.1	23.5	96	68	10	5	------	● a.
31	33	23.2	96	67	3	5	.8	Ω ≡ a. ● p.
Mean	31.9	23	94.5	69.1	5.7	6.5	------	
Total	------	------	------	------	------	------	113.9	

METEOROLOGICAL DATA, ETC.—Continued.

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.8	26.2	------	------	9	7	------	
2	31.6	26.5	------	------	10	8	------	
3	30.5	26.2	------	------	7	7	2	
4	32	25.5	------	------	8	7	2	
5	31.2	24.8	------	------	6	8	------	
6	32.4	26.2	------	------	5	7	------	
7	32.6	26	------	------	6	8	------	
8	32	25.4	------	------	7	9	------	
9	32.2	26.4	------	------	7	7	------	
10	31.4	26.6	------	------	8	9	------	
11	31	25.2	------	------	9	8	------	
12	33.8	26.2	------	------	8	8	------	
13	35.6	25.4	------	------	7	8	------	
14	29.8	26.4	------	------	10	9	4.3	
15	31.4	25.6	------	------	8	7	------	
16	31.2	25	------	------	8	7	------	
17	31.2	26	------	------	9	9	------	
18	30	26.2	------	------	9	10	19.3	
19	29.6	25	------	------	9	10	------	
20	32.6	25.2	------	------	7	8	------	
21	34	25	------	------	7	6	------	
22	34.4	26.8	------	------	6	6	------	
23	34.8	26	------	------	8	9	------	
24	35.6	26.8	------	------	6	7	------	
25	35.2	26.5	------	------	8	8	3.3	
26	35.2	24.2	------	------	9	8	------	
27	35.2	26.8	------	------	8	7	------	
28	34.6	26.2	------	------	6	4	------	
29	35.2	25.2	------	------	5	7	------	
30	35.5	27	------	------	7	9	------	
31	35	26.6	------	------	8	6	------	
Mean	32.8	25.9	------	------	7.6	7.7	------	
Total	------	------	------	------	------	------	30.9	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.1	26.4	81	66	8	6	------	↙° a. p. ϟ° ⊕° p.
2	31.2	25.4	85	80	9	7	3	p° a. ● p.
3	31.1	25.3	89	70	5	7	.8	●° a. ↙° a. p.
4	32	25.3	87	66	5	4	------	ϟ° p.
5	31.5	24.9	91	66	7	9	.5	d° ↙° a. ↙° ●° ϟ°
6	32.4	25.4	83	66	2	1	------	↙° a. p.
7	33	26.4	83	66	1	1	------	ϟ° p.
8	32.9	25.4	86	66	9	9	------	
9	32.5	25.1	83	66	7	5	------	↙° a. p. ⛈° p.
10	33.4	26.3	84	65	8	7	------	
11	33.5	26.2	84	65	6	6	------	
12	33.4	26.1	85	65	8	8	------	
13	32.8	23.8	92	66	9	8	.5	Ω p a. ϟ p.
14	31.5	23.9	93	75	6	9	.3	Ω d° a. d° ϟ° p.
15	33.2	24.7	91	63	9	7	------	Ω° a. ϟ p.
16	33.4	25.5	84	60	10	7	------	ϟ p.
17	32.8	25.8	82	63	8	5	------	ϟ p.
18	33.2	24.5	90	68	10	10	------	Ω° a. d° p.
19	30	25.1	84	77	10	10	.3	d° ●° a. ϟ° d° p.
20	29.9	23.7	92	81	4	8	2.3	Ω° a. d° ● ϟ° p.
21	32.8	24.3	93	68	3	2	------	Ω a. ⛈° p.
22	32.7	25.5	84	62	6	2	------	ϟ p.
23	32.5	24.5	87	63	9	4	.6	⌒° a. ⛈ ⊕² d° ●°
24	33	25	92	65	10	4	40.4	d° a. ⛈° ⛈² ●²
25	31.2	23.5	92	71	8	6	.3	p° a. p. ⛈ p.
26	33.2	24.3	92	60	10	7	------	ϟ ⊍² p.
27	33.5	24.1	95	68	4	6	1.5	Ω ϟ° ⊍² ⊕° T° ●
28	33.2	25.2	92	64	4	6	------	ϟ° ⊍° p.
29	33.8	26.6	84	61	7	4	39.4	↙° a. ⛈° ●° ●² p.
30	33.2	23.6	93	69	7	9	------	ϟ° ⊍° p.
31	30.5	23.8	94	75	10	10	24.1	Ω ⛈° ● a. ⊍° ϟ
Mean	32.4	25	88	67.3	7.1	6.3	------	
Total	------	------	------	------	------	------	114	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.6	25.3	88	67	7	7	0.5	
2	32.1	24.4	81	86	6	9	.8	● p.
3	32.6	24.4	95	75	6	9	2.5	
4	31.1	23.8	91	76	8	8	.5	
5	32.3	24.3	91	64	4	6	------	
6	32.6	24.1	93	69	5	5	------	
7	32.8	25.3	93	73	3	7	------	
8	31.7	23.7	91	82	4	6	------	d° p.
9	33.6	24.1	89	65	6	8	------	
10	32.6	23.8	90	66	4	7	------	
11	32.4	24.1	92	73	6	8	------	
12	32	23.6	94	71	5	8	------	
13	31.7	24.4	87	70	5	8	------	
14	30.9	24.6	93	71	9	8	------	
15	31.9	24.4	85	67	3	7	1.5	
16	31.4	23.6	90	70	3	7	43.9	●² a. p.
17	31.2	24.2	90	90	4	7	1.8	●² ●° a.
18	29.3	24.4	94	84	8	9	1.8	●° p.
19	28.6	23.8	98	91	9	9	------	
20	30.2	22.7	97	70	3	4	------	
21	31.1	22.4	93	68	3	5	------	
22	31.4	23.4	93	72	3	5	.8	●° p.
23	30.5	23.8	96	76	7	8	2.5	● p.
24	31	24	99	75	9	8	6.6	● a. p.
25	30.9	23.7	98	72	7	5	3.3	
26	30.5	23.2	98	78	9	5	------	● a.
27	31.5	23.5	97	70	2	3	------	
28	31.5	23.3	97	70	3	3	------	
29	31.6	23.6	92	67	3	6	------	
30	32.2	24.3	97	69	7	8	13	●² p.
31	32.1	23.4	95	75	5	5	.3	
Mean	31.5	23.9	92.8	73.3	5.4	6.7	------	
T0tal	------	------	------	------	------	------	79.8	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	25.8	88	63	6	7	------	
2	32.7	24.2	88	64	8	6	------	
3	32.5	25.2	88	61	4	6	0.8	●° p.
4	32.8	23	88	62	5	6	------	T p.
5	32.3	23.5	88	77	6	8	5.1	● p.
6	33.2	23.1	90	60	6	4	------	
7	34	23.5	90	53	5	4	------	
8	34.1	23.5	91	59	6	6	------	○ p.
9	34.2	23.3	97	61	5	6	------	T p.
10	34.1	23.4	91	60	7	5	------	○ p.
11	34.2	23	91	58	7	5	------	○ p.
12	34.4	23.4	92	55	6	7	------	○ p.
13	31.3	23	96	65	4	6	------	
14	34.7	23.2	97	76	7	10	------	
15	34.6	24.4	88	50	7	6	------	
16	34.6	23.5	90	64	5	7	.5	p. a.
17	34.5	24	87	59	6	10	------	⛈ p.
18	34.4	23.3	91	80	10	10	10.2	T ●² a. ϟ p.
19	34.5	24	93	84	7	10	5.1	● a. d p.
20	34.6	22.4	98	61	3	5	------	ϟ p.
21	34.7	22.2	97	65	4	4	------	ϟ p.
22	34.5	23	90	66	5	4	.5	p p.
23	34.4	24	93	72	6	7	5.1	●° ϟ p.
24	34.6	23.5	87	67	6	7	------	● a. ↙° p.
25	34.5	23.6	93	69	4	7	2.5	● p.
26	34.4	23	96	68	7	7	------	d a. ϟ p.
27	34.7	22.2	93	67	5	4	------	
28	34.6	23	97	68	6	5	5.1	p p.
29	34.2	23.4	96	67	6	5	------	● a. ϟ p.
30	34.4	23.3	97	75	5	7	------	⛈ p.
31	34.7	23	95	66	7	4	------	d a. ϟ p.
Mean	34.1	23.4	92.1	65.2	5.8	6.3	------	
Total	------	------	------	------	------	------	34.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.6	24.8	92	83	10	10	------	
2	29	24.2	93	77	10	10	3.8	
3	30	24	89	77	2	4	------	
4	29.6	24.2	87	72	10	3	------	
5	30.2	24	92	65	2	3	------	
6	30	23.8	95	74	7	6	2.5	
7	31	25.4	84	72	9	7	------	
8	30.8	26.2	84	71	9	8	8.9	
9	30	24.6	86	78	9	9	2	
10	30	24.8	87	78	10	8	3.8	
11	30	25.2	84	78	10	9	9.7	↙° p.
12	30.4	24.2	86	71	6	3	2.5	Γ< a.
13	28.8	24.6	92	84	7	10	43.2	
14	30.4	24	89	67	10	10	2.5	
15	28	23.6	87	88	10	10	40.6	
16	26	23.6	91	92	10	10	11.4	
17	30	24.2	89	74	10	7	2.5	
18	30	23.8	92	76	1	2	7.6	
19	31	25.6	87	67	8	6	4.1	Γ< a. ↙° p.
20	28.8	24.4	87	92	1	10	7.1	
21	31	23.4	93	71	8	7	3.8	
22	31.6	24.2	92	69	10	10	------	
23	31.4	25	87	75	8	8	------	
24	31.6	24.2	87	65	7	3	------	
25	31	24.2	92	82	10	8	4.6	
26	29.8	24	87	85	6	8	50.8	
27	31	24	90	71	8	8	------	
28	29.6	24	87	82	10	10	1.3	
29	31.4	24.4	84	68	2	6	------	
30	29.8	25.8	81	82	6	8	35.6	↙° p.
31	30.4	25.6	87	71	2	7	4.6	
Mean	30.1	24.5	88.4	76	7.4	7.4	------	
Total	------	------	------	------	------	------	252.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	23.8	91	51	10	9	0.8	∪ ϖ p.
2	31.7	23.6	94	77	9	9	------	⊤ d p.
3	31.5	23.1	97	76	8	9	------	⊤ d p.
4	31	22.5	93	73	10	4	2.3	↙ ● p.
5	31.4	23.8	93	67	10	10	------	p p.
6	32.1	23	98	62	7	7	------	
7	31.5	23	95	64	2	2	------	↙° p.
8	31.7	22.6	91	71	9	10	------	
9	32.3	22	91	76	3	8	------	↙ p.
10	32.5	21	94	66	10	7	------	↙° p.
11	31.7	22.4	93	71	9	6	------	↙° p.
12	31.8	21.9	93	73	9	9	------	↙° p.
13	31.4	23.5	95	68	9	5	------	
14	32.5	23.5	88	63	6	9	------	⊤ p.
15	31.5	23.6	95	75	10	8	------	⌒ p d a. ↙° p.
16	30.7	21.7	90	74	8	8	------	↙° a. p.
17	31	22.5	94	76	10	8	------	↙° a. p. Γ< p.
18	31	19.6?	96	76	7	9	2.2	⊤ ↙° p.
19	31.6	23	96	70	10	10	2.3?	Γ< ●² p.
20	31.6	22.5	95	70	8	6	------	Γ< p.
21	33.1	22.6	96	66	5	4	------	Γ< ϖ p.
22	33	23.5	90	64	2	4	------	ϖ p.
23	33.3	23	85	57	8	2	------	
24	33	25	93	62	9	6	------	d a. ∪ ϖ p.
25	33.6	24.9	97	54	9	5	------	∪ ϖ p.
26	33.5	24	96	67	9	8	5.8	Γ< d p.
27	32.6	24.1	98	70	10	7	8.1	d ⌒ a. ● Γ< p.
28	32.8	23.5	91	63	9	9	22.6	● Γ< p.
29	32.2	23.5	98	68	7	5	.5	⊤ p a. ∪ ϖ p.
30	32.2	24.1	97	68	8	8	9.7	● Γ< p.
31	32.4	23.5	96	67	8	9	4.1	∪ ϖ p.
Mean	32.1	23	93.9	67.9	8	7.1	------	
Total	------	------	------	------	------	------	58.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34	25.6	94	67	3	8	------	ϖ² ∪ < p.
2	34.1	25.4	96	71	8	8	------	∞ ϖ < p.
3	33.2	24.7	97	67	7	7	------	< p.
4	32.1	24.3	97	76	7	7	------	< ⊤ ϖ p.
5	33.6	25.4	94	67	9	8	0.5	∞ a. ●° ⌒² < p.
6	34.1	23.6	96	58	2	3	------	∞ a. p. < p.
7	34.5	24	96	73	1	7	------	∞ a. p. < p.
8	34.5	24	96	60	8	9	------	⊕ ○ < p.
9	34.3	23.8	96	61	7	7	------	< p.
10	34.5	23.7	96	66	8	7	------	< p.
11	34.6	24.1	95	74	9	8	------	⊕ ○ p.
12	33.8	24.4	98	73	8	8	------	< p.
13	33	24.5	97	72	5	5	------	< p.
14	32.1	23.4	92	74	8	8	------	
15	34.8	24.8	97	57	7	8	------	< p.
16	34.6	23.4	94	65	2	6	------	< p.
17	35.1	24.2	93	54	9	5	------	⊤ < p.
18	33.2	25	93	73	7	8	------	⊤ < p.
19	31.2	24.2	94	74	9	10	------	d° < p.
20	32.6	23.4	98	69	6	2	5.1	< p.
21	32.1	23.7	99	72	2	3	------	↙ ● a.
22	32.2	23	98	69	2	4	------	ϖ° ∪° p.
23	33.1	23.5	96	69	8	6	------	< p.
24	32.8	23.9	96	73	5	8	6.1	d ● a. ϖ < p.
25	32.5	23.2	97	73	6	8	3.8	< ϖ° p.
26	32	23.6	97	75	8	8	------	↙ ● a, ϖ° < p.
27	32.7	24	96	74	5	9	------	ϖ Γ< p.
28	31.9	23.7	96	72	5	3	------	d° a. < p.
29	32.7	23.5	95	76	2	4	------	∞ a. < p.
30	32.9	23.5	97	92	6	9	1.8	●° ⊤ d² ϖ < p.
31	32.5	28.8	95	72	8	7	------	●° < ϖ° p.
Mean	33.3	24	95.8	69.9	6	6.7	------	
Total	------	------	------	------	------	------	17.3	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.6	24.8	95	69	8	6	------	
2	32.8	25.1	95	70	9	8	4.1	●° p.
3	31.5	24	97	72	9	8	2.5	d a. ●° p.
4	32.2	23.5	97	68	8	6	8.1	d a. ●° p.
5	31.7	23.7	96	70	7	6	------	
6	32.8	23.6	95	66	5	5	------	
7	33.6	23.6	95	66	6	5	------	
8	33.6	24.4	95	71	6	10	------	
9	33.6	24.3	95	67	7	8	------	
10	33.2	23.7	95	67	10	9	------	
11	33.6	24.5	93	64	8	7	------	
12	34.6	24.3	93	60	8	7	------	
13	36.1	22.8	96	55	7	5	------	
14	33.6	23.9	95	75	8	9	.3	d ⊤ p.
15	34.2	23.1	93	57	7	5	------	
16	34	------	95	------	8	------	------	
17	34.7	23.3	93	59	8	8	------	
18	33.6	23.5	97	71	8	9	17.9	⊤° ●° p.
19	29.6	23	98	87	9	10	3.3	●° a. p.
20	34.3	22	98	63	9	5	------	≡° a.
21	34.1	23	97	81	3	7	7.4	d p.
22	33.6	22.1	98	80	3	6	------	●° a. p.
23	34.2	21.5	96	64	7	8	------	
24	33.5	22.6	97	67	4	9	5.6	●° p.
25	33.6	22.2	97	68	8	9	------	⊤° p.
26	32.6	22.2	98	69	8	9	------	≡° a.
27	34	21.9	97	72	5	8	18.5	d ● p.
28	33.8	22.2	97	89	7	8	2.3	●° p.
29	33.6	22	98	87	3	8	21.6	≡° a. ● a. p.
30	31	21.9	97	84	5	9	.5	●° p.
31	34.6	21.8	97	80	7	8	.8	● Γ< p.
Mean	33.4	23.2	96	70.6	6.9	7.5	------	
Total	------	------	------	------	------	------	92.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.9	22.8	97	73	9	7	4.8	● a. ↙° p.
2	33.1	23.3	96	70	6	6	------	
3	32.8	22.1	97	72	6	6	------	
4	32.9	22	97	69	5	5	2.3	
5	33.1	23.3	97	75	7	7	------	● a. ↙° p.
6	33.8	21.9	95	59	6	5	------	
7	33.9	22.7	97	58	3	1	------	
8	33.2	21.9	97	63	5	6	------	○ p.
9	33.7	21.8	96	61	3	6	------	↙° p.
10	33.8	22.7	97	64	5	6	------	○ a. p. ↙° p.
11	33.9	22.6	94	62	6	5	------	↙° p.
12	34.3	24.4	84	63	6	6	------	
13	32.9	21.6	95	65	5	4	------	
14	33.5	22.7	95	67	5	6	------	⊤ p.
15	33.9	22.6	92	75	4	7	.5	p. p.
16	34	22.5	93	82	6	7	1.5	↙ ● p.
17	33.6	22.9	90	70	6	6	1.3	○ ⊤ d p.
18	33.3	22.3	93	68	7	7	4.1	d ⌒ a. ↙° ⊤ ● p.
19	31.8	21.9	95	68	6	7	------	
20	33.9	21.8	96	61	4	5	------	
21	33.2	21.4	97	71	3	4	------	⊤ p.
22	35.1	22	97	58	3	4	------	
23	34.2	22.3	96	51	5	4	------	Ω a.
24	35.6	22.3	96	49	4	5	------	
25	35.1	21.9	93	54	4	6	------	
26	34.6	23.1	95	58	4	5	.3	⚡ p.
27	34.7	23.3	92	59	7	6	1	● a. p. ⊤ p.
28	33.5	23.1	94	66	3	7	.3	⊤ ●° p.
29	35.7	23.3	96	67	5	6	------	
30	34.6	21.8	97	87	4	9	16	● a. p. ⊤ p.
31	33.9	22.1	95	62	5	6	.3	d p.
Mean	33.8	22.5	94.9	65.4	5.1	5.7	------	
Total	------	------	------	------	------	------	32.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.8	21.4	98	68	6	7	19.8	↙° a. ●° ⊤° p.
2	28.2	21.5	97	72	9	8	14	d a. ●² ⊤² p.
3	30.6	21.8	98	64	7	8	28.2	Ω ≡ a. ●° p.
4	30.4	22	98	63	7	5	------	↙° p.
5	31.3	22	97	61	4	6	------	d p.
6	31.8	22.1	98	59	3	6	------	↙° p.
7	31.8	22	98	59	3	3	------	
8	32	22.2	98	59	7	5	------	Ω ≡ a. < p.
9	31.5	22	98	59	7	8	------	d a. ↙° p.
10	31.7	22	98	59	7	8	------	d a. ↙° a. p.
11	31.8	22.2	98	59	7	3	------	d a.
12	31.7	21.9	98	59	3	5	------	
13	31.3	22	97	59	2	3	------	↙° a.
14	31.9	22.4	98	59	7	8	12.7	↙° a. ● p.
15	31.7	22	97	60	8	8	------	Ω ≡ a. ↙° p.
16	30.8	21.8	98	62	7	8	3.3	● p.
17	31.2	22	97	61	5	6	------	↙° a. d ⊤° p.
18	31.6	22.1	98	59	9	9	------	≡ a. ⊤° p.
19	31	21.5	98	60	5	8	28.7	● ⊤° p.
20	31.8	22	97	56	7	8	------	Ω ≡ a. ↙° ⚡ p.
21	32.2	21.9	98	58	8	8	54.6	↙° a. ●² ⊤² p.
22	32	21.6	98	59	5	6	------	↙° p.
23	32.4	22.2	98	58	2	3	------	
24	31.8	22.2	99	58	6	7	------	Ω ≡ a. ↙° p.
25	32	21.8	98	58	7	8	------	↙° p.
26	32.2	21.5	98	57	8	8	------	Ω ≡ a. d ⊤° p.
27	32.2	21.8	98	58	7	8	------	↙° ⌒ ⊤° p.
28	32	22	98	58	7	7	------	↙° a. < p.
29	32.3	21.9	97	59	5	8	------	⊤° p.
30	32.1	21.6	98	58	8	5	------	Ω ≡ a.
31	32.2	21.8	98	58	7	6	------	d a. ↙° p.
Mean	31.5	21.9	97.8	59.9	6.1	6.6	------	
Total	------	------	------	------	------	------	161.3	

SANTA CRUZ, LAGUNA.
[ϕ=14° 18′ N; λ=121° 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.	Rain, 24 hrs. beginning 6 a. m.	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	------	------	------	------	------	------	------	
16	------	------	------	------	------	7	------	⊤° p.
17	------	------	------	------	9	6	------	⊤ d° a. ⚡ p.
18	31.9	------	------	65	8	8	2.2	⌒ ⊤ a d ° ● ⊤ p.
19	33.1	22	92	74	8	10	3.6	○ d° ● ⚡ p.
20	32.8	21.8	97	81	3	8	28.2	d² ⚡ p.
21	32.5	21.9	94	74	3	7	------	⊤ p.
22	34	22.6	97	55	3	2	------	⊤ a. < p.
23	33.9	22	96	47	2	2	.6	d² p.
24	33.8	23.4	90	52	2	2	------	d² a. < p.
25	34.4	22	96	47	3	4	------	⚡ ω p.
26	34.8	23.6	96	58	9	4	------	⊤ ω° < p.
27	35	23.5	92	60	9	7	------	⊤ p.
28	34.7	23.5	94	72	8	9	3.3	● ⊤ a.
29	32	23.5	95	84	7	8	------	⊤ d° a. p. ω° < p.
30	33.2	22.1	97	63	4	8	------	
31	30.6	23	97	72	8	10	2.3	⚡ d a. < p.
Mean	33.3	22.7	94.8	64.6	5.7	6.4	------	
Total	------	------	------	------	------	------	------	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.5	22.1	98	91	10	8	------	
2	31	21.5	98	82	10	6	2.5	● a.
3	30.4	21.5	99	68	10	5	14	● p.
4	30.5	21.8	98	78	8	6	15.2	⌒ a. ● p.
5	31	21.8	95	74	10	8	.8	p. a.
6	30.9	22.2	96	68	8	6	3.6	⌒ ● a.
7	30.2	21.5	97	72	8	7	------	
8	29.6	22	94	73	9	4	------	
9	29	21.9	97	68	10	7	------	
10	30.6	22.3	95	62	9	6	------	
11	30.3	22.4	93	68	9	5	------	
12	29.8	21.8	96	64	8	6	------	
13	31.9	22	97	61	8	6	------	
14	------	21.7	97	53	8	8	3.3	● a.
15	------	21.6	88	70	8	8	47	
16	------	20.1	91	74	9	8	27.9	● a.
17	------	19.2	96	69	10	8	------	● a. ⌒ p.
18	------	21.6	93	88	9	8	5.1	● p.
19	------	21.3	95	84	10	9	3.8	⌒ p.
20	30.8	19.8	95	86	7	7	------	● a. ⌒ p.
21	30.6	21.6	93	72	2	9	------	⌒ p.
22	31.8	21.2	98	66	8	4	------	
23	31.6	21.8	96	60	3	4	------	
24	31.7	21.3	96	58	2	4	------	
25	32.4	21.5	96	53	5	6	------	
26	32.5	20.5	96	63	10	8	------	⌒ a.
27	33.2	21.2	96	58	5	2	4.3	
28	32.3	21.9	98	62	10	6	------	● a.
29	31	20.5	97	74	8	6	5.6	● a. ⌒ p.
30	31.2	21.3	96	68	8	3	------	
31	31	21.4	96	78	7	8	4.1	
Mean	31	21.4	95.7	69.8	7.9	6.3	------	
Total	------	------	------	------	------	------	137.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.8	23 5	97	85	10	9	------	Θ² Ω a. ⌈ʒ p.
2	31.8	24	97	84	8	10	------	Ω a. ⌈ʒ ψ° p.
3	30.5	23.7	96	83	10	10	------	Ω○a ⌈ʒ↙°ψΘ
4	32.7	24.1	98	85	10	10	14	Ω ≡° a. ⌈ʒ ↙° ●
5	32	23.5	97	86	4	10	8.9	d ● p.
6	30	22.6	98	78	10	10	2.3	●° d° p.
7	33.9	23.4	98	70	4	6	------	≡° a. ⊤° p.
8	33.4	22.7	96	54	10	7	1	Ω ≡° a. ○² ↙° p.
9	32	20.9	95	72	4	4	------	○ d° a.
10	33.9	22.4	96	68	10	9	------	Ω ≡° a.
11	34.5	22	95	63	5	7	------	Ω ≡° a. ʗ° p.
12	34.2	22.3	96	62	5	6	.3	Ω ≡° a. d° ⌈ʒ ⌒
13	34.3	22.8	97	64	5	5	------	≡° a.
14	35	24	97	59	2	4	.8	Ω ≡° a. ⌈ʒ° ●°
15	33.9	22.2	98	61	9	6	43.9	≡ a d° ⌈ʒ ↙ ●
16	32.5	22.2	97	75	9	4	8.5	≡² ⊕ a. ↙ ● ʗ°
17	33.2	22.5	97	72	4	8	28.4	○ a. ↙ ● ⌈ʒ p.
18	33	22.5	96	61	4	6	7.3	⌈ʒ ●° p.
19	32.9	22.3	96	62	10	7	28.7	⌈ʒ ↙ ● p.
20	34.5	22.5	97	------	5	5	------	⌈ʒ° a. p.
21	34	22.9	95	90	4	8	17	⌈ʒ ↙ ● p.
22	34.9	22.4	93	59	2	2	30.2	⌈ʒ ↙ ● p.
23	34.8	22.3	98	------	4	4	------	
24	35	23.2	95	------	2	4	------	⌈ʒ° p.
25	35.5	24.1	97	58	1	4	2	●° ⌈ʒ° p.
26	35.5	24.1	97	------	9	4	1.5	⌈ʒ° ●° p.
27	35.4	23.5	96	------	4	4	32.4	⌈ʒ ↙ ● p.
28	34.9	23.1	97	------	8	5	------	⌒ ⌈ʒ° p.
29	35	23.4	95	------	3	6	1.1	●° ⌈ʒ° p.
30	35.5	22.5	97	------	2	4	7.2	●° ⌈ʒ° p.
31	31.2	23.8	97	74	5	8	------	
Mean	33.6	22.9.	96.5	70.7	5.9	6.3	------	
Total	------	------	------	------	------	------	235.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	25.4	82	61	8	10	------	ψ p.
2	33	25.4	84	59	9	8	------	↙ ψ p.
3	31	25	83	68	10	9	------	ψ p.
4	33.6	24	91	60	10	6	------	⌒² d° ψ p.
5	33	25.6	80	60	10	3	------	ψ p.
6	33.2	25.4	79	78	8	9	0.8	d p.
7	33.6	25.5	83	57	9	5	------	
8	33.5	26	77	55	10	10	------	
9	33.5	25.2	68	54	10	10	------	
10	33.5	26.2	73	54	10	10	------	
11	34.8	26.4	76	54	8	1	------	
12	34.8	24	73	52	7	6	------	
13	34.8	24.8	78	60	10	9	------	ʗ p.
14	32.5	23.4	91	73	10	9	------	
15	34.4	------	91	------	10	------	------	
16	34.8	23.7	80	53	10	8	------	
17	35.5	26.4	77	51	10	7	------	⌈ʒ p.
18	32.1	25	80	68	10	9	------	
19	36.7	24.5	88	64	9	9	13.5	⌈ʒ a. p. ●° p.
20	32.5	22.5	95	64	10	9	1.5	ʗ p.
21	32.6	23.4	91	78	9	9	------	⌈ʒ p.
22	32	23.4	91	65	5	3	------	
23	32.3	23.1	94	65	10	1	------	
24	32.3	22.8	90	68	10	2	------	ʗ p.
25	33	23.3	91	59	10	2	------	⊕ ψ p.
26	32.5	24	91	61	10	5	------	
27	31.4	24.5	92	73	10	10	------	⊤ a. ψ p.
28	32	23.4	91	69	10	7	11.4	ψ p.
29	31.5	24.6	95	75	8	4	1.5	
30	32.2	24	96	60	10	9	27.7	⌈ʒ p.
31	31.4	24.8	96	75	10	10	------	⌈ʒ p.
Mean	33.1	24.5	85.4	63.1	9.4	7	------	
Total	------	------	------	------	------	------	56.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	24.3	90	75	2	5	11.2	Ω a. ● p.
2	29.4	24.5	92	84	7	10	4.1	Ω a. ● p.
3	30.7	24	88	75	3	7	------	Ω a.
4	32.3	24	88	80	2	8	11	Ω a. d° ʗ° ●² p.
5	31.9	23.4	88	73	4	5	27.7	Ω a. d° ●² p.
6	31.7	23.5	89	76	10	5	3.7	Ω a. ●° p.
7	32.4	24.7	84	68	7	5	------	Ω d° a.
8	32.7	25.1	83	69	3	6	------	Ω d° a.
9	32.6	24.4	79	66	10	6	------	Ω a.
10	33.2	25.2	79	66	2	6	------	Ω a. d° p.
11	33.1	25	79	66	5	6	------	Ω a.
12	33.9	24.9	78	66	2	5	------	Ω a.
13	33	25.2	92	66	5	3	------	Ω a.
14	33	24.5	93	71	1	7	------	Ω a. ⊤° p.
15	33.2	23.7	93	67	3	6	------	Ω a.
16	33.2	23.9	92	68	2	6	------	Ω a.
17	32	24	92	74	8	5	10.9	Ω a. ●² p.
18	32.4	23	94	74	2	7	5.1	Ω a. d° ⌈ʒ° ●° p.
19	31.7	22.8	95	71	3	7	7.4	Ω a. ⊤° ●° p.
20	32.6	23	95	65	9	3	1	Ω a. ●° p.
21	32.3	23.6	94	67	2	6	------	Ω a.
22	32.1	23.6	89	66	1	2	6.4	Ω a. ●° p.
23	32.4	22.8	94	65	2	1	------	Ω a.
24	34	24.2	90	63	1	2	------	Ω a. Θ² p.
25	33.8	23.6	88	61	1	3	------	Ω a. d° p.
26	33.7	24.3	87	61	3	3	------	Ω a. d° p.
27	34.3	24.6	92	60	6	3	1.5	Ω a. ⌈ʒ° ●° p.
28	33.4	23.9	92	65	3	2	------	Ω a.
29	34.5	23.4	93	67	1	3	1	Ω a. ⊤° ⌒² ●° p.
30	34.2	22.4	92	64	1	2	------	Ω a.
31	34.1	24.1	92	62	3	3	------	Ω a.
Mean	32.8	24	89.2	68.4	3.7	4.8	------	
Total	------	------	------	------	------	------	91	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.9	21.2	97	53	3	6	2.8	Ω² ○² a. ⌈ʒ d² p.
2	34.4	19.8	98	59	6	9	4.8	≡² ○² a. ⌈ʒ ●° d°
3	34.8	20.6	99	62	10	8	------	≡² a. ⌈ʒ p.
4	36	20.3	97	54	9	7	7.9	Ω² ○ a. ⌈ʒ ↙ d² ●
5	33.6	19.5	98	64	7	7	6.6	≡ a. ⌈ʒ d² ● p.
6	34.4	20.8	99	60	9	6	.3	≡² a. ⌈ʒ d° ⌒ p.
7	35.5	21.3	97	59	10	6	2.8	Ω² ≡ a. ⌈ʒ² ↙° d²
8	34.6	20.6	97	56	7	9	------	≡ ○² a. ○² ⌈ʒ p.
9	34.5	18.9	92	56	9	8	------	Ω° a. ○ a. p.
10	36.7	19.5	95	50	9	7	------	Ω² a. ○° p.
11	36	20.5	95	49	9	4	------	Ω² ○° ⊕² a. ⌈ʒ p.
12	36.4	20.7	94	50	4	3	------	Ω² ○ a. ⌈ʒ p.
13	37	21.9	96	52	7	5	------	Ω² ≡ ○ a. ⌈ʒ² p.
14	36.5	21.6	92	53	10	5	10.7	↙° a. p. ⌈ʒ ●² p.
15	35.4	19.9	96	56	6	6	.8	○² a. ⌈ʒ ○° d² ↙°
16	35.6	20.2	95	56	6	6	------	⌈ʒ ○ ↙° p.
17	36.7	20.8	95	53	6	8	4.1	Ω² ⊕² a ⌈ʒ ⌒ ●²
18	35.4	20.9	95	62	9	9	2.5	○° ⊤° a ⌈ʒ ↙° ●°
19	35.6	19.6	96	51	8	8	------	≡ ○ a. ⌈ʒ d° ↙°
20	35.4	19.1	96	53	9	4	9.4	≡ ○° a. ⌈ʒ² ↙° ●°
21	34.7	19.7	97	54	10	6	19.6	≡ ○ ⌈ʒ² ⌒° ●² ↙°
22	34.9	18.6	97	53	1	3	------	≡ a. ⌈ʒ² ⌒ p.
23	35.1	21	95	50	10	3	------	≡ a. ⌈ʒ ⌒ p.
24	35.9	21.1	93	50	8	3	6.9	↙° a. ⌈ʒ ⌒ d° ●²
25	35.6	20.8	96	56	9	3	------	↙° a. ⌈ʒ d° p.
26	36.1	20.3	96	52	4	7	.3	⌈ʒ ↙° a. ⌈ʒ² d° p.
27	36.4	21.2	96	50	8	6	62.5	≡ a. ⌈ʒ² ⌒ ↙ ●²
28	34.8	17.8	97	53	6	8	------	≡ ⊤° a. ○° ⌈ʒ Θ
29	35.2	19.9	97	55	4	6	------	Ω² ≡² ⊤° a. ⌈ʒ p.
30	36.2	21.1	97	54	4	5	------	Ω² ≡ ⌈ʒ ⌒ d° ↙°
31	35.7	19.7	97	50	4	4	------	Ω² ≡ a. ⌈ʒ Θ ψ
Mean	35.5	20.3	96	54.4	7.1	6	------	
Total	------	------	------	------	------	------	142	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.7	25	84	71	0	8	26.7	Ω^{2}≡^{2}↙a. ●^{2}⊤°
2	30.8	25	85	78	10	10	27.4	●^{2}⊤^{2}↙°a.●°☇p.
3	29.4	24.5	90	78	8	9	7.4	≡d↙°a.●°⌈↯p.
4	29.7	24.8	87	76	4	9	2.8	≡⊤°a. ↙°●°p.
5	30.7	24.4	85	69	8	7	29.5	Ω≡a. ↙°d●p.
6	30.4	24.5	88	72	9	7	10.9	● ≡ ↙° a. d p.
7	30.6	25.9	85	73	9	8	------	● d a. ↙° d p.
8	31.4	26.4	80	69	7	8	------	≡ ↙° a. ↙° p.
9	31.4	25	74	65	9	7	------	↙° a.
10	32.2	26.1	80	63	8	9	------	↙° a.
11	31.5	26.4	76	65	8	7	------	↙° a. p.
12	31.6	25.9	81	67	4	8	------	Ω ≡ a.
13	31.4	26.8	81	70	9	8	------	Ω ≡ a. ☇ p.
14	31.1	26.5	84	72	0	8	------	Ω^{2}≡^{2}a. ⌈↯d p.
15	31.5	25.6	84	68	4	5	------	Ω^{2}≡^{2}◯a. ☇p.
16	31.1	25.1	86	73	5	6	------	Ω ≡ a. ↙° ☇ p.
17	31	25.1	85	66	9	8	33.5	Ω≡↙°d⌈↯°●^{2}
18	30.7	25	87	77	4	9	------	●^{2} ≡ a. ⊤° d p.
19	30.3	24.5	88	76	6	5	5.1	Ω≡a. ⌈↯●°p.
20	30.4	24.5	86	72	9	9	------	⊕^{2} a. p. ☇ p.
21	30.5	24.5	86	71	4	8	6.9	Ω≡a. ⊤°⌒°●p.
22	------	24.8	83	69	0	0	5.6	Ω≡a. ⌒°⌈↯°●
23	------	25.5	83	70	1	0	------	Ω≡a. ⊤°⌒°ᗜ°
24	------	25.6	84	71	0	0	1.3	Ω^{2}≡^{2}⌒^{2}●°⌈↯°
25	------	24.9	83	64	0	1	------	Ω^{2}≡^{2}⊤°⌒°dᗜ
26	------	25.9	84	66	4	1	------	Ω ≡ a. ⌈↯° d p.
27	------	26.2	81	66	8	1	------	Ω≡a. ⌈↯⌒^{2}dp.
28	------	25.8	81	72	6	5	------	Ω°≡°a. ⊤°d p.
29	------	24.2	83	62	0	1	------	Ω^{2}≡^{2} ⊤°d⌒° ◡
30	------	24.8	83	63	0	0	------	Ω^{2} ≡^{2} a. ⌈↯ p.
31	------	26.4	83	64	4	1	------	Ω^{2} ≡^{2} ⊤° a.
Mean	30.9	25.3	83.5	69.6	5.1	5.6	------	
Total	------	------	------	------	------	------	157.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.3	23.3	94	73	1	6	------	Ω ^{2} a. ↙° ᗜ p.
2	28.9	24.7	93	88	3	1	16.5	↙° a. ● a. p.
3	30.3	23.4	92	84	3	10	5.1	↙° d a. ● p.
4	32.3	23.2	97	78	10	10	52.1	↙° ●^{2} p.
5	31.8	23.1	94	70	7	4	9.7	● p.
6	32.2	23.4	94	72	10	9	------	↙° p.
7	31.8	24.5	94	68	6	5	5.3	Ω a. ↙° ● p.
8	31.3	24.7	93	69	8	5	1.5	↙° d a. ↙° ● p.
9	31	24	84	66	8	9	1.8	↙° a. p. ● p.
10	31.3	25.6	83	66	10	10	------	↙° p.
11	32.4	24.5	87	63	6	4	------	↙° a. p.
12	32.5	23.4	91	57	2	2	------	↙° a. p.
13	32.8	23.7	92	62	2	6	------	Ω a.
14	32.6	24.4	96	68	3	5	------	Ω^{2} a.
15	32.8	23.3	87	59	3	3	------	Ω a.
16	32.6	23.2	84	63	4	6	------	Ω a.
17	33	23.6	92	63	4	7	------	Ω a.
18	32.9	23.7	94	62	2	8	2	Ω a. ⌈↯ ● p.
19	32.7	23.6	92	66	3	6	------	Ω a. ⌈↯ p.
20	32.4	24.2	92	69	8	8	1.5	⌈↯ ● p.
21	31.8	22.9	93	67	3	7	17	Ω ● a. ⌈↯ ● p.
22	32.3	23.1	90	69	3	4	------	⌈↯ p.
23	33.4	23.7	96	65	0	3	------	Ω a.
24	33.3	24.3	96	67	0	7	.8	Ω^{2} a. ⊤ ● p.
25	33.8	22.6	96	59	0	5	1.3	Ω a ⌈↯ ● p.
26	33.6	24.1	95	61	0	3	------	Ω^{2} a. ⌈↯ p.
27	33.5	24.4	94	63	0	5	------	Ω a. ⌈↯ p.
28	32.8	23.5	91	64	1	5	15.2	Ω a. ⌈↯ ● p.
29	32.4	22.5	94	64	0	3	------	Ω a. ⌈↯ ⌒ p.
30	34	23.5	96	63	0	4	.8	Ω a. ⌒ ● ⊤ p.
31	33.3	24.2	96	63	1	6	------	Ω^{2} a. ⊤ p.
Mean	32.4	23.8	92.3	66.8	3.6	6	------	
Toal	------	------	------	------	------	------	130.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.9	26.7	87	77	8	7	------	↙° a. p. ≡ p.
2	30.2	26.5	86	79	7	7	1	↙° a. p. d p.
3	30.4	26.2	89	79	5	4	------	≡° a. p. ↙° p.
4	30.7	26.2	87	77	9	8	.8	↙° a. p. d p.
5	30.3	25.7	88	83	9	10	37.6	↙° a. p. ●^{2}☇^{2}p.
6	30.1	23.9	87	79	10	8	12.9	↙ d° a.≡↙ ●p.
7	29.9	24.2	90	94	9	10	14	↙° d a. ↙ ● p.
8	30.2	25.4	90	79	10	6	32.5	↙° d a.≡ ↙ ●p.
9	27	23.1	93	93	10	10	105.4	↙°⊤●^{2}a.↙●☇^{2}
10	29.6	23.7	89	83	10	10	6.7	↙ d a. p. ≡ p.
11	29.3	24.1	87	84	8	10	.2	d a. ↙° a. p.
12	29.9	26.9	84	77	7	3	------	↙° a. p. ≡^{2} p.
13	30.4	26.9	86	77	3	6	------	↙° ◯^{2}a. ↙°≡p.
14	30.4	26.7	86	77	7	5	------	↙° a. p. ≡ p.
15	30.1	27	87	77	5	5	------	↙° a. p. ≡ p.
16	30.1	26.9	82	75	8	7	------	↙° a. p.
17	30.9	27	84	76	9	6	------	↙° a. p. ≡ ☇° p.
18	31.1	27.1	85	71	6	6	------	p°↙°a.↙°≡☇^{2}Ω
19	31.3	24.3	94	75	7	4	------	Ω^{2} a. p. ☇° p.
20	31.1	23.7	91	75	1	4	------	Ω^{2} a. p.
21	31.4	24.2	95	73	3	2	------	Ω^{2}va. p°☇°Ω^{2}p.
22	31.4	24.2	92	71	3	2	------	Ω^{2}v a. ☇°Ω^{2} p.
23	31.2	24.1	92	81	0	9	1.3	Ω^{2} v a. d Ω^{2} p.
24	32.2	23.5	91	66	2	1	------	v a. Ω^{2} a. p.
25	31.9	23.2	91	76	1	5	------	Ω d° ⌒°a. Ω^{2}p,
26	32.3	23.9	92	67	1	4	------	v a. Ω^{2} a. p.
27	32.3	24.7	90	66	1	2	4.1	Ω v a. d° Ω^{2} p.
28	32.1	24.2	88	68	10	3	------	●° ⌈°va. ≡Ω^{2}p.
29	32.8	23.8	91	64	0	4	------	Ω a. p. ≡ p.
30	32.3	24.3	89	68	1	4	1.7	d a. Ω^{2} a. p.
31	32.4	24.5	86	65	1	4	------	Ω a. ≡ p.
Mean	30.8	25.1	88.7	75.9	5.5	5.8	------	
Total	------	------	------	------	------	------	218.2	

SEISMOLOGICAL BULLETIN FOR AUGUST, 1909.

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

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

4, 4^h 29^m. **Northeastern Mindanao.** Earthquake of intensity IV, perceptible throughout the quasi-peninsula of Surigao and Butuan. Its origin was probably in the region east of the Butuan Bay. The phenomenon was accompanied by an unusual noise which resembled that of a wind-squall.

12, 19^h 24^m 55^s.* **Agusan River Valley** (E of Mindanao). Earthquake of intensity V and long duration. The epicenter was situated in the northern part of the valley, near parallel 18° 20′ latitude north. In Butuan, at a distance of 60 kilometers, the intensity was IV, and the disturbance was felt throughout almost the whole of eastern Mindanao. It was registered by the microseismographs of Manila and Batavia, and presumably also in the other observatories of the Far East.

13, 18^h 21^m 41^s.* **Agusan River Valley** (E of Mindanao). Earthquake of intensity IV, having the same origin as the preceding. It was likewise registered at Manila and Batavia.

13, 20^h 45^m. **Davao** (SE of Mindanao). Oscillatory earthquake. Direction SE–NW; force IV; duration 15 seconds.

14, 8^h 52^m. **Agusan River Valley.** (E of Mindanao). Earthquake of intensity III.

14, 19^h 45^m. **Davao** (SE of Mindanao). Oscillatory earthquake. Direction SE–NW; intensity IV; duration 10 seconds. Repeated at 20^h 25^m with the same direction and intensity.

18, 22^h 5^m. **Agusan River Valley** (E of Mindanao). Earthquake of force III.

21, 4^h 5^m. **Samar Island.** Earthquake of intensity IV, whose center must be sought in the Pacific Ocean, close to the northeastern coasts of the island. It was felt clearly in all the towns in the north and east of the island, but not in those of the south and southwest.

23, 8^h 35^m. **Agusan River Valley.** (E of Mindanao). Earthquake of force III, with a repetition at 18^h of intensity IV.

26, 9^h 49^m 27^s.* **Southern Luzon.** Earthquake of intensity III, perceptible in the Provinces of Rizal, Cavite and Batangas. Its origin lay near the southwestern coast of Luzon.

28, 8^h 50^m. **Butuan** (N of Mindanao). Oscillatory earthquake, accompanied by subterranean rumblings. Direction NNE–SSW; intensity IV; duration very short.

30, 4^h 11^m. **Northeastern Mindanao.** Earthquake of intensity IV, perceptible throughout the quasi-peninsula of Surigao and Butuan. Its epicenter was identical with that of the earthquakes of the 4th and 28th, situated on the eastern shore of Butuan Bay. All three earthquakes were of local origin, the seat of disturbance lying at a very shallow depth; the shocks being presumably due to displacements or to the formation of a fault in the limestone layers which characterize these coasts and the neighboring mountains as far as the west shore of Lake Mainit. This region is frequently spoken of as the seismic center of Lake Mainit. The number of earthquakes with intensities V, VI and even VII which have originated there without being registered by the microseismographs either at Manila or at the observatories of Zikawei and Batavia, the nearest to the epicentral region except Manila, is already quite considerable.

[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 microseismographs 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. 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.		
157	8	NNW-SSE	5 48 53	----------	5 49 10	5 49 14	0.03	2.4	5 52	V. M.	
		WSW-ENE	5 48 53	----------	5 49 09	5 49 12	.04	1.8	5 52	V. M.	
158	12	NNW-SSE	19 24 55	----------	----------	19 28 26	.06	2.4	20 15	V. M.	Earthquake, V in the Agusan River Valley.
		NNW-SSE	19 25 00	----------	----------	----------	------	------	19 55	H. P.	
		WSW-ENE	19 24 56	----------	19 26 59	19 29 16	.09	2.2	20 12	V. M.	
		WSW-ENE	19 25 01	----------	19 27 06	19 28 27	.33	8.1	20 10	H. P.	
159	13	NNW-SSE	18 21 41	----------	----------	----------	------	------	18 49	V. M.	Earthquake, IV in the Agusan River Valley.
		NNW-SSE	18 21 57	----------	----------	----------	------	------	18 46	H. P.	
		WSW-ENE	18 21 41	----------	----------	----------	------	------	18 50	V. M.	
		WSW-ENE	18 21 57	----------	----------	----------	------	------	18 46	H. P.	
160	14	NNW-SSE	14 36 15	14 40 43	14 45 13	14 45 53	.02	8.8	15 53	V. M.	Earthquake at Gifu (Japan).
		NNW-SSE	14 36 18	14 40 24	14 45 18	14 45 58	.31	8.1	15 58	H. P.	
		WSW-ENE	14 36 15	14 40 40	14 45 21	14 47 36	.02	8	15 57	V. M.	
		WSW-ENE	14 36 20	14 40 48	14 45 21	14 48 20	.43	9	15 54	H. P.	
161	15	NNW-SSE	17 19 17	----------	17 19 35	17 19 37	.10	2.2	17 24	V. M.	Vertical Component 0.05 mm.
		WSW-ENE	17 19 17	----------	17 19 35	17 19 50	.07	2.4	17 24	V. M.	
162	18	NNW-SSE	8 49 35	8 57 39	8 57 47	8 58 00	.10	2.4	9 24	V. M.	
		NNW-SSE	8 49 36	8 57 53	8 58 19	8 59 11	.12	9	9 30	H. P.	
		WSW-ENE	8 49 36	8 57 43	8 57 46	8 58 06	.06	2.4	9 24	V. M.	
		WSW-ENE	8 49 36	8 57 54	8 58 00	8 58 36	.24	8.4	9 30	H. P.	
163	19	NNW-SSE	23 59 36	----------	23 59 51	23 59 54	.03	1.2	0 02	V. M.	V. C. 0.01 mm.
		WSW-ENE	23 59 36	----------	23 59 51	23 59 55	.03	1.6	0 02	V. M.	
164	20	NNW-SSE	8 11 50	----------	8 11 55	8 11 56	.22	2	8 14	V. M.	V. C. 0.21 mm.
		WSW-ENE	8 11 50	----------	8 11 55	8 11 56	.32	1.8	8 14	V. M.	
165	22	NNW-SSE	0 03 29	----------	0 03 45	0 04 09	.12	2.4	0 08	V. M.	V. C. 0.02 mm.
		WSW-ENE	0 03 29	----------	0 03 45	0 04 09	.10	2.4	0 08	V. M.	
166	26	NNW-SSE	9 49 26	----------	9 49 46	9 50 07	1.75	2.4	10 17	V. M.	V. C. 0.32 mm. Earthquake in the southern part of Luzon.
		NNW-SSE	9 49 29	----------	9 49 46	9 50 34	.91	8.4	10 13	H. P.	
		WSW-ENE	9 49 27	----------	9 49 43	9 50 23	1.52	2.4	10 17	V. M.	
		WSW-ENE	9 49 29	----------	9 49 48	9 50 47	2.87	9.6	10 13	H. P.	
167	26	NNW-SSE	23 10 10	----------	23 10 26	23 10 37	.09	1.2	23 13	V. M.	V. C. 0.04 mm.
		WSW-ENE	23 10 10	----------	23 10 27	23 10 35	.13	2.2	23 13	V. M.	
168	27	NNW-SSE	17 42 47	----------	----------	----------	------	------	18 04	V. M.	
		WSW-ENE	17 42 50	----------	----------	----------	------	------	18 02	H. P.	
169	28	NNW-SSE	10 01 26	----------	----------	----------	------	------	10 21	V. M.	V. C. 0.02 mm.
		WSW-ENE	10 01 26	----------	----------	----------	------	------	10 21	V. M.	
170	29	NNW-SSE	18 32 20	18 36 08	18 39 29	18 41 51	.01	7.2	19 09	V. M.	V. C. 0.01 mm.
		NNW-SSE	18 32 29	18 36 13	18 39 26	18 41 59	.02	7.8	19 05	H. P.	
		WSW-ENE	18 32 20	18 36 03	18 39 30	18 42 00	.01	8.8	19 09	V. M.	
		WSW-ENE	18 32 29	18 36 09	18 39 32	18 42 12	.03	9	19 07	H. P.	
171	29	NNW-SSE	19 11 51	----------	19 13 12	19 14 00	.26	2.4	19 32	V. M.	V. C. 0.04 mm.
		NNW-SSE	19 11 54	----------	19 13 17	19 13 25	.31	4.8	19 30	H. P.	
		WSW-ENE	19 11 51	----------	19 13 12	19 13 17	.53	2.4	19 31	V. M.	
		WSW-ENE	19 11 54	----------	19 13 19	19 13 27	.67	9	19 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=9.6 seconds; WSW–ENE pendulum, T=9.9 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, 4^h 29^m. **NE de Mindanao.** Temblor de tierra de intensidad IV. Fué perceptible en toda la cuasi-península de Surigao y en Butúan: su origen probablemente se hallaba en la parte oriental de la bahía de Butúan. Acompañóle de un ruído extraño semejante á una ráfaga de viento.

12, 19^h 24^m 55^s.* **Valle del Río Agusan** (E de Mindanao). Temblor de tierra de intensidad V y de larga duración. Su epicentro se hallaba en la parte N del Valle hacia el paralelo 18° 20′ lat. N. Tuvo intensidad IV en Butúan distante unos 60 kms. y fué perceptible en casi toda la parte oriental de la Isla. Registráronlo los microseismógrafos de Manila y Batavia, y es de suponer que también los demás Observatorios del Extremo Oriente.

13, 18^h 21^m 41^s.* **Valle del Río Agusan.** Temblor de tierra de intensidad IV: su origen fué el mismo que el del precedente. Registráronlo también los seismógrafos de Manila y Batavia.

13, 20^h 45^m. **Davao** (SE de Mindanao). Temblor oscilatorio; dirección SE–NW, intensidad IV, duración 15^s.

14, 8^h 52^m. **Valle del Río Agusan** (E de Mindanao). Temblor de tierra de intensidad III.

14, 19^h 45^m. **Davao** (SE de Mindanao). Temblor oscilatorio, dirección SE–NW, intensidad IV, duración 10^s. Repitió á 20^h 25^m con la misma dirección é intensidad.

18, 22^h 05^m. **Valle del Río Agusan** (E de Mindanao). Temblor de tierra de intensidad III.

21, 4^h 05^m. **Isla de Sámar.** Temblor de tierra de intensidad IV: su origen debió hallarse en el Pacífico, cerca de las costas NE de la isla. Fué muy perceptible en todos los pueblos del N y E de la isla, pero no en los situados en la parte SW y S.

23, 8^h 35^m. **Valle del Río Agusan** (E de Mindanao). Temblor de tierra de intensidad III. Repitió á 18^h con intensidad IV.

26, 9^h 49^m 27^s.* **S de Luzón.** Temblor de tierra de intensidad III. Fué perceptible en las Provincias de Rizal, Cavite y Batangas. Su origen se hallaba cerca de la costa SW de Luzón.

28, 5^h 50^m. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección NNE–SSW, intensidad IV, duración muy corta. Fué acompañado de ruido subterráneo.

30, 4^h 11^m. **NE de Mindanao.** Temblor de tierra de intensidad IV. Fué perceptible en toda la cuasi-península de Surigao y en Butúan. Su origen era el mismo de los temblores de los días 4 y 28; situado en la costa oriental de la bahía de Butúan. Tanto éste como los dos citados fueron de origen local y poco profundo, probablemente algún derrumbamiento ó la formación de alguna falla en los bancos calizos que caracterizan dicha costa y montes vecinos hasta las playas occidentales del lago Mainit. Son ya numerosos los casos de temblores de intensidad V, VI y aún VII originados en esa región, designada frecuentemente con el nombre de epicentro del lago Mainit, y no registrados por los microseismógrafos de Manila ni por los de los Observatorios de Zikawei y Batavia que son los más próximos después de Manila.

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.

NOTE ON THE FREQUENCY OF LOCAL EARTHQUAKES IN RELATION WITH ATMOSPHERIC PRESSURE IN MANILA, 1902–1908.

As "local earthquakes" I designate all the so-called "instrumental" earthquakes, whose records, as traced by the Vicentini microseismograph, show that their point of origin was in the locality or very close to it, and, moreover, a few, not exceeding 3 per cent, which were perceptible over a very limited area around Manila, for instance, in Rizal Province. All these disturbances are characterized by their large vertical component, the absence of appreciable preliminary tremors, and a relatively short duration. In this class have not been included those quakes which proceeded from known epicenters on the Island of Luzon, even though their records showed the characteristics mentioned, as usually happens during the aftershocks of violent earthquakes which originate on the island, at distances of 100 to 200 kilometers from Manila.

During the seven years under consideration (1902–1908) 796 of such local or instrumental disturbances have been recorded. It must, however, be stated that the observations for 1902 comprise only the ten months March to December, as the Vicentini microseismograph then acquired was not fully installed and in working order until the middle of February.

The following table shows the hourly distribution of these 796 tremors, together with the daily variation of atmospheric pressure in Manila, the latter being deduced from eleven years' observations, which period is sufficient to yield a very close approximation to the true value of the normal oscillation.

DIURNAL VARIATIONS OF THE FREQUENCY OF EARTHQUAKES AND THE BAROMETRIC PRESSURE, IN MANILA.

Earthquakes (1902–1908).		Normal atmospheric pressure deduced from eleven years.	
Hour interval.	Frequency.	Hour.	Barometric height.[1]
a. m.		*a. m.*	*mm.*
0–1	34	1	700+59.30
1–2	30	2	58.95
2–3	34	3	58.73
3–4	33	4	58.71
4–5	30	5	58.89
5–6	27	6	59.22
6–7	29	7	59.64
7–8	34	8	60.01
8–9	28	9	60.19
9–10	37	10	60.09
10–11	43	11	59.76
11–12	30	Noon.	59.26
p. m.		*p. m.*	
0–1	31	1	58.59
1–2	34	2	58.04
2–3	29	3	57.72
3–4	25	4	57.72
4–5	39	5	57.97
5–6	34	6	58.37
6–7	43	7	58.83
7–8	42	8	59.29
8–9	28	9	59.68
9–10	29	10	59.89
10–11	32	11	59.87
11–12	41	Midnight.	59.63

[1]Reductions to standard gravity = −1.72 mm. (not applied).

Figs. 1, 2, and 3 of Plate XII are graphical representations of the mean daily variation in the frequency of instrumental earthquakes and the atmospheric pressure. Fig 1 shows the mean daily frequency by hours. Two principal maxima and minima and one secondary maximum and minimum are clearly expressed. Summing up the earthquakes to form three-hour periods, we arrive at the result laid down in the curve of fig. 2, while fig. 3 represents the normal mean of the daily oscillation of atmospheric pressure.

The parallelism between the curves of figs. 2 and 3 is startling. It proves that at Manila the highest pressures are more favorable to the occurrence of instrumental earthquakes than low pressures.

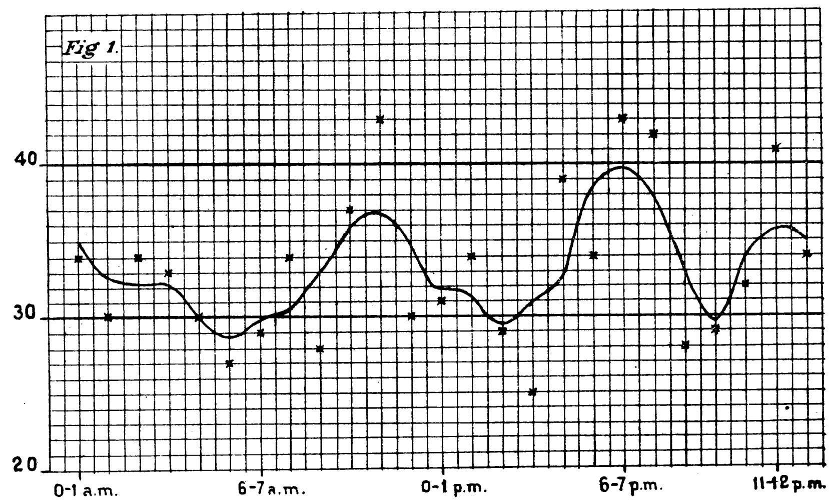
The reason of this parallelism seems to lie in the fact that these local earthquakes, beyond doubt, have their origin at very shallow depths, whence their frequency may be closely connected with the daily changes in the vertical pressure exercised by the atmosphere upon the crust of the earth. This is, at any rate, the opinion of the eminent seismologist, Prof. F. Omori, expressed in his "Notes on the Secondary Causes of Earthquakes,"[1] published in 1908. In this paper the reader will find a graphic description of the manner in which the variations in atmospheric pressure must have a tendency to produce new fractures or to modify those previously existing in the horizontal layers of the earth's crust, subject to lateral compressions, and thus give rise to instrumental earthquakes.

In paragraph 5 of the paper mentioned, the distinguished seismologist investigates the relation between the daily variation of atmospheric pressure and the hourly frequency of the "jinari" (subterranean noises, retumbos) observed at Arima, 1899–1900; while in paragraph 6 he institutes a comparison of atmospheric pressure and the instrumental earthquakes registered at the Central Observatory at Tokyo during the period 1877–1899. In both cases the result is the same: a curve of frequency almost parallel to that of the atmospheric pressure. Although Professor Omori's paper on the secondary causes of earthquakes has suggested to us the present notes, we are unable to follow him in the interesting comparison which he makes in paragraph 7 between the rainfall and local earthquakes, as regards Manila, as our series of observations does not extend over a sufficiently long period.

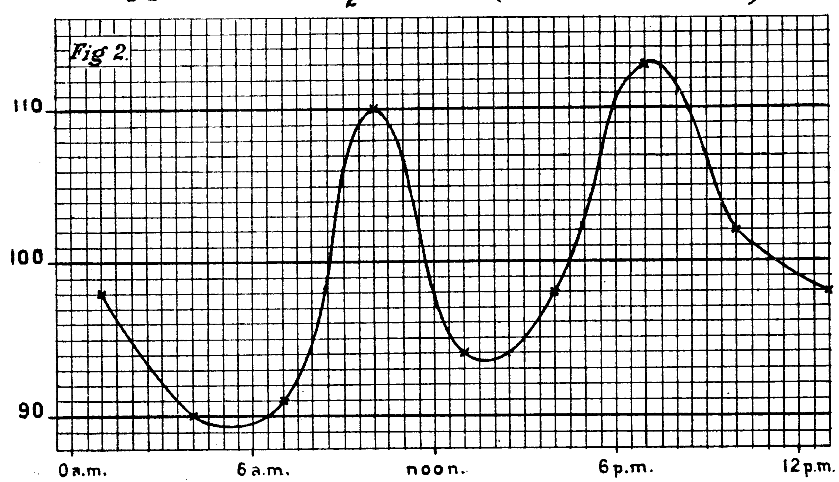
As regards the earthquake noises (retumbos, brontidi, mistpoeffers, jinari), it may be well to state that they appear to be neither so frequent nor so audible in the Philippine Archipelago as they are in other regions, where the people have special names to designate them. A special investigation has been begun on this point in compliance with the desire expressed by the Permanent Commission of the International Seismological Association, at its reunion at the Hague, 1907.

[1] Bulletin of the Imperial Earthquake Investigation Committee; Vol. II, page 105.—Japan.

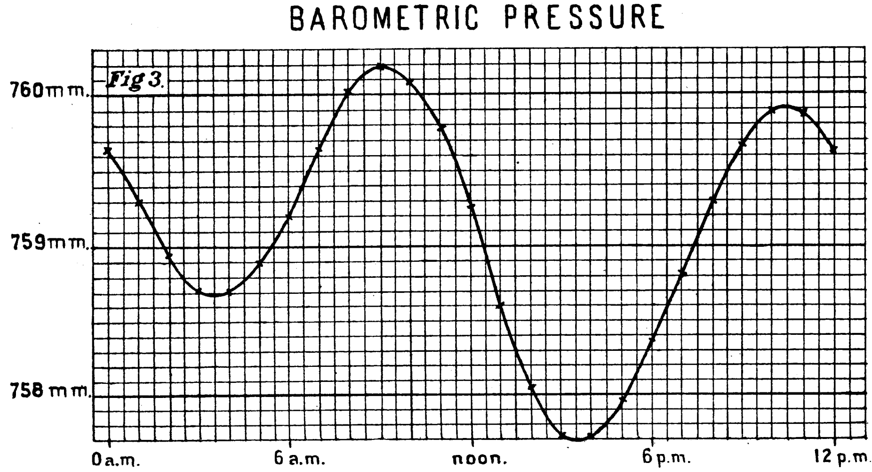
MEAN SEISMIC FREQUENCY *Plate XII.*



SEISMIC FREQUENCY (3 HOUR PERIODS)



BAROMETRIC PRESSURE



NOTA SOBRE LA FRECUENCIA DE LOS TEMBLORES DE TIERRA LOCALES Y LA PRESIÓN ATMOSFÉRICA EN MANILA, 1902–1908.

Entiendo por temblores de tierra locales todos los instrumentales, registrados por los microseismógrafos Vicentini, como de origen local ó muy cercano y algunos pocos, cuyo número no pasa del 3 por ciento, que fueron perceptibles en una área muy reducida al rededor de Manila, por ejemplo dentro de la Provincia Rizal, los cuales suelen distinguirse en los registros del seismógrafo, por su intensa componente vertical, por la carencia de movimientos precursores apreciables y por su duración relativamente corta. No se han incluído en esta clase aquellos que teniendo un epicentro conocido dentro de la Isla de Luzón hayan dejado un registro de los caracteres indicados, como suele suceder en los *aftershocks* que ocurren después de terremotos violentos originados á distancias de 100 á 200 kilómetros de Manila.

Durante el último período dé siete años (1902–1908) se han registrado 796 temblores de tierra locales ó instrumentales. El número correspondiente al año 1902 comprende tan sólo diez meses. Marzo-Diciembre, puesto que el Seismógrafo Vicentini no comenzó á funcionar hasta mediados de Febrero de dicho año.

Véase en el texto inglés una tabla que presenta la distribución horaria de estos 796 temblores, juntamente con la variación diaria de la presión atmosférica en Manila, deducida de once años; número suficiente para obtener un valor normal muy aproximado al verdadero.

En las figuras 1, 2, 3 (Lámina XII) están gráficamente representadas la variación de la frecuencia de temblores instrumentales y de la presión atmosférica. La figura 1 representa la variación séismica media diaria. En ella tenemos dos máximos y dos mínimos principales, y un máximo y un mínimo secundario. Sumando los números horarios de temblores de tres en tres horas se obtiene la figura 2, la cual representa el curso medio diario de la variación de la frecuencia de temblores instrumentales en Manila.

El paralelismo que existe entre fig. 2 y fig. 3 correspondiente á la variación diurna de la presión atmosférica es verdaderamente notable. Por él consta claramente que en Manila las máximas presiones son más favorables á la ocurrencia de temblores instrumentales que las bajas presiones.

La razón de tal paralelismo es porque siendo sin duda los temblores instrumentales de origen poco profundo, puede muy bien su frecuencia relacionarse íntimamente con los cambios que durante el día sufre la presión vertical de la atmósfera sobre la corteza terrestre. Este es por lo menos el parecer del eminente seismólogo Prof. F. Omori en sus "Notes on the Secondary Causes of Earthquakes,"[1] publicadas en 1908, donde puede verse una descripción gráfica de la manera como las variaciones de la presión deben tender á producir roturas ó á modificar las ya existentes en las capas horizontales de la corteza terrestre sujetas á presiones laterales, originándose así los temblores instrumentales.

En el párrafo 5 de las citadas "Notes" se estudia la relación entre la variación diurna de la presión atmosférica y la frecuencia horaria de los "Jinari" (ruídos subterráneos, retumbos) observados en Arima, 1899–1900, mientras que en el párrafo 6 se hace una comparación entre la presión atmosférica y los temblores de tierra instrumentales registrados en el Observatorio Central de Tokio, 1877–1899. El resultado en ambos casos es el mismo; obtener una curva de frecuencia casi del todo paralela

[1] **Bulletin of the Imperial Earthquake Investigation Committee; Vol. II, pág. 105.—Japan.**

á la de la presión. Aunque el artículo del Prof. Omori sobre las causas secundarias de los terremotos fué el que nos sugirió la presente nota, no podemos con todo seguirle en la interesante comparación que en el párrafo 7 hace entre la lluvia y los temblores locales por no poseer todavía una serie bastante larga de observaciones.

Con respecto á los ruidos de temblor, ó ruidos subterráneos (retumbos, brontidi, mistpoeffers, jinari) creemos útil el advertir aquí que en el Archipiélago filipino no parecen ser tan frecuentes ni audibles como en otras regiones donde existen vocablos vulgares propios para expresarlos. Sobre este particular sin embargo se ha comenzado una investigación especial conforme á los deseos manifestados por la Comisión Permanente de la Asociación Internacional de Seismología, en su reunión en la Haya, 1907.

92330——3

BULLETIN FOR SEPTEMBER, 1909.

METEOROLOGICAL BULLETIN FOR SEPTEMBER, 1909.

By Rev. José Coronas, S. J.,

Assistant Director of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean monthly atmospheric pressure was slightly higher than for September of the preceding year in the stations of the Visayas and in Mindanao, but a little lower in those on Luzon, especially in the northern part of the island. The barometric maxima were observed nearly everywhere on the 27th, while the minima occurred on the 14th and 15th in the Visayas, Mindanao, and southern Luzon, and on the 18th or 19th in central and northern Luzon.

The mean monthly temperature differed very little from that of September, 1908. For Manila, the difference from the normal was —0.6°C and from the mean of the preceding September only —0.4°C.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS SEPTEMBER, 1909.

Station.	Pressure.						Temperature.					
	Mean.	Departure from September, 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from September, 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.67	+0.33	760.77	27	755.61	15	27.6	+0.4	33.5	22	21.7	24
Surigao	57.59	+ .07	61.11	27	55.43	14	27.3	+ .2	34.5	18	22.5	29, 30
Cebu	57.70	0	61.28	27	55.56	14	26.9	— .2	33.1	20	22	8, 15
Iloilo	57.98	+ .23	61.49	27	55.92	14	26.4	— .3	33.9	1	21.9	10
Ormoc	57.65	— .08	61.18	27	55.57	14	26.4	+ .5	32.1	21	20.8	24
Tacloban	57.67	+ .13	61.52	27	55.26	15	27.6	— .6	34.7	15	22.2	16
Capiz	------	------	------	------	------	------	26.8	+ .4	33.6	10	------	------
Calbayog	57.84	+ .24	61.68	27	55.58	15	27.1	------	32.9	26, 29	21.5	24
Legaspi	57.23	— .11	61.09	27	54.65	14	27.2	+ .3	34.4	21	22.6	6, 17
Atimonan	56.97	— .28	60.82	27	54.38	14	27.1	+ .2	35.1	13	22.5	28
Manila	57.20	— .15	61.28	27	54.77	18	26.3	— .4	33.3	1	22.2	29
Olongapo	57.02	— .20	61.21	27	54.36	18	26.3	— .3	34.7	1	22.7	30
San Isidro	56.92	— .63	60.94	27	54.08	18	26.6	— .2	------	------	22.4	20
Dagupan	56.71	— .49	60.95	27	53.55	18	27.1	------	35.4	13	22.4	18, 19, 20
Bolinao	56.46	------	60.66	27	53	19	26.6	------	33.1	1	22.4	22
Baguio	635.04[1]	------	638.54[1]	27	631.59[1]	19	17.8	------	24.1	24	14.8	27
Vigan	756.58	— .71	761.20	27	752.70	19	26.9	------	33	1	22.6	18
Tuguegarao	56.31	—1.04	60.90	27	52.12	18	28.2	+ .8	37	9	21	28
Aparri	56.56	—1.28	61.43	27	52.03	18	27.7	+ .2	34.2	9	21.7	28

[1] Not reduced to sea level.

Precipitation.—Nearly all the stations on Luzon north of parallel 14° reported a total amount of rainfall in excess of that during September, 1908, while in the south of the Archipelago the differences were negative, except for Romblon, Iloilo, and Davao. The amount of water registered by the pluviographs of Manila Observatory surpassed the corresponding quantity for 1908 by 132.8 millimeters, but was nevertheless below the normal rainfall for the month by 4.9 millimeters.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF SEPTEMBER, 1909.

Station.	Total.	Departure from September, 1908.	Rainy days.	Departure from September, 1908.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from September, 1908.	Rainy days.	Departure from September, 1908.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	136.4	—193.9	14	— 4	27.2	2	Legaspi	230.4	—197.1	20	— 5	42.4	5
Isabela, Basilan	155.4	—230.1	15	— 5	28.4	30	Virac	101.6	— 47	15	— 7	17.5	23
Zamboanga	126.5	— 42.4	15	+ 7	23.1	23	Nueva Caceres	219.9	-------	19	-----	90.7	6
Davao	478.1	+250.4	12	+ 5	76.2	26	Batangas	166	—238.4	19	+ 3	30.5	24
Cotabato	148.3	—257.2	14	— 5	20.3	23	Atimonan	151	—575.8	14	— 9	29.3	24
Cagayan, Misamis	251.7	—110.7	19	— 3	33	2	Silang	409.5	— 22.3	16	+ 3	69.6	18
Butuan	130.3	—107.7	18	— 1	46.2	23	Sta. Cruz, Laguna	260.8	-------	16	-----	60.5	17
Tagbilaran	225.1	— 85.6	15	+ 1	127.5	23	San Antonio, Laguna	331.9	+ 20.1	16	+ 1	72.6	17
Surigao	188.1	—102.5	13	— 4	43.4	4	Manila	358.3	+132.8	21	— 4	57.6	18
Maasin	362.2	— 19.1	13	— 1	50.8	11	Olongapo	625.9	+366.1	24	+ 3	111.1	17
Cebu	157.3	—234.2	15	— 5	30	8	San Isidro	245.9	— 50.7	21	+ 1	82.8	17
Iloilo	494.5	+193.8	28	+ 9	68.1	25	Tarlac	329.3	+ 22.9	12	— 6	116.6	17
San Jose, Buenavista	751.4	—115	27	+ 5	75.7	4	Baler	180.4	-------	18?	-----	55.9	24
Ormoc	204.4	—396.9	17	— 2	41.1	3, 5	Dagupan	588.9	+355	19	+ 2	229.4	17
Tacloban	146.9	—107.6	13	— 5	40.7	23	Bolinao	827.1	+530	20	+ 2	184.9	17
Capiz	352.7	— 20.9	18	+ 1	90.7	2	Baguio, Benguet	740.1	+567.6	26	+ 8	121.6	17
Borongan	216.8	-------	16	-----	57.9	2	San Fernando, Union	432.6	+350.5	18	+ 5	96.5	20
Calbayog	157.1	—509.1	20	— 2	40.9	23	Echagüe	148.5	— 80	15	— 7	52.3	10
Palanoc, Masbate	107.7	-------	18	-----	28.4	29	Candon	375.4	+252.9	20	+ 6	109	20
Romblon	274	+ 56.7	24	+ 8	43.9	19	Vigan	548.5	+323.8	21	+ 5	108.8	19
Laoang	189.4	— 81.3	16?	+ 2	51.3	29	Tuguegarao	65.3	— 99.1	6	— 3	28.7	16
Gubat	100.9	—205.6	20	+ 6	15.2	16	Laoag	442.8	+260.5	16	+ 1	170.2	19
Sumay, Guam	496.2	+321.9	22	+ 1	129	12	Aparri	161	+ 40.6	9	— 1	52.6	27
Calapan	253.6	-------	18	-----	51.8	2	Sto. Domingo, Batanes Is	236.5	+ 35.4	20	0	95.5	20

DEPRESSIONS AND TYPHOONS.

Not a single typhoon crossed the Archipelago during this month of September. But the neighboring seas were the scenes of several depressions and typhoons, two of which latter traversed the Island of Formosa about the middle of the month within an interval of only about four days. A few short remarks about these atmospheric disturbances may suffice. Their tracks are shown on Plate XIII.

DEPRESSION OR TYPHOON OF SEPTEMBER 5 TO 12, 1909.

This disturbance was forming from the 5th to the 8th in the China Sea, west of Luzon; on the 9th it passed by the north of the Paracels, traversed the Gulf of Tongking on the 10th, and on the 11th had entered the continent, being then over northern Indo-China. Its direction was west-northwest.

The following cablegrams relating to this storm were exchanged between Manila and Hongkong observatories:

Manila:

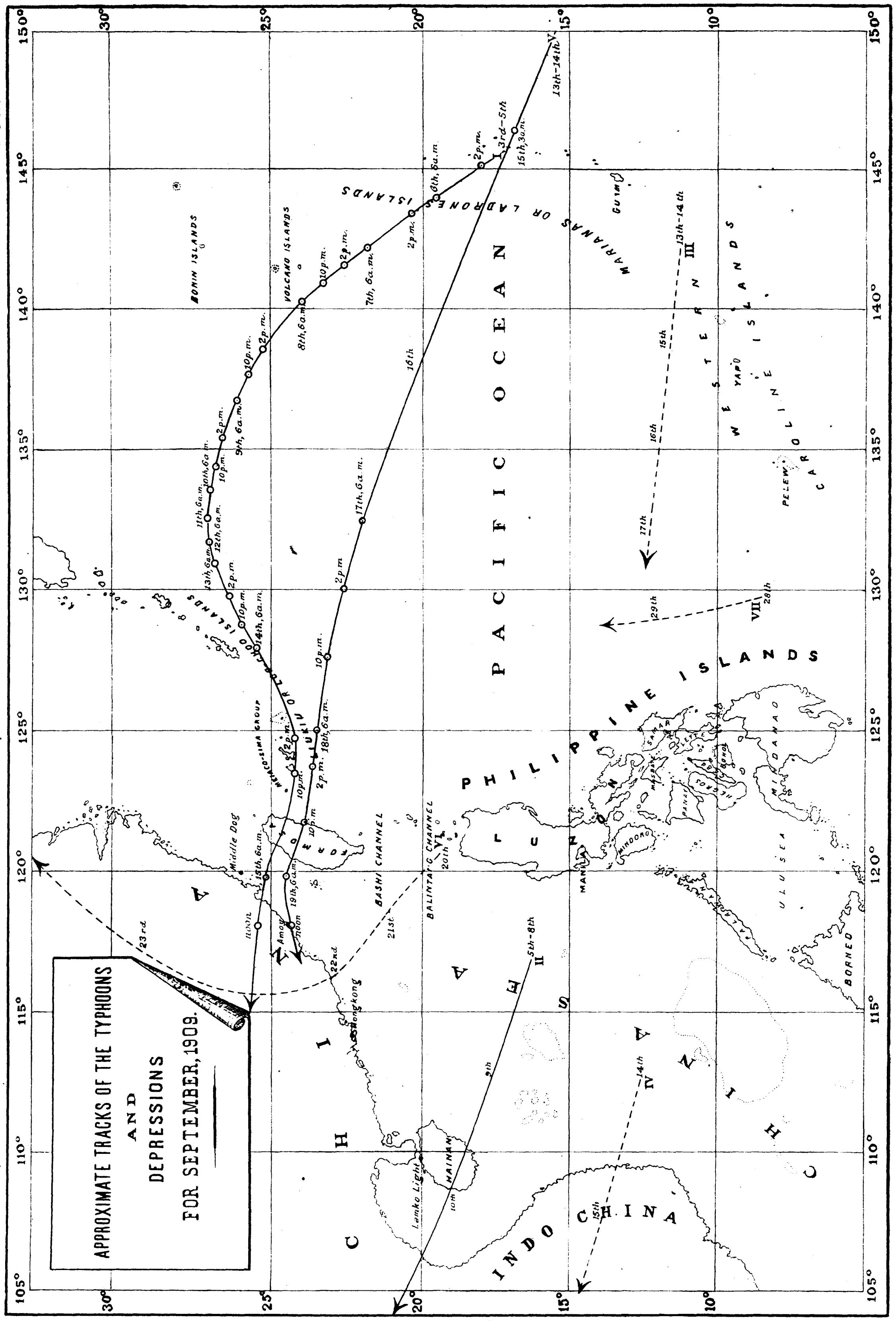
September 6, 11.20 a. m.: Depression northern part of China Sea.
September 7, 11.30 a. m.: Typhoon over northern China Sea, developing.
September 9, 11.30 a. m.: Typhoon over northern China Sea, moving WNW.

Hongkong:

September 7, 12.30 p. m.: Typhoon west of Luzon, direction of motion unknown.
September 9, 11 a. m.: Typhoon south-southeast of Hongkong, moving WNW.
September 10, noon: Typhoon near Hainan Straits, moving WNW.

The passage of the typhoon through the south of Hainan, as it appears on Plate XIII, is shown clearly by the observations made at Lamko light-house and given in the following table.

Plate XIII.



APPROXIMATE TRACKS OF THE TYPHOONS AND DEPRESSIONS FOR SEPTEMBER, 1909.

METEOROLOGICAL OBSERVATIONS MADE AT LAMKO LIGHT STATION, SEPTEMBER 9 AND 10, 1909.

Day and hour.	Pressure.	Wind.		Clouds.			Rain-fall.	Weather.	Sea.	Remarks.
		Direction.	Force.	Amount.	Form.	Direction.				
9th:	mm.		0-12.	0-10.			mm.			
3 a. m	754. 22	NW	4					o, v		
6 a. m	53. 32	NNW	5	9	Cu.	N		o, v	C.	
9 a. m	53. 43	NE	5	7	A.-Cu.	NE		c, v	C.	10.30 a. m. rain set in till 1.40 p. m.
Noon	52. 61	NE	6	10	N	NE		o, m, v	M.	
3 p. m	50. 56	NE	6	10	N	NE	31. 7	o, m	R.	
6 p. m	50. 10	NE	7	10	N	NE		o, m	R.	
9 p. m	50. 10	NE	7					o, m		
Midnight	50. 17	NE	7					o, m		
10th:										
3 a. m	49. 16	NE	7					o, m		
6 a. m	49. 16	ENE	6	10	N	NE		o, m	R.	
9 a. m	50. 05	E	6	9	Cu.	E		o, m	R.	
Noon	49. 90	E	4	8	A.-Cu.	E		c, m	M.	
3 p. m	50. 02	SE	4	7	Cu.	S		c, m	G.	
6 p. m	51. 68	SE	4	7	Cu.	S		c, m	G.	
9 p. m	54. 22	SE	4					c, m		
Midnight	54. 80	SE	3					c, m		

TYPHOON OF SEPTEMBER 5 TO 15, 1909.

Having formed in the vicinity of the Marianas Islands from September 3 to 5, it took first a northwest course; but when about midway between the Bonin and Loochoos Islands, it assumed a west and west-southwest direction, passing south of and very close to Naha Island in the early morning of the 14th, and crossing the Meiacosima group in the evening of the same day. From the evening of the 14th onward, the storm traveled westward and retained this direction while crossing the Island of Formosa and the channel of the same name. The vortex entered the continent in the morning of the 15th, to the northeast of Amoy, as may be seen from the observations made on board the steamer *Taisang,* which at the time was anchored in the last-named harbor, and from those of Middle Dog Station, in the northern part of the Formosa Channel.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "TAISANG" ANCHORED AT AMOY, SEPTEMBER 15, 1909.

[Capt. W. J. Davies.]

Day and hour.	Pressure.	Wind.		Remarks.
		Direction.	Force.	
15th:	mm.		0-12.	
3 a. m	748. 78	W	5	Amoy outer harbor. Barometer found to have fallen considerably and wind increasing.
4 a. m	47. 25	W	5	
5 a. m	45. 73	W	6	At daylight, dark heavy looking clouds in the sky almost stationary. Rain threatening. At 6 a. m. shifted ship to typhoon anchorage north of Kulangsen Island.
6 a. m	45. 22	W	6	
7 a. m	42. 94	W	7	Passing rain squalls.
8 a. m	41. 67	W	7	8. 30 a. m. continuous rain set in.
9 a. m	40. 40	W	6-8	
10 a. m	39. 13	W	7-9	Very heavy rain.
11 a. m	37. 86	WSW	7-9	Do.
11.30 a. m	38. 36	SWbyW	8	Sky clearer. Wind shifting to southward and rain taking off.
Noon	39. 38	SWbyS	6-8	
12.30 p. m	41. 16	S	6	
1 p. m	41. 67	SbyE	5	Rain ceased.
2 p. m	44. 21	S	5	Drizzling rain.
3 p. m	45. 73	SSE	6	Thick with rain.
4 p. m	47. 76	SEbyS	6	Shifted ship to inner harbor.
5 p. m	48. 78	SEbyS	5	Rain cleared. Lower clouds breaking and moving from south.
6 p. m	49. 79	SSE	4	

METEOROLOGICAL OBSERVATIONS MADE AT MIDDLE DOG STATION, SEPTEMBER 14 AND 15, 1909.

Day and hour.	Pressure.	Wind.		Clouds.			Weather.	Remarks.
		Direction.	Force.	Amount.	Form.	Direction.		
14th:	*mm.*		*0-12.*	*0-10.*				
3 a. m	757.71	NE	4				b, c, z	
6 a. m	56.51	NE	4	4	Cu.	N	b, c, z	
9 a. m	56.64	N	4	3	Ci.-S.		b, c, v	
Noon	55.24	NNW	4	3	Ci.-S.		b, c, v	
3 p. m	53.41	NNW	3	5	A.-Cu.		b, c, v	
6 p. m	52.65	N	3	8	A.-S.		c, v	
9 p. m	51.63	N	4				c, v	
Midnight	47.65	N	6				c, z	
15th:								
3 a. m	38.68	NNE	10				o, m, q, r	Lowest barometric reading, 734.85 mm?, at 5 a. m. Rain not heavy.
6 a. m	37.11	E	11	10	N	E	o, m, q, r	
9 a. m	48.23	ESE	7	10	N	E	o, m, r	
Noon	50.72	ESE	5	10	A.-S.		o. m, r	
3 p. m	51.89	ESE	3	10	A.-S.	S	o, z	
6 p. m	53.16	ESE	3	10	A.-S.		o, z	
9 p. m	54.94	ESE	2				o	
Midnight	56.69	ESE	2				o, z	

On September 14 the following notice was cabled by Manila Observatory to the various meteorological centers of the Far East:

September 14, 7 p. m.: Typhoon north of Meiacosima Islands, moving west.

While from Hongkong we received these informations:

September 14, 10.45 a. m.: Typhoon near Loochoo Islands, moving west.
September 15, 10 a. m.: Typhoon in middle part of Formosa Channel, moving west.

TYPHOON OF SEPTEMBER 13 TO 19, 1909.

This typhoon originated on September 13 to the east of the Marianas Islands, and crossed the latter on the 15th, between parallels 16° and 18° N. Its passage north of Guam made itself felt on that island by very strong winds from the third quadrant. The following table contains the observations made there on September 13 to 16.

METEOROLOGICAL OBSERVATIONS AT SUMAY, GUAM, LADRONE ISLANDS, SEPTEMBER 13 TO 16, 1909.

Day and hour.	Pressure.	Wind.		Remarks.	Date and hour.	Pressure.	Wind.		Remarks.
		Direction.	Force.				Direction.	Force.	
13th:	*mm.*		*0-12.*		15th:	*mm.*		*0-12.*	
6 a. m	757.40	SW	1	Rain from 10 p. m. 12th to 5 a. m. 13th.	9 a. m	755.04	SSW	7-9	Light rain.
2 p. m	55.20	SW	4	Rain at 9 a. m.	10 a. m	55.24	SSW	7-9	Do.
3.30 p. m	55.	WNW	4		11 a. m	54.97	SSW	7-9	Do.
6 p. m	55.25	WNW	4	Rain at 10 p. m.	Noon	54.77	SSW-SW	6-8	Do.
14th:					1 p. m	54.82	SSW	6-8	Sharp rain squall.
6 a. m	54.29	Calm			2 p. m	54.37	SW	5-7	Light rain.
10.30 a. m	54.52	E	2		3 p. m	55.22	SW	5-7	Do.
2 p. m	52.62	ESE	2		4 p. m	55.27	SSW	4-6	
4 p. m	52.52	ESE	2		6 p. m	55.57	SSW	5	
8 p. m	53.77	SE	1		16th:				
15th:					6 a. m	58.12	S	3	
6 a. m	53.59	SW	7-9	3 a. m. to 6 a. m. very heavy squalls at intervals.	10.30 a. m	59.57	WSW	5	Passing rain at 11 a. m.
7 a. m	54.22	SSW	7-9	Light rain.	2 p. m	57.70	SSW	3	
8 a. m	54.72	SSW	7-9	Do.	6 p. m	58.67	SE	2	

According to a letter of Rev. Fr. Gallus, O. M. C., missionary on Saipan, an Island about 2° north of Guam, very strong southwest winds blew on the said island during the whole of the 15th, accompanied by a considerable fall of the barometer.

This storm is very probably identical with the one which crossed Formosa during the night of September 18 to 19 on a westerly track. The observations kindly furnished by Capt. W. J. Davies of the steamer *Taisang,* which form the contents of the subjoined table, show very well the passage of this vortex by the south of Amoy at about noon of September 19.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "TAISANG" ANCHORED AT AMOY, SEPTEMBER 19, 1909.

[Capt. W. J. Davies.]

Day and hour.	Pressure.	Wind.		Remarks.
		Direction.	Force.	
19th:	*mm.*		*0-12.*	
6 a. m	746.75	W	4	Shifted ship to typhoon anchorage to take passengers on board.
8 a. m	46.49	W	5	
10 a. m	46.24	W	6	10.45 a. m. wind shifted suddenly from W to NE through N. Rain cleared with hard squall.
11 a. m	44.71	NE	7	
Noon	45.98	ENE	5	Weather moderating and wind hauling to S.
1 p. m	47.25	ESE	3	
4 p. m	48.27	SE by E	3	
8 p. m	50.81	NE by E	3	

In connection with this disturbance Manila Observatory issued the following warnings to Hongkong, etc.:

September 16, 11 a. m.: Typhoon west of the Ladrones or Marianas Islands, moving W or WNW.
September 17, 4 p. m.: Typhoon west of the Ladrones or Marianas Islands, direction unknown.
September 18, 3.30 p. m.: Typhoon south of Meiacosima Islands, moving WNW.

Hongkong on its part favored us with the following notices:

September 18, 12.30 p. m.: Typhoon east of Formosa, moving WNW.
September 19, 12.30 p. m.: Typhoon on mainland near Amoy, moving WNW.

DEPRESSION OR TYPHOON OF SEPTEMBER 13 TO 17, 1909.

The reader has probably been struck by the fact that light winds from east, east-southeast, and southeast were observed at Guam on September 14, at a time when, according to the track of the preceding typhoon, the vortex of the same was to the northeast of that station. We believe that this anomaly must be explained by the existence of another cyclonic center situated between Guam and Yap on the 13th and 14th. The following table, containing the observations of Yap for September 13 to 17, will enable him to compare the weather conditions of the two stations, as those of Guam have been given in a preceding table.

METEOROLOGICAL OBSERVATIONS MADE AT YAP, WESTERN CAROLINES, SEPTEMBER 13 TO 17 1909.

Day and hour.	Pressure.	Wind.		Day and hour.	Pressure.	Wind.	
		Direction.	Force.			Direction.	Force.
13th:	*mm.*		*0-12.*	15th:	*mm.*		*0-12.*
2 p. m	755.6	W	4	2 p. m	754.3	SW	3
14th:				16th:			
4 a. m	55.6	W	4	6 a. m	56	SW	2
6 a. m	55.2	W	2	2 p. m	55	SSE	3
2 p. m	54.8	WSW	4	17th:			
15th:				6 a. m	58.8?	SE	3
6 a. m	55.	WSW	4	2 p. m	55.9	E	3

A careful comparison of the barometric pressures and the winds observed at Guam and Yap led us at the time to suspect the simultaneous existence of two centers. This assumption explains for instance: (1) Why at Guam the winds were so light during the 14th, despite the fact that the barometric minimum occurred on that day, since the effects of two depressions or typhoons, of which the one lay to the northeast and the other to the southwest must have neutralized each other as far as the force of the wind is concerned. (2) Why at Yap, with lower barometer than Guam, the wind came decidedly from southeast since 2 p. m. of the 16th, while at Guam, situated 6° 30′ east of Yap, no southeast winds were recorded until 6 p. m. of the same day.

We believe that the depression in question originated between Guam and Yap during September 13 and 14. It must have advanced with a strong westerly inclination and filled up before reaching the Philippines.

The following cablegrams informed the foreign observatories of the position and probable direction of this atmospheric disturbance:

September 14, 7 p. m.: Typhoon north of Western Carolines, direction unknown.
September 16, 11 a. m.: Typhoon northwest of Yap, moving W or WNW.
September 17, 4 p. m.: Typhoon east of the northern Visayas or southeastern Luzon, moving W or WNW.

DEPRESSIONS OF SEPTEMBER 14 TO 16 AND 28 TO 30, 1909.

These two depressions seem to have been of little importance; nor are their tracks, as given, more than probable. The first formed in the China Sea on the 14th and, moving toward WbyN, penetrated into Annam in the early morning of the 15th. The second appears to have developed on the 28th between the Pelew Islands and Mindanao and after moving in a northerly direction, filled up during the afternoon or night of the 29th, being at the time in the region bounded by the parallels 13° and 15° N and the meridians 127° and 130° E.

DEPRESSION OF SEPTEMBER 20 TO 25, 1909.

This depression appeared on September 20 in the vicinity of the Balintang Channel and, following a NW course, entered the continent south of Amoy on the 22d. The following table shows how the disturbance was felt on board the steamer *Taisang,* en route from Amoy to Manila:

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "TAISANG" SEPTEMBER 20 TO 22, 1909.

[Capt. W. J. Davies.]

Day and hour.	Position.		Pressure.	Wind.		Remarks.
	Latitude north.	Longitude east.		Direction.	Force.	
20th:	° ′	° ′	*mm.*		*0–12.*	
8 a. m			751.83	NE	3	At 6 a. m. left Amoy.
Noon	23 58	118 48	50.81	NE	3	
4 p. m			50.05	NE	3	4.30 p. m. at Pescadores Islands.
8 p. m			50.30	NE	3	Moderate southerly swell.
Midnight			50.30	Calm		Do.
21st:						
4 a. m			50.05	Calm		Do.
8 a. m			50.30	Southerly	2	Do.
Noon	20 55	119 27	50.30	SW	3	Do.
4 p. m			50.30	Southerly	5	
8 p. m			50.81	SSW	6	
Midnight			50.05	Southerly	5–7	
22d:						
4 a. m			51.32	Southerly	6	
8 a. m			52.33	Southerly	6	
Noon	18 44	119 41	53.10	Southerly	6	
4 p. m			52.84	Southerly	6	
8 p. m			53.35	SSW	4	
Midnight			53.60	Southerly	4	

Once within the mainland, the depression seems to have recurved, being probably identical with the one which crossed southern Korea from west to east on the 24th and the southern part of Nippon Island on the 25th. During the night of September 25 it was already in the Pacific Ocean, east of Japan.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La media mensual de la presión atmosférica es algo superior á la de Septiembre del año pasado en las estaciones de Visayas y Mindanao, y algo inferior en las de Luzón, especialmente en el norte de la isla. Las mayores presiones se observaron en todas partes el 27, y las menores el 14 ó 15 en Visayas, Mindanao y sur de Luzón, y el 18 ó 19 en el centro y norte de Luzón.

La temperatura media mensual no difiere mucho de la de Septiembre, 1908. La de Manila se diferencia de la normal en —0.6°C, y de la media mensual del año pasado en —0.4°C.

Precipitación acuosa.—Casi todas las estaciones de Luzón al norte de los 14° Lat. N nos dan un total de lluvia mayor que el de Septiembre, 1908. En cambio, en la región meridional del Archipiélago las diferencias son negativas á excepción únicamente de las estaciones de Romblón, Iloílo y Dávao. La cantidad de agua recogida en los pluviómetros del Observatorio Central supera la del año pasado en 132.8 mm., pero es inferior á la normal de este mes en 4.9 mm.

DEPRESIONES Y TIFONES.

Ningún tifón ha atravesado el Archipiélago durante este mes de Septiembre. Sin embargo, en los mares vecinos han desfogado varias depresiones y tifones, dos de los cuales atravesaron la Isla de Formosa hacia mediados del mes, con solos unos cuatro días de intervalo. Diremos algo, aunque sea muy brevemente, sobre estas perturbaciones atmosféricas, cuyas trayectorias damos en la lámina XIII.

Depresión ó tifón de 5 á 12 de Septiembre.—Esta depresión ó tifón se formó del 5 al 8 en el Mar de China al W de Luzón; el 9 pasó por el norte de las Islas Paracels; atravesó el 10 el golfo de Tongking, y el 11 se hallaba en el Continente sobre la región septentrional de Indochina. Su dirección fué al WNW.

Véanse á continuación los avisos de tifón dados por el Observatorio de Manila desde la mañana del 6:

Día 6, 11.20 a. m.: Depresión en la parte norte del Mar de China.
Día 7, 11.30 a. m.: Tifón en la parte N del Mar de China, desarrollándose.
Día 9, 11.30 a. m.: Tifón en la parte N del Mar de China, moviéndose al WNW.

Del Observatorio de Hongkong recibimos estos telegramas:

Día 7, 12.30 p. m.: Tifón al W de Luzon, dirección desconocida.
Día 9, 11 a. m.: Tifón al SSE de Hongkong, moviéndose al WNW.
Día 10, mediodía: Tifón cerca del estrecho de Hainán, moviéndose al WNW.

El paso del tifón á través del S de Hainán, tal como aparece en la trayectoria que damos en la lámina XIII, se echará de ver por las observaciones hechas en la estación del Faro Lamko (véase el texto inglés).

Tifón de 5 á 15 de Septiembre.—Formado este tifón del 3 al 5 en los alrededores de las Islas Marianas, se movió primero al NW hasta que al llegar á la mitad de distancia próximamente entre las Islas Bonín y Liukiu se dirigió al W y WSW, pasando muy cerca por el Sur de Naha la madrugada del 14, y atravesando el grupo de Meiacosima al anochecer del mismo día. Desde la tarde del 14 se movió el tifón casi al W conservando esta dirección á través de la isla y del canal de Formosa. El vórtice penetró en el Continente la mañana del 15 por el Nordeste de Amoy, según puede verse por las observaciones hechas á bordo del vapor *Taisang*, fondeado á la sazón en dicho puerto, y por las de la estación de Middle Dog, en el Norte del canal de Formosa (véanse en el texto inglés).

El Observatorio de Manila envió el día 14 este aviso de tifón á todos los Servicios Meteorológicos del Extremo Oriente:

Día 14, 7 p. m.: Tifón al N de Meiacosima, moviéndose al W.

Del Observatorio de Hongkong recibimos estos telegramas:

Día 14, 10.45 a. m.: Tifón cerca de las Islas Liukiu, moviéndose al W.
Día 15, 10 a. m.: Tifón en la parte central del canal de Formosa, moviéndose al W.

Tifón de 13 á 19 de Septiembre.—Se formó este tifón el 13 al E de las Marianas y cruzó dichas islas el día 15 por entre los paralelos 16° y 18°. Su paso se dejó sentir en Guam con vientos muy duros del 3.er cuadrante. Véanse en el texto inglés las observaciones hechas en aquella estación del 13 al 16 de Septiembre. Según carta del P. Gallus, Observador de Saipán, isla situada unos dos grados al N de Guam, soplaron también allí vientos muy duros del SW todo el día 15 con un notable descenso de los barómetros.

Tenemos como muy probable ser éste el tifón que cruzó la Isla de Formosa la noche del 18 al 19 moviéndose al W. Las observaciones hechas á bordo del vapor *Taisang* y que publicamos en el texto inglés sirven perfectamente para hacer ver el paso del vórtice por el sur de Amoy á eso de mediodía del 19.

El Observatorio de Manila envió á Hongkong, etc. estos telegramas referentes á este tifón:

Día 16, 11 a. m.: Tifón al W de las Islas Marianas, moviéndose al W ó WNW.
Día 17, 4 p. m.: Tifón al W de las Islas Marianas, dirección desconocida.
Día 18, 3.30 p. m.: Tifón al S de Meiacosima, moviéndose al WNW.

El Observatorio de Hongkong nos remitió á su vez estos avisos de tifón:

Día 18, 12.30 p. m.: Tifón al E de Formosa, moviéndose al WNW.
Día 19, 12.30 p. m.: Tifón en el Continente cerca de Amoy, moviéndose al WNW.

Depresión ó tifón de 13 á 17 de Septiembre.—Habrá llamado sin duda la atención de nuestros lectores los vientos flojos del E, ESE y SE observados en Guam el día 14 cuando, según la trayectoria del tifón anterior, el vórtice demoraba hacia el NE de aquella estación. Á nuestro modo de ver, debe buscarse la explicación de esto en la existencia de otro centro ciclónico simultáneo situado del 13 al 14 entre Guam y Yap. Las observaciones hechas en esta última estación del 13 al 17 van en una tabla que acompaña el texto inglés. Una atenta comparación de las alturas barométricas y de los vientos observados en ambas estaciones nos movió á suponer desde un principio la coexistencia de dos centros ciclónicos. Así se explica, por ejemplo, (1) cómo fueron tan flojos los vientos en Guam durante todo el día 14, á pesar de haberse registrado en él la mínima barométrica, pues los efectos de dos depresiones ó tifones situados uno al NE y otro al SW debían naturalmente quedar neutralizados; y (2) cómo en Yap con barómetro más bajo que en Guam los vientos se declararon decididamente del SE desde 2 p. m. del 16, siendo así que en Guam, estación situada á 6° 30′ E de Yap no hallamos anotados vientos del SE hasta 6 p. m. del 16.

Esta depresión que suponemos formada entre Guam y Yap durante los días 13 y 14 hubo de moverse muy inclinada al W y deshacerse el 17 ó 18 antes de llegar á Filipinas. He ahí los telegramas que envió el Observatorio á Hongkong, etc., dando cuenta de la posición y dirección probable de esta perturbación atmosférica:

Día 14, 7 p. m.: Tifón al N de las Carolinas Occidentales, dirección desconocida.
Día 16, 11 a. m.: Tifón al NW de Yap, moviéndose al W ó WNW.
Día 17, 4 p. m.: Tifón al E de las Visayas Septentrionales ó de la parte sudeste de Luzón, moviéndose al W ó WNW.

Depresiones de 14 á 16 y de 28 á 30 de Septiembre.—Estas dos depresiones parecen haber sido de poca importancia, y sólo podemos dar á sus trayectorias un valor algo probable. La primera se formó el 14 en el Mar de China, movióse al W¼NW y penetró en Annam la madrugada del 15. La segunda parece haberse formado el 28 entre Palaos y Mindanao y haberse movido hacia el norte viniendo á deshacerse la tarde ó noche del 29 entre los paralelos 13° y 15° N y los meridianos 127° y 130° E.

Depresión de 20 á 25 de Septiembre.—Apareció esta depresión el día 20 en los alrededores del canal de Balintang, y, moviéndose al NW, vino á penetrar en el Continente por el S de Amoy el día 22. Sintió la influencia de esta depresión el vapor *Taisang* en viaje de Amoy á Manila, según puede verse por las observaciones que incluímos en una tabla en el texto inglés. Una vez en el Continente parece que recurvó, siendo probablemente la misma depresión que atravesó el 24 el sur de Korea y el 25 el sur de la Isla Nippon moviéndose casi al E. La noche del 25 se hallaba ya en el Pacífico al E 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.	Air temperature.[2] Mean.	Air temperature. Maximum.	Air temperature. Minimum.	Underground temperature. 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.	Evaporation. Shelter, total.
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	mm.	mm.
1	757.92	27.2	33.3	22.8	28.8	30.4	29.6	29.8	28.9	28.9	82.5	21.9	--------	2.3
2	58.12	26.4	31	23	29.2	29.7	29.6	29.7	29	29	85.4	21.8	--------	1.2
3	58.10	25.8	30.3	23	28.5	29.4	29.3	29.6	28.9	28.9	86	21.1	--------	1.4
4	57.45	26	31.5	23.3	28.3	29.2	29.3	29.3	29	29	86.6	21.5	--------	1.2
5	56.62	26.3	30.4	23.4	28.6	29.4	29.2	29.4	29	29	85.4	21.6	--------	1.4
6	55.99	26.4	31.7	23.5	28.7	30	29.3	29.4	29	29	84.9	21.7	--------	1.8
7	55.45	26.7	31.4	23.3	28.9	29.8	29.4	29.7	29.1	29	84	21.7	--------	1.8
8	55.53	25.5	29.6	23.5	28.7	29	29.3	29.4	29	29	90.1	21.8	--------	1.5
9	56.26	26.9	31.4	24	28.5	29.4	29.3	29.4	29	29	81.1	21.3	--------	2.2
10	57.52	26.6	30	23.6	28.4	29.4	29	29.4	28.8	29	85.6	22	--------	1.8
11	57.34	25.7	28.2	23.3	28	28.3	29	29	28.9	29	86.8	21.3	--------	1.2
12	55.90	26.2	30.5	23.1	28	28.7	28.9	29	28.9	29	85.4	21.5	--------	1.6
13	55.48	27.6	31.8	22.7	28.2	29.4	28.9	29	29	29	79.3	21.5	--------	2.6
14	54.88	28	31.7	24.2	28.8	29.8	29.1	29.3	28.9	29	78	21.8	--------	3.5
15	55	27.9	31.3	23.6	29	29.8	29.3	29.5	28.9	29	80	22.4	--------	2
16	56.80	25.8	28.3	23.5	28.2	28.5	29.2	29.2	28.9	29	85.1	20.9	--------	1.9
17	56.18	25.8	29.9	23	28	28.2	28.9	28.6	28.9	29	84.9	20.9	--------	1.7
18	54.77	25.1	26.5	23	27.2	27.2	28.5	28.2	28.7	28.9	88.9	21	--------	.3
19	55.28	24.8	28.6	23	26.8	27.1	28	27.9	28.8	29	90.2	20.9	--------	.5
20	56.64	24.5	27.2	22.7	26.4	26.8	27.6	27.5	28.8	28.9	90.5	20.7	--------	.9
21	57.63	26.7	31.6	22.7	26.5	28	27.6	27.9	28.7	28.9	86.3	22.3	--------	1.4
22	59.38	27.1	30.9	23.9	27.5	28.5	27.8	28	28.8	28.9	83.5	22	--------	2
23	59.79	25.8	31.5	23.2	27.8	28.6	28	28.1	28.6	29	89.6	22	--------	1.1
24	58.22	26.2	30.4	23.4	27.6	28.4	28.2	28.4	28.6	28.9	87.9	22.1	--------	1.5
25	57.32	26.2	30.8	24	28	28.7	28.3	28.3	28.7	29	88.1	22.1	--------	1.1
26	58.80	26.8	30.8	24	28.1	29	28.4	28.6	28.6	29	85	22.2	--------	1.7
27	61.28	27	32	23.6	28.1	29.2	28.5	28.8	28.5	29	79.5	20.7	--------	2.3
28	60.52	25.8	31.5	22.5	28.2	29.2	28.6	28.8	28.6	29	84.4	20.7	--------	1.6
29	58.23	26.6	31.9	22.2	28	28.8	28.5	28.8	28.5	29	82.7	21.3	--------	1.7
30	57.64	27	32.3	23	28.3	29	28.7	28.8	28.5	29	83.2	21.9	--------	1.6
Mean	757.20	26.3	30.6	23.3	28.1	28.9	28.8	28.9	28.8	29	85	21.6	--------	1.6
Total														48.8
Departure from normal	— .31	— .6	0.0	— .3							— .6	— .9		

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.	Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	Km.		0–10.			h. m.	mm.	
1	E quad.	136.5	16	NNE	6.2	Ci. S, SE	Cu. E	6 00	--------	Ω ≡ a. ⌈ʓ ᐸ p.
2	NE, E	121.5	16.5	WNW	9.7	Ci.-S. S by E	Cu.-N. ESE	1 30	6.3	≡ ⌈ʓ a. p. ● p.
3	ENE, S	166	17	NNW	9.4	Ci.-S. E by S	S.-Cu. NE	0 40	10.7	● a. p. ⌈ʓ p.
4	NW	109	12.5	NW by W	9	A.-Cu. E	Fr.-N. NE	2 35	1.3	≡ a. ⌒ ⌈ʓ ⊤² ●° p.
5	Variable	67.5	8	SSE	9.6	A.-Cu. ESE	Cu.-N. ESE	2 05	--------	⌈ʓ° ≡° a. d p.
6	SE quad.	141	14.5	S	8.8	Ci.-S. SE	Cu.-N. SW quad.	3 50	5.1	Ω ≡ a. ● ⊤° p.
7	SE	226.5	20	WSW	8.8	Ci.-S. E quad.	Fr.-N. S	5 20	7.2	≡° a. ⌈ʓ p. ● a. p.
8	WSW	367	41	SW	9.8	Ci.-S.	Cu.-N. SW	2 05	37.6	↙ ⊕ p. ● a. p.
9	WSW	465.5	46	WSW	8.8	A.-Cu. SSE	Fr.-N. WSW	3 25	1.4	↙ ●° a. p. ≡ p.
10	WSW	397.5	34.5	SW by W	9.5	A.-Cu. W, WNW	Cu., Fr.-N. WSW	0 35	28.8	↙° ● a. p.
11	SW	423	35.5	SW	9.8	Ci.-S.	Cu.-N. WSW	0 00	23.2	↙° ◯ p. ● a. p.
12	WSW	214	22	WNW	8.4	A.-Cu. SE by E	Cu.-N. WSW	3 35	4.1	≡° a. ⌈ʓ° p. ●° a. p.
13	SW	205.5	19	SW	5.2	A.-Cu. SE	Cu. SW	8 20	--------	≡ a. ᐸ p.
14	WSW	357	36	WSW	4.7	Ci.	Cu. SW	9 20	.8	≡° a. ↙° ● p.
15	WSW	575.5	36	WSW	9.2	Ci.-S.	Cu. W, WSW	2 40	15.3	d a. ● p. ↙° a. p.
16	W	332	26	WNW	10	Ci.-S.	N. WSW, WNW	0 00	38.3	↙° ● a.
17	WSW	547	40	WSW	9.9	A.-Cu. NW by N	Fr.-N. W	1 00	28.6	↙° d a. ↙° ● p.
18	WSW	1,021	62	WSW	9.9	Ci.-Cu. WNW	Fr.-N. WSW	0 00	57.6	↙ ● a. p.
19	SSW	446	60	SW by W	10	Ci.-S.	N. WSW	0 00	41.9	↙° a. ● a. p.
20	SSW	386	37	WSW	10	Ci.-S.	N. SW by S	0 00	17.6	↙° ● a. p.
21	SE	124	11.5	W	9.1	A.-Cu. SE, SW	Cu. Variable	4 00	--------	≡ a.
22	W quad.	135	12.5	W	8.6	Ci.-S. NE	Cu. E	4 20	--------	≡ a. ◯ a. p.
23	Variable.	109.5	14	WNW	7.6	Ci. E by S	Cu. NE by N	5 20	11.3	≡ ◯ a. ● ⌈ʓ ᐸ p.
24	Variable.	184.5	19	NE	9	Ci.-S. SE	Cu. NE, ENE	1 55	15.1	⌈ʓ a. ● a. p.
25	NE, SW	89	14.5	WSW	9.2	Ci.-S.	N.-cf. SSE	0 55	1	●° ≡ a. ⊤ d p.
26	SW	180	21	WSW	7.8	Ci.-S. S	Cu.-N.	4 40	5.1	≡° ◯° a. ⌈ʓ ⌒ ● p.
27	WSW	170	22	WSW	7.2	Ci.-S. W	Cu.	4 45	--------	≡° a. ᐸ p.
28	NE	126	19	W	5.2	A.-Cu. WSW	Cu. E	6 45	--------	≡ a. ⊤ d° p.
29	WSW	132.5	12.5	W	4.8	Ci.-S. SE	Cu. NE	8 10	--------	≡° a. ᐸ ⊤° p.
30	Variable	121.5	17	WSW	6.5	Ci.-S.	Cu. E	5 25	--------	≡° a. ᐸ d p.
Mean		269.2	25.4		8.4			3 18	--------	
Total								99 15	358.3	
Departure from normal		— .1			+ .7			—41 23	—4.9	

[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.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.					mm.	
1	757.46	26.8	30.8	23.7	85.2	NNE	1.5	8.2	Ci.-S.		Cu.-N.	E	14.7	● a. <² Γ< d° p.
2	57.47	26.4	30.2	22.5	84.5	NW quad.	1.3	10	Ci.-S.		N., Cu.-N.	E	21.7	● a. T° p.
3	57.78	26.6	31.2	22	81.5	Variable	1.3	9.8	A.-Cu.		Cu.-N.	E	1.9	● d° a. ●° p.
4	57.82	26.8	31	24.5	80.1	SSW	2.5	9.2	Ci.-S.		Cu.-N.	SW	1.5	d² p.
5	58.40	26	30.3	23.5	79.2	SW	2.7	10	Ci.-S.		Cu.-N.	SW	3.6	d° ●° p.
6	57.61	27.3	31.6	24.2	78	SW quad.	1.5	9.2	A.-S.		Cu.-N.	SW	------	
7	57.32	28.2	31.1	25.3	72.5	S quad.	2.2	10	Ci.-S.		Cu.-N.	SW	1	
8	57.29	27.2	30.5	24.3	73.8	S quad.	2.5	9.3	Ci.-S.		Cu.-N.	SW	2.5	↙ d a. p.
9	57.49	27.9	31.4	24.3	72.3	SSW	2.5	9.2	Ci.-S.		Cu.	SW	------	
10	57.91	28.5	32.5	25.9	75.7	SW quad.	2.2	7.8	Ci.-S.		Cu.	SW	------	
11	57.76	27.7	31.7	25.6	75.3	SW	2.3	8.8	Ci.-S.		Cu.	SW	2.8	< a. ● p.
12	57.12	28.1	31.5	25.7	76.7	SE	2.3	8.2	Ci.-S.	E	Cu.	SW	.5	
13	56.69	28.6	32.4	25.4	70.3	SSW	1.8	6	Ci.-S.		Cu.	SW	------	d° ⌒ a. <² p.
14	55.65	29	32.5	25.9	69.5	SW quad.	2.2	5.5	Ci.-S.		Cu.	SW	------	
15	55.61	28.6	32.6	26.5	71.5	SW	3.7	7.2	Ci.-S.		Cu.	SW	------	
16	56.34	28.3	31.2	24.7	76.3	SW quad.	2.7	9.2	Ci.-S.		Cu.	SW	.8	d <° p.
17	57.46	26.8	29.3	24.7	80	SW	2.2	10	A.-S.		Cu.-N.	SW	.5	d a.
18	56 68	28.5	32.2	25.9	70.5	SW	2.2	9.2	Variable		Cu.	SW	------	
19	56.92	28.8	31.7	24.8	72	SE	1.7	8	Ci.-S.		Cu.	SW	------	
20	57.78	28.4	31.2	24.8	76.2	SE, WNW	1.2	7	Ci.-S.		Cu.	SW	------	
21	58.16	28	31.4	24.2	77.2	N, SE	1.2	6.7	Ci.-S.		Cu.-N.	ESE, E	------	T p.
22	58.80	28	33.5	24.3	77.2	E quad.	1.7	7.2	Ci.-S.		Cu.	E	10.4	T d° ● p.
23	58.81	26.7	29.4	23.3	82.2	SW, SE	1.3	9.7	A.-S.		Cu.-N.	E	127.5	● Γ< < d ●²
24	58.71	26.1	31.5	21.7	82.5	SE	2	9.7	A.-S.		Cu.-N.	SW	------	
25	58	27.8	31.2	25.1	74.5	SW	2.2	7.5	A.-Cu.		Cu.	SW	------	
26	59.06	28	32.3	25.9	73.2	SSW	2	9.3	Ci.-S.		Cu.-N.	SW	------	d° p.
27	60.77	27.9	32.2	24.3	74	SE	1.5	8.8	Ci.-S.		Cu.-N.	SW	------	T° ⌒ ∪ p.
28	59.61	27.3	31	23.7	79.5	Variable	1	9.7	A.-S.		Cu.-N.	Variable	8	● p.
29	57.01	27.2	31.6	23.7	81.3	SE	1.3	8.3	A.-S.		Cu.-N.	NNE	4.6	d T < p.
30	56.63	26.8	31.1	23.8	82.8	NNE, WNW	1.3	9.2	A.-S.		Cu.-N.	NE	23.1	●° a. d° p.
Mean	757.67	27.6	31.4	24.5	76.8	------------	1.9	8.6	------------		------------		------	
Total	------	------	------	------	------	------------	------	------	------------		------------		225.1	

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.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.					mm.	
1	757.65	26.7	31.3	24	87.3	N, ESE	0.2	7.5	Variable		Cu.	ENE	16	Ω² ● a. Γ<² d° p.
2	57.67	26.3	30.9	23.5	88.5	SSE, NE	.2	8.7	Ci.-S.	SE	Fr.-N.	E	4.8	●° a.
3	57.57	25.8	29.5	23	88.8	NW, WNW	.3	9.2	Ci.-S, A.-Cu.	E	N.-cf.	SW	5.1	● a. p.
4	57.50	26.9	31.6	23.8	80.7	W	1.8	8.8	A.-Cu.	SE	N.-cf.	W	43.4	●² p.
5	57.39	25.9	29	23.7	80.8	SW, WSW	3.2	10	A.-S.		Fr.-N.	W, SW	3.3	● a. ↙° p.
6	57.33	28.1	31.9	25.3	71.8	SW	.7	9.7	Ci.-S.	N	S.-Cu.	SW	------	
7	57.22	27.9	30.5	26.4	81.2	SW quad.	.4	9.7	Ci.-S.		N.-cf.	SW	4.3	Ω² ⊥ a. <° p.
8	57	26.4	31	23.4	82.6	SW	.8	9	Ci.-S., A.-S.		Fr.-N.	SW	------	<² ↙° ● a. Ω°p.d°
9	57.26	28	31.5	24	75.7	SW	.5	7.3	Ci.-S., A.-Cu.	E	N.-cf., Cu.	WSW	4.3	●² a. Ω° p. ◯ a. p.
10	57.92	28.8	33.6	25.8	75	WSW, SW	.5	5.7	Ci., Ci.-S.		Fr.-Cu.	WSW	------	Ω a. Ω° p.
11	57.50	28.9	33.7	25.9	76.5	WSW	.8	7.3	Ci.	NE	Cu.	SW	------	Ω a. d° p.
12	56.83	29	33.7	26	72.3	SW	.7	6.8	Ci., Ci.-S.	NE	Cu.	SW	------	Ω° p.
13	56.46	28.5	33.5	24.4	73.3	SW, WSW	.6	3.2	Ci.	NE	Cu.	WSW	------	<° a. Ω° p.
14	55.43	29.5	33.6	25.7	73.8	WSW	.5	3.8	Ci.	E	Fr.-Cu.	WSW	------	
15	55.45	29	33.1	26.4	75.2	SW	1.3	6.8	A.-Cu.	NE	Fr.-Cu.	SW	------	< ≡° a.
16	56.22	27.8	32.4	23.3	76.7	SW	1.7	9.5	Ci.-S.		Fr.-Cu., Fr.-N.	WSW	31	↙ ●² Γ<° <² p.
17	56.79	26.9	30	23.3	77.5	SW quad.	1.6	10	A.-S.		N.-cf.	W	------	↙° a.
18	56.64	28	34.5	24.5	73.8	E, SW	.2	9.2	A.-Cu.	E	Cu., S.-Cu.	SW, W	------	
19	56.89	27.9	33.5	23.9	80.8	Variable	.2	7.5	A.-Cu.	N	S.-Cu.	SW	------	
20	57.86	27.7	32.2	24.1	83.7	Variable	.2	6	Ci.	NE	Cu.	WNW	------	Ω° a. p.
21	58.52	27.9	32.5	23.6	80.2	E	.6	2.2	Ci.	ENE	Cu.		------	Ω² a.
22	59.03	27.2	31.5	23.3	83.7	NNW	.1	3.3	Ci., Ci.-S.		Cu.	N	13	Ω² a. Ω° < p.
23	58.61	25	27.5	23.5	92.8	W	.1	10	Ci.-S.		Fr.-N.	N	39.9	< Γ< ●²a. ↙° ●²p.
24	58.54	26.2	31	22.6	84.7	SW, W by S	.2	6.5	A.-Cu.	SE	S.-Cu.	SW	2.8	●° a. d° p.
25	58.17	27.4	32.6	24.4	81.1	W quad.	.4	7	A.-Cu.	E	Cu.	WSW	4.3	Ω² a. < p.
26	59.55	27	31.6	24.2	83.7	WSW	.2	8.5	Ci.-S.	N	N.-cf.	WSW	------	●² a. ◯ p.
27	61.11	26.8	32	23.3	81.8	W	.3	7.8	Ci.	N	Cu.	W	5.3	<² Ω² a. ∪ p.
28	59.82	25.1	28.5	23.3	91.3	SSW	.1	9.7	Ci.-S.		Cu., Fr.-N.	W	5.3	∪ Ω² ● T a. Ω² p.
29	57.01	25.1	27.5	22.5	91.7	SSW, WNW	.2	8.7	Ci.-S., A.-S.		Cu.	WNW	5.3	< Ω² d Γ< <² ⊕
30	56.72	26.2	30.2	22.5	86.8	W by N	.5	6	Ci., Ci.-S.	NE	Cu.	W	------	Ω² Γ< a. < p. ∪
Mean	757.59	27.3	31.5	24.1	81.1	------------	.6	7.5	------------		------------		------	
Total	------	------	------	------	------	------------	------	------	------------		------------		188.1	

[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. 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	757.58	27.5	31.7	23.6	73.3	E	7.2	5.7	Ci.	Cu. E	15.2	≡° Ω a. ⌈ζ ↙° ● p.
2	57.54	27.1	31.1	23	74.7	Variable	5.4	6.2	Ci., Ci.-S.	Cu. E	18.3	≡° a. ● ⌈ζ a. p.
3	57.78	26.2	29.9	22.6	77.7	S	3.6	7.7	Ci.-S. NE	N.-cf. E	1.3	≡° a. ⌈ζ p. d a. p.
4	57.55	26.3	31.4	23.6	75.8	S	5.6	7.5	Ci., Ci.-S.	Cu.-N. W	10.2	≡° d a. ⌈ζ p. ●°
5	57.65	26.1	30.2	23.6	69.2	SW quad.	9.6	8.7	Ci.-S.	Cu.-N. W	------	d a. p. ● a.
6	57.44	26.3	30.8	23.3	71.7	S, SSW	6.7	7.7	Ci.-S., A.-Cu.	Cu. W	5.8	≡° Ω a. ↙° ● p.
7	57.22	27.7	30.5	24.9	64.8	SW quad.	9	7.2	Ci.-S.	Cu. WSW	------	≡° Ω a.
8	57.37	25.8	29.6	22	72.2	SW quad.	6.2	8	Ci.-S.	S.-Cu. W	30	≡° Ω a. ● ↙° ⌈ζ p.
9	57.42	27.2	30.1	23.2	70.7	SW	8.4	6.3	A.-Cu. S	Cu. SW	------	≡° a. ∞° p. ○ a. p.
10	58.14	28.2	31	25.4	68.6	SW, SSW	9.1	4.7	Ci.-S.	Cu. W	------	≡° Ω a.
11	57.79	27.8	31	25.3	65.5	SW quad.	9.1	7	Ci.-S.	Cu.-N. W, SW	------	≡° Ω a. ϟ p.
12	56.99	27.6	30.5	24	70.7	SW quad.	7.8	6	Ci.-S.	Cu. W	------	≡° Ω ○° a. ϟ p.
13	56.34	27.5	31	24.9	69.4	SW quad.	8.7	2.7	Ci.	Cu. WSW	------	≡° Ω a. ⌈ζ° p.
14	55.56	28	31.2	25.4	68.2	SW quad.	8.6	3.3	Ci.	Cu. WSW	------	≡° Ω a. ⌈ζ p.
15	55.79	26.8	31	22	73.2	SW quad.	8.4	5.2	Ci. E	Cu. SW	14.7	≡° Ω a. ● ↙° ⌈ζ p.
16	56.38	27	30.5	24.1	73.5	SW quad.	6.1	8.7	Ci.-S.	Cu.-N. W quad.	2.3	≡° Ω ○° a. ●° p.
17	57.15	26.7	29	24.5	70.7	SW quad.	10.1	8.2	Ci.-S.	N.-cf. WSW	------	≡° Ω a. ↙° ∞° p.
18	56.61	27.7	30.6	24.9	68.8	S	8	6.5	A.-Cu. W	Cu. SW	------	≡° Ω a. ∞° p.
19	56.98	27.3	31	24.4	72.6	SW, SSW	6.8	5.5	Ci.-S.	Cu. SW	------	≡° Ω a.
20	57.79	27.2	33.1	24.4	71.8	S, SSW	5	5.5	Ci. NNE	Cu. SW	------	≡° Ω a. ⌈ζ p.
21	58.43	27.5	31	24.5	71.7	E	7.8	3.3	Ci. NE	Cu. ESE	------	≡° Ω ⊤° a. ⌈ζ p.
22	59.10	27.6	31.5	24.1	72.2	SE, WNW	5.5	4.3	Ci.	Cu. N, E	------	≡° Ω a. ∞° ⌈ζ p.
23	58.85	26.1	30.1	24	75.8	NW	4.4	8.3	Ci.-S.	Cu.-N. NE	25.4	≡° Ω ⊤ ● d ⌈ζ
24	58.46	25.8	29.6	22.9	76.7	SSE, SSW	6.5	7.7	A.-S. E	Cu.-N. SW	4.1	● a. ⌈ζ d p.
25	58.13	26.8	30.5	23.5	71	SW quad.	8.6	5.5	A.-Cu. E	Cu. SW	------	≡° ● a, ⊍ ϟ p.
26	59.57	27.1	30.5	23.8	68.7	SW quad.	7.7	6.5	A.-Cu. E	Cu. SW	.8	≡° Ω a. ⌈ζ p.
27	61.28	26.9	31.2	23.9	76.7	E	4.7	4.5	Ci.-S. E	Cu. NNE	------	≡° Ω² d a. ⌈ζ ⊍ p.
28	59.88	26.7	30.9	23.8	75.5	Variable	6	6.3	Ci.-S.	Cu. N	2.3	≡° Ω² ○° a. ⌈ζ ⊍ p.
29	57.31	25.2	30.2	23	79.1	E, N	5.7	6.8	Ci.-S. NE	Cu.-N. N	13.7	● ⌈ζ a. p. ⊍ ϟ p.
30	56.92	25.9	29.5	23	80.8	SE	5.1	6	Ci.-S. ENE	Cu., Cu.-N. NNE	13.2	≡ Ω² ϟ ⊍ ⌈ζ ●
Mean	757.70	26.9	30.7	23.9	72.4	------	7	6.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	157.3	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0–10*			*mm.*	
1	757.64	27.7	33.9	23.5	77.5	NE	6.9	8.2	Ci.-S. E	Cu.	28.2	⊤ ● ϟ ⌈ζ p.
2	57 96	25.8	32	23.5	87.3	NE	6.2	9.7	A.-Cu. E	Cu.-N. NE	16.5	● ⊤ d p.
3	58.08	25.6	28.5	23.1	88.8	NE, SW	8.4	9.3	A.-Cu. E	Cu.-N.	21.3	● a. p.
4	57.91	26.4	29	23.9	82.3	SW	13.2	9.3	Ci.-S. E	Cu. SW	.8	● a.
5	57.70	26.3	29.7	23.6	79	SW	22	9.3	A.-Cu. NE, NW	Cu W	.8	● p.
6	57.74	26.1	29.4	23.4	86.2	SW	15.8	9.3	Ci.-S.	Cu.-N. SW	50.8	d² a. ↙° ●² ϟ° p.
7	57.89	25	28.6	22.5	90.5	SW	18.8	9.8	Ci.-S. E	Cu.-N. W	19.8	● a. p. ↙° ● p.
8	57.40	26.6	30.2	23.5	78.7	SW	16.1	9.7	A.-Cu. E, NW	Cu.	3.6	● p.
9	57.70	27.3	29.4	24.4	79.8	SW	17.8	9.3	A.-Cu.	Cu. SW	59.4	ϟ p.
10	58.64	26.6	29.5	21.9	84.7	SW	14.2	8.2	A.-Cu. ENE, NE	Cu.	1	⌈ζ ●² d a. ϟ p.
11	58.08	26.6	28	23.8	84.5	SW	13.8	8.3	Ci.-S.	Cu.-N. SW, W	16.3	● ⊤ a.
12	57.15	27.1	29.5	24.1	79.5	SW	18.4	7.7	A.-Cu. NW, W	Cu.	3.3	● a. p.
13	56.75	27.1	29.7	24	82.3	SW	16.8	5.8	Ci.	Cu.-N. SW	45.5	● a. p.
14	55.92	26.7	30	23.5	85.3	W	15	7.6	A.-Cu.	Cu.-N. SW	27.2	● a. p.
15	56	27.6	30	22.9	82.8	SW	18.5	7.8	Ci.-S.	Cu. SW	.8	● a. ϟ p.
16	56.74	27.5	30.1	25.5	81.5	W	12.8	8.5	A.-Cu. NE	Cu.	5.8	○ a. ϟ ● p. d
17	57.41	25.2	28.4	23.4	89.2	SW	15.9	9.8	A.-Cu. N	Cu.-N. SW	47	⌈ζ a. ● a. p.
18	56.62	26.8	28	22.5	86.2	SW	16	10	Ci.-S.	Cu -N. SW	23.6	↙° ● a. p. ⊤ a.
19	57.04	26.7	28.9	24.2	83.8	SW	14.6	8.2	Ci.-S.	Cu. SW	3.3	↙° ● a.
20	57.89	26.5	29.9	24.4	85.2	SW	5.1	6.3	Ci.-S.	Cu. SW	.8	● ○ a. ϟ p.
21	58.59	26.7	30.4	23.1	83.8	SW, W	8.3	4.8	Ci., Ci.-S. E	Cu.	------	ϟ p.
22	59.38	27.1	31.5	23.8	82.3	W	5.5	3.7	Ci.	Cu.	------	⌈ζ ϟ p.
23	59.52	25.5	31.6	23.4	87.5	Variable	5.8	7.3	A.-Cu. ENE	Cu.	22.6	⌈ζ ● ⊍ p.
24	58.46	26	28.8	23.5	86.3	SW	10	8.8	Ci.-S., A.-Cu.	Cu. SW	1	⌈ζ a.
25	58.38	25.1	26.6	23	92.2	SW	10.9	10	Ci.-S.	Cu.-N. SW	68.1	● a. p. ⌈ζ p.
26	59.84	25.4	28	22.5	88.8	SW	12.9	9.8	Ci.-S.	Cu. SW	4.6	⌈ζ ⌒ a. ϟ p. ●
27	61.49	26.5	31.6	23.4	83	Variable	5.5	6.8	A.-Cu. NE	Cu.	.8	ϟ a. p. ⊤ ● p.
28	60.38	25.8	30.6	23	87.8	SW	4.7	7	Ci.-S. SE	Cu.	.5	⊤ a. ⌈ζ ● ⊍ p.
29	57.82	26	31.2	23	85.7	W, NW	4.6	8.3	A.-Cu.	Cu. NNE	10.2	⊤ a ● ⌈ζ ϟ p.
30	57.29	25.2	30.5	22.9	88.5	N quad.	6.3	9.5	Ci.-S. E	Cu. NNE	10.9	○ a. ● ϟ p.
Mean	757.98	26.4	29.8	23.4	84.7	------	12	8.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	494.5	

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. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	757.53	25.7	31.3	22	85.8	N	5.3	7	Ci.-S.	Cu. E	2.5	⊕² Ω ≡° [ζ ●° ↯
2	57.62	26.2	30.8	23.4	87	Variable	3	9.7	Ci.-S.	Cu.-N. E	23.9	Ω ≡° [ζ d ↯ ●
3	57.78	25.7	28.7	23.1	87	Variable	2.6	9.8	Ci.-S. E	Cu.-N. E	41.1	Ω ⌒ [ζ d ↯ ●
4	57.58	25.3	29.1	22.4	86.8	NNE	3	8	Ci.-S.	Cu.-N. W	5.6	●° Ω ≡° a. [ζ p. d
5	57.49	25.8	29.5	23.2	84.5	SE quad.	4	10	Ci.-S.	Cu.-N. SW	41.1	≡° a. ●² p. d a. p.
6	57.34	26.9	30.7	22.9	79.1	S quad.	8.2	9.8	Ci.-S.	Variable	------	Ω a.
7	57.12	27.7	31.3	25	75.7	S, SSW	8.3	6.7	A.-Cu. N	Cu.-N. SW by W	------	≡° a.
8	57.27	26.9	29.4	22.9	77.6	S quad.	8.9	8.3	A.-Cu. NW by W	Cu.-N. W	7.4	≡° a. [ζ ●° p.
9	57.32	26.7	30.5	23	79	SE quad.	6.2	6.7	Ci.-S. NE by E	Cu.-N. W	------	≡° a. p.
10	57.98	27	31.5	23.1	83.2	Variable	5.5	5.2	A.-Cu. NNW	Cu. W	------	∞° a. ↯ p.
11	57.71	27.2	31.2	24	81.2	SE quad.	4.5	5.5	Ci., Ci.-S.	Cu.-N. W	------	≡° a. ∞° [ζ ↯ p.
12	56.95	27	30.7	23.4	82	Variable	6.9	6	A.-Cu. SW	Cu.-N. S by W	2.3	≡° a. ↯ ⊤ p p.
13	56.45	27.6	30.5	24.3	79.8	S quad.	8.9	3.8	Ci.	Cu. S	------	↯ ≡° a. [ζ d° p.
14	55.57	27.3	30.7	22.6	79.6	S quad.	6.6	3.7	Ci. NE	Cu. SW	------	Ω ≡° a. ↯ p.
15	55.61	28.4	31.3	24.9	74.8	S	10.7	5.2	Ci.-S. NW	Cu. SSW, W	3.3	≡° a. [ζ ↙° ●° ↯° p.
16	56.56	26	30.2	22	86.2	S	4.9	6.7	Ci.-S.	Cu.-N. W	29.2	≡° a. d ⊤ [ζ ●² p.
17	56.83	26.6	29.2	22.7	83.9	S quad.	10	8.3	Ci.-S.	Cu.-N. W	2.5	≡° ↯° a. d ●° p.
18	56.49	27.8	31.1	24.8	80.3	S quad.	10.4	5.3	A.-Cu. N, W by N	Cu.-N. SW	------	≡ ∞° a.
19	56.81	27	30.5	23.1	80	SE quad.	6.7	5.3	Ci. N by E	Cu. S	------	≡° ∞° a.
20	57.77	26.5	31.2	23.3	83.7	SE quad.	4	6.2	A.-Cu. ENE	Cu.	------	≡° a. [ζ° p.
21	58.31	27.1	32.1	21.7	78.3	Variable	4.6	3.8	A.-Cu. NE	Cu., S.-Cu.	------	Ω ≡° a. ⊤° ↯ p.
22	59	26.4	31.5	21.6	81.8	Variable	4.3	4.5	Ci.	Cu. N	.5	≡° p d° ⊕° [ζ ↯²
23	58.84	24.5	27.7	21.3	92.5	N quad.	2.1	8.3	Ci.-S.	Cu.-N. N	14.5	≡° ● d ⊤° ↯ ⊕
24	58.49	26.1	29.4	20.8	80.3	S quad.	8.1	7.3	A.-Cu. ESE	Cu.-N. S	------	≡ a. p. ↯ p.
25	58.14	27.3	30.4	24.1	78	SSE	9.9	6.2	A.-Cu. E	Cu.-N. S	------	≡° a. ↯ p.
26	59.54	26.6	30.4	23.3	83.2	Variable	7	9.2	A.-Cu. NE, SE	Cu. S	1.8	≡° a. ⊤ ↯ d p.
27	61.18	25.4	30.8	22.2	86	N	3.6	6.2	A.-Cu. SE	Cu. NW	------	d Ω ≡° a. [ζ ⊤ p.
28	59.96	25.1	29.7	21.3	87.5	Variable	2.9	8	Ci.-S.	Cu.-N.	1.5	Ω a. ⊤ ●° [ζ ↯ p.
29	57.32	24.1	31.1	21.8	89.3	N	2.7	9.2	A.-Cu. NE	Cu.-N. NE	19.3	Ω ⊤ [ζ ●² d° ↯
30	56.80	24.8	30.5	21.7	88.3	S	3.5	8.8	Ci.-S.	Cu.-N. E	7.9	≡° a. ● [ζ ⊤² p.
Mean	757.65	26.4	30.4	22.9	82.8	------------	5.9	7	----------------	----------------	------	
Total	------	------	------	------	------	------------	------	------	----------------	----------------	204.4	

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).	Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.09	27.4	32	23.9	82.5	NW	0.7	7.5	Ci.-S. SW	Cu.-N. E	8.6	≡ a. ● p.
2	58.15	26.5	32	23.6	85.8	NW, WNW	.8	8.7	Ci. WNW	N. ESE	32.3	● a. p. d ◯² a.
3	58.02	26.5	30.3	23.8	85	ENE	.2	8.7	Ci. SW	Cu.-N. E	1.3	● d ◯² a.
4	57.38	26.4	31.4	24	86	NW	.7	7.3	Ci. SSE	Cu.-N. WNW	------	p° ⌣² a. d p.
5	57.34	26.6	30.4	23.8	82	WNW	.5	8	Ci.	Cu.-N. W	1	⌣² ◯° a. ● p.
6	57.27	27.2	31.5	23.3	77.8	W quad.	.7	8.3	Ci.-S. SE	Cu. W, WSW	------	
7	57.10	28.4	33.4	24.5	74.2	WNW	.5	8	Ci. E	Cu. W quad.	------	◯² a.
8	56.93	28.1	32.2	24.8	70.6	SW quad.	1	8.2	Variable	Cu.-N. WNW	------	◯ p.
9	57.24	28.7	33.9	24.5	69.8	W quad.	1	7.8	Ci. NE	Cu. WNW	------	◯² a. p.
10	57.79	28.7	34	24.8	75.5	W, WNW	1	6.3	Ci.-Cu. W	Cu. W	------	
11	57.56	28.6	34.3	24.7	73.8	NE, WNW	1.2	6.2	Ci., Ci.-S. ESE	Cu. WNW	------	Ω² a. ↯ p.
12	56.74	28.6	34.2	24.5	75.3	Variable	.3	7.2	Ci. E	S.-Cu. WNW	------	◯² a. ↯ p.
13	56.33	28.6	34	24.4	74	W, ENE	.7	5.3	Ci.	Cu. WNW	------	Ω² a. ↯ p.
14	55.38	28.7	34	24.3	71.3	W quad.	.7	5	Ci. NE	Cu. WSW	------	
15	55.26	29.1	34.7	25	70.3	W quad.	.8	7.7	Ci. NE	Cu. WSW	------	
16	56.26	26.9	30	22.2	83	WNW	2.2	9	----------------	Cu.-N. WNW	24.8	d a. p. ● ↙ p.
17	56.58	26.7	30.7	23	83.2	WNW	1	9.2	Ci.	Cu.-N. NW	3	d ● a. p.
18	56.40	28.3	33	23.5	73.8	SW quad.	1	8.3	Ci.-S., Ci.-Cu. E	Cu. WSW	------	
19	56.90	28.9	33.9	24.2	75.2	W, SSE	.8	8.2	Ci.-Cu. E	Cu. SW	------	
20	58.06	28.3	31.7	25.3	81.5	SE	1	7.8	Ci. E	Variable	------	◯² a. p. ⊤ p.
21	58.82	28.6	32.1	25.4	78.3	SE	1	5.7	Ci. NNW	Cu. SE	22.9	d ● a. ↯ p.
22	59.32	28.2	34.3	24	80.3	Variable	.5	5.5	Ci. SE	Cu.-N. NNE, NE	.8	Ω² a. d p.
23	59.17	25.5	28.2	23	90.5	WNW, NNW	1.2	8.7	Ci.	N. NE	40.7	● a. p. [ζ ⌣² ⊕° p.
24	58.60	26.5	30.9	22.3	84	ESE	.5	6.8	Ci.-S. ESE	Cu.-N. SSW	------	
25	58.08	27.9	33.4	24	77	SW quad.	1	7.5	Ci.-Cu. E	Cu. WSW	3.8	● d [ζ p.
26	59.56	26.6	31	24.5	86	SE, W	.7	8.7	Ci.-S., Ci.-Cu.	Cu.-N. W	.8	d [ζ p.
27	61.52	27	33.6	23.6	83	NW quad.	.7	7	Ci. E by S	Cu.-N. NW	------	⌣² p.
28	60.05	26.9	30.5	24	85.7	NW quad.	1	7.5	Ci.-S. ENE	Cu. NE, NNE	------	◯² a. p. [ζ ⌣° ↯ p.
29	57.27	26.4	32	23.9	86	NW quad.	1.3	8	Ci. SSE	Cu. NNE	5.6	⌣² ↯ a. ● p.
30	57	25.7	32	23.7	89	W quad.	.8	7.5	Ci.	Cu. NNE, NE	1.3	● [ζ ⌣² p.
Mean	757.67	27.6	32.3	24	79.7	------------	.8	7.5	----------------	----------------	------	
Total	------	------	------	------	------	------------	------	------	----------------	----------------	146.9	

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.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.					mm.	
1	--------	27.9	32.5	------	86.7	Variable	0.5	8.3	Ci.-S.	NW	Cu.-N.	E, S	50	● a. ⚡ ●² p.
2	--------	26	29.1	------	91	NE	.5	9	Ci.-S.		N.	E	90.7	●² ⚡ a. p.
3	--------	25.4	29.5	------	92.2	ESE	0	9.5	Ci.-S.		N.	E	14.7	● a. p.
4	--------	25.9	30.1	------	90.7	Variable	.2	9.7	A.-S.	S	Cu.-N.	NW	3.8	● a. p.
5	--------	25.9	30.4	------	89.7	SW quad.	.7	9.5	Ci.-S.	S	N.	SE	------	d° p.
6	--------	26.9	31.9	------	87.3	W, SE	.3	8.2	Ci.-Cu.	NE, SE	Cu.-N.	Variable	2.8	T° d° p.
7	--------	26.6	31.9	------	91.2	SW, WNW	.3	8.7	A.-Cu.	SW	Cu.-N.	W	------	T d° p.
8	--------	25.9	32.2	------	88.5	Variable	.3	9.3	Ci.-Cu.	SE	Cu.-N.	SW	2.8	d p p.
9	--------	27.4	32.4	------	87.3	WSW, E	.3	9.2	Ci.-S.		N.	WSW	------	d ⌒° a. <° p.
10	--------	27.8	33.6	------	85.3	SW, N	.3	8	Ci.-Cu.	SE	N., Cu.-N.	SE	------	<° p.
11	--------	27.5	33.1	------	83.3	W	.7	8.2	Ci.-S.		N.	NE	------	
12	--------	27.2	32.4	------	88	Variable	.7	6.5	Ci.-S.		Cu.-N.	SW	------	T° d° p.
13	--------	27.1	33.1	------	85.9	S quad.	.7	6	Ci.-S.	NE	Variable	S	8.9	T° ● ⌒ p.
14	--------	26.6	30.8	------	88.3	N	.2	6	Ci.-S.	NE	Cu.-N.	SW	------	T° d° p.
15	--------	27.9	32.9	------	82.3	SSW, W	.3	6.3	Ci.-S.	SE	Cu.-N.	NW	------	≡° a. <° p.
16	--------	27.6	32.2	------	87.2	Variable	.5	9.5	Ci.-S.		Cu.-N.	NW	5.1	p p.
17	--------	26.9	32.1	------	86.8	Variable	.3	9	Ci.-S.		Cu.-N.	NW	------	d° a. p.
18	--------	26.6	31.9	------	86.2	SW, SSW	.3	9.5	Ci.-S.		Cu.-N.	NW	------	d° a. p.
19	--------	26.5	28.9	------	87.8	S	1.2	9.2	Ci.-S.		Cu.-N.	NW, SW	------	d° a.
20	--------	26.7	32.5	------	87.7	SSW, S	.3	9	Ci.-S.		Cu.-N.	S	8.4	⚡° ● p.
21	--------	26.4	31.9	------	87.2	ESE, NE	.3	6.2	Ci.-S.		Variable	SW	3.6	≡° a. ⚡² ● T² p.
22	--------	27.9	31.6	------	86	N quad.	.5	3.8	Ci.-S.	S	Cu.	NE	5.8	⊍° ⊖° p.
23	--------	27.7	31.1	------	87.2	WSW	.7	9	Ci.-S.	SE	Cu.-N.	E	56.9	● a. p. ≡° p.
24	--------	26	30	------	91.8	WNW, NE	.2	9.5	Ci.-S.		Cu.-N.	NE	15.7	●² ≡° a. ⚡ ● p.
25	--------	25.5	30.2	------	93.3	SSW, WSW	.3	6.7	Ci.		Cu., Cu.-N.	SW	3.6	● p.
26	--------	26.7	31.6	------	88	S	.5	8.5	Ci.-S.		Cu.-N.	SW	3	≡° a. T ● ⚡° p.
27	--------	27	30.7	------	86.4	S. NE	.3	6	Ci.-S.	SW	Cu.-N.	NE, S	------	⊖² p.
28	--------	27.4	31.1	------	87.2	NW	.5	7.2	Ci.-S.		Cu.-N.	NE	1.8	T ●° a.
29	--------	27.9	31.7	------	86.2	NW, NNW	.7	8.2	Ci.-S.	SW	Cu.-N.	NE	73.1	●² ⚡² p.
30	--------	26.7	30.5	------	89	N quad.	1	8.3	Ci.-S.	SW	Cu.-N.	N	2	●² ⚡ T a. <° p.
Mean	--------	26.8	31.5	------	87.9	------------	.5	8	------------		------------		------	
Total	--------	------	------	------	------	------------	------	------	------------		------------		352.7	

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.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.					mm.	
1	758.21	25.6	31.2	22.9	91	N	0.5	7	Ci., A.-Cu.		Cu.	NE	9.7	● p a. d < p.
2	58.41	25	30	23	91.5	N	1	9.5	Ci.-S.		S.-Cu.	E	14	●° ⌒² d a. ● < p.
3	58.13	25.2	29.2	22.8	90.1	N	.8	8.8	Ci.-S.		S.-Cu.	E	8.1	⊍² d a. ◯° < p.
4	57.64	26	30.8	23.1	88.8	N, W	1.2	8.7	Ci.-S.		S.-Cu.	W, NW	2.3	p a. < p. d
5	57.44	26.6	29.1	24.3	87.7	WSW, W	2.5	9.7	A.-Cu.		S.-Cu.	W	2.8	p° a. d p.
6	57.37	27.8	31.2	24.5	80.5	SW	2.3	8.8	A.-Cu., Ci.-S.		S.-Cu.	W	6.4	≡° p.
7	57.32	28.1	31	25.2	79.7	SW	2.8	9.3	A.-Cu.	NW	S.-Cu.	SW	------	↙ ● a.
8	57.11	27.6	30.9	25.2	79.8	SW	3	9	A.-Cu.	NW	S.-Cu.	SW	5.1	≡° a. p. ↙ ● p.
9	57.27	28.3	31.2	26.2	79.9	SW	2.3	9.2	A.-Cu.	NW	S.-Cu.	W	------	d p.
10	58.02	29	31.1	27.4	77.8	SW	2.3	8.7	A.-Cu.	NW	S.-Cu.	W	------	≡° ⊕ a. d < p.
11	57.69	28.6	31	26.4	80.2	SW, W	2.7	7.8	Ci.-S.		S.-Cu.	SW, W	12.2	p° a.
12	56.80	28.5	31.7	25	78.5	SW	2	6.7	A.-Cu.	W	S.-Cu.	W, SW	------	p a. < p.
13	56.69	28.9	32.5	26.7	75.8	SW	2.3	2.5	A.-Cu.		S.-Cu.	SW	------	< p.
14	55.65	29	32.2	27.2	77.3	SW	2.5	4.5	Ci.		S.-Cu.	WSW	------	
15	55.58	29.3	31.5	26	75.5	SW	3	7	Ci.	NE	S.-Cu.	SW	7.9	< ↙ ● p.
16	56.36	26	27.9	23.5	89.7	NW	2	9.7	A.-Cu.		N.	WNW	23.1	d a. ● p.
17	56.52	26.8	28.7	24.5	85.3	WSW, W	2.8	9.5	A.-Cu.		Fr.-N.	W	7.9	↙° a. ↙ ●° p.
18	56.39	27.9	30.1	24.1	78.3	SW	2.7	9.5	A.-Cu.		S.-Cu.	WSW	------	≡° a. d p.
19	57	27.5	30.1	23.8	80.2	SW	1.3	9.2	A.-Cu.	W	S.-Cu.	SW	1.3	↙° ● p.
20	58.15	26.6	31.7	23.6	85.8	N, S	.8	6.8	A.-Cu.	NE	Variable		------	T p.
21	58.90	27.4	32.3	22.6	83.8	N	1	4.5	Ci.-S.		Cu.		------	Ω a. < a. p.
22	59.56	27	32.6	23.4	85.7	N	.8	4.8	Ci.-S.		S.-Cu.	N	1.8	Ω a. p° < ⊍ p.
23	59.52	25.1	28.9	22.3	93.3	N	.8	8	A.-Cu.		N.	NE, SE	40.9	< d a. ●² ⚡ ⊍ p.
24	58.66	25.8	31.2	21.5	86	N	.8	6.5	Ci.-S.		S.-Cu.	SE	2	T d < ⊍ p.
25	58.32	27.3	31.9	23.7	82.2	SW	1.7	7.8	A.-Cu.	W	S.-Cu.	SW	------	d a. p. < T p.
26	59.66	28	32.9	24.9	80.2	Variable	1.2	8.5	A.-Cu.	E	S.-Cu.	SW	2	< T d ⌒ ⊍
27	61.68	27	31.7	23.4	84.2	N	1	7.3	A.-Cu.	SW	S.-Cu.		------	d a. ⚡ d° ⊍ p.
28	60.30	25.8	32.1	22.4	90.8	N	.8	5.8	Ci.-S.		Cu.	NE	3.8	⊖ Ω a. ●° ⚡° < p.
29	57.66	25.5	32.9	23.1	91.5	N quad.	1	8.7	Ci.-S.		S.-Cu.	NE	5.3	< a. p° ⚡° d < p.
30	57.26	25	32.2	23.2	91.3	N	1	7	Ci.-S.		S.-Cu.	NE	.5	d ◯° a. < ⊖ p.
Mean	757.84	27.1	31.1	24.2	84.1	------------	1.7	7.7	------------		------------		------	
Total	--------	------	------	------	------	------------	------	------	------------		------------		157.1	

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.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	758.01	27.7	33	23.5	81.3	E	5.9	4.7	Ci.-S., Ci.	Cu. E	18.6	p Γ⊰ a. ● Γ⊰² d p.
2	58.03	27.3	31.8	23.5	82.2	E	--------	7.8	Ci.-S.	Cu. E	17	● d° a. p. ϖ° ⊰ p.
3	58.04	27	31.4	23.4	82.8	E	--------	7	A.-Cu. E	Cu.-N. NE	28.4	⊮ ● d° a. ● Γ⊰² p.
4	57.34	26.2	31.1	22.7	85.8	S, E	--------	8	Ci.-S.	Cu. SE	15.7	● a. p. ○² ⊤ ⊰ p.
5	56.87	25.3	28.1	23	89.8	W	5.6	9.2	Ci.-S.	Cu.-N. SW	42.4	d ● a. p.
6	56.68	26.7	31.1	22.6	82.3	W	8	6.8	Ci.-S.	Cu.-N., Cu. W, SW	11.5	● a. ⊰ p.
7	56.52	26.6	32.1	22.9	83	W	7.9	8.5	Ci.-S.	Cu.-N. SW	1.8	● a. d° ⊰ p.
8	56.06	26.5	32	24.3	81.5	WSW	9.7	6.7	Ci.-S.	Cu.-N. SW	5.1	●° d ⊰° p.
9	56.39	28	32.5	24.4	73.7	WSW	9.4	6.7	A.-Cu. WSW, W	Cu.-N. WSW	------	⊰° p.
10	57.21	28.4	32.9	25.3	75.6	WSW	9.4	5	A.-Cu. NW	Cu. W	------	d° ⊰° p.
11	57.02	27.8	31.2	24.7	78.5	WSW	7.9	5.7	Ci. NE	Cu. WSW	3.8	≡° ○ a. ● ⊤ a. p.
12	56.04	27.6	33	24	78.8	SW, WSW	6.7?	4.2	A.-Cu. NW	Cu. WSW	------	≡° a.
13	55.87	28.6	34	24.5	73.4	WSW	6.7	2.3	A.-Cu. NW	Fr.-Cu. SW	------	⊰° p.
14	54.65	28.4	33.5	24.6	75.4	WSW	9.7	2.2	Ci.	Cu. WSW	4.3	
15	54.92	28.1	32.6	25.3	81.3	WSW	10.6	5.5	Ci. NE	Cu.-N. WSW	2	● a. p.
16	55.60	25.6	28.1	23.1	88.8	W quad.	8	9.7	Ci.-S.	Fr.-N. NW	11	Γ⊰ d ● a. ⊮ ● p.
17	55.46	26.4	29.5	22.6	84.2	WSW	10.2	9.7	Ci.-S.	Fr.-N. WNW	28.2	● a. d° p.
18	55.28	26.1	31.5	22.8	82	WSW	14.2	10	Ci.-S. NE	Fr.-N. SW	2	● d a. p.
19	56.16	26.5	29.5	24	82.8	W	--------	10	Ci.-S.	N. WSW	------	d a. p.
20	57.39	27.4	32.1	24.4	79.7	WSW	5.1	7.8	Ci.-S.	Variable	1.3	●° ○² a. ⊰ p.
21	58.31	28.4	34.4	24.2	78.8	S, SSW	4	2.8	Ci. N	Cu. S	------	≡° a.
22	59.34	28.2	32.8	23.5	81.2	E quad.	--------	4	Ci. NE	Cu.	------	≡° a. ⊰° p.
23	59.18	26.6	30.5	22.9	83.3	ENE, NE	--------	10	Ci.-S.	S.-Cu. ENE	10.1	●° a. ⊤° ● ⊰ p.
24	58.04	26.9	32.1	23	85	NE, E	--------	6.8	Ci. NNE	Cu.	4.1	● ○° a. ⊰ p.
25	57.73	26.8	32.9	23.4	82.8	WSW	--------	6.8	A.-Cu. W	Fr.-N. SSW	------	≡° a. ⊤ d° ⊰ p.
26	59.13	27.8	33.8	23.5	79.6	WSW, W	5.4	5	A.-Cu. WNW	Cu. SW	1.3	≡° a. ⊰ p.
27	61.09	27.5	33.7	23.2	79.2	W, E	6.1	4	Ci., A.-Cu. SE, NW	Cu. W	------	≡° ○ a. ⊤° p.
28	60.05	27.2	33.2	22.7	82.4	NE, ENE	3.9	1.5	Ci. SSE	Cu. N	9.9	≡° a. ●² p.
29	57.52	27.6	32.2	23.1	81.3	NNE	10.3	7.7	Ci.-S.	Cu. NNE	6.6	d° ○ a. Γ⊰ ● ⏑ p.
30	56.88	27.8	31.5	24.6	80.2	E quad.	8.8	6.2	A.-Cu., Ci.-S.	Cu.-N. ENE	5.3	● d° a.
Mean	757.23	27.2	31.9	23.7	81.2		7.9	6.4				
Total											230.4	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4 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).	Prevailing form and its direction. Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	757.80	28.3	31.5	24.3	82.1	NNW	13.1	6	Ci.	Cu. E, N	------	○² ϖ° a. p. ⊰° ⏑° p.
2	58.09	28.3	31.4	24.7	80.8	N quad.	11.6	9.5	Ci.-Cu. E	S.-Cu. NE, E	7.6	○° a. v Γ⊰ d° ⊰° p.
3	58.05	27.5	31.9	24.2	80.8	N quad.	9.2	9.7	Ci.	S.-Cu. NE	3.5	●° a. p. ⊰² p.
4	57.54	26.9	31.8	24.3	86.8	N	11.5	9.8	Ci.	Fr.-N. NE	13.5	d ●° a. p. Γ⊰° p.
5	56.85	25.3	28.4	23.5	90.8	SW	--------	10	Ci.	N., S.-Cu. NE	19.3	ϖ° a. ● a. p.
6	55.96	25.6	31	22.9	89	SW	7.6	9.5	Ci. ENE	S.-Cu. SE, S	5.6	d a. ●° a. p. Γ⊰° p.
7	55.37	27	32	23	81.5	SW quad.	9	8.7	Ci. E	Cu. S	1	○° a. d° p.
8	55.42	27.1	32.2	24.9	76.8	SW quad.	10.8	10	Ci. ENE	Cu. SW	3.3	d a. ●° p.
9	55.70	28.2	33.5	24.9	70.2	SW	9.5	8.5	Ci.	S.-Cu. W	1.5	∞° d Γ⊰° p.
10	57.06	27.4	33.7	23.3	77.7	SW	9	9.3	A.-Cu. W	S.-Cu. W	------	d° a. ⊰ p.
11	56.67	27.5	32	24.9	73.7	SW	14.4	9	Ci.	Cu. W	------	○² a.
12	56	27	32	23.1	78.2	SW	8.9	8.2	A.-Cu. S	Cu. SW, W	------	⊰° p.
13	55.34	28.1	35.1	23.9	77.9	SW quad.	8.6	6	Ci.	S.-Cu. S	------	d° a. Γ⊰ p. ⊰° a. p.
14	54.38	28.4	33.5	24.3	75	SW	--------	2.8	Ci.	Cu. SW	------	
15	54.43	28.9	32.4	25.9	70	SW	11.2	7.3	Ci.	S.-Cu. SW	------	⊰° p.
16	55.94	26.4	28.6	24.1	81.2	SW, WSW	7	10	Ci.-S.	S.-Cu. NW	.5	d a. p.
17	55.45	26	32.5	23.6	79.4	SW, W	--------	9.5	Ci.-S.	S.-Cu. W	9.8	d° a. p. ●° p.
18	54.87	25.4	27.2	23.6	83.6	SSW	12.4	10	Ci.-S.	Fr.-N., S.-Cu. W	3.8	d° a. p. ●° p.
19	55.07	25.7	30.8	23.8	84.9	SW	8.9	10	Ci.-S.	S.-Cu. SW	.5	d° a. p.
20	56.50	26.6	29.7	24	79.2	SW	10.5	10	Ci.-S.	S.-Cu. SW	------	
21	57.55	28	32.4	24.9	76.8	SW, SSE	8.3	8.7	Ci.	S.-Cu. SW	------	ϖ p.
22	58.96	27.9	33.9	23.5	83.2	SW	7.2	7.3	Ci. NE	Cu. SW	------	Ω° a. ϖ p.
23	59.42	27.3	31.3	24.2	86	N quad.	13.2	7.7	Ci.	S.-Cu. N	25.4	d ϖ p.
24	58.10	26.2	28.2	23.6	90	NW, NNW	16.9	9.8	Ci.-S.	N. N	29.3	⊮° ●² Γ⊰ a. ● ⊰ p.
25	57.47	26.3	30.6	23.1	84.8	SW	7.2	10	Ci.-S.	S.-Cu. S	------	Γ⊰° d° ϖ° ⏑° p.
26	58.53	27.5	32.9	24.3	81.2	S quad.	6.3	8	Ci. WNW	S.-Cu., Cu. S	------	Ω° a. ⊰ ϖ p.
27	60.82	27.3	33	24	84.3	SW	6.8	7.8	Ci. W	S.-Cu. SW	------	⊰ ϖ p. ○ a. p.
28	60.25	26.7	31.1	22.5	83.8	NW quad.	8.6	6	Ci.	S.-Cu. N quad.	1.3	Ω° ∞° ⊤° a. d ϖ p.
29	57.97	26.7	29.2	24.3	86.3	NNW	12.1	8.8	Ci.	S.-Cu. NE	16.5	d ●° a. Γ⊰ ● ϖ p.
30	57.48	27.5	30.4	23.3	86.3	N quad.	18	9.2	Ci.-S.	S.-Cu. NNE	8.6	● Γ⊰ ⊮° d ϖ
Mean	756.97	27.1	31.5	24	81.4		10.3	8.6				
Total											151	

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.			Rain, 24 hours beginning 6 a. m.	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	757.85	28.1	34.7	23.7	82.3	NNE	1.1	8	Ci.-S.	Cu. ENE	1.3	◡ ○° a. ☈ d p. ☇
2	57.90	28.1	34.3	24.3	81.8	NNE	1.2	9.3	Ci.-S.	Cu.-N. E	------	◡° ◝ a. ☇ a. p.
3	57.89	26.9	32.9	23.9	86.7	NNE	1.2	8.8	Ci.-S.	Cu.-N. E, ESE	9.9	Ω a. ●° ☈ p.
4	57.38	27	32.5	23.9	83.3	NE	1.2	9.5	Ci.-S.	Cu.-N., Cu.	------	● d° ○ a. ☈ p.
5	56.37	26.7	31.1	24	84.3	NNE	1.2	9.2	Ci.-S.	Cu. E	3.3	d° a. ◝° ● ≡ ☈ p.
6	55.53	25.9	30	23.6	86.8	NE quad.	1	9	Ci.-S.	Cu.-N. SE by S	10.2	d a. p. ●° ☇ p.
7	54.88	26.1	28.2	24.5	87.8	S quad.	1.8	9.7	Ci.-S.	Cu.-N. S quad.	15.8	↙° ● a. ●° p.
8	55.14	25.6	27.7	24.5	90.8	SW quad.	1.8	10	Ci.-S.	Cu.-N. SW	39	↙ ● a. p.
9	56.04	26.8	28.1	24.6	85.4	SSW, WSW	2.2	10	Ci.-S.	Cu.-N. SW	43.8	d ● ↙ ● ☈
10	57.33	26.1	28.2	24.2	89.5	SW quad.	1.8	10	Ci.-S.	Cu.-N. SW	56.5	↙° ● ☈ ●^{2} d
11	57.26	25.8	27.2	24	88.7	SW	2.2	10	Ci.-S.	Cu.-N. SW	22.7	↙° ○ p. d ● a. p.
12	55.88	25.2	26.8	23.9	93.5	SSW	1.2	8.7	Ci.-S.	Cu.-N. SW	13.3	○° a. ↙° ● ☇ p. d
13	55.37	26.4	30.5	23	86.7	NNE	1.2	6.7	A.-Cu., Ci.-S.	Cu. SE	------	d° a. ☇ p.
14	54.84	26.9	28.6	24.4	87.7	SW, SSW	1.8	7.2	Ci.-S.	Cu. SSW	6.2	↙ ●° p.
15	54.82	27.2	28.9	24.3	89.3	SW, SSW	2.2	9.8	Ci.-S.	Cu.-N. SW	58.1	○° a. ↙ ●^{2} ☈ p. d
16	56.64	25	26.7	24.1	94	SW	1.4	10	Ci.-S.	Cu.-N. SW	27.5	● a. ↙° ● p. d
17	56.06	25.8	27.9	23.5	91.7	SW quad.	2.2	10	Ci.-S.	Cu.-N. W by S	111.1	● a. ●^{2} ↙ ⊤ p.
18	54.36	25.7	26.9	24	93.3	WSW	4.8	10	Ci.-S.	N. SW	57.2	↙ ● a. p.
19	54.60	25.9	27.1	23	93.2	SW	4.5	10	Ci.-S.	Cu.-N. SW	92.5	↙ ●^{2} a. p. ☈ p.
20	56.24	24.9	26.1	23.5	94	WSW	3.5	10	Ci.-S.	N., Cu.-N. SW	22.4	↙ ● a. p. ≡ p.
21	57.38	26.7	28.8	23.8	87.7	SSW, SW	1.5	10	Ci.-S.	Cu.-N. SSW	------	≡ ○ a.
22	59.19	26.6	28.6	24.2	83.7	NNE, SW	1.4	9.2	Ci.-S.	Cu. SSW	------	Ω ≡° a. ○ p.
23	59.83	26.4	30.7	23	84.8	Variable	8	8.5	Ci.-S.	Cu.-N. WNW	------	Ω^2 ≡ a. d° ☈ p.
24	58.29	26.7	31.5	23.8	85.5	NNE	1.1	9.2	Ci.-S.	Cu.-N.	2.9	Ω^2 d a. ☇ p ○
25	57.14	26	30.1	24.3	88.2	E, NNE	1.4	10	Ci.-S.	Cu.-N. ESE, SSW	20.8	☈^{2} ◡ ≡ p ●° d
26	58.64	25.7	28	23.1	87.5	S quad.	1.6	8.2	Ci.-S.	Cu.-N. SE	5.3	≡ ☈ a. ↙° ● p.
27	61.21	25.8	28.1	23.6	85.1	NNE, SSW	1.2	8.7	A.-Cu., Ci.-S.	Cu.-N., Cu.	------	● a. ☇ p.
28	60.55	25.5	29.2	22.9	87.5	N quad.	1.2	5.8	Ci.-S.	Cu.	.3	Ω a. ◡° p. ☈ a. p.
29	58.19	26.2	29.4	22.9	84.7	NNE	1.4	5.7	Ci.-S.	Cu.-N. NE by E	------	Ω a. d° ☈ a. p.
30	57.72	26.4	32.1	22.7	83.5	NNE	1.5	6.5	Ci.-S.	Cu.-N. NE	5.8	Ω^2 ○° a. ● ☈ p.
Mean	757.02	26.3	29.4	23.8	87.6		1.8	8.9	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	625.9	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	757.78	27.7	------	23.2	78.8	NW	0.6	6.3	Ci. NE	Variable	1.8	Ω^2 ≡° d ⊤ ☇ ◡^{2}
2	57.97	27.7	------	23.9	79.8	NE quad.	.5	8.7	Ci.-S. E, SE	Cu. SE	------	◡^{2} d° ○° ϖ° ☇
3	58.01	26.6	------	24	88.2	NE quad.	.6	8.8	Ci.-S.	N. ESE	1.6	○^{2} a. d ☇ p.
4	57.31	26.9	------	23.8	83.8	Variable	.5	8.3	Ci. ESE	Cu. E, SE	.5	d ○^{2} a. ☇ d p.
5	56.36	27.1	------	23.8	81.8	NNW, SSE	.7	7.2	Ci.-S. ESE	Cu.-N.	------	Ω° a. ○^{2} ☇ p.
6	55.85	26.2	------	23.5	86.7	SE quad.	1.4	7	Ci.	N. SE	4.8	Ω° a. d^2 ☈ p.
7	55.09	27.8	------	23.9	79.5	SE quad.	2.4	6.8	Ci.	Cu. S	3.3	d p.
8	54.99	26.7	------	24.2	84.8	S quad.	2.5	8.3	Ci.-S.	N. SW quad.	.5	d^2 a. d° p.
9	56.03	26	------	24.2	88.2	S quad.	1.8	9	Ci.-S., A.-S.	N. SW by W	2	d a. p.
10	57.04	26.9	------	23.4	84.3	SE, SSW	1.2	8.2	A.-Cu.	N. SW	2.3	⊤ ☇ d^2 p.
11	56.80	26.7	------	23.5	83.6	SSW	1.9	6.2	Ci.-S.	S.-Cu.	------	Ω^2 a. ○^{2} ☇ p.
12	55.78	26.6	------	24	85.2	SE quad.	1.4	5.5	Ci.	S.-Cu. NE	------	Ω° ○^{2} a. ⊤ ☇ p.
13	55.30	28	------	22.6	78.8	Variable	1	4.3	Ci.	S.-Cu. SE	------	≡Ω^2○^{2} a. ☇ p.
14	54.61	28.9	------	24.9	76.6	S quad.	1.8	5.3	Ci.	S.-Cu. WSW	------	Ω^2 ∞ a. d° ☇ p.
15	54.54	28.6	------	25	77	SW	2.6	7.8	Ci.-S. NE	S.-Cu., N. SW	------	☇ p.
16	56.34	25.6	------	23.7	89.3	SE quad.	1.1	9.7	A.-S.	N. SW	24.4	d a. ●^{2} ☈ p.
17	55.94	24.5	------	22.8	93.3	SW	.6	10	A.-S.	N. W	82.8	●^{2} p.
18	54.08	24.3	------	22.6	93.5	S quad.	1.5	10	Ci.-S.	N. SW	35.8	●^{2} a. p.
19	54.69	23.4	------	22.6	95	SSW, SW	2.3	10	A.-S.	N. SW	48.5	d^2 a. ●^{2} p.
20	56.09	24	------	22.4	93.5	SSE	2	9.8	A.-S.	N. SW quad.	16	d° ● a. p.
21	57.37	26.4	------	23.4	86	S quad.	1	8	Ci.-S.	N. S	------	☇ p.
22	59.09	27.7	------	23.4	80.8	SSE	.9	6.3	Ci. NE	S.-Cu.	------	Ω° a. ◡^{2} p. ○^{2} a. p.
23	59.66	26.8	------	23	82.3	N quad.	.8	5.7	Ci. NE	S.-Cu. NE	.5	Ω a. ●° p.
24	58.26	26.2	------	23.6	86.3	NW	.7	7.5	Ci.-S.	N. NE, S	3.5	⊤ d^2 ○^{2} ϖ^2 ☇ ●°
25	57.18	26.2	------	24	91.3	S quad.	.7	8.2	Ci.-S.	N. NE, ENE	1.5	≡ a. ⊕^{2} ☇ p d
26	58.31	27.2	------	23.6	83.7	SSW, SSE	1.2	5.7	A.-Cu. SE	Cu.-N. S	.5	Ω^2 a. ☇ d° p.
27	60.94	27.4	------	24.4	80.5	SE quad.	.8	6.2	A.-Cu.	Cu.-N.	------	Ω° a. ⊤ ☇ ϖ^2
28	60.37	26.3	------	22.8	83.7	NE	.8	5.5	A.-Cu. NE	Cu. SE	3	Ω°≡ a. d^{2}ϖ^2 Ω^{2}p.
29	58.18	26.4	------	22.5	83.1	NW, NE	1.1	5	Ci.-S.	Cu.-N., N. cf. NNE	5.8	Ω^2 a. ● ☈ p.
30	57.65	26	------	22.5	84.8	NNW, NW	1.1	6.2	Ci. SE	Variable NE	6.8	≡ a. ● ☈ p.
Mean	756.92	26.6	------	23.5	84.8	------	1.2	7.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	245.9	

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).	Wind. Amount (mean).	Clouds. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	757.79	28.8	34.5	24.2	79.6	SE	8.3	5.8	Ci.	S.-Cu.	------	Ω a. ⌈ζ ⊤ p.
2	57.86	28.2	34.1	24.5	84.2	Variable	8.5	9.5	A.-Cu.	S.-Cu.	.5	ϟ Ω a. ϟ² ⌈ζ d p.
3	57.79	28	34.4	24	85.7	SE	7.1	9	A.-Cu.	S.-Cu. SSE	------	⊤ d ϟ p.
4	57.39	27.7	32.1	24.2	85.2	SE	7.7	9.5	A.-Cu.	S.-Cu. SSE	------	≡° a. ϟ p.
5	56.29	27.6	33.9	24	86.5	S quad.	7.8	9	A.-Cu.	S.-Cu. SSE	1.3	⊤ d² ϟ p.
6	55.47	27.6	34.5	23.5	84.8	SE	9.4	9.2	A.-Cu.	S.-Cu. SE	------	⊖ a.
7	54.50	27.8	33.9	24	87.2	SE	16.4	7.7	Ci.	S.-Cu. SE	.3	⩗° a. d° ⌒ p.
8	54.43	26.6	31.2	24	92.2	SE	12	8.5	A.-Cu.	S.-Cu. S quad.	16.5	p d° ϟ p.
9	55.63	26.6	32.8	23.8	91	SE	10.7	8.5	Ci.-S.	S.-Cu. SSW	1.3	d ⊤ p.
10	56.97	26.2	32.4	23.7	92.8	Variable	7.8	9.2	------	N. SW	1.8	⌒ a. d² ϟ p.
11	56.46	27.4	32.7	24.3	89.5	SE, W	7.6	8.8	A.-Cu.	S.-Cu. SE	5.3	p p.
12	55.51	27.1	34.4	23.6	90.5	S, SE	8.7	8.8	Ci.-S.	S.-Cu. SE	8.4	p ϟ ⌈ζ ⌒ d p.
13	55.12	28.5	35.4	24.1	86.8	SE, NW	9.8	5.5	Ci.	S.-Cu. SE	------	
14	54.26	28.8	34.3	25.8	84.3	Variable	6.4	5.8	Ci.	S.-Cu. SE, SW	4.1	d² ⌒ p.
15	54.24	28.3	33.6	24.8	82.8	SE	8	9.2	A.-Cu.	S.-Cu. WSW	2.3	d² a. d ϟ p.
16	56.32	26	30.9	24.7	93.8	SE, S	5.7	10	------	S.-Cu. W, SSW	13.7	ϟ° d p° a. ⊤ ● p.
17	55.77	23.7	25	22.6	97.5	E, SE	6.3	10	------	N W	229.4	●² a. p.
18	53.55	24.6	29.9	22.4	95.7	SE	8	10	A.-Cu.	N., S.-Cu. WSW	73.4	●² a. p.
19	53.96	23.8	25.4	22.4	97.2	SE	12.1	10	------	N. SW	119.6	● a. ●² p.
20	55.46	23.6	25.4	22.4	96.3	SE	12.9	10	------	N. WSW	72.9	● a. p.
21	57.27	24.8	27.2	23	95.7	SE	8.8	10	A.-Cu.	N., S.-Cu. SW	5.6	● d a. d° ◡ p.
22	58.78	27.6	33.7	23	86.3	SE	8.8	7.3	Ci.-S.	S.-Cu.	------	
23	59.71	28	32.2	25.2	85.7	E, NW	8.9	7.8	Ci.-S., Ci.	S.-Cu. ENE	------	⊤° ⌒ ϟ p.
24	58.26	27.9	31.5	25.5	87	N quad.	8.1	6.3	A.-Cu.	S.-Cu. NW	------	○ ⊖ ϟ° p.
25	56.91	28.6	34.4	25	83.3	E	7.3	8.7	A.-Cu.	S.-Cu. SE	------	ϟ° a. ⌈ζ° ϟ d° p.
26	58.11	27.7	34.4	24.2	83.2	SE	9.8	5.8	A.-Cu. E	S.-Cu.	3	ϟ° ⊤° ⌈ζ p p.
27	60.95	27.9	34.1	23.9	80.4	SE, SW	10.6	6.7	A.-Cu.	S.-Cu. SE	------	ϟ ⊤° p.
28	60.55	27.5	32.7	24.1	85.7	Variable	8.4	8.2	Ci.-S.	S. S	3.6	⊖ a. p p.
29	58.28	27.7	31.6	24.1	84.3	NW quad.	9.4	6	------	S.-Cu.	------	≡ a.
30	57.63	28	34.1	24.1	85.3	Variable	8.1	6	Ci.-S., Ci.	Fr.-Cu. SSW	25.9	⊖ a. p² ϟ p.
Mean	756.71	27.1	32.2	24	88	------	9	8.2	------	------	------	------
Total	------	------	------	------	------	------	------	------	------	------	588.9	------

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.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Wind. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	757.88	28.9	33.1	25.8	78	SE quad.	1.7	7.7	Ci.-S.	Cu.-N.	------	≡° ⊤° a. ⌈ζ ◡° p.
2	57.93	28.4	32.6	26.1	83.1	SE quad.	1.3	10	Ci.-S.	Cu.-N.	.3	⌈ζ ●° ϟ p.
3	57.81	27.5	33	24.5	82.7	S quad.	1.8	9.5	Ci.-S.	Cu.-N.	4.3	≡°○°a. ⌈ζ ● ϟ p.
4	57.34	27.6	32.4	24	85.2	Variable	1.3	10	Ci.-S.	Cu.-N.	13.8	≡°a. ○ ⌈ζ° ϟ p. ●
5	56.25	27	29.6	24.8	87.8	S quad.	1.3	10	Ci.-S.	Cu.-N.	2.1	⌈ζ ●° ⌒² ϟ p.
6	55.37	27.4	32.5	24.5	85.2	ESE	1.7	9.3	Ci.-S.	Cu.-N.	10.7	◡°≡°○°a. ⌈ζ ●²p.
7	54.17	27	30	25.3	83	SE quad.	4	10	Ci.-S.	Cu.-N. S	------	◡° a. ⌈ζ d p. ⩗°
8	53.96	27	30.3	24.9	83.5	SSE	3.8	10	Ci.-S.	Cu.-N.	.8	≡° a. ⌒ ϟ p. ●°
9	55.06	26.1	29.6	24.8	89.5	SSE	2.8	10	Ci.-S.	Cu.-N.	16.5	⩗ ● a. p. ⌈ζ² ϟ p.
10	56.74	25.6	27.9	24.4	92.2	SE quad.	1.2	10	------	N.	37.6	● a. p. ⌈ζ ●² p.
11	56.30	25.9	28.4	23.9	90	S quad.	2	10	Ci.-S.	Cu.-N.	1.9	⩗° a. p. ● p.
12	55.36	26.6	31.1	23.5	86.8	SE quad.	1.7	9.2	Ci.-S.	Cu.-N.	35.1	≡° Ω d ● ⌈ζ² ⊤
13	55.06	27.3	31.4	24.2	85.2	SE quad.	1.5	9.2	Ci.-S.	Cu.-N.	------	≡° a. ⊤° p.
14	54.24	27.9	32	25.2	82.5	S quad.	2.3	8.8	Ci.-S.	Cu.-N.	.3	≡° a.
15	54	27.9	31.2	25.5	83.9	SSW	3	10	Ci.-S.	Cu.-N. SW	6.6	●°⌒○a. ⩗° ⌈ζ p.
16	55.94	26.1	27.6	25	89.7	SE quad.	1.8	10	Ci.-S.	Cu.-N.	7.1	● d a. p. ⊤° ϟ p.
17	55.21	24.3	25	23.4	96	S quad.	2	10	------	N.	184.9	● a. ⌈ζ° ●² p.
18	53.16	24	24.6	23.4	98.2	SW quad.	1.7	10	------	N.	106.9	● a. ●² p.
19	53	24.3	26	23.6	98.5	SW quad.	4.5	10	------	N.	127.9	⩗ ● a. p.
20	54.52	24	24.3	23.5	98.7	S quad.	2.7	10	------	N.	153.4	●² a. p. ⩗° p.
21	56.75	23.8	24.4	22.5	98.3	S quad.	2.5	10	------	Cu.-N.	80.3	● a. p. ⌈ζ p.
22	58.44	25.5	28.8	22.4	95.3	S quad.	1.7	10	Ci.-S.	Cu.-N.	------	◐° a.
23	59.71	27	29.9	24	92	Variable	1.7	10	Ci.-S.	Cu.-N.	------	≡° Ω a. ϟ p.
24	58.26	27.7	29.7	25.9	91	NNE	2.3	9.8	Ci.-S.	Cu.-N.	4.1	● a. d a. p.
25	56.83	27.2	30.1	24.6	90.7	Variable	1.7	8.5	Ci.-S.	Cu.-N.	32.5	●° a. ● ⌈ζ p. ϟ
26	57.89	26.2	29.8	23.5	90.6	S quad.	1.7	9.2	Ci.-S.	Cu.-N.	------	≡° a. ⌈ζ° ⌒ p.
27	60.66	26.9	30.7	23.9	86.7	S quad.	1.7	6.8	Ci.-S.	Cu.-N.	------	≡° Ω a. ⊤° ϟ ◡ p.
28	60.38	27	30	24.6	85.3	Variable	1.2	8.2	A.-Cu.	Cu.-N.	------	d ≡° a. ⌈ζ ⊖° p.
29	58.18	27.2	29.9	24	84	N quad.	1.5	7.5	Ci.-S.	Cu. N	------	≡° a.
30	57.43	28.1	31.3	24.9	83.6	Variable	1.5	6.8	Ci.-S.	Cu.-N.	------	⊖° Ω ≡° a.
Mean	756.46	26.6	29.6	24.4	88.6	------	2.1	9.4	------	------	------	------
Total	------	------	------	------	------	------	------	------	------	------	827.1	------

METEOROLOGICAL DATA, ETC.—Continued.

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1512.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).[1]	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	636.54	18.6	22.9	16.2	95.2	Variable	10	8	Ci.	S.-cf. W	5.6	●° ≡ ⊤ ☈ p.
2	36.55	18.6	22.9	16.9	88.5	E	11.2	9.2	Ci.-S.	S.-cf. E	1.3	●° a. p. ≡ ⌒ ☈ p.
3	36.42	18.3	22.2	16.4	91	E, WSW	10	9.2	Ci.-S.	Variable	.5	Ω ⊕ a. ≡ ●° p.
4	35.76	18.6	23.5	16	91.8	SE, W	11.6	9.5	Ci.-S.	Cu.	33	Ω a. ●² p. ≡
5	34.92	17.7	23.2	16	90.7	Variable	10.6	9.2	Variable	S.-Cu.	26.2	Ω a. ● p. ≡
6	34.11	18.4	22.6	15.5	93.2	E quad.	12	9	Variable	Fr.-N.	13.8	Ω a. ≡² ● ⊤ p.
7	33.22	18	22	16.5	92.5	E	27.7	9.2	Ci.-S. SE	Cu. ESE	17	● ≡² p.
8	33.14	18.1	21.8	16.4	94	ESE	15.9	9.2	Ci.	N.	3	≡ d ● p.
9	34.13	17.2	20.9	15.9	97.5	SW quad.	15.7	9.8	Ci.-S.	N. SW	5.4	≡ p a. ● p.
10	35.36	17.8	21	16.2	95	Variable	13.2	9.8	Ci.-S. W	Fr.-Cu., N.	18.5	d a. ≡² ● p.
11	34.76	17.2	20.1	15.9	98.8	E, W	13.7	9.5	Ci.-S.	Fr.-N. SW	8.2	Ω a. ● p. ≡²
12	33.91	18.3	22.5	16.2	94.2	E, WSW	12.2	8.8	Ci. NE	S.-cf. ENE	4.9	Ω a. ● ≡² ⊤° p.
13	33.99	18.8	23.8	15.9	92.5	E	11.3	8.2	Ci. NE	Variable	------	Ω ↯ a. ≡²
14	33.40	18.6	22.6	16.7	97	SW quad.	16.4	9.8	Ci.	S.-Cu. W	23.1	Ω² a. ● p. ≡
15	33.18	17.6	20.4	15.7	98.8	WSW	30	9.8	Ci.-S., A.-Cu.	Fr.-N. SW	7.9	● p. ≡²
16	34.40	16.7	18.3	15.6	99.8	W	22.7	10	A.-S.	S.-Cu.	67.8	● ≡² a. p.
17	33.56	16.3	17	14.9	100	W	20.6	10	------	------	121.6	● ≡ a. p.
18	31.69	16.2	17.3	15	100	W	22.5	10	------	------	79.7	● ≡ a. p.
19	31.59	16.6	18	15.7	99.5	WSW	36.7	10	------	N.	119.4	● a. ↙ ●² p. ≡
20	32.92	16.3	17.7	15.7	99.7	SW	38.5	10	------	N.	90.7	● a. ↙ ●² p. ≡²
21	35.05	16.3	18.2	15.3	96.8	SW quad.	23.8	10	A.-S.	N. SSW	7.1	● a. p.
22	37.16	18.4	23.1	15.6	89.7	E	12	8.2	Ci. NE	Cu. SW	------	↯° p. ≡
23	37.78	18.7	22.2	16.1	96.2	Variable	9.1	9.5	Ci.	Cu. ENE	13.8	Ω a. ● ↯° p. ≡²
24	36.78	18.8	24.1	15.3	92.3	NE	8.5	8.8	Variable	N.-cf. ESE	2.3	Ω a. ● ⊖ p. ⊕ ≡²
25	35.49	19	23.5	15.6	92.5	E	11.1	7.2	Ci.	S.-Cu. ESE	2.3	Ω a. ☈ ⊖ p. ≡²
26	36.26	17.9	23.2	15.6	92	E quad.	14.2	6.2	Ci., Ci.-S.	Variable	3.8	Ω d ☈ ⌒ ● ⊖ ≡
27	38.54	17.9	22.5	14.8	89	E	12.7	7.2	Ci.	Variable	5.8	≡ a. ● ☈ p.
28	38.18	17.2	22.5	15	88.8	E	12.8	7.5	A.-Cu.	S.-cf. ENE	54.6	≡ ●² ☈ ⌒ p.
29	36.43	18.4	22.8	15.5	88.3	Variable	11	5.5	A.-Cu. NW	Variable	2	≡ ● ⊤° p.
30	36.07	18.3	22.8	15.5	91	WSW	11.5	6	Ci. E	Cu. NE	.8	Ω a. d p. ≡°
Mean	635.04	17.8	21.5	15.8	94.2	------	16.3	8.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	740.1	

VIGAN.

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

Day.	Pressure (mean).[1]	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.01	28.6	33	25.6	79.4	Variable	0.8	3.2	Ci.	Cu.	0.5	☈° d ● p.
2	58.01	27.6	32.4	25	78.3	SE quad.	1.2	4.3	Ci.-S.	Cu. SW	------	☈° d ψ p.
3	57.88	27.8	32.8	24.2	78.8	SE quad.	1	4.7	Ci.-S.	Cu.	16.5	☈ ● p.
4	57.20	27.2	32	24.6	84.3	Variable	.7	4.7	Ci.-S.	Cu.	2.5	☈° d p.
5	56.37	27.2	32	24.5	85.3	SE quad.	.8	4.7	Ci.-S.	Cu. NNW	.8	☈° ● ⌒ ↯° p.
6	55.57	26.6	31.9	23	83.7	SE quad.	.8	4.7	Ci.-S.	Cu.	32.3	☈ d ●² p.
7	54.59	27	32.6	24	85.6	E quad.	1	5	Ci.-S.	Cu. NE	27.4	d ● ☈ p.
8	53.94	27.7	32.5	24.8	86.2	Variable	1.2	5.7	Ci.-S.	Cu. SW	12.7	d ● ☈° p.
9	55.27	27.7	31.2	25.2	81.3	SE quad.	1.8	6	Ci.-S.	Cu.-N.	------	
10	57	27	31.1	24.2	82.7	SE quad.	1.2	6.5	Ci.-S.	Cu. SSW	15	● a. p. ☈° p.
11	56.54	26.6	30.8	23.9	86.2	S quad.	1.2	3.3	Ci., Ci.-S.	Cu. SSW	7.9	d ● ☈ p.
12	55.54	27.2	31.4	24	82.6	Variable	1	4.2	Ci.-S.	Cu.	1	↯ a. ☈° ● p.
13	55.51	27.6	31.6	24.4	82.5	Variable	1.2	3.5	Ci.	Cu.-N.	------	☈ d p.
14	54.28	28	31.9	25.9	84.3	SW	1	7	Ci.-S.	S.-Cu.	9.9	d a. p.
15	53.97	27.3	30.1	24.8	85.7	S quad.	2.3	8.5	Ci.-S.	Cu.-N. SW by S	29.7	● a. d ↯ p.
16	56.08	25.6	29.7	22.9	88.8	S quad.	1.2	9.8	Ci.-S.	N.	92.5	● a. ●² p.
17	55.30	24.3	26.1	23.1	94.8	SE quad.	1	10	------	Cu.-N., N.	62.9	● a. p.
18	52.88	24.8	27.9	22.6	90.2	S quad.	1.8	6.7	Ci., Ci.-S.	Cu.-N. S	9.4	⌒ a. ● p. d°
19	52.70	24.8	28.1	23.5	94.3	S quad.	2	10	------	N.	108.8	● a. p. ↙ p.
20	54.43	24.2	25.4	23	97.7	S quad.	1.8	10	------	N.	106.2	●² a. p. ↙° p.
21	56.26	25.6	28.4	23.5	88.3	S quad.	3	9.7	Ci.-S.	Cu.-N. SSW	9.4	↙° a. ● a. p.
22	58.65	27.8	31.4	25.1	81.7	S quad.	1	3.3	Ci., Ci.-S.	S.-Cu.	1.8	
23	59.98	27.5	31.4	24.5	88.2	Variable	1	5	Ci.-S.	Cu.	------	● a. ⊖ p.
24	58.28	27.7	32	24	85.2	N	.8	2.8	Ci., Ci.-S.	Cu.	------	Ω a.
25	56.83	28.1	31.7	24.7	85.3	SW quad.	1.2	3.3	Ci.	Cu.	------	Ω a. ☈° d ●° p.
26	58.22	27.4	31.1	24.8	81.8	SE quad.	1	3.5	Ci.-S.	Cu.	1	☈ d ●° p.
27	61.20	27.5	32.9	23.9	76.5	E quad.	.8	3.7	Ci.-S.	Cu.	.3	↯ a. ☈° d p.
28	60.67	26.7	32	23.2	78.2	E quad.	1.2	2.5	A.-Cu.	Cu.	------	↯° p.
29	58.37	27.1	31.8	23.3	81.2	Variable	1	.5	A.-Cu.	Cu. W	------	Ω a. ⊖ p.
30	57.72	27.7	32.4	23.9	77.3	Variable	.7	0	Ci.	Cu.	------	Ω a. p.
Mean	756.58	26.9	31	24.1	84.6	------	1.2	5.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	548.5	

[1] Not reduced to sea level.

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*0-12.*	*0-10.*			*mm.*	
1	758.04	29.2	36.3	23.2	75.6	SE, NE	0.3	5.7	Ci.	Cu. SE	------	Ω² a. ϖ ς p.
2	58.15	28.5	35.5	22.6	77.7	Variable	.7	7	Ci.	Variable S, SE	------	Ω² a. d ⊤ ς p.
3	58.02	29.2	35.4	24	78	SE	.2	7.2	Ci.	Cu.-N. S	------	ϖ Ω a. ⌈ʒ p.
4	57.30	28.9	36.6	23.7	76.3	NNW, NE	.3	7.7	Ci.	Cu.-N. SE	------	d Ω² a. ς p.
5	56.51	28.1	35.2	23.5	78.3	SE	.5	5.8	Ci.	Cu. S, SE	------	Ω² a. d p.
6	55.68	28.2	35.8	23.9	81.5	S, SE	.5	7	Ci.-S., A.-S.	Cu.-N. S	------	d² ⌒² p.
7	54.89	28.5	36	23.3	80	SE, SW	.3	5.3	Ci., A.-Cu.	N.-cf. S	------	⌒ ⌈ʒ p.
8	54.11	29.6	35.7	23.4	76.3	SE, NE	.7	5.2	Ci.-S.	Cu. SE	------	Ω²a. d² ⌈ʒ ɣ° ς p.
9	54.74	29.5	37	24.5	77.8	SE, NW	.7	6.5	Ci.	Cu.-N. SE, E	------	d a. ς p.
10	56.56	28.5	36.3	24.6	81.7	SE, NW	.3	7.7	Ci.	Cu.-N S, SE	9.4	d a. p. ● ⌈ʒ ς² p.
11	55.86	28.2	35.5	23.5	81	SE	.7	5.8	Ci.-Cu. SE	Variable	------	ς² a.
12	55.34	28.2	35.2	23.6	83	NW	.2	7.2	Ci.	Cu. NE	2	Ω a. d² ς p.
13	55.24	28.9	35.5	24	76.5	NE	1	7.2	Ci.	N.-cf. SE	------	● a. ς p.
14	53.28	28.9	36.2	24.1	80	SE	.7	6.2	Ci.	Cu. SW	11.4	Ω a. d ⌈ʒ ● ς p.
15	53.04	28.4	35	24.4	86.5	NW	.2	8.2	Ci.-S.	Variable	------	
16	55.69	26.2	32.4	23.6	94.2	SE	.2	9.3	Ci.-S.	Cu.-N. NW	28.7	ς² d a. ● ⌈ʒ p.
17	54.39	26.6	32.1	23	85.2	NW	.3	7.8	Ci. N	Cu.-N. N	------	
18	42.12	28.1	34	23.8	81.3	SE	.5	6 8	Ci.	Cu. SE, S	------	Ω a.
19	52.19	27.1	34	23.5	85.2	SE	.7	8.8	Ci.	Cu.-N. S, SE	10.2	Ω a. ● p.
20	53.59	26.8	32.4	23	83.2	SE	2	8.7	Ci.-S.	N. SE	------	d² p.
21	55.57	27.5	33	23.5	76.8	SE	1.7	7.8	Ci.-S.	S.-Cu. SE	------	d a.
22	58.21	29.2	36.5	22.8	73.8	SE	1.2	7.3	Ci. NE	S.-Cu.	------	Ω a. ϖ p.
23	59.52	28.6	35.2	24	79.2	Variable	.5	6.8	Ci.-S.	Variable	------	Ω² a.
24	58.35	28.7	35.5	23.3	80	NW, WNW	.3	6.2	Ci., Ci.-S.	Cu.-N. SE	------	Ω a.
25	56.77	28.9	36.7	23.5	78.8	SE	.2	4	------------	Cu. ESE	3.6	Ω a. ● ⊤ p.
26	57.70	28.9	36.1	23.5	77.3	SE	.3	4.3	Ci.	Cu. S, SE	------	Ω a.
27	60.90	28.1	35.8	22.1	79.4	N	.5	4.3	Ci.	Cu. SE	------	Ω² a. d p.
28	60.75	26.6	34.5	21	81.2	NW	.2	3	Variable	Variable	------	Ω a. p. ⌒ ⊤ p.
29	58.53	27.8	35.1	22.5	78.3	SE	.7	5.5	------------	Cu. Variable	------	ς p.
30	58.23	27.5	34.5	21.6	77.8	N, NW	.5	5.3	Ci.	Cu. E	------	Ω a. d ϖ p.
Mean	756.31	28.2	35.2	23.4	80.1	------------	.6	6.5	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	65.3	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	758.57	27.9	33.5	24	76.5	Variable	11.2	0.3	Ci.-S.	Cu.-N., S.-Cu.	------	Ω a. ς p.
2	58.56	28.2	33.4	23.8	78.1	Variable	10.6	1.5	Ci. E	S.-Cu.	------	∞ a. p. ⊤° ς p.
3	58.33	28.6	33.6	24.6	79	NE	12.2	3.2	Ci. E	Cu.-N. SE	------	∞ a. p. ς p.
4	57.77	28.4	33.9	24.5	78.2	Variable	10.2	1.2	Ci., Ci.-S.	Cu. NE	------	∞ a. p. ς p.
5	56.65	28.4	33.6	24.5	78.5	S, NE	7.7	3.2	Ci. E	Cu.-N.	9.4	⊤ ● p.
6	55.73	27.8	32.9	24.1	82.2	SE, NE	11.2	6.5	Ci., Ci.-S.	Cu.-N. E	------	●° a. ○ p.
7	55.18	27.9	33	24	80.7	S, E	9.7	2.3	Ci.	Cu.-N. NE	------	Ω ≡° a. ⊤° ς p.
8	54.46	28.6	33.9	25.2	77.3	S quad.	7.3	1.8	------------	Cu.-N. SE	------	Ω a. ς p.
9	55.05	28.7	34.2	24.4	78.7	SE, N	8.2	2.7	A.-Cu. S	S.-Cu. W	.3	⊤° ς p.
10	56.72	27.5	32.9	24.2	87.8	Variable	7.6	7	Ci. N	Cu.-N. SE, E	21.1	ς ⌈ʒ° a. ⌈ʒ ● p.
11	56.18	27	32.9	23	84.3	S	10.9	2.8	Ci.-S. N	S.-Cu.	------	⌈ʒ° ς p.
12	55.58	27.8	33.2	24.2	81	SW, N	8.6	2.3	A.-Cu. N	S.-Cu., Cu.-N.	9.7	ς ● p.
13	55.46	27.8	32.4	24.5	82.3	S, NE	8.7	3.7	Ci.	Cu.-N.	.5	ς ●° p.
14	53.50	28	32	25	82.5	Variable	6.4	4	Ci.-S. E	Cu.-N., Cu. W	------	⌈ʒ° ς p.
15	53.18	28.3	32.9	24.6	80.7	SE quad.	8.5	8.7	A.-Cu. SW, E	S.-Cu. SW	------	ς p.
16	55.78	26.9	31.5	24.1	85.3	Variable	7.7	8.2	Ci.-S. N	S.-Cu. E	------	⌈ʒ° a. ⊤° p.
17	54.36	25.9	28.3	23.6	86.2	W, NW	12.7	9.8	Ci.- S., Ci.	S.-Cu. N	30	● a. p.
18	52.03	26.4	32.7	23.7	84.7	SE	------	2.8	Ci.-S. W	S.-Cu.	4.3	⌈ʒ ● ⌒ ς p.
19	52.11	26.8	32.9	24	80.2	S	13.5	6.2	Ci., A.-Cu. E, SW	N. W	29	● ⊤° p.
20	53.47	26.6	30.6	24.7	81.5	S	20.4	10	------------	S.-Cu. SW	------	
21	55.59	27.2	31	25	78.3	S	16.2	10	A.-S.	S.-Cu. SW	------	ς p.
22	58.56	28.5	33.5	24.6	72.7	N, S	12.7	7.2	Ci. E	S.-Cu.	------	≡° p.
23	60.06	28.2	32.4	24.6	82	Variable	6.8	4.7	Ci. E	Cu.-N.	------	ς p.
24	58.68	28.5	33.1	24.6	79.8	NE	7.7	.2	------------	Cu.-N. S	------	Ω a.
25	57.02	27.8	33.4	23.6	83.5	S, NE	9.6	.5	------------	Cu.-N.	------	Ω a. ς p.
26	58	28.5	33.6	24.6	80.5	S, NE	9.6	1.3	Ci. E	Cu.-N.	------	ς Ω p.
27	61.43	27.4	32.6	22	82.7	Variable	10	3.8	------------	Cu -N. E, NE	52.6	⌈ʒ° a. ⌈ʒ ●² p.
28	61.03	26.1	31.2	21.7	83	S	8.9	.3	------------	S.-Cu., Cu.-N	.5	ς ●° p.
29	58.82	27.5	32.7	23.6	81	SW, NE	7.2	1.3	------------	Cu.-N.	3.6	● p.
30	58.80	27.8	32.1	24	79	SW, NE	11.1	1.2	Ci.	Cu.-N.	------	
Mean	756.56	27.7	32.7	24.1	80.9	------------	10.1	4	------------	------------	------	
Total	------	------	------	------	------	------------	------	------	------------	------------	161	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.7	21.6	95	78	9	9	13.2	Ω a. ● p.
2	31	22.3	96	79	9	8	27.2	○ d a. ● p.
3	30.5	21.7	98	72	10	9	8.4	● d a.
4	31	22.1	92	80	10	9	------	● d a.
5	31.4	22	92	74	9	9	4.1	Ω ○ ↙° d ● a.
6	31.8	21.4	94	72	7	8	------	Ω a.
7	31.9	23.9	92	72	7	8	------	Ω a.
8	32.8	23	92	65	8	7	------	Ω a.
9	32.4	23.3	92	68	6	6	------	Ω a.
10	32.6	22.6	92	66	8	7	------	Ω ≡ a. ○ < p.
11	32.6	24.1	91	75	9	9	------	d ⊤ p.
12	32.7	22	94	68	9	7	------	Ω a. < p.
13	32.5	24	91	73	8	8	------	d p.
14	32.9	23.2	95	76	8	7	11.4	Ω a. ● p.
15	33.3	23	91	61	8	8	2.8	Ω² ⊤ ● a. ↙°p.
16	34.4	23 2	92	60	9	8	------	Ω a. < p.
17	32.2	23.2	93	75	9	10	------	Ω a. ⊤ d p.
18	33.5	23.6	84	59	8	9	------	Ω² a. ↙° < p.
19	34	22.6	94	50	8	8	------	Ω a.
20	34.3	22.4	95	57	8	8	------	Ω a.
21	33.9	22.3	95	73	8	10	26.9	d ●² p.
22	33.8	22.1	96	81	8	7	2.5	Ω a. ●° p.
23	29.3	23.3	96	79	10	10	2.8	● a.
24	33.5	22	91	68	8	7	5.1	Ω a. ⊖ p.
25	34.1	21.4	96	68	10	8	5.3	● a. p.
26	31.9	21.8	94	76	8	9	------	● a.
27	34.3	21.3	95	76	10	9	------	Ω° a.
28	34.5	22	93	70	8	6	------	Ω a.
29	33.3	21.9	96	88	8	10	21.6	Ω²d a. ● ⎾ p.
30	28.9	21.8	92	75	10	10	5.1	● a.
Mean	32.5	22.5	93.3	71.1	8.5	8.3	------	
Total	------	------	------	------	------	------	136.4	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.1	22.5	96	80	10	9	8.1	d a. ● p.
2	29.3	23	97	78	10	5	17.3	d ≡° a. ● p.
3	30.7	22.2	98	70	10	10	------	d a.
4	29.3	22.2	98	79	10	10	6.9	Ω a. ● a. p.
5	30.3	22.2	97	77	10	10	5.1	Ω ↙° ● a.
6	31.5	20.5	98	65	8	10	------	Ω a.
7	31.3	21.5	96	65	10	9	------	Ω a. ↙° p.
8	32.3	21	100	56	10	8	------	Ω ≡° a.
9	32.9	21.5	98	61	0	8	------	Ω a.
10	32.3	20.8	95	64	10	10	------	Ω ≡° a.
11	31.8	22	96	72	10	9	------	Ω a.
12	32.3	22	96	65	2	6	------	Ω a.
13	32.9	21.5	95	62	1	5	------	Ω a.
14	32.8	21.5	89	56	0	7	2	Ω a. p p.
15	30.5	22.5	98	72	8	10	8.4	●° ⊤ a. d p.
16	31	22	96	67	10	5	------	Ω ≡° a.
17	31.3	22	93	80	10	10	.5	Ω ≡° a. d p.
18	30.5	22.5	97	73	10	10	.5	d a. p.
19	33.3	22.6	98	66	10	5	------	Ω a.
20	34.3	21.5	96	61	4	5	------	Ω a.
21	32.8	21.9	96	64	2	5	------	Ω ≡° a.
22	31.3	23	98	69	10	6	11.7	Ω a. ● < p.
23	25.3	22.5	90	90	10	10	27.9	d ● a. p.
24	29.8	22	96	68	10	5	------	Ω a.
25	31.5	21.9	96	71	9	9	21.8	Ω a. ● p.
26	29.9	22	95	74	4	10	6.1	Ω ● a.
27	31.3	21.5	97	75	4	4	------	Ω a.
28	30.6	22.5	96	72	10	5	------	Ω a.
29	29.7	22.5	96	75	10	10	10.7	Ω a. ⎾ ● p.
30	30.3	22.5	96	88	10	10	28.4	p a. ↙° ● ⊤ p.
Mean	31.2	22	96.1	70.5	7.7	7.8	------	
Total	------	------	------	------	------	------	155.4	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.2	23.4	93	78	9	8	17	⋓ ●° ⌒ ○a. p p.
2	28.2	23.4	89	79	9	7	11.2	p ≡ a. d° ● p.
3	28.3	22.9	92	70	10	6	1.3	≡ a. d a. p.
4	28.4	21.4	89	85	8	10	3	Ω ≡ d° a. d ⊤ p.
5	28.3	21.9	90	79	5	10	3.6	≡ ● a. d p.
6	30	22.7	89	74	3	8	------	Ω ≡° a.
7	29.7	23.4	86	75	7	8	------	≡° a. ○° p.
8	29.9	23.4	87	71	9	7	------	≡° a. ○ p.
9	30.5	24.2	87	73	3	5	------	Ω° ≡° a. ⊤ p.
10	30.7	23.2	81	69	7	9	------	Ω° ≡°a. ○ ⊤ p.
11	29.6	23	85	78	10	8	------	Ω° ≡°a. ○ ⊤ p.
12	29.8	22.5	89	81	5	6	------	Ω° ≡° a. ⊤ p.
13	30.6	23.8	94	74	6	7	------	Ω° ≡° a. ○° < p.
14	31	22.9	89	69	2	4	------	Ω ≡° a. < p.
15	29.2	22.9	86	77	5	8	13.5	● ⊤ a. p. ○°d° p.
16	30.2	24.3	89	72	8	5	------	≡° d a. ○° < p.
17	29.6	24.1	86	83	7	10	9.9	Ω° ≡°a. d° ⊤ ● p.
18	30.4	23	96	70	10	8	.8	d° a. p.
19	30.8	24.7	89	71	7	5	------	≡° a. ○ p.
20	30.8	23.6	87	75	4	7	------	Ω ≡° ○ a.
21	31.4	24.1	89	57	3	7	------	Ω ≡ a. ⎾ p.
22	29.3	24	87	71	5	5	1.5	d° ○ a. ⊤ ● p.
23	26.4	21.8	83	87	10	10	23.1	d° ⊤ a. ● a. p.
24	28.8	22.2	90	74	8	8	.5	≡ a. ○ p.
25	28.6	23.1	87	75	9	8	3	d° ≡ ● a. ○ p.
26	28.8	21.6	86	71	7	8	------	≡° a. ⋓ p.
27	30	22.8	84	72	4	6	------	Ω ≡° a. ○ ⋓ p.
28	29	------	85	76	6	8	2.8	Ω°a. ⊤ p ○ ⊖ p.
29	30.2	21.9	88	94	9	10	14.2	≡ a. ● ⎾ p.
30	28.2	21.9	91	85	8	9	21.1	≡° ○ d°a. ⊤ ●°p.
Mean	29.5	23	88.1	75.5	6.8	7.5	------	
Total	------	------	------	------	------	------	126.5	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	22	97	66	5	6	19.3	● ⎾ p.
2	31.3	22.8	100	78	7	7	56.4	●² p.
3	29.2	22	98	77	10	8	------	
4	32.6	22.5	99	64	6	5	41.1	●² p.
5	31.2	22.5	97	74	8	7	------	
6	30.9	22.1	96	76	6	5	------	
7	30.2	23	96	75	8	7	------	
8	30.7	23.9	97	72	7	8	------	
9	32.6	22.3	97	61	6	5	27.9	●² ⊤ p.
10	32.2	22	99	69	6	6	43.9	↙° ●² ⎾ p.
11	31.2	22.5	100	72	7	7	------	
12	33.3	21.7	99	68	5	6	67.8	●² ⎾ p.
13	33.1	23.1	97	70	5	7	15	● ⎾ p.
14	33.6	22.6	97	64	5	5	------	
15	34.2	22.9	97	68	6	7	------	⊤ p.
16	31.2	22	96	74	5	5	------	
17	32.6	22.6	98	68	8	7	34	●² p.
18	32.1	21.9	99	74	6	5	------	⊤ p.
19	32.5	22.1	97	68	6	7	------	
20	33.7	23	98	72	5	6	17	● ⎾ p.
21	33.7	21.5	98	71	6	5	------	
22	32.9	21.6	99	73	5	7	32	● a. p.
23	27.2	23	94	85	9	9	------	
24	32.6	21.2	98	66	5	5	------	
25	32.7	21.7	98	57	6	5	------	
26	33.3	22	96	58	6	6	76.2	↙° ●² ⎾ p.
27	32.1	21.3	97	78	7	8	47.5	
28	27.9	21.8	99	82	9	9	------	↙° ●² ⎾ a. d p.
29	32.9	21.6	98	66	7	7	------	⊤ p.
30	32.2	21.8	97	73	6	6	------	
Mean	31.9	22.2	97.6	70.6	6.4	6.4	------	
Total	------	------	------	------	------	------	478.1	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31	21.8	91	70	2	4	12.7	Ω ≡a. ↙° ⌈K ●p.
2	29.4	22.3	92	77	3	8	2.5	≡ a. ● ⧼ p.
3	29.8	21.4	97	72	8	9	2.5	≡ a. ↙° ● p.
4	30.5	21.8	95	71	10	8	3.8	d a. ↙° ● ⧼ p.
5	30	21.8	95	67	10	8	11.4	≡ a. ↙° ● p.
6	30.1	20.4	94	65	3	9	------	≡ a.
7	31.2	23.4	93	62	8	9	------	↙° p.
8	31.8	21.6	92	65	8	6	------	≡ a. ⧼ p.
9	31.8	21.2	93	63	3	2	------	Ω ≡° a.
10	32	20.8	93	65	2	2	------	≡ a. ⧼ p.
11	31.2	21.8	93	70	4	6	10.2	≡ a. ⌈K ↙° ● p.
12	31.2	20.6	95	73	2	10	------	Ω a. ↙° ⌈K p.
13	31.6	21.6	97	69	3	3	------	≡° a. ↙° ⧼ p.
14	31.2	21.2	97	59	1	2	8.9	≡² a. ↙° ⧼ p.
15	27.2	21.4	97	90	6	10	15.2	● a. p. ⧼ p.
16	31	21.2	93	67	10	10	------	≡ d a.
17	30.5	21.6	93	77	10	10	15.2	↙° ● p.
18	30	20.6	93	66	10	10	------	d a. p.
19	31	21.4	93	65	6	8	------	≡° a. ⧼ p.
20	33	21.2	92	53	5	3	------	≡° a. ⧼ p.
21	32.6	21.6	95	68	2	2	------	Ω a. ⧼ p.
22	32	22.6	93	73	2	4	17.5	Ω° ≡ a. ⌈K ● p.
23	27.6	------	93	88	8	10	20.3	d a. ● a. p.
24	30.2	21.4	92	70	3	8	------	≡ a. d p.
25	30.5	21.6	99	77	1	8	------	Ω a. d ↙° ᴗ² ⧼ p.
26	31	21.4	97	71	3	4	1.5	Ω a. ● ⧼ p.
27	31	21.6	92	65	4	8	8.9	Ω a. ● ⧼ p.
28	29.9	20.4	97	77	8	10	------	≡ a. d ⧼ p.
29	31.2	22.1	93	68	6	8	2.5	Ω a. ⊤ ●° p.
30	30	21.6	93	71	4	6	15.2	≡ a. ↙° ● p.
Mean	30.7	21.5	94.1	69.8	5.2	6.8	------	
Total	------	------	------	------	------	------	148.3	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.7	21.9	89	65	4	9	23.9	Ω² ≡° a. ⌈K ● ᴗ°
2	31.3	22.2	97	73	10	10	33	⌈K d° ●² ⧼ p.
3	31.1	22	97	92	9	10	18.8	●² a. ⌈K ● ⧼° p.
4	31.5	22	96	71	8	9	20.8	d ↙° ⌈K ●² ⧼° p.
5	32	22.1	97	71	9	10	9.9	d a. ↙° ⌈K ●° p.
6	32.7	20.9	92	60	10	9	------	⊕ p.
7	32.9	22.5	95	60	10	9	------	Ω° ≡° a. ⊕ ⧼° p.
8	33.7	23.4	89	66	10	9	4.8	Ω° a. ⊕ ↙ ⌈K d²
9	33.9	21	97	67	10	9	------	⧼° p.
10	34	22.5	92	61	9	3	------	Ω² ≡ a. ⧼° p.
11	33.2	22.4	90	72	4	10	1.3	Ω a. d° ⌈K ● ↙
12	32.9	21.9	92	61	8	9	.5	● d ⧼ p.
13	33.8	21.5	92	58	7	6	3.8	⌈K ● d° p.
14	34	22.4	94	67	1	7	17.8	⌈K ↙ p.
15	33.7	21.4	96	59	2	7	------	⧼ p.
16	32.9	22.2	91	68	10	10	15.2	Ω a. ⌈K ↙ ●
17	28.1	22.3	93	93	10	10	3	⌈K ↙ ● ⧼ p.
18	32.9	21.7	93	59	8	9	------	⧼ p.
19	33.4	21.9	89	59	5	8	.3	Ω a. ⊤ d° p.
20	34.1	21.7	88	58	7	6	------	○ p.
21	32.6	21.6	88	66	1	7	------	○ ⌈K d° p.
22	33.2	22.6	92	62	2	5	10.2	
23	27	23.2	96	89	10	10	32.5	● ⧼ a. p.
24	31.9	22	96	70	8	8	------	● a. ⌈K ↙° p.
25	33.1	21.5	91	65	8	6	12.7	Ω a. ⌈K ↙ ● p.
26	33.2	21.1	92	70	8	9	5.1	⌈K ● d° p.
27	32.3	22.4	95	69	6	8	------	○ ⧼° p.
28	29.2	22.3	92	78	10	10	------	Ω d° a. d° ⧼ ᴗ² p.
29	32.3	21.9	92	65	8	8	7.6	Ω² ≡° a.
30	32.1	21.9	94	72	5	8	30.5	⌈K ● p.
Mean	32.4	22	92.9	68.2	7.2	8.3	------	
Total	------	------	------	------	------	------	251.7	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.2	22.4	90	63	9	5	9.4	⌒ a. ● a. p. ⧼ p.
2	30.7	------	87	------	7	------	------	● a.
3	33.4	23.3	95	67	9	8	3.6	○ ⧼ ● p.
4	32.9	22.8	96	68	9	10	2.8	● a. p. ○ p.
5	31.4	21.7	94	93	10	10	20.3	↙° ● a. p.
6	31.5	21	97	70	9	8	1.8	● a.
7	33.4	23.3	93	67	10	9	------	○ p.
8	34.8	23.4	94	66	7	9	------	↙° p.
9	33.3	22.5	91	66	8	7	------	
10	35.5	23	94	56	6	5	------	⧼ p.
11	34.8	23.5	92	70	6	7	2.3	Ω a.
12	34.1	23.2	94	65	8	5	------	● a. ⧼ p.
13	35.3	22.5	97	64	5	4	1.5	Ω a.
14	35.2	23.5	86	60	5	5	1	● a. p.
15	34.8	22.6	97	79	7	10	2	● p.
16	33.3	22.4	96	66	10	10	------	⧼ p.
17	------	------	------	------	------	------	------	
18	------	------	------	------	------	------	------	
19	34.2	22.7	97	69	7	6	------	⧼ p.
20	33.7	23.3	95	60	6	8	------	Ω ≡ a. ⊤ p.
21	34.2	23.7	95	66	5	4	------	Ω ≡ a.
22	34.7	24.6	84	65	8	4	3.6	Ω ≡ a. ⧼ p.
23	29.6	24.5	88	80	10	10	1.8	≡ a. ● a. p.
24	31.4	22.6	93	73	9	10	5.1	● p.
25	34	20.6	91	64	8	7	2	● p.
26	33.4	22.5	96	83	8	10	------	↙° ᴗ p.
27	34.4	23	93	63	8	4	------	Ω ≡ a. ᴗ p.
28	34.2	23.2	92	64	9	5	------	Ω ≡ a.
29	34	23.3	93	64	8	7	62.7	Ω ≡ ●° a. ●² ⧼ p.
30	34.4	22.6	96	57	10	9	53.1	● a. p.
Mean	33.6	22.9	93.1	67.7	7.9	7.3	------	
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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	31.5	23.3	93	92	3	9	35.3	Ω a. ●² p.
2	28.5	23.1	97	72	8	8	1.5	⌒ ● p.
3	29.3	23.1	97	71	9	7	6.4	Ω a. ● p.
4	30	23.1	97	63	6	7	1.3	● a. ↙° ● p.
5	28.6	23.3	91	66	10	10	1	● a. p. ↙° p° p.
6	30.5	23.6	90	61	10	7	------	Ω a.
7	30	23.8	92	70	10	10	------	Ω a.
8	29.3	22.9	91	71	9	10	3.6	d ≡ a. ● ⌈K p.
9	30.9	23	95	56	7	10	------	Ω a. ○ a. p.
10	31.1	22.6	92	61	8	7	------	Ω a. ⧼ p.
11	30.7	22.6	94	70	7	9	------	Ω a. ⊤ p.
12	32	23.4	93	68	9	8	------	Ω a. ⊤ ⧼ p.
13	30.7	23.3	96	67	4	6	------	Ω a. ⌈K p.
14	31.5	23.2	91	65	3	7	------	Ω ≡ a. ⊤ p.
15	31	23.5	91	67	5	8	------	Ω a. ⊤ p.
16	30	23.4	90	67	10	9	4.8	Ω a. ⌈K ● p.
17	29.3	22.9	91	77	10	10	.5	↙ ● p.
18	30.3	23.5	89	75	9	8	.3	Ω a. ⌈K p° p.
19	30.5	22.9	92	71	10	7	------	Ω a.
20	32.8	23	94	61	8	7	------	Ω a.
21	32.9	23.1	88	56	3	7	4.1	⊕ a. ⌈K ● p.
22	30.3	22.6	96	80	3	8	5.8	∞ a. ● p.
23	24.5	22.6	93	96	10	10	46.2	●² d a. ● p.
24	29.5	22.5	98	72	9	7	5.1	Ω a. ⌈K ● p.
25	30.3	22.9	96	70	4	5	------	Ω a. ⌈K p.
26	30	22.6	91	68	8	8	3.3	Ω a. ⊤ ⧼ d° ● p.
27	29	23.5	93	73	7	8	1	● a. ᴗ p.
28	26.6	22.5	96	85	10	10	9.1	⊤ a. ● a. p.
29	27.8	22.6	96	81	9	10	.5	● a. p° ⌈ ⧼ p.
30	29.3	22.4	97	71	7	7	.5	p° a. ●° p.
Mean	30	23	93.3	70.8	7.5	8.1	------	
Total	------	------	------	------	------	------	130.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.4	24.3	92	85	10	10	11.7	d ● ⚡ p.
2	30.6	23.4	95	84	10	10	14	● ⊤ ⚡² p.
3	30	23.1	92	85	10	10	43.2	● a. p. ⚡ p.
4	30	23.1	90	94	10	10	46.7	↙° ● d ⌈⚡² p.
5	29.5	23	92	77	10	10	9.1	↙° ● d ⌈⚡² p.
6	29.6	23	91	82	10	10	------	
7	30.5	24.8	89	77	10	10	------	
8	30	25	92	81	10	10	43.7	↙° ● ⌈⚡ p.
9	29.8	22.5	90	82	10	10	------	∞ ⚡ p.
10	31	24	93	82	10	7	15.7	⚡² p.
11	30.8	24	90	92	10	10	50.8	↙° ● ⌈⚡ p.
12	31.4	22.8	93	92	10	10	7.9	↙° ● ⌈⚡ p.
13	29	24.5	95	81	7	5	------	⚡² p.
14	29.4	23.8	92	83	2	8	------	
15	29.5	23.6	95	82	10	10	------	↙° p.
16	29.4	25.2	92	85	10	10	47.8	↙° ● ⌈⚡² p.
17	29.4	22.4	95	88	10	10	------	↙° ● ⚡² a. ↙° p.
18	30	25.2	92	82	10	10	------	
19	29.5	25	93	86	10	4	------	∞² ⚡ p.
20	30.6	24.3	88	83	10	10	------	
21	30	24.5	93	79	10	10	------	⊍ ⚡ p.
22	31.4	22.8	85	78	8	7	------	d ⌈ p.
23	30.2	24.6	92	93	10	10	4.6	⊤²d a. p. ⌈⚡²● p.
24	28	22.7	96	84	10	10	20.8	↙° ● a. ⚡² ⊍ p.
25	29	23.6	93	80	10	4	------	⊍ ⚡ p.
26	30	24.5	96	81	10	10	21.3	↙° ⌈⚡² ● p.
27	29.4	22.8	95	87	8	7	------	⊍ ⊕² ⚡ p.
28	30	23.5	93	88	10	10	------	⊍° ⊕ ⚡² p.
29	29	23.1	90	87	10	10	10.2	p ⌈⚡ d p.
30	29.6	23.4	91	92	10	8	14.7	d● ⌒ ⌈⚡ ⊍ ⊕² p.
Mean	29.9	23.8	92.2	84.4	9.5	9	------	
Total	------	------	------	------	------	------	362.2	

SAN JOSÉ 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	23	92	78	10	10	27.4	d ⌈⚡ ● p.
2	28.4	23.4	96	88	10	10	48.5	● a.
3	29.1	22.7	96	90	10	10	10.4	d ● a,
4	29.5	22.9	96	76	10	10	75.7	d a. ● p.
5	28.1	22.2	96	83	3	10	24.1	● a. p.
6	28.5	23	96	91	5	10	32.3	● a. p.
7	30	23.6	97	93	10	10	39.9	↙° ● a. p.
8	30	22.9	96	95	10	10	23.1	↙° ● a. p.
9	30	22.6	92	83	10	10	52.1	⚡ ● ⊤ p.
10	30.4	21.6	96	82	10	10	1.3	●° p.
11	27.5	22.6	87	94	10	10	36.6	● a. p. ⊤ d p.
12	29.6	23.3	93	77	10	10	37.6	● a. p.
13	30	24.2	90	91	10	10	37.1	d ● a. p.
14	29.4	23.4	97	75	10	10	26.7	↙° ● a. p.
15	31	23.6	97	77	10	10	9.9	●° a. p. ● ⚡ p.
16	30.5	23.5	91	86	10	10	42.7	d° ●° ⌈⚡ p.
17	28	22	95	91	10	10	26.4	●² ⌈⚡ a. d ● p.
18	27.4	23.6	93	90	10	10	24.1	d ↙° ● a. ⊤ p.
19	27.4	24.3	87	90	10	10	15.5	↙° ● a. d p.
20	29.9	22.8	91	82	10	8	------	
21	30.4	22	86	79	2	4	------	
22	31.4	22.9	84	74	0	3	------	⊤ p.
23	29.2	23.5	95	92	10	10	72.9	d ● ⌈⚡ p.
24	26.6	22	98	88	10	10	7.1	● a. d a. p. ⊍ p.
25	27.1	22.5	96	91	10	10	36.1	● a. p.
26	28	22.9	96	92	10	10	.14	● a. p.
27	30.7	22	90	73	10	3	.5	⚡ d p.
28	30.6	22.3	88	89	3	10	19	d ● ⌈⚡ p.
29	30.5	22.2	93	87	4	10	6.1	⌈⚡ a. p. ● d p.
30	31	22.5	95	81	10	10	4.3	d a. ⊤ ●° ⚡ p.
Mean	29.4	22.9	93.2	85.3	8.6	9.3	------	
Total	------	------	------	------	------	------	751.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	------	96	72	8	9	29.5	≡ Ω a. ⌈⚡² ● p.
2	------	------	96	79	10	10	57.9	●² ≡ ○ a. ● p.
3	------	------	97	67	10	8	1.5	●² a ⚡ p.
4	------	------	93	76	9	10	6.6	≡ Ω a. ● a. p.
5	------	------	95	76	10	10	------	● ≡ a. ⚡ p.
6	------	------	86	57	10	9	------	≡ ○ a. ⚡ p.
7	------	------	95	65	10	8	------	≡ a. ⚡ p.
8	------	------	96	65	10	10	------	⚡ p.
9	------	------	94	65	8	9	------	
10	------	------	95	59	9	9	------	○ a.
11	------	------	94	63	9	10	------	○ a.
12	------	------	93	61	10	8	------	○ a. ⚡ p.
13	------	------	94	66	6	8	2.3	● ⌒ p.
14	------	------	94	57	4	8	------	≡ ○ a.
15	------	------	95	60	6	9	.8	⚡ p.
16	------	------	88	88	10	10	24.1	●² a. ● p.
17	------	------	93	89	10	10	2.5	● a. p.
18	------	------	88	72	10	8	1	● ⚡ p.
19	------	------	95	66	6	8	------	≡ Ω a.
20	------	------	93	68	5	10	.8	⊤ p.
21	------	------	96	64	4	6	------	● ≡ ○ a.
22	------	------	94	69	2	7	11.4	Ω ○° a. ⊕ p.
23	------	------	94	86	10	10	22.1	● ⌈⚡ a. ↙° ●² ⊕ p.
24	------	------	97	87	4	8	.5	≡ Ω ○ a. ●° p.
25	------	------	97	62	5	8	1	≡ Ω a. ● ⌈⚡² p.
26	------	------	96	81	9	9	27.7	≡ a. ↙° ●² ⌈⚡ p.
27	------	------	96	80	8	7	------	≡ a. ⌈⚡ ⊕ p.
28	------	------	96	76	6	5	1	≡ Ω a.
29	------	------	96	83	10	10	23.6	↙° ● a. ⊕ p.
30	------	------	95	69	8	5	2.5	⌈⚡² ●² ≡ a. ○ ● p.
Mean	------	------	94.2	70.9	7.9	8.5	------	
Total	------	------	------	------	------	------	216.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	36	26.4	98	------	8	7	------	
2	34.8	26.2	98	------	9	7	3.3	
3	32.8	25.6	98	------	8	9	7.9	
4	30	24.6	98	------	9	9	.3	
5	29.2	25.2	90	------	10	9	1	
6	28.6	25.2	97	------	9	9	3.8	
7	30.8	25.2	98	------	9	8	1.8	
8	30.2	25.6	98	------	9	9	.5	
9	31	26.2	98	------	9	9	------	
10	30.8	26	98	------	8	8	------	
11	30	27.4	98	------	9	10	------	⊤ p.
12	30.2	26.4	97	------	9	7	------	
13	31.8	25.8	98	------	6	7	15.2	
14	31.6	25.6	98	------	9	6	------	
15	31.4	26.4	98	------	10	8	.5	
16	29.6	26.6	98	------	10	10	27.9	⊤ p.
17	29.2	23.6	90	------	9	9	1.3	
18	29.6	24.6	98	------	10	10	8.4	
19	28.8	22.2	98	------	10	10	2	
20	32	24.8	96	------	9	8	------	
21	32.4	25	98	------	8	8	------	
22	33.4	25.6	97	------	6	5	------	
23	29.2	25.5	98	------	9	10	3.8	⊤ a. p.
24	31.5	25.2	94	------	8	8	.8	
25	30.8	24.5	97	------	8	8	.3	
26	31	25.2	98	------	8	9	.5	
27	32	24.4	98	------	6	8	------	
28	32.4	25	98	------	7	5	------	
29	29.8	24	97	------	9	9	28.4	⊤ p.
30	21.2	22.8	98	------	9	6	------	⊤ a.
Mean	31.1	25.2	97.1	------	8.6	8.2	------	
Total	------	------	------	------	------	------	107.7	

METEOROLOGICAL DATA, ETC.—Continued.

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	------	25.4	92	67	7	6	7.1	⊕ a. ϟ ⛈ ● p.
2	31.2	24.3	82	66	10	5	32.8	● a. p.
3	31	23.5	94	75	10	6	22.1	●² a. ⊤ ● p.
4	------	24	97	78	10	10	43.7	● a. p. ⊤ ↙° p.
5	------	23.5	93	82	10	10	.5	● a. p° p.
6	28.7	25.3	83	78	9	10	11.7	●° a. ↙° ● p.
7	29.7	23.7	90	84	10	10	11.2	↙° ● a. p.
8	30	25	79	83	7	10	4.8	↙° ● a. p.
9	29.3	24.2	85	78	9	10	.8	↙° ● a. p.
10	30.7	25.1	82	73	5	7	.3	↙° a. p. ⛈ p.
11	31	25.4	88	72	10	10	------	↙° a. p.
12	31.2	25	83	73	10	5	------	↙° a. p.
13	32	25.8	83	73	4	7	.5	↙° ●° a. p.
14	32.2	25.1	85	70	6	7	.3	p a. ϟ p.
15	32.5	27.2	83	71	10	10	3.3	●° ϟ p.
16	------	24.1	89	75	10	10	10.7	d° a. ● ⊤ p.
17	------	24.1	96	72	10	10	1.3	↙° p.
18	------	24.2	82	80	10	10	34.3	↙° ● a. p. ⛈ p.
19	28.8	23.3	92	79	10	10	43.9	⊤ a. ↙° ● a. p.
20	27.5	23	98	78	10	10	1.3	● a. p p.
21	------	24	95	77	5	10	------	
22	31.7	25.5	88	71	10	7	.3	
23	33.2	24.4	93	73	7	10	.3	p a. p. ϟ p.
24	30.7	25.7	89	88	10	10	10.7	● a. ⛈ ●° p.
25	29.8	23	97	72	4	5	1.3	●° a. ↙° ϟ p.
26	30.6	25	85	71	8	8	2.3	●° a. p.
27	30.9	24.7	88	63	7	3	------	
28	32.5	24	95	71	7	4	.8	p p.
29	30.8	24.4	88	93	8	9	27.2	⊤●a.⛈↙°●p.
30	30.1	24.5	96	72	10	8	.5	⊤●a.⛈↙°●p.
Mean	30.7	24.5	89	75.3	8.4	8.2	------	
Total	------	------	------	------	------	------	274	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.8	23.6	87	72	3	6	6.1	
2	30.6	23.3	92	------	7	9	10.2	
3	28.9	23	99	83	8	7	14	
4	29.8	23.4	89	80	6	7	------	
5	30.4	23.6	93	83	8	9	.8	
6	31.3	24.3	93	66	8	9	------	
7	31.3	24.2	96	65	8	8	------	
8	31.6	25	84	67	9	9	------	
9	32	24.1	90	66	9	9	------	
10	31.6	25.8	90	70	8	8	------	
11	31.8	24.2	93	71	7	9	1.5	
12	33.4	24	92	63	8	7	------	
13	32.9	24.2	96	60	6	4	------	
14	32.5	24.3	90	60	3	8	------	
15	32.4	25.5	92	65	8	8	1.5	
16	28	22.3	95	84	10	10	29.5	
17	28.7	24.5	88	78	9	9	5.1	
18	31	22.6	91	76	9	10	1.8	
19	30.5	23.6	91	70	8	8	1.8	
20	30.8	24	87	78	10	8	.5	
21	33.1	23.4	93	68	7	8	.3	
22	31.7	23.4	96	67	8	9	30.5	
23	30.2	24.2	95	84	10	10	3.6	
24	29.6	22.3	98	75	8	8	1.5	
25	31.9	23	95	68	6	7	20.3	
26	31.3	24.4	93	75	8	8	------	
27	30.2	22.7	93	75	6	7	?	
28	31.2	23.4	93	76	5	7	9.1	
29	31.1	23.8	93	86	8	9	51.3	
30	29.8	23.6	89	74	9	6	------	
Mean	31	23.8	92.2	72.5	7.6	8	------	
Total	------	------	------	------	------	------	189.4[1]	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	------	23	95	62	7	6	7.6	⛈ p² p.
2	------	21.8	96	65	10	5	11.4	● a. p. d p.
3	------	22.4	97	83	9	10	5.3	d ● p.
4	------	22	99	78	10	10	2	⛈ p p.
5	------	21.8	93	84	10	10	------	⌒ a.
6	------	21.7	92	64	9	7	5.3	p a. ● p.
7	------	21.5	97	65	10	7	------	d a. ⌒ p.
8	------	21.4	97	69	7	10	.5	p p.
9	------	21.8	87	58	9	7	------	
10	------	22	84	79	10	9	------	ϟ p.
11	------	22.2	83	74	10	10	2	●° p.
12	------	23	91	69	10	6	------	d a. ⊤ p.
13	------	23.4	90	83	6	7	------	d a. p. ⛈ p.
14	------	21	92	62	5	4	------	
15	------	22	90	63	6	5	1	↙° ϟ ●° p.
16	------	21.4	92	87	10	10	15.2	● a. p. ↙° p.
17	------	20.8	95	89	10	10	4.6	●a. p. d ↙° ●° p.
18	------	20.4	92	67	10	10	5.6	↙° ● p.
19	------	20	88	94	10	10	------	
20	------	21	97	70	10	10	------	
21	------	22	95	70	3	5	------	
22	------	21	97	72	5	6	.8	●° p.
23	------	19.9	93	83	10	10	6.4	● a. p.
24	------	19.8	97	75	7	7	3.6	● a. p.
25	------	19.5	97	68	7	6	10.7	⌒ d a. ⛈ ● p.
26	------	20	97	77	7	7	.3	● ⊤ a. ●° p.
27	------	21	96	80	5	4	1.3	↙° ● p.
28	------	23	90	78	4	5	1	↙° ● p.
29	------	22.8	92	76	10	10	6.1	⛈ ● p.
30	------	22.9	91	76	10	6	10.2	d a. ● p.
Mean	------	21.6	93.1	74	8.2	7.6	------	
Total	------	------	------	------	------	------	100.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.2	24.8	92	81	10	9	8.1	● a.
2	30	24.2	92	74	8	8	5.1	
3	28.6	24.6	92	82	10	10	55.9	p a. ● p.
4	27.6	23.6	95	84	10	10	16	● ⛈ a.
5	30.6	25.2	87	69	10	9	------	
6	31	25	86	72	10	8	------	
7	30.4	24.8	86	78	10	10	------	
8	30.8	24.6	85	61	10	10	2	
9	29.2	24.8	89	77	6	10	1.5	
10	28.8	24.6	92	82	10	10	.5	
11	30.2	27	81	74	10	10	.8	
12	29	26.2	90	80	10	10	129	●² p.
13	27.2	23	95	78	10	10	25.4	● a. p.
14	29.2	23	95	72	10	10	43.2	
15	26	22.4	95	91	10	10	27.9	↙ ● a. p.
16	28	23	88	87	10	10	5.3	↙° p a.
17	29.6	24.2	86	78	4	6	------	
18	29.6	26.2	86	78	6	3	3.8	
19	29	24	92	70	10	7	5.1	⛈ a.
20	31	24	86	68	7	6	------	
21	30.4	24	92	92	10	10	10.2	p a. p.
22	31	24	90	69	1	5	4.6	
23	29	23.8	92	91	6	10	82.5	⛈ a. ●² a. p.
24	29	22	86	78	1	2	.5	
25	30	22.8	86	67	3	2	------	
26	29.6	24	92	80	10	6	7.6	
27	29	23.6	92	76	10	8	8.4	p a.
28	29.6	23.8	92	78	10	10	17.8	
29	29.8	24	92	75	2	7	19	
30	29.8	23	89	78	10	10	16	
Mean	29.4	24.1	89.8	77.3	8.1	8.2	------	
Total	------	------	------	------	------	------	496.2	

[1] 29 days of observation.

METEOROLOGICAL DATA, ETC.—Continued.

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	24.5	96	64	7	7	38.1	● a. p. ⚡ p.
2	31.7	22.2	92	68	10	9	51.8	● ⊤ a. ● ⚡ p.
3	31.4	22.1	97	65	10	7	6.6	d a. ● p.
4	30.7	23.4	98	72	10	10	51.3	d a. ● p.
5	28.1	23.5	100	85	10	10	12.2	● a.
6	29.7	23	99	74	10	10	21.6	● a. d p.
7	31.4	23.5	97	78	10	10	2.3	
8	31	23.5	97	74	10	10	------	d a. p.
9	32	23.7	83	64	10	9	.5	d a. ↙° ● p.
10	32.5	24	94	67	9	9	------	↙° p.
11	30.7	24.4	85	68	10	10	------	d p.
12	31.2	23.5	95	71	10	10	3	● a.
13	32.1	23.1	97	71	8	9	------	
14	31.8	23.4	97	69	7	8	------	
15	32.1	23.6	97	73	10	10	------	
16	32.1	24.4	89	82	10	10	2.5	● d a. ↙ ● p.
17	33.1	21.8	77	54	10	10	4.1	↙° ● a. p.
18	28.2	22.8	84	88	10	10	8.9	d a. ● a. p.
19	30.8	24.5	75	88	10	10	6.1	d a. ● p.
20	30.3	22.8	98	88	10	10	1	d a. ϖ ᴗ p.
21	31.6	23	98	77	10	8	------	ϖ ᴗ p.
22	31.2	22.6	96	75	10	10	------	ϖ ᴗ p.
23	31	22.7	95	73	10	10	9.1	● < ϖ ᴗ p.
24	31.4	24.1	93	80	10	10	32	⊕ d ● ⊤ < p.
25	30	23.6	98	78	10	10	1.5	≡ a. ⚡ ● ϖ ᴗ p.
26	30.6	23.1	97	79	7	10	------	≡ a. ⚡ p.
27	31.5	23.5	96	82	10	10	------	⊤ ● ϖ ᴗ p.
28	32.1	21.7	92	67	3	4	------	⊤ ϖ p.
29	32.2	21.5	94	67	3	9	------	⊤ a. ⚡ ● p.
30	30.7	23.5	96	80	10	10	1	⚡ ● a. ●° ᴗ < p.
Mean	31.2	23.2	93.4	74	9.1	9.3	------	
Total	------	------	------	------	------	------	253.6	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.2	23.5	98	73	2	9	6.4	⚡ ↙° ●° p.
2	31.4	23.4	95	76	10	7	7.4	↙ ● a. ⌒ d° ● <
3	30.7	22	96	75	8	9	4.6	●° a. p. ⚡ ● p.
4	30.6	23.3	97	75	9	9	3.8	p° a. d° ⚡ p.
5	29.7	24.4	98	78	9	10	.8	p° ∞ ⌒ a. d p° p.
6	32.9	24	94	60	9	8	------	
7	32.9	24	92	63	9	8	------	d° p.
8	33.9	25.5	88	60	9	9	------	
9	34.2	25.4	81	61	9	8	------	↙° < p.
10	35.1	25	90	58	9	7	------	↙° < p.
11	33.8	25	93	69	8	9	------	ϖ a. < a. p.
12	33.1	24	93	63	6	8	------	∞ a. ⌒ < p.
13	35	24	94	56	8	6	------	< p.
14	35.1	24.6	90	61	5	7	------	
15	34.6	26.4	88	64	8	8	11.4	∞ a. p. d° < p.
16	29	23 5	83	88	10	10	5.6	↙° ● d a. p.
17	32.5	24.9	83	70	10	8	1.3	↙° ● < p.
18	34	24.2	77	65	10	9	------	↙° a. p.
19	31.8	25	87	78	10	10	------	d° < p.
20	32.1	24.5	92	66	10	9	------	∞ p.
21	32.1	------	79	70	7	7	------	ϖ p.
22	31.6	25.2	94	76	9	8	3	ϖ < p.
23	31.7	23.5	93	77	10	9	17.5	⚡ ● a. p. ◯ ᴗ p.
24	30.6	23.2	98	79	9	8	2	⊕ ◯ ϖ ᴗ < d ●
25	32.8	23.8	97	69	8	7	11.4	● ⚡ ⌒ d p.
26	32.9	23.2	97	76	8	7	13.7	⚡ ϖ ᴗ ↙ ● p.
27	33.2	22.6	98	72	7	7	1	p° a. d ⊤ ⌒² p.
28	31.5	22.8	97	76	1	8	4.1	● a. p. ᴗ ⚡ p.
29	33.4	24	89	73	9	9	5.1	⌒ a. ●° ⚡ p.
30	32.5	23.7	95	67	9	7	2.5	Ω° d° a. ● ⌒ d <
Mean	32.6	24.1	91.5	69.8	8.2	8.2	101.6	
Total	------	------	------	------	------	------	------	

NUEVA CACERES.
[ϕ=13° 37′ N; λ=123° 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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.6	21.6	98	68	3	8	0.6	∞ a. d
2	32.7	22.4	97	75	9	9	1.3	d
3	33.1	22.5	97	89	9	10	9.3	● p.
4	32.7	23.2	98	69	9	9	1.3	●° p.
5	27.5	23.2	97	89	10	10	34.2	● a. p.
6	30.9	22.9	99	71	10	7	90.7	d a. ● a. p.
7	30.7	23	98	76	10	8	3.6	● a. ●° p.
8	32.7	20.1?	84	69	9	8	------	
9	31.9	20.4?	93	65	8	7	------	
10	32.7	23.8	93	73	8	8	------	
11	31.7	24.7	95	92	8	10	18	● p.
12	32	23.5	95	69	8	8	------	
13	32.9	22.7	92	60	8	6	4.3	● a.
14	33.1	24.7	89	67	5	7	------	
15	32.5	24	83	66	7	8	.5	
16	27.8	25	95	89	10	10	15.7	●° d a. ● p.
17	31.5	22.8	90	71	10	10	1.8	●° p.
18	30.5	21.8	81	71	10	10	.3	●° d p.
19	29.3	22.7	85	77	10	10	5.7	●° a. p. d p.
20	30.5	23.9	87	70	10	10	------	
21	33.2	23.8	97	66	6	9	------	
22	34.2	22.9	98	57	9	7	------	≡° a.
23	28.9	22.2	98	83	9	8	.8	≡ ●° a.
24	30.5	23.6	97	84	9	9	------	
25	31.6	22.6	99	66	10	8	1	∞ a. ●° p.
26	31.6	23.4	95	69	8	7	.3	⌒ a. d p.
27	33.6	22.7	96	78	8	8	.5	⊤° ●° p.
28	32.9	21	98	74	6	7	12.7	⊤° p.
29	31.5	23.4	93	77	8	8	6.9	● d p.
30	32.7	23.2	97	80	10	8	10.4	●° a. ● p.
Mean	31.7	22.9	93.8	73.7	8.5	8.4	------	
Total	------	------	------	------	------	------	219.9	

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.	Rain, 24 hrs. beginning 6 a.m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	34.7	22.5	97	61	4	6	------	
2	31.8	22.6	96	68	7	7	2	⊤ ● a. < d p.
3	33.9	22.4	95	55	9	6	1.8	d p.
4	31.4	22.3	95	70	9	7	13.2	d a. ⊤ ● p.
5	27.4	22.5	97	86	7	9	5.3	● a.
6	32	21.5	97	72	9	9	3.3	d ↙° ● p.
7	31.6	22.8	85	70	7	7	5.1	↙° ● p.
8	31.3	22.1	88	86	10	9	4.3	●° a.
9	33.8	23.1	74	62	8	7	.3	● ⌒ a. ↙° ● p.
10	33.2	22.9	87	67	8	6	1.5	
11	29.2	23.3	90	76	10	10	.3	● a.
12	31.3	22.8	95	59	7	7	------	
13	33	22	97	66	6	6	------	⚡ p.
14	33.8	21.5	97	60	3	5	------	↙° p.
15	32.3	25.3	83	75	7	7	6.4	◯ ↙° ● p.
16	29	23.1	92	82	7	10	14.7	● a. p.
17	31.5	22.3	97	72	10	9	23.4	↙ ● a. p.
18	27.8	22.3	91	92	10	10	19.8	● a. p.
19	30.8	22.6	79	84	9	10	6.9	● p.
20	32.2	22.2	91	72	9	9	------	
21	32.3	21.5	97	62	9	6	------	Ω a.
22	33	21.6	95	65	6	6	------	Ω a. ◯ p.
23	31.6	20.5	96	69	6	7	8.9	⊤ ● p.
24	30.8	22.1	97	70	9	9	30.5	≡ a. ⚡ ● p.
25	30	21.4	97	73	7	9	3	⊤ ● p.
26	32.3	22.1	95	79	6	9	------	⊤ p.
27	32.6	21.6	87	72	10	7	------	
28	32.4	20.5	96	65	4	6	1.3	⊤ ● p.
29	32.2	20.4	96	88	4	9	10.7	●² a. ⚡ p.
30	31.9	21.4	97	74	7	9	3.3	Ω ◯ a. d ⚡ ● p.
Mean	31.7	22.2	92.5	71.7	7.5	7.8	------	
Total	------	------	------	------	------	------	166	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	21.6	98	59	3	5	------	Ω ≡ a.
2	31.2	20.8	97	59	8	9	------	Ω ≡ a. d ⊤° p.
3	30.8	21	98	59	5	7	------	
4	29.9	20.9	98	62	9	10	65.3	d a. ●² a. p.
5	30.5	21	97	60	6	8	------	d a.
6	28.6	20.4	98	70	9	9	5.6	d a. ● p.
7	30.2	22.1	98	61	6	8	------	d p° p.
8	28	21.2	98	70	9	9	30	●° p.
9	28.8	21.6	98	69	6	8	2.3	Ω ≡ a. ●° p.
10	28.1	21.1	97	70	10	8	16.5	d a. ●° p.
11	28	20.8	97	69	10	9	4.3	●° a. p.
12	30	21.5	98	63	7	7	------	d p.
13	29	20.4	98	68	8	9	24.1	Ω a. ●² p.
14	29.8	21.1	97	64	8	7	------	Ω ≡ a.
15	29.3	21	97	64	10	8	33.5	d a. ●² p.
16	27.4	21.1	97	72	10	8	47.2	↙° ● p.
17	27.3	21	97	72	9	10	22.9	Ω ≡ a. ●² p.
18	26.6	20.5	98	75	10	10	69.6	●° a. ↙° ● p.
19	26.5	20.3	97	74	10	8	31	↙° a ↙° ● p.
20	27.4	20.7	97	69	10	8	24.9	● a. p.
21	28.3	21.3	98	70	10	9	------	
22	28.5	21.4	98	70	7	8	2.5	Ω ≡ a. ●° p.
23	29.2	22	98	68	6	7	------	
24	29	21.5	98	68	8	6	16.8	● p.
25	28.6	21.3	98	70	10	8	------	d a.
26	28.6	21.6	98	69	7	8	13	●² p.
27	29.6	22.1	98	67	8	8	------	⊤ p.
28	30	21.7	98	68	6	7	------	d p.
29	30.7	22.2	98	63	3	6	------	
30	31	22.6	98	64	5	7	------	d p.
Mean	29.1	21.3	97.7	66.9	7.8	8	------	
Total	------	------	------	------	------	------	409.5	

SANTA CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.7	24.4	92	60	7	8	------	< p.
2	32.2	23.2	92	72	10	10	3.6	d° a. < p.
3	33.2	23	96	60	10	9	5.8	d a. d² ⛈ < p.
4	33.1	23	96	55	10	7	8.9	d a. < p.
5	29.6	23.3	98	74	9	10	.8	d a. p.
6	31.4	21.9	96	68	5	9	13.2	d ⛈ ● p.
7	32.1	22.4	93	89	7	10	6.6	p² d p.
8	------	23.3	98	62	10	10	1.3	d a. p.
9	------	22	87	60	10	10	------	↙° < p.
10	------	22.4	92	69	10	9	3.3	< p.
11	------	23.1	96	77	10	10	.3	●° a. p. < p.
12	32.1	21.9	96	65	10	9	.5	< p.
13	34	22.8	96	60	8	5	------	d a. p° ⛈ < p.
14	34	22.5	96	63	1	3	------	
15	32	24.2	88	65	10	10	4.8	d° a. ◯° p.
16	27.7	23	96	84	10	10	25.1	● a. d a. p.
17	31.5	22.5	96	71	10	10	60.5	● a. p. ↙° ● p.
18	26.3	21.8	87	92	10	10	54.1	⊤ a. ● a. p. d p.
19	29.6	22	89	90	10	10	6.9	d a. ● d² p.
20	29.4	21.5	96	76	10	10	7.4	↙° ● a.
21	34.1	22	98	60	10	8	------	
22	34.1	21.9	97	59	9	10	------	∪° <° p.
23	33.5	22	97	66	10	9	4.3	<° p.
24	32.1	23.3	91	68	10	10	27.4	⊤ ● a. d ⛈ p.
25	29.5	22.5	97	75	10	10	------	
26	31.8	22.4	97	83	7	9	------	d° a. ⊤ a. p. < p.
27	33.8	22	97	60	7	7	------	< p.
28	34.3	21.4	94	60	1	6	------	⊤ p.
29	33.6	21.4	98	61	4	8	.3	d a.
30	33.6	22	95	94	4	9	25.7	d° a. ⛈ p.
Mean	32	22.5	94.6	69.9	8.3	8.8	------	
Total	------	------	------	------	------	------	260.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	21.2	97	70	7	8	------	
2	31.1	21.1	97	70	5	8	4.8	
3	31.4	21.6	96	70	7	8	17	
4	31.4	21.4	96	63	9	5	7.4	
5	30.6	20.3	97	82	8	7	------	
6	27.8	20.1	98	79	8	10	------	
7	30.6	21.2	97	96	10	9	20.8	
8	31.2	21.5	99	92	8	10	10.9	
9	28	21	96	75	8	10	------	
10	30	21.2	95	79	10	8	------	
11	28.2	20.9	97	97	10	10	11.9	
12	------	21	95	78	8	9	------	
13	30.2	19.9	97	65	6	6	2.8	
14	32.5	21	91	69	1	5	------	
15	27.8	22.3	94	96	9	10	9.9	
16	24.3	20.5	99	99	10	10	16	
17	26.3	20.4	99	92	8	8	72.6	
18	22.6	19.2	95	99	8	10	49.8	
19	25.6	20	94	83	7	8	5.6	
20	26.2	20.2	97	89	9	7	------	
21	31.2	19.4	99	61	7	8	------	
22	31.5	19.3	98	66	7	6	------	
23	31.8	19.5	97	67	10	10	33.5	
24	28.8	21.1	96	76	10	8	19.3	
25	26.7	20.7	97	82	8	7	4.6	
26	31.3	20.5	98	71	10	8	------	
27	30.9	20	97	65	7	8	------	
28	32.1	18.2	99	72	6	9	------	
29	30.7	18.7	98	63	10	6	------	
30	30.3	21.4	96	91	7	8	45	
Mean	29.3	20.5	96.7	78.6	7.9	8.1	------	
Total	------	------	------	------	------	------	331.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.1	22.7	96	59	8	6	3.3	Ω a. ⛈° ●° p.
2	33.5	23.8	97	72	9	8	------	Ω a. ⛈ p.
3	32.9	24	96	65	8	7	------	Ω a.
4	33.4	23.5	97	63	9	8	------	Ω a. ◯ ⛈° p.
5	34.5	23.7	97	62	9	6	7.1	≡° a. ⛈° ●° p.
6	33	23.7	97	76	8	8	------	Ω a. ⛈ p.
7	32.6	23.5	96	70	8	7	------	Ω ⌒ a. d p.
8	31.5	24	97	89	10	8	------	Ω a. d p.
9	32	23.1	97	94	9	8	13.1	Ω a. ● ⛈° p.
10	32.4	23.3	97	69	8	8	2.5	Ω a. ● ⛈° p.
11	32.4	23.4	97	65	9	8	------	Ω a.
12	32.8	22.5	97	79	8	5	------	Ω ≡° a.
13	34.5	22.7	98	62	7	6	------	Ω a.
14	33.8	23	96	67	6	7	------	Ω° a. ⛈° p.
15	33.7	23.5	96	60	10	6	.5	d a. ● p.
16	26.6	23.8	95	------	8	10	13.7	● p.
17	26.6	23	99	97	10	10	116.6	● p.
18	29.7	22	97	84	10	9	53.6	● a. p.
19	25.6	22.2	96	87	9	10	52.9	● a. p.
20	25.9	22	97	94	10	10	34.1	● a p.
21	30.6	22.5	99	90	10	10	2.5	⛈ ●° a.
22	33.4	22.3	99	65	9	8	------	Ω° a. ∪ p.
23	35	23.2	97	54	7	4	1	Ω a.
24	33	24.5	98	65	10	8	16	● a. p. ⛈° ●° p.
25	32.4	23.3	97	70	6	8	------	
26	33.5	23.6	95	67	8	6	------	Ω a. < p.
27	34.8	23.3	96	62	4	6	------	Ω a. ⛈° p.
28	34.4	22.5	98	73	2	7	------	Ω a. ↙° p.
29	34.7	22	96	54	2	3	------	Ω a. ⛈ p.
30	35.7	22.6	95	50	3	3	12.4	Ω a. ⛈° ● p.
Mean	32.3	23.1	96.8	71.2	7.8	7.3	------	
Total	------	------	------	------	------	------	329.3	

METEOROLOGICAL DATA, ETC.—Continued.

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	23.5	96	72	10	10	------	⌈ϟ p.
2	30.4	24.3	96	76	10	10	10.7	d° a.
3	31.2	24.4	96	71	10	10	16.8	⌈ϟ p.
4	31.4	23.8	96	75	10	10	------	d° a.
5	30	23.6	94	80	10	10	3.8	⊤ p.
6	31.3	------	94	65	10	10	9.4	●° p.
7	30.3	23.6	95	73	10	10	18.5	
8	30.2	24.4	95	85	10	10	2	●° p.
9	31.5	23.5	92	70	10	10	------	
10	32.9	24.5	87	63	10	3	1	●° ⊤ p.
11	32	24.8	88	60	10	10	------	
12	33	24.5	80	64	10	9	.8	
13	33	23.8	93	67	10	5	------	⌈ϟ ●° a. ϟ p.
14	33.2	24.5	92	58	10	10	------	d° p.
15	32.9	25.5	76	63	10	10	------	ϟ p.
16	28.5	25.5	86	90	10	10	10.9	● d° p.
17	29.8	24.7	80	70	10	10	9.7	d° ●° p.
18	30	22.8	93	73	10	10	4.1	d° ●° p.
19	27.9	23.2	93	89	10	10	14.7	● p.
20	27.8	23	94	84	10	10	4.8	
21	31.8	23.4	94	72	10	10	------	
22	30.6	22	94	75	10	10	5.8	●° ᴗ p.
23	31	23.4	96	68	10	9	------	ϟ p.
24	29.8	23.8	95	78	10	10	55.9	● a. p. ⊤ p.
25	29.5	23.6	95	79	10	7	------	ᴗ p.
26	29.2	23.2	96	78	10	5	------	d° a. ⌈ϟ p.
27	30.6	22.8	95	72	9	3	.3	⌈ϟ p.
28	31	23	96	68	10	3	------	ᴗ p.
29	31.8	22.5	91	61	9	2	11.2	⌈ϟ p.
30	31.4	23	97	69	10	7	------	ᴗ p.
Mean	30.8	23.7	92.2	72.3	9.9	8.4	------	
Total	------	------	------	------	------	------	180.4	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	24	90	59	2	2	------	Ω a. d° ϟ° p.
2	33.9	24.1	90	60	5	6	------	Ω a. ⊤° p.
3	34	23.3	92	63	5	6	------	Ω a.
4	33.7	24.2	87	65	5	6	14	Ω a. ⌈ϟ^2 ● p.
5	32.8	24.8	92	79	6	8	.6	Ω a. p° p.
6	32.5	23.4	93	65	5	5	.5	Ω a. ●° p.
7	33	22.5	93	64	3	9	15.7	Ω a. ●^{2} p.
8	32.8	24.2	90	72	3	3	------	Ω a.
9	33	23.8	84	64	8	8	6.6	Ω a. ● p.
10	30	23.5	88	75	9	10	7.6	Ω d° a. ●^{2} p.
11	32.1	24	95	72	7	5	5.8	Ω a. ●^{2} p.
12	32	22.9	93	70	3	3	6.1	Ω a. ⌒^{2} d^2 ●^{2} p.
13	32.6	24.1	94	69	2	5	------	Ω a. ⊤° ⌒° p.
14	32.9	24.9	91	63	6	2	.3	Ω a. ●° p.
15	33.2	25	85	66	5	6	1.5	Ω ⌒° ◯° d° a. ●° p.
16	31	24.6	89	89	10	10	51.3	Ω a. ●^{2} p.
17	25.2	23.4	94	93	10	10	81.3	●^{2} a. p.
18	25.8	22.8	95	95	10	10	76.5	●^{2} a. p.
19	27.7	23.3	95	97	10	10	63.2	●^{2} a. p.
20	25.4	22.9	92	94	10	10	96.5	●^{2} a. p.
21	27.4	22.9	86	82	9	10	.8	Ω ●° a.
22	32.6	24	81	72	3	4	------	Ω a.
23	31.5	24.8	92	72	3	5	------	Ω a.
24	31.9	24.7	93	75	3	3	------	Ω a.
25	33	23.8	93	64	3	2	.5	Ω a. p° p.
26	32.7	23.7	97	70	1	3	3.8	Ω a. ●° ⌈ϟ^2 ⌓^{2} p.
27	32.6	22.4	92	67	1	2	------	Ω a.
28	31.8	23.4	91	69	2	5	------	Ω a.
29	31.9	22.9	93	65	1	2	------	Ω a.
30	33	22.9	95	71	1	2	------	
Mean	31.5	23.7	91.2	72.7	5	5.7	------	
Total	------	------	------	------	------	------	432.6	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	36.6	------	96	49	6	5	4.8	Ω^2 ≡ a. ●° ⌈ϟ^2 ϟ°
2	35.4	------	95	55	9	8	------	≡° a. ⌈ϟ° p.
3	33.4	------	94	64	9	9	------	Ω^2 ≡° a. ⊤° ϟ° p.
4	34.6	------	98	57	9	9	------	Ω^2 ≡^{2} ⊕^{2} a. ⌈ϟ° p.
5	34.7	------	98	57	9	8	5.3	Ω^2 ≡ ⊤° ◯ ↙° ●°
6	34.3	------	97	53	10	8	.3	d° ◯ a. p. ϟ° p.
7	35.2	------	95	58	9	9	------	≡° ◯^{2} a. ◯^{2} d° ⊤°
8	35.8	------	96	49	4	3	------	Ω^2 ≡° a. ⊤° ↙° ϟ°
9	35.3	------	97	56	8	7	5.1	Ω^2 ≡° ◯^{2} ●° ⌈ϟ°
10	35.9	------	97	49	9	7	52.3	≡° ◯ a. ⌈ϟ^2 ●^{2} p.
11	34.8	------	99	58	9	3	------	≡^{2} a. ⌈ϟ^2 ↙° p.
12	34.7	------	95	56	9	7	14	≡° ◯^{2} ⌈ϟ° ↙° ●^{2}
13	35.3	------	96	56	4	4	3	●° ◯ a. ⌈ϟ° ●°
14	34.8	------	97	57	9	6	1	≡° ⊕° a. ⌈ϟ^2 d°
15	35.8	------	96	44	10	9	------	≡^{2} ◯ a. ⊕^{2} ⌈ϟ°
16	30.3	------	93	76	10	9	8.3	⊤° d^2 a. p.
17	33.8	------	99	62	10	9	------	≡^{2} d° ⊕^{2} ⊤° ϟ°
18	34	------	95	70	9	10	.8	≡ ⊕^{2} a. d° p.
19	31.6	------	97	73	9	10	1.8	≡° ↙° a. ⊕ ↙° ●
20	30	------	93	80	10	10	1.5	↙° d a. p.
21	32.4	------	80	52	9	9	------	◯ ↙° a. ⌈ϟ ⊕^{2} ↙°
22	35.4	------	87	50	4	9	------	≡° ◯ a. ⊕^{2} ⌓° p.
23	35.8	------	95	48	8	6	------	≡ d° a. ϟ° ⌓ p.
24	33.8	------	95	63	10	7	------	≡ ⊤° a. ⊕° ϟ° p.
25	35	------	97	60	3	8	------	Ω^2 ≡ a. ⌒° ϟ° p.
26	34.8	------	95	50	4	3	------	Ω^2 ≡ a. ϟ° p.
27	36.4	------	94	49	2	4	18.8	Ω^2 ⊤° a. ⌈ϟ° ●^{2}
28	35	------	97	53	2	3	30.2	≡^{2} a. ↙° ⌈ϟ^2 ●^{2}
29	34.1	------	95	56	10	3	------	≡ a. ⌈ϟ° p.
30	35.8	------	96	50	9	6	1.3	Ω^2 ≡ a. d^2 ⌈ϟ° p.
Mean	34.5	------	95.1	57	7.7	6.9	------	
Total	------	------	------	------	------	------	148.5	

CANDON.

[ϕ=17° 12′ N; λ=120° 26′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	------	26.5	83	67	4	1	3.3	Ω ≡ a. ⌒° p ⌈ϟ° p.
2	------	25.4	84	67	5	8	------	Ω ≡ a. ⊤° d ϟ p.
3	------	25.2	83	72	6	9	8.1	Ω^2 ≡^{2} a. ● ⌈ϟ° p.
4	------	25.5	86	72	8	9	23.9	≡ a. ⌈ϟ^2 ● p.
5	------	25.6	86	73	9	8	22.9	⊤° ● p.
6	------	24.4	86	78	8	9	1	p p.
7	------	24.4	83	72	5	8	4.3	Ω ≡ a. ● p.
8	------	26.1	84	74	7	9	14.5	Ω ≡ a. ● ⊤° ⌒° ϟ
9	------	25.5	86	70	10	9	1.3	p a.
10	------	25	83	67	10	9	3.3	Ω° ≡° a. p ⌈ϟ° p.
11	------	24.9	85	71	9	7	14	Ω ≡ a. ● p.
12	------	24.4	88	73	5	5	1.8	≡ a. ⊤° p ⌈ϟ° p.
13	------	26	86	66	3	4	------	Ω ≡ a. ⌒° ⌈ϟ° p.
14	31.6	26.1	85	72	8	5	11.4	● p.
15	30.9	26.2	83	68	7	9	4.1	● a. ↙° a. p.
16	29.6	25.5	85	81	10	10	28.7	●° a. p.
17	25.7	24.8	88	87	10	10	17.3	● a. p.
18	26.9	23.5	89	85	10	10	49.8	● a. p.
19	27.8	24.1	90	85	10	10	54.9	●^{2} d a. ↙ ● a. p.
20	25	24	87	89	10	10	109	●^{2} a. p.
21	27.9	23.8	87	77	10	10	------	●^{2} ⌒ a. d° a. p.
22	30.9	23.7	87	72	3	4	------	Ω^2 ≡^{2} a. d ⌓ p.
23	30.5	26.5	85	77	9	9	------	Ω^2 ≡^{2} a. ◯ ϟ p.
24	30.7	26.1	88	80	3	5	------	Ω ≡ a. ⌈ϟ^2 d p.
25	31.2	25.8	85	75	2	6	------	Ω ≡ a. ⊤° d° ⌒° p.
26	31	25.9	87	74	2	4	1.8	Ω^2 ≡^{2} a. ⌈ϟ° ●° ⌒ p
27	31.1	24.2	84	68	2	4	------	Ω ≡ a. ⌒ ⌈ϟ° p.
28	31	24.4	79	66	5	2	------	Ω° ≡° a. ⊤° ϟ p.
29	30.4	24.2	82	74	1	3	------	Ω ≡ a. ⊤° p.
30	31.4	24.5	87	65	0	2	------	Ω^2 ≡^{2} a.
Mean	29.6	25.1	85.4	73.9	6.4	6.9	------	
Total	------	------	------	------	------	------	375.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.7	24.3	94	64	0	5	------	Ω a. ⊤ ∪° p.
2	33.9	23.4	96	65	1	6	4.3	Ω² a. ⌈⚡ ● p.
3	33.4	23.6	97	71	0	8	------	Ω² a. ⊤ p.
4	32.3	23.9	97	68	10	8	------	Ω² a. ⊤ p.
5	32.5	24	96	65	2	9	8.1	Ω² a. ⊤ ● p.
6	32.4	23.3	97	71	1	10	9.9	Ω² a. ⊤ ● p.
7	32	22.6	97	69	3	5	------	Ω² a.
8	32.8	24.6	96	71	3	9	17	Ω²a.d↙° ● ⌈⚡ p.
9	31.8	25.4	96	71	10	10	------	
10	32.6	24.2	93	70	10	9	------	
11	32.3	23.6	96	66	3	8	2	Ω a. ⊤ ● p.
12	32.2	23.3	97	70	4	6	20.3	Ω² a. ⌈⚡ ● p.
13	32.5	23	97	68	1	6	------	Ω a. ⚡ d p.
14	31.8	25	94	74	3	10	57.7	Ω d a. ● p.
15	29.8	24.3	94	75	10	10	4.1	● a. p. ⚡ p.
16	31.3	24.8	95	80	10	10	3	● p.
17	29.8	23.9	97	77	10	10	3.3	● a. d p.
18	31.5	22.8	97	72	4	6	20.6	Ω² a. ↙ ● p.
19	30.5	23.4	94	72	6	10	170.2	●² p.
20	28.3	23.2	98	92	10	10	60.2	● p.
21	28.5	23.2	97	76	10	10	17	● a. d p.
22	32.7	23	96	62	6	4	------	
23	32.8	25.3	93	69	5	6	------	
24	31.8	23.9	97	75	0	4	------	Ω a.
25	32.7	24.6	98	66	0	5	------	Ω² a. ⚡ p.
26	32.3	24.3	94	68	1	5	31.2	●² ⌈⚡ p.
27	32.2	22.5	97	62	1	5	3	⌈⚡ ● p.
28	32.6	22.1	93	65	0	8	10.9	Ω ≡ a. ● p.
29	32.9	22.5	99	61	0	3	------	Ω² ≡² a.
30	34.4	23	94	54	0	0	------	Ω² a.
Mean	32	23.7	95.9	69.6	4.1	7.2	------	
Total	------	------	------	------	------	------	442.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.5	24.3	75	62	3	3	------	≡ Ω p.
2	32.7	25.6	78	61	5	2	------	≡ Ω p.
3	32.1	26.4	81	63	2	2	3	●° a. ≡ p.
4	32.7	24.3	86	63	2	4	1.8	d° a.
5	32.5	24.8	88	74	1	4	7	●° ⌒ a. d° ⌈⚡ p.
6	32	26.4	75	71	10	6	7.6	d a. ● a. p.
7	32.2	26.3	86	71	5	4	------	≡ ⚡² p.
8	32.1	27	84	68	1	5	------	≡ d° ⚡² p.
9	32.4	27.4	81	64	5	3	1.5	p° ⌒ a. ⚡² p.
10	32.1	24.3	92	78	2	8	2.7	●° a. d ⌒² p.
11	31.7	25	90	62	7	1	2.9	↙ ● a. ⚡² ●° p.
12	32.2	25.8	81	63	1	3	.8	≡ a. p. d p.
13	31.8	25.1	79	60	3	3	------	≡ ⌒° p.
14	32	25.4	86	70	8	10	.6	≡²a.p. ↙°d ⚡°p.
15	32.2	26.2	78	76	10	10	17.4	↙° a. p. ● ⚡² p.
16	29.1	24.3	92	79	10	10	2.1	d p.
17	30.2	25.3	85	74	10	8	9.6	d ⌒ ↙ ● a. ● p.
18	30.6	25.5	84	83	0	10	31.8	d p.
19	30.9	24.8	93	85	10	8	1.8	d ⚡ p.
20	27.4	24.4	91	93	10	10	95.5	●² d p.
21	28.2	24.1	92	85	10	10	33.3	●² ↙ ● d p.
22	31.8	25.3	80	73	9	8	------	d° a. ≡² ∪ ⚡ p.
23	31.4	27	82	67	4	1	.2	⌒ v a. Ω² p.
24	31.5	24.6	92	86	3	10	2.4	p° a. d Ω² p.
25	31.6	23.5	95	78	0	8	4.3	v a. d ⚡² Ω² p.
26	31.3	24.7	95	72	8	5	2.1	● v a. Ω² d ⚡² p.
27	32.4	25.7	91	74	1	8	3	● d v a. Ω² p.
28	31.2	24.5	95	73	1	2	1.3	● a. Ω² p.
29	30.8	24.4	92	76	0	4	------	Ω² a. p. d p.
30	31.4	23.8	86	70	2	2	3.8	d a. p° Ω² p.
Mean	31.4	25.2	86.2	72.5	4.8	5.7	------	
Total	------	------	------	------	------	------	236.5	

SEISMOLOGICAL BULLETIN FOR SEPTEMBER, 1909.

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

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

11, 1^h 30^m. **Catbalogan** (W of Samar). Earthquake of intensity III, lasting 10 seconds.

11, 3^h 47^m 53^s.* **Eastern Visayas.** Earthquake of force IV and great extension. It was felt on Catanduanes Island, Samar and Leyte, and the northeastern part of Mindanao, that is, over a very oblong area measuring more than 600 kilometers in the direction NNW–SSE. The notices received from the stations in or near that region are somewhat incoherent, due, no doubt, to the inconvenient hour at which the earthquake occurred. According to these reports there were two regions in which the phenomenon developed its maximum force IV—southern Samar and the northern part of the Agusan Valley. Since these regions are separated by a distance of 300 kilometers, and on the intervening Island of Leyte and the quasi-peninsula of Surigao the shocks showed much less intensity, it would seem that two distinct foci entered into action simultaneously, one near southeastern Samar, the other in the northern part of the Agusan Valley. We advisedly say *simultaneously,* because not only do the times noted by the observers of the various stations agree, but the records traced by the Manila microseismographs show no vestige of two earthquakes. They correspond to a single disturbance of moderate intensity, having its center at a distance of 600 to 650 kilometers from Manila, near the southeastern end of Samar Island. This earthquake has been registered likewise by the microseismographs at Batavia, as disturbance at a distance of about 2,500 kilometers.

12, 7^h 41^m 50^s.* **Southern Luzon.** Earthquake of intensity IV in the Provinces of Laguna, Rizal, Cavite, Batangas, Nueva Ecija, Bulacan, Pampanga, Zambales, and Bataan. In Manila the seismic registers showed oscillatory movements of force IV in the direction SW–NE, lasting 40 seconds. Nearly the same intensity, but longer duration, were observed at Olongapo and Cavite. Hence, the epicenter must have been situated very close to the coast of Mariveles. The isoseismal curve IV inclosed the Mariveles Mountain Range, Manila Bay, and almost the entire Province of Cavite.

13, 17^h 15^m. **Sumay** (Guam Island). Earthquake of intensity III.

14, 19^h 5^m. **Talacogon** (Valley of the Agusan, E of Mindanao). Earthquake of intensity III.

19, 2^h 3^m. **Vigan** (NW of Luzon). Slight tremor of intensity II.

21, 2^h 35^m. **Borongan** (E of Samar). Light shocks of intensity III, lasting 5 seconds.

21, 11^h 21^m 13^s. **Aparri** (NE of Luzon). Oscillatory earthquake. Direction E–W; intensity III; duration 6 seconds.

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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 observer 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.**

22, 11^h 30^m. **Talacogon** (Valley of the Agusan, E of Mindanao). Earthquake of force III; repeated with the same intensity at 11^h 37^m.

22, 16^h 40^m. **Santo Domingo** (Batanes Islands). Light earthquake of intensity III, lasting 2 seconds.

27, 2^h 17^m. **Vigan** (NW of Luzon). Earthquake of intensity III.

28, 8^h 6^m 2^s.* **Northern Luzon.** Earthquake of intensity IV in the Provinces of Cagayan and Ilocos Norte, whose origin was probably east of the Babuyanes Islands, some 500 kilometers north-northeast of Manila.

29, 4^h 0^m 54^s.* **Aparri** (NE of Luzon). Oscillatory earthquake. Direction N–S; intensity IV; duration 28 seconds. A repetition at 10^h 7^m 37^s had the same direction and force. Both quakes were registered by the Manila seismographs; their center was at a distance of 400 kilometers from Manila, south of the volcanic Island of Camiguin. They were, however, perceptible only at Aparri and its immediate neighborhood.

The earthquakes of the 29th as well as that of the 21st belong undoubtedly to the seismic center of which we spoke in the BULLETIN FOR MAY, 1909. We refer the reader to the paragraph "The northwestern center" of the paper on Submarine Seismic Centers near the Coasts of Northern Luzon, contained in the said BULLETIN.

INSTRUMENTAL EARTHQUAKES.

Besides the 13 weak earthquakes which we have enumerated, nearly all of which were felt in northern Luzon, the eastern Visayas, and Mindanao, 15 additional disturbances due to unknown centers have been indicated by the microseismographs. Six of these must have originated within the Archipelago at distances less than 500 kilometers from Manila; seven had a more distant origin, probably 1,000 to 4,000 kilometers, in the direction of the seas and islands to the east and southeast; of the two remaining, one had its center in the region of Sumatra, the other in Central Asia.

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.		
172	2	NNW-SSE	20 32 30	----------	----------	----------	------	------	20 59	V. M.	
		NNW-SSE	20 32 33	----------	----------	----------	------	------	20 54	H. P.	
		WSW-ENE	20 32 30	----------	----------	----------	------	------	20 56	V. M.	
		WSW-ENE	20 32 33	----------	----------	----------	------	------	20 54	H. P.	
173	2	NNW-SSE	21 53 32	----------	21 53 47	21 53 49	.03	2.2	21 56	V. M.	
174	6	NNW-SSE	22 39 36	----------	----------	----------	------	------	23 05	V. M.	
		NNW-SSE	22 39 39	----------	----------	----------	------	------	23 08	H. P.	
		WSW-ENE	22 39 36	----------	----------	----------	------	------	23 05	V. M.	
		WSW-ENE	22 39 39	----------	----------	----------	------	------	23 08	H. P.	
175	9	NNW-SSE	1 00 26	1 05 40	1 09 49	1 10 53	.01	6.4	1 40	V. M.	
		NNW-SSE	1 00 35	1 05 43	1 09 46	1 11 03	.08	7.5	1 37	H. P.	
		WSW-ENE	1 00 26	1 05 38	1 09 55	1 11 56	.01	6.8	1 40	V. M.	
		WSW-ENE	1 00 35	1 05 58	1 09 51	1 12 11	.13	8.4	1 37	H. P.	
176	9	NNW-SSE	7 24 09	7 27 51	7 31 28	7 32 20	.02	2.4	8 04	V. M.	Vertical Component 0.01 mm.
		NNW-SSE	7 24 10	7 27 52	7 31 19	7 34 17	.04	9.9	8 09	H. P.	
		WSW-ENE	7 24 09	7 27 57	7 31 10	7 32 06	.02	2.4	8 04	V. M.	
		WSW-ENE	7 24 10	7 28 04	7 31 19	7 33 19	.15	9.6	8 09	H. P.	
177	10	NNW-SSE	17 45 06	----------	17 45 23	17 45 27	.77	2.4	17 53	V. M.	V. C. 0.33 mm.
		WSW-ENE	17 45 06	----------	17 45 24	17 45 28	.52	2.4	17 53	V. M.	
178	11	NNW-SSE	2 12 39	----------	2 15 45	2 16 35	.08	2.4	2 32	V. M.	V. C. 0.01 mm.
		NNW-SSE	2 12 43	----------	2 15 45	2 16 00	.10	5.4	2 30	H. P.	
		WSW-ENE	2 12 39	----------	2 15 45	2 16 29	.06	2.4	2 32	V. M.	
		WSW-ENE	2 12 43	----------	2 15 45	2 17 26	.10	6.6	2 31	H. P.	
179	11	NNW-SSE	3 47 53	----------	3 49 01	3 49 11	.39	2.4	4 15	V. M.	V. C. 0.04 mm. Earthquake, IV eastern Visayas.
		NNW-SSE	3 47 54	----------	3 49 07	3 50 31	.31	7.2	4 15	H. P.	
		WSW-ENE	3 47 53	----------	3 49 20	3 50 04	.18	2.4	4 15	V. M.	
		WSW-ENE	3 47 54	----------	3 49 13	3 49 40	.68	8.4	4 15	H. P.	
180	11	NNW-SSE	18 55 44	19 00 56	19 04 55	19 05 34	.03	6.4	20 18	V. M.	V. C. 0.01 mm.
		NNW-SSE	18 55 49	19 00 16	19 05 16	19 07 15	.49	8.4	20 16	H. P.	
		WSW-ENE	18 55 44	19 00 51	19 05 08	19 06 59	.03	7.6	20 18	V. M.	
		WSW-ENE	18 55 49	19 00 34	19 04 58	19 07 14	1.05	9	20 16	H. P.	

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.		
181	12	NNW-SSE	7 41 50	----------	7 41 56	----------	------	------	8 16	V. M.	V. C. 1.75 mm. Earthquake, IV in
		WSW-ENE	7 41 50	----------	7 41 56	----------	------	------	8 16	V. M.	southern Luzon.
182	13	NNW-SSE	6 22 47	----------	6 23 05	6 23 07	.11	2.4	6 27	V. M.	V. C. 0.09 mm.
		WSW-ENE	6 22 47	----------	6 23 05	6 23 07	.13	2.4	6 27	V. M.	
183	17	NNW-SSE	2 54 57	2 58 37	3 02 26	3 03 52	.01	8.8	3 28	V. M.	V. C. 0.08 mm. Eqke., in Sumatra.
		WSW-ENE	2 54 57	2 58 48	3 02 50	----------	------	------	3 28	V. M.	
		WSW-ENE	2 54 59	2 58 49	3 02 28	3 02 54	.04	7.5	3 25	H. P.	
184	17	NNW-SSE	3 45 27	3 48 34	3 50 43	3 51 47	.04	3.2	4 19	V. M.	
		WSW-ENE	3 45 27	3 48 43	3 50 48	3 51 45	.02	6	4 16	V. M.	
		WSW-ENE	3 45 27	3 48 09	3 50 32	3 51 20	.13	8.4	4 15	H. P.	
185	20	NNW-SSE	7 27 26	----------	7 27 41	7 27 47	.12	2.8	7 31	V. M.	V. C. 0.09 mm.
		WSW-ENE	7 27 26	----------	7 27 41	7 27 46	.08	3.2	7 31	V. M.	
186	22	NNW-SsE	2 55 03	2 57 27	3 00 04	----------	------	------	3 31	V. M.	V. C. 0.02 mm.
		WSW-ENE	2 55 03	2 57 37	3 00 08	----------	------	------	3 31	V. M.	
		WSW-ENE	2 55 04	2 57 38	3 00 08	----------	------	------	3 34	H. P.	
187	24	NNW-SSE	3 03 58	----------	3 04 25	3 04 35	.11	2.4	3 08	V. M.	V. C. 0.06 mm.
		WSW-ENE	3 03 58	----------	3 04 22	3 04 25	.08	2.2	3 08	V. M.	
188	28	NNW-SSE	8 06 01	----------	8 07 03	8 07 10	.19	2.4	8 20	V. M.	V. C. 0.05 mm. Eqke., IV N of Luzon.
		NNW-SSE	8 06 02	----------	8 07 00	8 07 07	.11	4.5	8 21	H. P.	
		WSW-ENE	8 06 01	----------	8 07 00	8 08 25	.22	2.4	8 19	V. M.	
		WSW-ENE	8 06 02	----------	8 07 01	8 08 06	.07	6	8 20	H. P.	
189	29	NNW-SSE	4 00 54	----------	4 01 52	4 03 10	.41	2.4	4 17	V. M.	V. C. 0.07 mm. Eqke., IV NE of
		NNW-SSE	4 01 00	----------	4 01 58	4 03 00	.24	6.4	4 18	H. P.	Luzon.
		WSW-ENE	4 00 54	----------	4 01 44	4 02 18	.46	2.4	4 17	V. M.	
		WSW-ENE	4 01 00	----------	4 02 04	4 03 54	.25	9	4 20	H. P.	
190	29	NNW-SSE	10 07 35	----------	10 08 30	10 09 00	.08	2.4	10 22	V. M.	V. C. 0.04 mm. Eqke., IV NE of
		NNW-SSE	10 07 37	----------	10 08 38	10 09 26	.03	4.8	10 21	H. P.	Luzon.
		WSW-ENE	10 07 35	----------	10 08 25	10 08 29	.08	2.4	10 22	V. M.	
		WSW-ENE	10 07 37	----------	10 08 41	10 08 56	.04	3.6	10 20	H. P.	
191	29	NNW-SSE	20 01 04	----------	20 01 19	20 01 40	.03	2	20 05	V. M.	V. C. 0.02 mm.
		WSW-ENE	20 01 04	----------	20 01 18	20 01 20	.03	2	20 05	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=9.6 seconds; WSW–ENE pendulum, T=9.9 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]

11, 1^h 30^m. **Catbalogan** (W de Sámar). Temblor de tierra de intensidad III, duración 10^s.

11, 3^h 47^m 53^s.* **Parte oriental de Visayas.** Terremoto de intensidad IV, pero de grande extensión: fué sentido en la Isla de Catanduanes, en Sámar, Leyte y en la parte NE de Mindanao, ó sea en un área muy prolongada de más de 600 Kms. de longitud en la dirección NNW–SSE. Las notas recibidas de las estaciones de las islas mencionadas resultan algo incoherentes, debido sin duda á lo intempestivo de la hora en que tuvo lugar el terremoto. Según ellas hubo dos regiones donde el temblor alcanzó su máxima intensidad IV; la parte sur de Sámar y la parte norte del Valle del Agusan: y como estas dos regiones, distantes entre sí 300 Kms., están separadas por la Isla de Leyte y la cuasi-península de Surigao, donde los movimientos tuvieron mucha menor intensidad, parece que hubo como dos focos distintos ó que entraron en acción al mismo tiempo dos centros, uno cerca de la parte SE de Sámar y otro en el N del Valle del Río Agusan. Decimos simultáneamente porque además de coincidir las horas de las notas recibidas de las estaciones, los registros de los microseismógrafos del Observatorio no presentan indicio ninguno de un segundo terremoto; dicho registro corresponde á un solo terremoto de moderada intensidad cuyo origen se hallaba á una distancia de 600 á 650 Kms. de Manila, cerca del extremo SE de la Isla de Sámar. Este terremoto fué también registrado por los seismógrafos de Batavia como terremoto ocurrido á unos 2,500 Kms. de distancia.

12, 7^h 41^m 50^s.* **Parte S de Luzón.** Temblor de tierra de intensidad IV, en las Provincias de La Laguna, Rizal, Batangas, Cavite, Bataán, Bulacán, Nueva Écija, Pampanga y Zambales. En Manila se registraron movimientos oscilatorios de intensidad IV, en la dirección SW–NE, durante 40^s: casi la misma intensidad pero mayor duración tuvo el temblor en Olongapó y en Cavite; de manera que el epicentro debió estar muy cerca de las costas de Mariveles: la isosista IV encerraba la cordillera de este nombre, la bahía de Manila y casi toda la Provincia de Cavite.

13, 17^h 15^m. **Sumay** (Isla de Guam). Temblor de tierra de intensidad III.

14, 19^h 05^m. **Talacogon** (Valle del Río Agusan, E de Mindanao). Temblor de tierra de intensidad III.

19, 2^h 03^m. **Vigan** (NW de Luzón). Ligera sacudida de intensidad II.

21, 2^h 35^m. **Borongan** (E de Sámar). Ligeros choques de intensidad III, duración 5^s.

21, 11^h 21^m 13^s. **Aparri** (NE de Luzón). Temblor oscilatorio, dirección E–W, intensidad III, duración 6^s.

22, 11^h 30^m. **Talacogon** (Valle del Río Agusan, E de Mindanao). Temblor de tierra de intensidad III. Repitió á 11^h 37^m con la misma intensidad.

22, 16^h 40^m. **Santo Domingo** (Islas Batanes). Ligero temblor de intensidad III, duración 2^s.

27, 2^h 17^m. **Vigan** (NW de Luzón). Temblor de tierra de intensidad III.

28, 8^h 06^m 02^s.* **N de Luzón.** Temblor de tierra de intensidad IV, en las Provincias de Cagayán é Ilocos Norte: el origen probablemente se hallaba al E del grupo de las Islas Babuyanes, á unos 500 Kms. al NNE de Manila.

29, 4^h 00^m 54^s.* **Aparri** (NE de Luzón). Temblor oscilatorio, dirección N–S, intensidad IV, duración 28^s. Repitió con la misma intensidad y dirección á 10^h 07^m 37^s. Ambos temblores fueron registrados por los microseismógrafos de Manila, su origen se hallaba á unos 400 Kms. de distancia de Manila hacia el S de la isla volcánica Camiguín. Fueron perceptibles solamente en Aparri y en sus cercanías, en un área muy poco extensa.

[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 meridiano 120° E de Greenwich.**

Tanto estos temblores del día 29 como el del 21 pertenecen sin duda al centro séismico de que se habló en el mes de Mayo último. Véase el párrafo "Centro del NE de Luzón" en la nota "Epicentros séismicos submarinos cerca de las costas del norte de Luzón" publicada en el Boletín de Mayo de 1909.

TEMBLORES DE TIERRA INSTRUMENTALES.

Además de los trece temblores de poca intensidad que hemos enumerado, sentidos casi todos al N. de Luzón y en la parte oriental de Visayas y Mindanao, los seismógrafos registraron otros quince de epicentro desconocido. Seis de ellos originados dentro del Archipiélago á menos de 500 Kms. de Manila. Siete fueron de origen más lejano á distancias probablemente comprendidas entre 1,000 y 4,000 Kms., hacia los mares é islas del S y SE. Los dos restantes tuvieron el epicentro uno en Sumatra y otro en el Asia Central.

REGISTROS DE LOS MICROSEISMÓGRAFOS.

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

BULLETIN FOR OCTOBER, 1909.

METEOROLOGICAL BULLETIN FOR OCTOBER, 1909.

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

GENERAL WEATHER NOTES.

Pressure and temperature.—Despite the fact that atmospheric depressions had by no means been rare during October, 1908, the monthly mean of atmospheric pressure for October, 1909, is still lower than that for the same month of the preceding year in all the stations of the Philippines. Compared with the normal value for the month, it is, naturally, very low. Thus, for instance, at Manila the difference between actual and normal mean is — 1.51 millimeters. With the exception of a few stations on the western coast of north Luzon, the date of lowest pressure was the 17th. In the stations excepted, the lowest pressure was recorded on the 18th. It must, however, be remarked, that the date given is the day of lowest *mean* pressure, which is not necessarily the day of absolute minimum. The latter occurred on the 23d or 24th in some stations which were close to the track of the second typhoon of Luzon, to be discussed in the proper place. The great velocity with which this disturbance crossed the Archipelago on the one hand, and the remarkable slowness of movement of the typhoon of October 17 and 18 on the other, account for the fact that in all the stations of the Weather Bureau the days of lowest mean pressure occurred during the latter.

The mean monthly temperature was nearly everywhere slightly higher than during the corresponding month of 1908. At Manila the difference from the normal for the month was only + 0.1° C.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, OCTOBER, 1909.

Station.	Pressure.						Temperature.					
	Mean.	Departure from October 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from October 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	757.26[1]				754.94	17	27.6	+0.3	34.7	22	22	10
Surigao	57.45	—0.47	58.97	25	54.56	17	27.3	+ .3	33.9	18	22.7	10
Iloilo	57.68	— .42	59.10	21	54.52	17	26.8	— .1	32.7	22	22.2	5
Ormoc	57.44	— .64	58.77	8	54.11	17	26.4	+ .3	33.2	21	20.9	12, 31
Tacloban	57.60	— .48	59.39	25	53.76	17	27.2	— .2	34.5	20	22.9	1
Capiz							27	+ .1	34.2	18		
Calbayog	57.73	— .47	59.54	25	53.47	17	26.7		33.6	26	21.2	12
Legaspi	57.13	— .70	59.37	26	51.22	17	27.3	+ .2	33.6	15	22	22
Atimonan	57.02	— .69	59.39	26	49.98	17	27.4	+ .4	33.5	19	23	10
Manila	57.07	— .68	59.54	26	50.07	17	26.9	+ .7	32.9	13	21.9	14
Olongapo	56.94	— .67	59.21	26	50.70	17	26.8	+ .7	34.3	16	22.8	13
San Isidro	56.92	— .84	59.50	26	49.14	17	26.7[2]					
Dagupan	56.65	— .56	59.42	26	48.08	17	27.3[3]	+ .4	35.1[3]	28	22.5[3]	18
Bolinao	56.42	— .28	59.36	26	47.44	18	27.1[3]	+ .2	32[3]	27	22.5[3]	24
Baguio	634.95[4]		637.48[4]	26	625.39[4]	17	17.9[2]					
Vigan	756.41	— .58	759.73	26	742.35	18	27.4[3]	+ .4	35[3]	30	22.7[3]	15
Tuguegarao	56.68	— .46	60.57	31	36.46	17	26.8[3]	+ .3	36[3]	3	21[3]	15
Aparri	57.06	— .70	60.87	31	36.88	17						

[1] From 18 days only. [2] 23 days. [3] 29 days. [4] Not reduced to sea level.

Precipitation.—The following table shows that only eleven stations recorded a rainfall below that of October, 1908. For Luzon the days of heaviest precipitation were the 17th in the northern part of the island and the 23d or 24th in the central and southern regions. The stations in the Visayas and in Mindanao show a considerable variety in the dates of maximum rainfall.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF OCTOBER, 1909.

Station.	Total.	Departure from October 1908.	Rainy days.	Departure from October 1908.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from October 1908.	Rainy days.	Departure from October 1908.	Greatest rainfall in a single day.	Day.
	mm.	mm.			mm.			mm.	mm.			mm.	
Jolo	173.5	— 18.6	21	+ 5	31.7	22	Virac	247.9	— 46.5	21	+ 7	85.8	23
Isabela, Basilan	364.3	+236.3	17	+ 2	114.3	27	Nueva Caceres	353.3	-------	14	------	153.7	23
Zamboanga	298.8	+267.8	20	+14	121.4	23	Batangas	212.1	+111.5	19	+ 6	32	17
Davao	462.9	+244.8	13	+ 4	95.8	27	Atimonan	367.2	+ 29.9	20	+ 1	188.8	23
Cotabato	284.4	+ 60.8	16	0	55.9	27	Silang	284.9	—138.9	12	— 1	81	23
Cagayan, Misamis	167.3	+ 46.2	14	0	29.2	21	Sta. Cruz, Laguna	315.2	-------	20	------	146.8	23
Dapitan	121.1	-------	11	------	62.7	26	San Antonio, Laguna	424.8	+ 99	22	+ 7	185.2	23
Butuan	138.4	+ 38.9	15	— 4	29.2	7	Manila	165	— 73.6	18	— 1	53.6	24
Tagbilaran	166.5	+ 8.1	13	— 2	65.3	8	Olongapo	362.8	+ 81.9	19	+ 3	115.6	24
Surigao	151	—135.5	13	0	36.1	26	San Isidro	412.2	+ 63.2	16	+ 1	------	------
Maasin	185.9	+101.4	11	+ 3	41.1	14	Tarlac	327.8	+ 22.4	16	— 3	69.1	24
Iloilo	342.8	+254.9	23	+ 8	82	5	Baler	572	+250.6	16	+ 1	188	23
San Jose Buenavista	484	+274.4	18	+ 1	98.6	6	Dagupan	328.6	—275.2	12	— 5	95	17
Ormoc	270.7	+206.8	16	+ 2	74.7	22	Bolinao	506	+101.3	13	0	810.9	17
Tacloban	166.5	+ 49	14	+ 2	50.3	23	Baguio	1085.9	—423.2	17	— 4	689.7	17
Capiz	362.5	+267.3	23	+12	53.1	21	San Fernando, Union	269.8	— 85.5	10	+ 1	86.4	17
Borongan	314	-------	23	------	49.8	22	Echagüe	213.9	—226.2	15	— 8	72.9	23
Calbayog	255.1	+115.4	21	+ 6	39.1	4	Candon	507.2	+173.3	10	— 7	210.8	17
Palanoc, Masbate	157.1	+ 80.2	17	+ 4	45.2	22	Vigan	423.3	+ 85.7	11	— 4	137.9	17
Romblon	176.4	— 32.9	24	+ 4	51.8	23	Tuguegarao	360.9	-------	14	------	143	17
Laoang	306.2	+116.2	23	+13	100.8	23	Laoag	858.9?	+548.5?	11	— 5	382.7?	17
Gubat	57.3	—186.6	17	+ 5	14.5	23	Aparri	318.3[1]	-------	16	------	------	------
Sumay	343.8	+ 4.5	28	+ 4	91.4	11	Sto. Domingo	374.5	+ 64.1	19	— 4	101.1	17
Calapan	233.9	-------	19	------	102.9	28							
Legaspi	452.7	+214	21	0	100.6	23							

[1] 29 days of observation. The amount of rainfall could not be measured on the 17th and 18th.

DEPRESSIONS AND TYPHOONS.

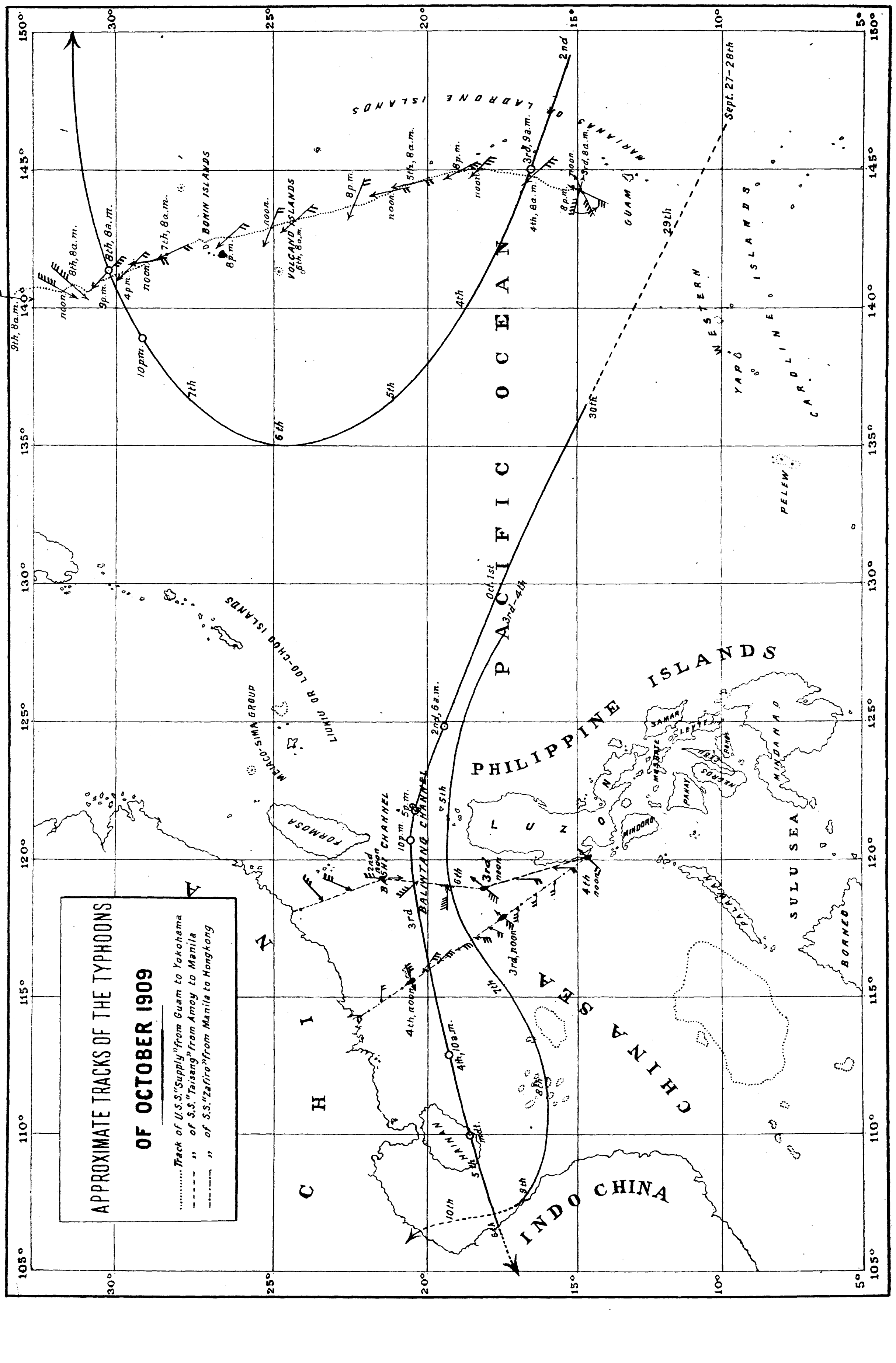
This month of October has been very remarkable for the great number of typhoons which visited the Philippines. During the first third of the month two of these storms traversed the Balintang Channel in the interval of only three days; two others crossed the Island of Luzon on the 17th and 24th, respectively; finally, one of very small diameter made itself felt in Mindanao. Two more typhoons made their influence felt considerably in the Marianas Islands on the 3d and 11th, the latter being of greater intensity than any other observed at Guam during the entire year 1909. Finding it at present impossible to give an exhaustive discussion of all these disturbances, we shall confine ourselves to saying a few words concerning each of them, endeavoring to establish their tracks with so much precision as the data which we could collect will permit.

THE TWO TYPHOONS IN THE BALINTANG CHANNEL, OCTOBER 2 AND 5, 1909.

The tracks of these two typhoons are represented on Plate XIV. Both show the peculiarity of inclining toward west-southwest or southwest after passing through Balintang Channel. To this change in the path the neighboring British colony of Hongkong owes its escape from the fury of the first of these typhoons, which latter would undoubtedly have passed close to it if the track had retained the direction it had when approaching the Batanes Islands.

Typhoon of September 27 to October 6, 1909.—This typhoon appears to have formed south of the Ladrone Islands, September 27–28. On the 29th it was southwest of Guam, and in the morning of the 30th west of Guam and north of Yap. These successive positions of the center appear to be well established by the observations made at Guam during the last days of September, which are contained in the following table:

Plate XIV.


APPROXIMATE TRACKS OF THE TYPHOONS
OF OCTOBER 1909
Track of U.S.S. "Supply" from Guam to Yokohama
„ of S.S. "Taisang" from Amoy to Manila
„ of S.S. "Zafiro" from Manila to Hongkong
PACIFIC OCEAN
CHINA SEA
CHINA
INDO CHINA
PHILIPPINE ISLANDS
LUZON
MINDORO
SAMAR
LEYTE
PANAY
NEGROS
MINDANAO
SULU SEA
BORNEO
HAINAN
FORMOSA
BASHI CHANNEL
BALINTANG CHANNEL
MEIACO-SIMA GROUP
LIUKIU OR LOO-CHOO ISLANDS
BONIN ISLANDS
VOLCANO ISLANDS
MARIANAS OR LADRONE ISLANDS
GUAM
WESTERN CAROLINE ISLANDS
YAP
PELEW
Sept. 27–28th
29th
30th
Oct. 1st
3rd–4th

METEOROLOGICAL OBSERVATIONS MADE AT SUMAY, GUAM, LADRONES ISLANDS, SEPTEMBER 27 TO 30, 1909.

Date and hour.	Pressure.	Wind.		Weather.	Rainfall (daily total.)
		Direction.	Force.		
September 27:	*mm.*		*0-12.*		*mm.*
6 a. m	760.42	E	2	o	-------
2 p.m	58.73	ENE	2	o	8.4
September 28:					
6 a. m	58.57	ENE	4	o	-------
2 p. m	56.15	ENE	4	o	17.8
September 29:					
6 a. m	55.95	ESE	2	b	-------
2 p. m	54.62	ESE	5	c	19.0
September 30:					
6 a. m	57.20	SE	3	o	-------
2 p. m	57.23	SE	3	o	16.0

The first warning of the typhoon was sent by Manila Observatory to Hongkong, etc., in the forenoon of the 30th in the following form:

September 30, 11 a. m.: Typhoon over the Pacific Ocean, about halfway between the Marianas Islands and Luzon; direction unknown.

The typhoon moved rapidly, its velocity being at the rate of 16.5 miles per hour, and passed north of Aparri, across the Batanes Islands, during the afternoon of October 2. On this day two cablegrams were sent to Hongkong and the other meteorological centers of the Far East, the second of which advices gave the position of the cyclonic center with greater precision than the first:

October 2, 8.45 a. m.: Typhoon east of northern Luzon, less than 300 miles distant; moving west-northwest.

October 2, 1 p. m.: Typhoon east-northeast of Aparri, moving west-northwest.

Both valuable and interesting are the observations made at Santo Domingo during the passage of the storm across the Batanes group of islands. They prove that the vortex passed very close through the south of the station, while still on a west-northwest course.

METEOROLOGICAL OBSERVATIONS MADE AT SANTO DOMINGO, BATANES ISLANDS, OCTOBER 2 AND 3, 1909.

Date and hour.	Pressure.	Wind.		Clouds.		Weather.	State of sea.	Rainfall (daily total).	Remarks.
		Direction.	Force.	Form.	Direction.				
October 2:	*mm.*		*0-12.*					*mm.*	
6 a. m	754.72	N	4	N.	N	o, d	M	------	Drizzling; somewhat gusty winds; dark horizons.
7 a. m	-------	N	5	N.	NbyW	o	L	------	Somewhat gusty winds; dark horizons.
8 a. m	54.55	NbyW	4	N.	N	o	L	------	Somewhat gusty winds; rainy horizons.
9 a. m	-------	NNW	5	N.	NbyW	o, d	L	------	Drizzling; somewhat gusty winds.
10 a. m	50.34	NW	5	N.	NW	o, d	L	------	Do.
11 a. m	-------	N	4	N.	NbyW	o	L	------	Somewhat gusty winds.
Noon	46.41	N	4	N.	N	o, d	L	------	Somewhat gusty winds; slight rain.
1 p. m	40.60	NNE	4	N.	NNE	o	M	------	Somewhat gusty winds; veil of Ci.-S. overhead; dark horizons.
2 p. m	39.75	NNE	1	N.	NEbyE	o, d	M	------	Slight drizzle.
3 p. m	38.49	NE	2	N.	NE	o	M	------	After the observation clearing up slightly and almost calm.
4 p. m	38.14	ENE	3	N.	ENE	o	T	------	Somewhat gusty winds at intervals.
5 p. m	37.82	ESE	3	N.	SE	o	T	------	Do.
5.20 p. m	-------	ESE	8	N.	SSE	o, q	B	------	Rain with strong gale.
5.34 p. m	-------	S	9	N.	S	o, q	B	------	Heavy squalls of strong gale with heavy rains.
6 p. m	42.07	SSE	9	N.	S	o, q	B	------	Continuous winds of force 9 to 10; between 6 p. m. and 7 p. m. the gusts of the wind increased to force 11.
6.15 p. m	-------	SSE	6	N.	S	o, q	------	------	Gusty winds with drizzle.
7 p. m	48.04	SSE	7	N.	SSE	o, t	------	------	Gusty winds; thunder toward NW quadrant.
8 p. m	51.11	SE	5	N.	SSE	o, d	------	------	Drizzling and somewhat gusty winds.
9 p. m	53.77	SE	4	N.	-------	o, d	------	------	Dark sky and drizzling.
10 p. m	54.05	SE	3	N.	-------	o	------	82.8	Slight gusts of wind.
October 3:									
6 a. m	55.18	SE	2	Cu.	SSE	c.	M	------	Veil of Ci. at 10 a. m.; slight solar halo at noon.
2 p. m	54.64	SE	2	Cu.	SEbyS	o	L	3.4	Veil of Ci. and squally toward SSW in the afternoon; NE wind in the evening.

During the night of October 2–3 the typhoon began to change its direction, inclining west and west-southwest. But Manila Observatory failed to become aware of this change until the morning of October 4, as is shown by the typhoon notices sent by it to Hongkong, Phulien, Taihoku, Shanghai, and Tokio on October 3 and 4:

October 3, noon: Typhoon west of Bashi Channel, moving west-northwest.
October 4, 11.30 a. m.: Typhoon over northern part of China Sea, moving west.

In the daily weather note of the 5th the direction assumed by the storm was stated more precisely thus:

October 5, 12.30 p. m.: The typhoon of the China Sea seems to have been moving west-southwest and filling up gradually, its center being situated this morning south of Hainan.

The observations made on board the steamers *Taisang, Yuensang,* and *Zafiro,* in conjunction with those of Lamko light-house, northwest of Hainan, have been of the greatest service in tracing the track of this typhoon across the China Sea, from the Batanes Islands to Hainan. These observations are reproduced in the following tables:

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "TAISANG" OCTOBER 2 TO 4, 1909.

[Captain, W. J. Davis.]

Date and hour.	Pressure.	Wind.		Weather.	Remarks.
		Direction.	Force.		
October 2:	*mm*		*0-12.*		
8 a. m	757.16	NNE	6	c	
Noon	55.13	N	6	o, c	Ship's position, 21° 30′ lat. N, 119° 20′ long. E. Steered south.
4 p. m	52.33	NNW	6	o; r	At 3 p. m. rain set in.
8 p. m	51.32	NW	6 to 7	o, q, r	Sea confused.
9 p. m	51.83	NW	7	o, q, r	
11 p. m	50.05	WNW	7 to 8	o, q, r	
Midnight	49.03	WNW	7 to 8	o, q, r	
October 3:					
1 a. m	48.27	WNW	7 to 9	o, q, r	Heavy squalls of wind and rain.
1.30 a. m	47.51	WNW	7 to 9	o, q, r	Lightning in the NE.
2 a. m	48.52	WbyN	7 to 9	o, q, r	
4 a. m	49.29	W	7 to 9	o, q, r	Confused sea.
6 a. m	50.30	SW	7	c, p, q	Confused sea; at 5.30 a. m. wind WSW; at 6 a. m., SW; at 6.30 a. m. SSW.
8 a. m	52.33	SSW	7	o, q	
Noon	52.59	SW	7	o, q	Ship's position, 18° 12′ lat. N, 119° 00′ long. E.
4 p. m	54.11	SSW	4	b, c	NW swell.
Midnight	54.62	S	3	b, c	
October 4:					
4 a. m	53.60	S	3	b, c	
8 a. m	54.87	SSE	3	b, c	
Noon	55.13	SW	3	b, c, p	Ship's position, 14° 40′ lat. N, 120° 01′ long. E.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "YUENSANG," OCTOBER 2 TO 4, 1909.

[Captain, P. H. Rolfe.]

Date and hour.	Pressure.	Wind.		Weather.	Remarks.
		Direction.	Force.		
October 2:	mm.		0–12.		
Noon		NW	1	b	Ship's position, 15° 27′ lat. N, 119° 18′ long. E. The barometer showed a tendency to fall and continued falling throughout the day and night.
October 3:					
7 a. m	753.00	WbyS	4	o, p	The wind having veered during the night from a light NW air to a fresh breeze from WbyS and the barometer still falling, I hove the ship to, being under the impression that the storm was crossing to the northward of me, more particularly as a heavy swell was rolling down from the NE. In the horizon, extending from NNW to NE, in an arch, the center of which was 30° from the horizon, was a heavy bank of nimbus; in the center of this arch, low down on the horizon, were two masses of cumulus.
10 a. m	53.25	WSW	4	o, r	This bank of nimbus with the masses of cumulus in the center, persisted throughout the day, gradually shifting however until at dusk it extended from WNW to N. The swell continued to roll down from the NE during the day, gradually shifting, however, until at dusk it was coming in heavy rollers from the N.
Noon	52.50	WSW	4	o, q	Ship's position, 18° 02′ lat. N, 117° 22′ long. E.
2 p. m	50.50	SWbyW	3		Ship, "hove to."
4 p. m	51.50	SW	3		Do.
6 p. m	52.00	SWbyS	3	o, q, r	Do.
8 p. m	53.00	SWbyS	3	o, r	The vessel was put on her course and the engines to full speed.
10 p. m	53.00	SbyE			Ship, full speed; very heavy NW swell, lightning in the NW.
Midnight	52.75	SbyE			Throughout the night the vessel continued steering NWbyN at full speed against a very heavy NW swell; wind gradually shifting to and remaining at SEbyS; barometer steady.
October 4:					
Noon	53.50	E	4		Ship's position, 20° 08′ lat. N, 115° 40′ long. E. At daylight WSW swell; wind SEbyS, force 6; this swell with the sea raised by the wind caused a confused cross sea. During the forenoon the wind shifted to E, the SW swell increased, and a distinct SE swell set in.
4 p. m	54.00				Light wind; SW and SE swells no diminution, the SW being the stronger. Heavy bank of nimbus extended from SW to NW in the whole afternoon.
6 p. m	54.50	E			Large streaks of cirrus converged into the bank of nimbus toward W; fresh wind and barometer rising.
9 p. m	55.50	E			Both SW and SE swells have considerably decreased, the night fine and clear, although low down on the SW horizon the heavy bank of nimbus persisted. During the night the wind freshened to force 6 with a rising glass.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "ZAFIRO," OCTOBER 2 TO 4, 1909.

[Captain, R. Rodger.]

Date and hour.	Pressure.	Difference in 24 hours.	Wind, direction.	Weather.	Remarks.
October 2:	*mm.*	*mm.*			
3.30 p. m	755.64		WNW		Light to moderate breeze; at 5 p. m. heavy rain squalls, smooth sea.
8 p. m	55.89		WNW	u	Light breeze, dull and hazy, smooth sea.
Midnight	56.14		W	o, u	Light breeze, dull and overcast, smooth sea.
October 3:					
4 a. m	54.37		W	o, u	Moderate breeze, dull and overcast, moderate swell from NEbyE.
6 a. m	53.60				Considerable NE swell, rising.
8 a. m	54.37		W	o, u	Fresh breeze, dull and overcast; heavy swell from NE inclining to come more northerly.
10 a. m	54.62		WSW		Heavy swell from N; sea becoming somewhat confused.
Noon	53.35		SW	q	Ship's position 17° 36′ lat. N, 117° 49′ long. E. Fresh breeze, high swell from NW, confused sea, squally weather.
2 p. m	52.08				Heavy swell from NW to W, very confused sea.
4 p. m	51.57		SSW	q	Moderate breeze, high confused sea, squally appearance; dence cloud banks to the westward.
8 p. m	51.83	—4.06	S		Strong breeze, high westerly swell, high confused sea, weather improving in general.
Midnight	52.33	—3.81	SSE	o, q	Strong breeze, dull and overcast, occasional light rain squalls, heavy confused sea with highest swell from westward.
October 4:					
4 a. m	51.57	—2.80	SE	c, o	Strong breeze, cloudy and overcast, high confused sea, heavy swell from W to WSW.
8 a. m	52.84	—1.53	ESE	o, u	Fresh breeze, sea very confused, dull and overcast, swell from W, diminishing.
Noon	53.60	+0.25	ENE	o, r	Ship's position, 20° 38′ lat. N, 115° 40′ long. E; fresh breeze, sea still very confused from nearly all quarters, overcast and showery.
2 p. m	53.60	+1.52	Calm		Wind fell to a calm, then variable, thence coming from NW backing into W and WSW.
4 p. m	53.86	+2.29		o, r	Light breeze, overcast and showery, confused sea going down, wind backing to the southward.
6 p. m	54.11	+2.79	E		Moderate breeze.
8 p. m	54.37	+2.54		b	Fresh breeze, clear weather, moderate sea from E to NE.
10 p. m	54.87	+1.77		c, b	Fresh breeze, considerable sea, cloudy but clear weather.

METEOROLOGICAL OBSERVATIONS MADE AT LAMKO LIGHT STATION, OCTOBER 4 AND 5, 1909.

Date and hour.	Pressure.	Wind.		Weather.	Sea.		Remarks.
		Direction.	Force.		State.	Direction.	
October 4:	*mm.*		*0-12.*				
3 a. m	754.98	N	6	o, v			
6 a. m	55.30	N	6	o, v	M	N	
9 a. m	55.30	N	6	o, v	R	N	
Noon	54.22	N	6	o, m, r	R	N	At 11.40 a. m. rain set in.
3 p. m	51.39	NNW	7	o, m, d	H	N	
6 p. m	50.30	NNW	8	o, m, r	H	N	
9 p. m	49.80	NE	9	o, m, r			
Midnight	48.53	ENE	9	o, m, r			
October 5:							
3 a. m	48.53	ENE	8	o, m			At 2.10 a. m. rain ceased.
6 a. m	50.05	ENE	7	o, m	H	NE	
9 a. m	51.52	E	7	o, m	H	E	
Noon	51.63	E	7	c, m	H	E	
3 p. m	51.70	E	6	o, m	R	E	
6 p. m	53.46	E	6	o, m	R	E	
9 p. m	56.00	E	6	o, v			
Midnight	56.57	E	6	o, v			

We beg to call special attention to the strong cyclonic swell encountered by the steamer *Yuensang,* first from northeast, then from north, later from northwest and finally from west-southwest and southwest. We invite the reader to compare the hours in which these changes in the direction of the swell were noticed, with the observations mentioned, taking into account the position of the ship at the respective moments, and then to turn to the corresponding positions of the storm center as laid down on Plate XIV, when he will find that the swell came always exactly from the vortex. A similar swell was likewise observed by the steamer *Zafiro.*

In order to give an idea of the violence of this typhoon, we copy from the Hongkong Daily Press of October 7 the following parts of a description of the happenings on board the German steamer *Phranang* which met the storm while en route from Bankok to Hongkong. From the narrative it is evident that the said ship came close to the center, especially as the barometric minimum observed at about 8 a. m. of the 4th was as low as 709.9 millimeters.

* * * The glass continued to fall until at latitude 19° 20′ N and longitude 113° 20′ E it reached the remarkably low figure of 27.95 (inch.). This was at about 8 o'clock on Monday morning * * * As the seas began to grow and the wind to increase the passengers were battened down and everything aboveboard made secure. Then the typhoon overtook the vessel, the officers of which state that they were very near the center of the storm.

The *Phranang* was sent full speed ahead in the teeth of the gale, the wind traveling at hurricane force while mountainous seas broke over the vessel. Lifeboats which were securely fastened down were torn from their fastenings, lifted high in the air one moment and the next hurled down on the deck and stove in. Then mast stays were torn away, the glass in the skylights was broken and the crew had to secure these with canvas to prevent the seas flooding the ship.

The next mishap was to the bridge, the iron bars which supported it being torn from their fastenings like so many matches. Then the massive funnel of the steamer was torn bodily from the deck, and some idea of the force and strength of the wind can be gained from the fact that the big screws in the shackles to which the wire supporting the funnel was attached were snapped in two. The funnel was jammed fast between a ventilator and lifeboat davit, the latter piercing it, and were it not for this catch it would in all probability have gone overboard.

To Hongkong Observatory we are indebted for the following cable advices concerning this typhoon:

October 2, 11 a. m.: Typhoon northeast of Luzon, moving west-northwest.
October 3, 11.45 a. m.: Typhoon east-southeast of Hongkong, moving west-northwest.
October 4, noon: Typhoon south of Hongkong, moving west.
October 5, noon: Typhoon in Hainan, moving west.

Typhoon of October 3 to 10, 1909.—This disturbance appears to have originated October 3 to 4 to the east of northern Luzon, at a distance of more than 300 miles from the island, as was indicated in the daily weather note issued on the 4th:

October 4, 12.15 p. m.: A new typhoon appeared last night east of northern Luzon, at a distance of over 300 miles from Aparri.

In nearly the same words the warning was cabled to Honkong, etc.:

October 4, 11.30 a. m.: Typhoon east of Aparri, more than 300 miles distant; direction unknown.

About noon of the 5th we had not the slightest doubt that this storm—like its predecessor—would cross the meridian of Manila in the vicinity of Balintang Channel; wherefore we cabled to our foreign correspondents the following warning:

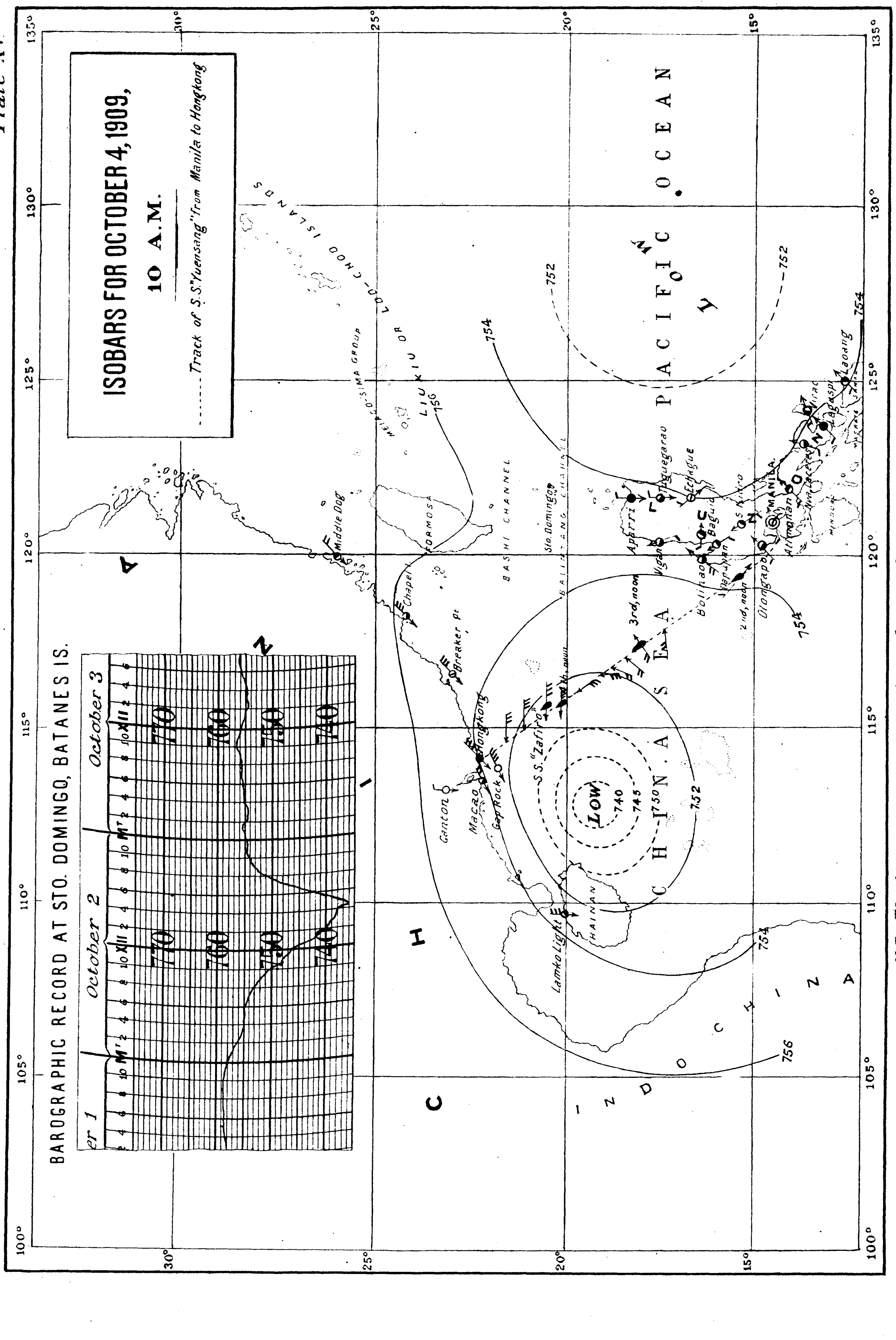
October 5, 1 p. m.: Typhoon east-northeast of Aparri, moving west or west-northwest.

On Plate XV the reader may see the distribution of isobars at 10 a. m. of the 4th, when the vortex of this typhoon lay to the east of northern Luzon, while the preceding storm was east of Hainan in the China Sea.

The weather maps for the 6th and 7th showed so clearly that the typhoon, instead of continuing its western course, had inclined toward the third quadrant much more pronouncedly than the one of October 2, that we resolved to send to Hongkong and the other meteorological services in the Far East the following advice:

October 7, 11 a. m.: Typhoon over northern China Sea, moving southwest.

Plate XV.



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

However, the typhoon retained its new direction only until reaching the Paracels on October 8. Thenceforth it resumed a west and west-northwest direction until it had passed north of Tourane: then it moved northward, entering Indo-China a little above 20° lat. N in the evening of the 10th.

From Hongkong Observatory we received the following cablegrams:

October 5, 6 p. m.: Typhoon near Balintang Channel, moving west.
October 6, noon: Typhoon west of Balintang Channel, moving west.
October 7, noon: Typhoon northeast of Paracels, moving west.

THE TWO TYPHOONS OF THE LADRONE ISLANDS, OCTOBER 3 AND 11, 1909.

The typhoon of October 2 to 8, 1909.—In the daily weather note for October 4, after indicating the positions of the two typhoons just mentioned, the following caution was added:

There are signs of a third typhoon in the neighborhood of the Ladrone Islands.

On the 8th this depression was again referred to in the following words:

Another distant typhoon was situated yesterday afternoon west of the Bonin Islands; it has been moving northeastward and its center appears this morning north of the same group of islands.

We must confess that with the scanty information available at the time, we were unable to recognize that the two statements referred to one and the same disturbance. But with the aid of the observations of Guam, received subsequently by mail, and the daily weather maps of Japan, we saw that a typhoon had actually traversed the Ladrone Islands on a northwesterly course on the 3d, recurved in the neighborhood of 135° longitude east and 25° latitude north on the 6th, and, while on the second branch of its path, passed between Japan and the Bonin Islands on the 7th and 8th.

We had already traced the probable track of this typhoon, when we received the valuable observations made on board the U. S. steamer *Supply* en route from Guam to Yokohama, which completely bore out our assumptions. The route followed by the *Supply* is shown on Plate XIV and some of the observations are given in the following table. We make use of this occasion to express our sincerest thanks to Lieut.-Commander E. L. Bisset, U. S. N., commanding the ship, for his kindness in sending these valuable observations, which he rightly judged would be useful for the study of Far Eastern typhoons. The *Supply* found herself twice in the vicinity of this cyclonic center, as she encountered the storm on each branch of its (roughly) parabolic track.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE U. S. S. "SUPPLY" OCTOBER 3 TO 9, 1909.

[Report sent by E. L. Bisset, lieutenant-commander, U. S. N., commanding.]

Day and hour.	Position. Latitude N.	Position. Longitude E.	Pressure.	Wind. Direction.	Wind. Force.	Weather.
October 3:	° ′	° ′	*mm.*		*0-12.*	
1 a. m			756.1	NW	4–7	o, c, d
2 a. m			55.4	NWbyN	4–7	o,c,q,d,p
3 a. m			54.6	NWbyN	4–8	o, c, q, r
4 a. m			53.4	NWbyN	4–8	o, c, d
5 a. m			52.3	NW	6–8	o, c, r, q
6 a. m			51.6	WNW	6–8	o, c, r, q
7 a. m			49.8	WbyN	6–9	o, c, r, q
8 a. m	14 56	144 16	48.5	WbyN	6–9	o, c, r, q
9 a. m			48.3	WSW	8–10	o, c, r, q
10 a. m			49.5	WSW	8–10	o, c, r, q
11 a. m			50.6	WSW	8–10	o, c, r, q
Noon	14 49	144 11	50.6	WSW	8–10	o, c, r, q
2 p. m			52.1	SWbyW	6–8	o, c, q, d
4 p. m			52.6	W	5–7	o, c, d
6 p. m			54.1	W	5–6	o, c, d
8 p. m	15 09	144 20	54.6	SSW	5–6	o, c, r
10 p. m			54.1	SEbyS	4–7	o, c, p, q
Midnight			54.4	SbyE	4–7	o, c, q, r
October 4:						
8 a. m	16 38	144 41	55.6	SE	5–6	o, c, q
Noon	18 19	145 04	56.4	SE	4–6	o, c, p
8 p. m	18 57	144 56	56.9	SSE	4–5	b, c
10 p. m			57.7	SSE	4	b, c
October 7:						
8 a. m	28 30	142 00	58.9	SSE	4	b, c
Noon	29 03	141 38	57.2	SbyE	4	b, c
2 p. m			55.9	SbyE	4	o, c
4 p. m			54.6	SE	4	o, c, d
October 7:	° ′	° ′	*mm.*		*0-12.*	
6 p. m			754.6	SE	4	o, c,
8 p. m	30 20	141 05	53.6	SSE	5	o, c, d, p
9 p. m			52.8	SE	6–7	o, c, r
10 p. m			51.8	SE	6–7	o, c, r
11 p. m			50.6	EbyS	6–7	o, c, p
Midnight			49.3	E	6–7	o, c, p
October 8:						
1 a. m			48.5	EbyS	6–7	o, c, q, p
2 a. m			48.	EbyS	5–6	o, c, q, p
3 a. m			46.2	NNE	8–10	o, c, q, p
4 a. m			45.7	NNE	8–10	o, c, q, p
5 a. m			45.2	NNE	8–11	o, c, q, p
6 a. m			44.7	NNE	8–11	o, c, q, p
7 a. m			44.7	NNE	8–11	o, c, q, p
8 a. m	31 29	140 56	44.	NE	12	o, c, q, p
9 a. m			45.2	NE	10	o, c, q, r
10 a. m			47.2	NNE	10	o, c, q, r
11 a. m			47.8	NNE	10	o, c, q, r
Noon	31 39	140 39	49.8	NNE	10–12	o, c, q, p
2 p. m			53.4	N	10–12	b, c
4 p. m			55.4	N	8–10	b, c
8 p. m			60.5	NNE	6–7	b, c
Midnight			62.	NNE	6–7	b, c
October 9:						
4 a. m			63.5	NNE	4–5	b, c
8 a. m	33 16	140 25	65.3	NbyE	5	b, c
Noon			66.8	NEbyN	3–4	b, c
4 p. m			67.3	NbyW	3	b, c

The typhoon of October 9 to 13, 1909.—This typhoon showed full development and great intensity, at least as long as it was situated to the south and southwest of the Marianas Islands. It moved then toward northwest, and most probably filled up in midocean, halfway between the Marianas and the Loochoos Islands. Its intensity on October 11 is well shown by the violent winds from east-northeast which during many hours were observed at Guam, as may be seen in the subjoined table.

METEOROLOGICAL OBSERVATIONS MADE AT SUMAY, GUAM, LADRONE ISLANDS, OCTOBER 7 TO 12, 1909.

Day and hour.	Pressure.	Wind.		Remarks.	Day and hour.	Pressure.	Wind.		Remarks.
		Direction.	Force.				Direction.	Force.	
October 7:	*mm.*		*0–12.*		October 11:	*mm.*		*0–12.*	
6 a. m.	759.77	ENE	1	Passing rain at 11 a. m.;	4 p. m.	51.94	ENE	9	blowing hurricane
2 p. m.	58.63	ESE	2	thunderstorms from	5 p. m.	52.02	ENE	10	force at 5 p. m. Direc-
				10.15 a. m. to midnight.	6 p. m.	51.87	ENE	10	tion of wind scarcely
October 8:					7 p. m.	51.29	ENE	10	varied all day, but held
6 a. m.	59.05	E	2	Thunderstorms midnight	8 p. m.	51.69	ENE	10	ENE and occasionally
2 p. m.	56.83	E	2	to 4.30 a. m.	9 p. m.	52.56			E.; wind seemed to be
October 9:					10 p. m.	52.80			stronger if anything
6 a. m.	57.68	ENE	2						and still from ENE
2 p. m.	56.13	ENE	4						from 6 p. m. to 8 p. m.;
October 10:									about 8 p. m. wind went
6 a. m.	56.70	ENE	5	Short heavy squall at 1.30					to SE by E.
2 p. m.	54.82	ENE	5	p. m.	October 12:				
October 11:					4 a. m.	53.50			Light showers all morn-
6 a. m.	54.45	ENE	6	Light rain at intervals	6 a. m.	54.50	S	3	ing.
10 a. m.	54.82	ENE	6–8	from 6 a. m. to 2 p. m.;	10 a. m.	55.05	S	3	
11 a. m.	54.57	ENE	6–8	heavy rain squalls at fre-	Noon	54.35	S	3	
Noon	53.72	ENE	7–9	quent intervals, wind	2 p. m.	53.45	S	4	Light showers afternoon
1 p. m.	53.37	ENE	9	increasing from 2 p. m.	4 p. m.	54.10	S	3	and evening.
2 p. m.	752.49	ENE	9	to 4 p. m.; continuous	6 p. m.	54.55	S	2	
3 p. m.	51.94	ENE	9	blinding rain, wind					

Manila Observatory announced the existence of this storm in the following cablegrams:

October 10, 5 p. m.: Typhoon south of the western Carolines, direction unknown.

October 11, 9 a. m.: Typhoon near or over the western Carolines, direction unknown.

October 12, 7.30 a. m.: Typhoon west of the southern Ladrones or Marianas Islands, moving northwest.

October 13, 10 a. m.: Typhoon west of the Ladrones or Marianas Islands, moving northwest.

October 14, 11 a. m.: Typhoon over the Pacific Ocean, about halfway between the Marianas and the Loochoos Islands, moving north-northwest or north.

October 15, noon: Typhoon over the Pacific Ocean, about halfway between the Marianas and the Loochoos Islands, filling up.

THE TWO TYPHOONS IN LUZON, OCTOBER 17-18, AND 23-24, 1909.

As the two typhoons which during the first third of the month traversed Balintang Channel toward the China Sea had similar tracks, so also the two cyclonic storms which crossed the part of Luzon lying north of Manila, on October 17 and 18, and October 23 and 24. Both these storms developed great violence in the provinces closest to their paths; but the first, which was of by far the greater intensity, was, moreover, accompanied by torrential rains, at least in some provinces of Luzon, and even at considerable distances from the vortex. These caused unusually heavy floods, such as have rarely been seen in the Philippines. The extraordinary rainfall of October 17 and 18 and the consequent flood were responsible for so extensive damages along the famous "Benguet Road" that the latter had to be closed to traffic for two months. Even so, it is to be feared that the repairs effected during this time are not of a final character.

In view of the importance of these two typhoons we will attempt to discuss them more fully, establish their tracks as accurately as possible, and furnish an abundance of data and illustrations in order to meet the interest which our readers probably take in these storms, especially those who have experienced their destructive fury at close quarters.

Typhoon of October 13 to 20.—There is hardly a shadow of doubt that this typhoon formed between Guam, Marianas Islands, and Yap, western Carolines, about midway between these two stations. It seems likewise to be an established fact that its movements showed at first a strong westerly inclination and that the storm passed north of Yap on the 14th, and north of the Pelew Islands on the 15th. Luckily we are in possession of observations madè during those days at the three points mentioned, the reverend Capuchin fathers on Pelew having kindly sent us theirs. These observations are united in the following table.

METEOROLOGICAL OBSERVATIONS FOR OCTOBER 13 TO 16, 1909.

Date and hour.	Sumay, Guam, Ladrone Islands.				Yap, Western Carolines.					Pelew Islands.		
	Pressure.	Wind.		Weather.	Pressure.	Wind.		Rainfall (daily total).	Remarks.	Pressure.	Wind.	
		Direction.	Force.			Direction.	Force.				Direction.	Force.
October 13:	mm.		0-12.		mm.		0-12.	mm.		mm.		0-12.
6 a.m.	755.72	S	4	o	755.50	W	2	------	Rough sea from W; cloudy	759.20	WSW	2
Noon	55.80	ESE	4	o								
2 p.m.	54.64	ESE	4	o	53.90	W	5	------	Long rolling sea from W; cloudy	56.20	------	------
4 p.m.	55.07	ESE	4	o								
October 14:												
6 a.m.	56.70	S	4	o	53.70	W	5	------	Long rolling sea from W; overcast	58.00	SW	1
2 p.m.	55.77	ESE	2	o	52.70	W	4	29.5	Heavy sea from W; overcast	54.40	SSW	2
October 15:												
6 a.m.	58.10	Calm	------	o	54.96	WSW	4	------	do	57.20	SW	2
2 p.m.	56.55	ESE	2	o	54.46	SSW	5	58.2	Heavy sea and lower clouds from SW; overcast and rainy.	54.10	SW	4
October 16:												
6 a.m.	58.37	Calm	------	o	57.85	WSW	2	------	Slight rain; lower clouds from SW	------	------	------
2 p.m.	56.88	NNE	1	c	57.04	SSE	1	2.0	Drizzle; lightning toward SEbyS at 7.18 p.m.	------	------	------

At Yap the barometric minimum took place on the 14th, at Pelew on the 15th, the wind coming at both stations from points between west and south-southwest at the time. On the other hand, at Guam where, under the influence of the typhoon mentioned previously, the winds had blown from the south during the whole of the 12th, they began to come steadily from east-southeast on the 13th, thereby pointing clearly to the existence of the new cyclonic center to the southwest of the Marianas.

After the early morning of the 14th the existence of this typhoon was so clearly shown that Manila Observatory felt justified in sending to Hongkong, etc., the following typhoon warning:

October 14, 11 a. m.: Typhoon north of Western Carolines, direction unknown.

On the 15th another cablegram was sent locating the vortex to the east of the Visayan Islands:

October 15, noon: Typhoon east of the Visayan Islands, moving west or west-northwest.

In the afternoon of the same day began a notable change in the direction of the typhoon, which now commenced to advance approximately toward WNW. On the 16th it became evident that the storm threatened Luzon, especially the provinces in the north of the island. We quote from the daily weather notes for the 16th and 17th:

October 16, 11.30 a. m.: The typhoon continues moving to WNW or WbyN. It will probably cross Luzon by to-morrow afternoon.

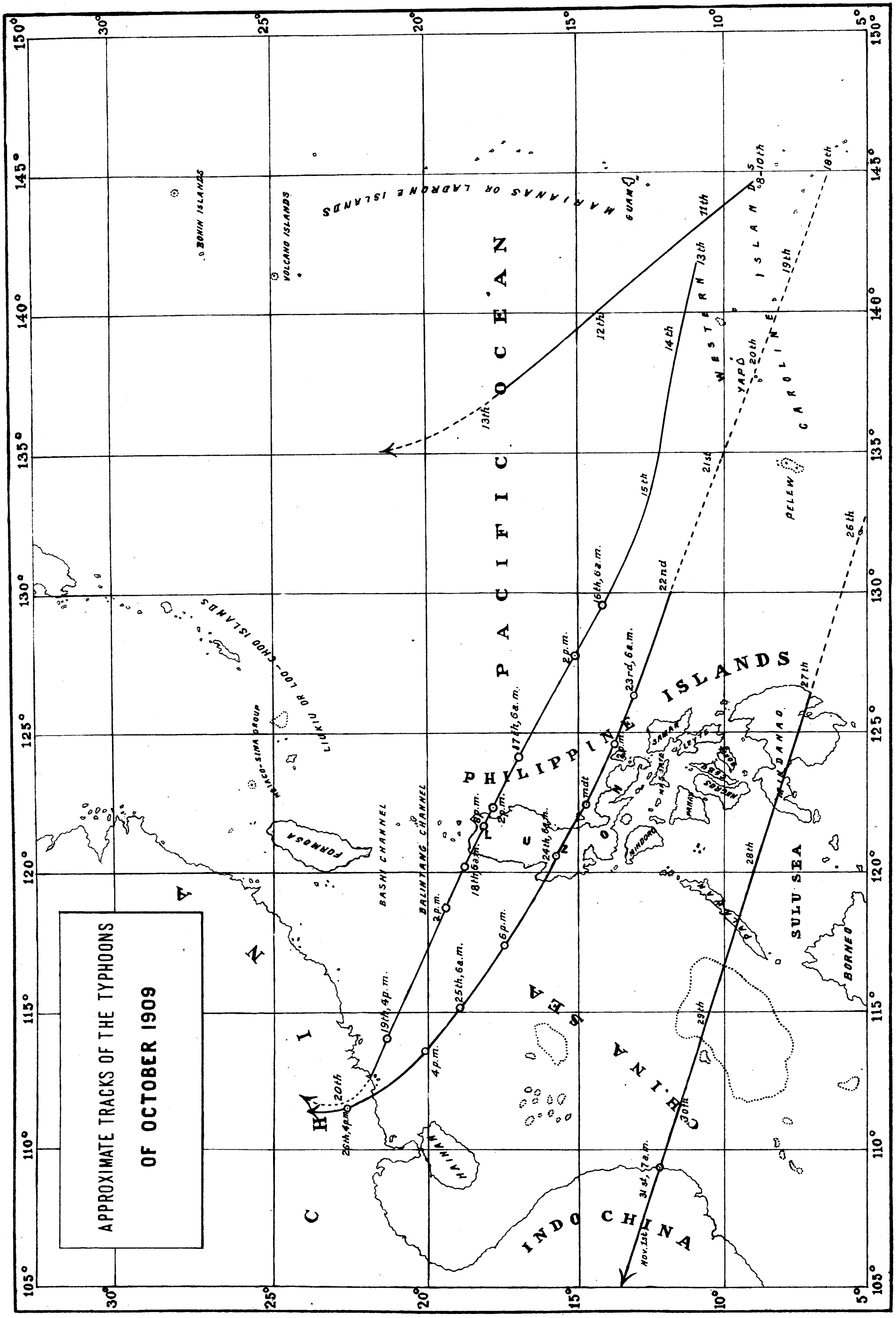
October 17, 11 a. m.: The typhoon is approaching the eastern coast of Luzon. Its center is situated northeast of Manila and will cross Luzon this afternoon and evening. The provinces threatened by the storm are those of Isabela, Cagayan, Union, and Ilocos.

We call the attention of our readers to the track of this typhoon on Plate XVI which shows the degree of accuracy of these predictions.

The following notices were exchanged between Manila and Hongkong Observatories:

Manila.—October 16, 9.30 a. m.: Typhoon east of southern Luzon, moving west-northwest.
October 17, 8.30 a. m.: Typhoon northeast of Manila, moving west-northwest.
October 17, 6 p. m.: Typhoon crossing northern Luzon, moving west-northwest.

Plate XVI.


APPROXIMATE TRACKS OF THE TYPHOONS
OF OCTOBER 1909
PACIFIC OCEAN
PHILIPPINE ISLANDS
CHINA SEA
CHINA
INDO CHINA
FORMOSA
HAINAN
SULU SEA
BORNEO
BASHI CHANNEL
BALINTANG CHANNEL
LIUKIU OR LOO-CHOO ISLANDS
MARIANAS OR LADRONE ISLANDS
GUAM
VOLCANO ISLANDS
WESTERN CAROLINE ISLANDS
PELEW
SAMAR
LEYTE
MINDANAO
MINDORO

October 18, 8 a. m.: Typhoon west of northern Luzon, less than 100 miles distant, moving west-northwest.

October 18, 7 p. m.: Typhoon west of Balintang Channel, moving west-northwest.

Hongkong.—October 16, 11.30 a. m.: Typhoon southeast of Luzon, moving west-northwest.

October 17, 11.30 a. m.: Typhoon northeast of Manila, moving west-northwest.

October 17, 8 p. m.: Typhoon in N Luzon moving west-northwest.

October 18, 11.30 a. m.: Typhoon northwest of Luzon, moving northwest.

October 19, 11 a. m.: Typhoon south-southeast of Hongkong, moving northwest.

To enable the reader to form an idea of the intensity and development which this storm possessed, at least when it reached Luzon, we reproduce on Plate XVII the barograph curves obtained in our stations at Aparri, Tuguegarao, Laoag, and Vigan, and also publish in the first of the two subjoined tables the observations made at the first three of these stations, which came to lie nearest to the path. The second, containing the observations of Santo Domingo (Batanes Islands), Bolinao and Mirador Observatory, Baguio, gives a good idea of the great extent of area over which hurricane winds prevailed during this typhoon, as the respective distances of these stations from the track were 133, 140, and 120 miles.

METEOROLOGICAL OBSERVATIONS FOR OCTOBER 16 TO 19, 1909.

Date and hour.	Aparri.					Tuguegarao.					Laoag.				
	Pressure.	Wind.		Weather.	Rainfall (daily total).	Pressure.	Wind.		Weather.	Rainfall (daily total.)	Pressure.	Wind.		Weather.	Rainfall.
		Direction.	Force.				Direction.	Force.				Direction.	Force.		
October 16:	*mm.*		*0-12.*		*mm.*	*mm.*		*0-12.*		*mm.*	*mm.*		*0-12.*		*mm.*
2 a. m	757.16	NE	2	b		756.76	N	1	o, d						
6 a. m	56.83	N	2	o		56.54	N	1	o, r		756.28	NNE	3	o	
10 a. m	57.54	N	4	o, r		56.92	NW	2	o, p		56.92	NNE	4	c	
2 p. m	55.36	N	2	o		54.31	NW	3	o, p		54.42	NE	5	o	
6 p. m	54.64	N	2	o, q		53.75	NW	2 to 3	o, r		54.29	NNE	4	o	
10 p. m	54.26	N	2	o, q, l	39.6	53.36	NW	2	o, r	96.8					
October 17:															
2 a. m	51.04	NNW	4	o	([1])	49.61	N	5	o, d, r						
4 a. m	49.18	NNW	4	o		47.51	NE	5 to 6	o, r						
6 a. m	48.39	NNW	6	o, q		46.63	NW	6 to 7	o, q		50.22	NNW	7	o, u	2.5
8 a. m	47.15	NNW	6	o, q		45.13	NW	8	o, q		49.64	NNW	7	o, q	1.5
10 a. m	44.59	NNW	7	o, q		42.30	NW	8 to 9	o, q		48.14	N	8	o, q	5.3
Noon	40.52	NNW	7	o, q		39.37	NW	12	o, q		45.07	NW	9	o, q	7.9
2 p. m	34.11	NNW	10	o, q		33.99	NW	12	o, q		42.57	NW	10	o, q	10.7
3 p. m	30.04	NNW	10	o, q		30.26	NW	12	o, q		40.90	NW	10	o, q	5.8
4 p. m	27.06	NNW	10	o, q		27.54	WNW	12	o, q		39.58	NW	10	o, q	7.1
5 p. m	24.71	NNW	10	o, q		24.27	W	12	o, q		38.78	NW	10	o, q	6.1
6 p. m	22.43	NNW	10	o, q		22.27	WSW	12	o, q		36.99	NW	10	o, q	7.6
7 p. m	18.93	N	10	o, q		22.14	WSW	12	o, q		35.29	NW	10	o, q	9.6
8 p. m	11.81	NNE	11	o, q		22.31	SW	12	o, q		33.65	NW	10	o, q	10.7
8.30 p. m	10.38	NE	11	o, q											
9 p. m	13.24	NE	10	o, q		22.86	SE	12	o, q		32.20	NW	10	o, q	17.8
10 p. m	20.73	SE	9	o, q		23.99	SE	12	o, q		29.24	NNW	10	o, q	25.4
11 p. m	25.64	SE	8	o, q		26.13	SE	12	o, q		28.25	NW	10	o, q	24.1
Midnight						28.69	SE	12	o, d	143	27.56	NW	10	o, q	31.7
October 18:															
1 a. m	29.49	SE	9	o, q		30.34	SE	12	o, q		26.38	NNW	11	o, q	([2])36.0
2 a. m	31.18	SE	8	o, q		32.95	SE	12	o, q		26.12	NW	11	o, q	([2])36.0
3 a. m											26.67	W	11	o, q	([2])36.0
4 a. m	34.96	SE	6	o, r		36.02	SE	12	o, q		28.07	WSW	11	o, q	([2])36.0
5 a. m											30.07	SW	11	o, q	([2])36.0
6 a. m	38.16	SE	4	o, r		38.97	SE	12	o, d		31.85	S	10	o, q	([2])36.0
10 a. m	45.21	SE		o		45.25	SE	5 to 6	o						
2 p. m	46.02	SE		o		46.37	SE	5	o		43.67	SSE	10	o, q	89.7
10 p. m	52.12	SE	1	c		52.48	Calm		c						
October 19:															
6 a. m	53.80	S	1	o		53.81	Calm		o		50.42	Calm		o	96.5
2 p. m	54.04	S	2	o		53.91	SW	1	o		53.08	SSW	3	o	

[1] The amount of rainfall could not be measured on the 17th and 18th.

[2] As the rain gauge of this station was carried away by the violence of the wind after the midnight observation, the amount of rainfall from 1 a. m. to 6 a. m. could not be measured, but is supposed to have been 36 millimeters per hour. This supposition is believed to be quite approximate to the true value, since the rain was heavier during these six hours than it had been from 11 p. m. to midnight, when 31.75 millimeters had been collected. The rain gauge was found and set up again at 6 a. m. of the 18th.

BAROGRAPHIC RECORDS

Plate XVII.

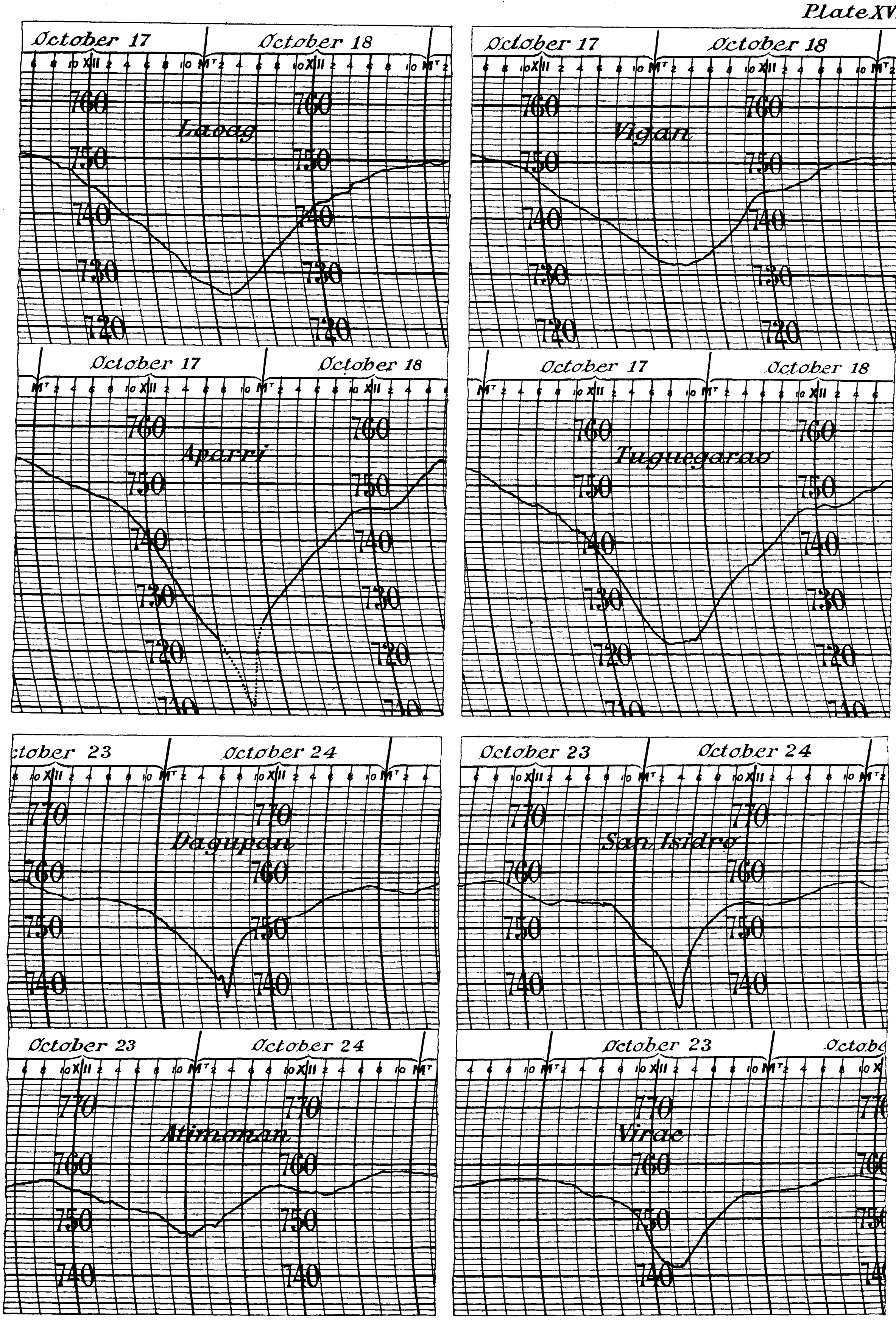
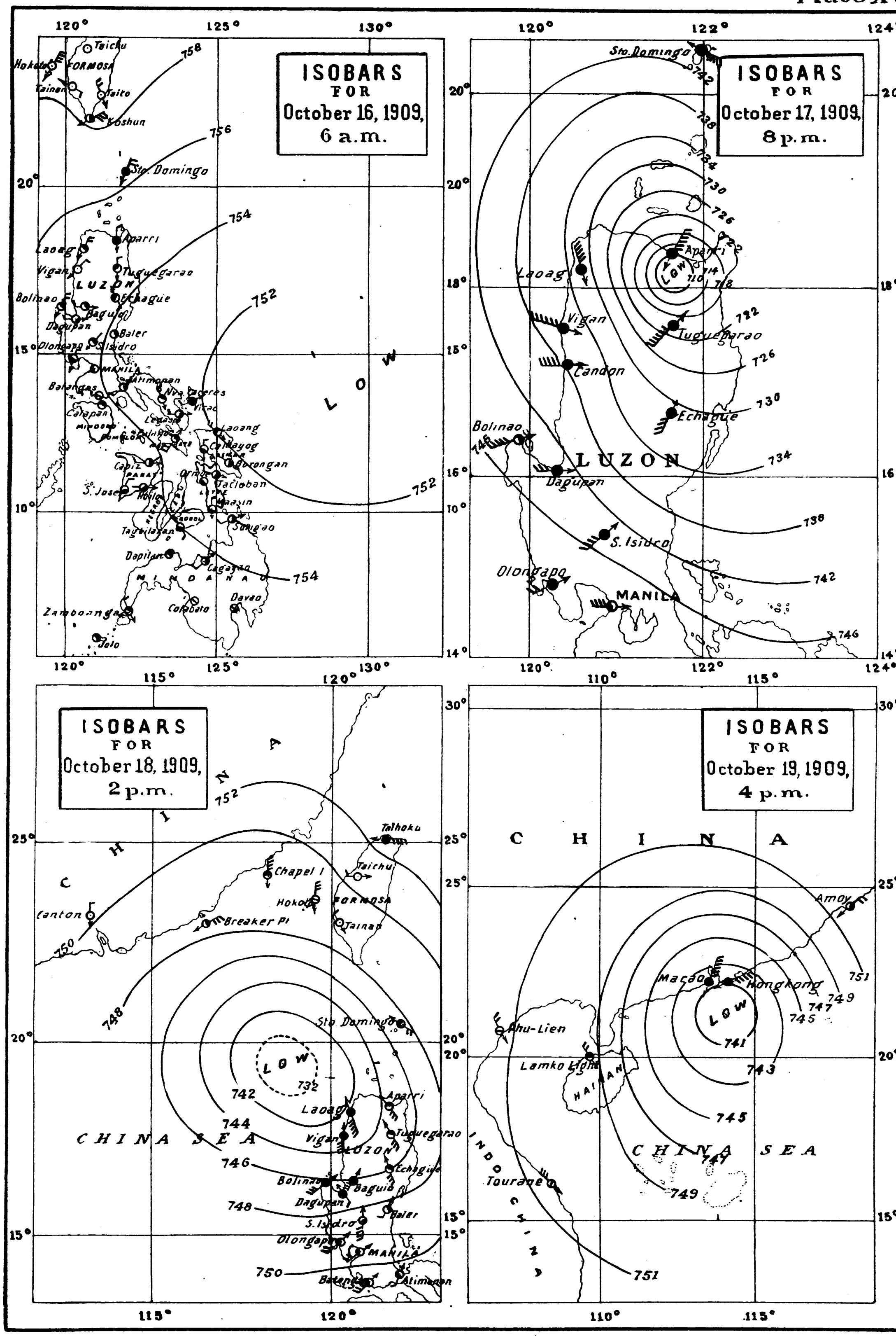


Plate XVIII.



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

MAIN STREET.

MAIN STREET.

FLOODS IN DAGUPAN, PANGASINAN, DURING THE TYPHOON OF OCTOBER 17 AND 18, 1909.

MAGALLANES STREET, APARRI, PROVINCE OF CAGAYAN.

STREET OF P. CARREON, APARRI, PROVINCE OF CAGAYAN.

EFFECTS OF THE TYPHOON OF OCTOBER 17, 1909.

(These plates were received too late to be mentioned in the text.)

METEOROLOGICAL OBSERVATIONS FOR OCTOBER 16 TO 18, 1909.

Date and hour.	Santo Domingo.					Baguio.					Bolinao.				
	Pressure.	Wind.		Weather.	Rainfall (daily total).	Pressure. (1)	Wind.		Weather.	Rainfall (daily total).	Pressure.	Wind.		Weather.	Rainfall (daily total).
		Direction.	Force.				Direction.	Force.				Direction.	Forec.		
October 16:	mm.		0–12.		mm.	mm.		01–2.		mm.	mm.		0–12.		mm.
6 a. m	757.79	NNE	4	o		634.52	W	1	c		755.63	NNE	3	o	
Noon						31.21	WSW	1	o, u		55.53	NNE	5	o	
2 p. m	55.82	NNE	5	c	2.9	32.88	WSW	2	o, d		54.18	NbyE	7	o, q	
4 p. m						32.86	W	1	o		53.61	N	7	o	
6 p. m						32.76	WNW	0	o	1.8	53.56	NbyE	7	o	
8 p. m											53.80	NbyE	8	o	
10 p. m											53.81	N	9	o	
Midnight											53.66	N	9	o, d	
October 17:															
2 a. m											52.17	NNW	8	o	
4 a. m											51.43	NNW	7	o	
6 a. m	51.17	NNE	5	o		29.48	N	4	o		51.48	NNW	7	o, q	
8 a. m	51.00	NNE	4	o, d		29.62	NW	4	o, r		52.02	NNW	8	o	
10 a. m	50.40	NEbyN	3	o, d		28.10	WNW	6	o, q		51.24	NNW	8	o	
11 a. m											50.90	NW	9	o	
Noon	48.90	NE	4	o, d		25.63	WNW	6	o, q		49.63	WNW	9	o	
2 p. m	46.28	NEbyN	6	o, q		22.83	W	12	o, q		48.00	WNW	10	o, q	
3 p. m	45.70	NE	6	o. q, t							47.35	WNW	10	o, q	
4 p. m	45.00	EbyN	5	o, d		20.82	WNW	8	o, q		46.88	WNW	11	o	
5 p. m	45.50	NE	7	o, d							46.44	WNW	11	o, q	
6 p. m	45.00	ENE	6	o, d		20.94	W	11	o, q	689.7	45.88	WNW	10	o, q	
6.30 p. m											45.58	W	7	o	
7.20 p. m		E	8 to 9	o, q											
7.50 p. m		ESE	9	o											
8 p. m	45.70	ESE	9 to 10	o, q							45.69	WSW	9	o	
10 p. m	45.50	ESE	7	o							44.21	WSW	11	o, q	
Midnight	45.00	ESE	5		101.1						43.03	WSW	11	o	**310.9**
October 18:															
2 a. m											42.34	SW	12	o, q	
2.30 a. m											41.64	SW	12	o	
4 a. m											42.60	SW	12	o	
6 a. m	46.49	ESE	4	o, r		23.65	WSW	10	o, q		44.46	SSW	10	o	
8 a. m						25.78	SW	10	o, q		46.59	SSW	9	o	
10 a. m						27.92	SW	9	o, q		48.44	SW	7	o, q	
Noon						27.81	W	9	o, q		47.81	SW	5	o	
2 p. m	49.41	ESE	3	o	24.5	27.40	SW	6	o, q		47.82	SW	6	o, q	
4 p. m						28.80	SW	6	o, d		48.45	SW	7	o, t, l	
6 p. m						29.53	SW	5	o, r	51.3	49.57	SW	5	o, q	
8 p. m											51.71	SW	2	o, r	**57.9**

[1] Not reduced to sea level.

Two phenomena connected with the passage of this typhoon justly struck many people: **(1)** The unusual duration of hurricane winds, and (2) the terrible rains which accompanied the storm.

The first of these was due to the remarkably slow progress of the storm while it was crossing northern Luzon. In proof of this slow advance we have taken the two points of the track at which the vortex was nearest respectively to Aparri and Laoag and calculated the rate of advance at which the typhoon covered their distance apart. The respective positions of the center at these points were 121° 35′ longitude east and 18° 8′ latitude north for the first, and 120° 55′ longitude east and 18° 28′ latitude north for the second. Hence the distance between them was about 43 miles. As the time employed by the storm in traversing it was five hours and thirty minutes, the velocity of translation in this part of the track was a trifle less than 8 miles per hour.

To this same cause must likewise be attributed—not precisely the fact that in some regions the rains were so excessively heavy—but that, like the hurricane winds, they lasted for so many hours. The amount of water which fell at Baguio during the twenty-four hours from 6 a. m. of the 17th to 6 a. m. of the 18th is the largest on record in the Philippines, viz, 689.7 millimeters (27.15 inches). We consider this record so exorbitant that we would doubt its accuracy were it not attested by very reliable observations.

Rains so extraordinary in intensity and duration could not fail to produce terrible floods in central and northern Luzon as already mentioned. We regret that we have no photographs showing conditions in the districts which suffered most severely. We reproduce, however, two views sent by the observer at Dagupan, which give an idea of the inundation in that town, despite, the fact that the storm passed Dagupan at a distance of 150 miles.

On Plate XX may be seen the amount of rain collected in the rain gauges of the meteorological stations distributed throughout Luzon, from the Provinces of Tayabas and Laguna to the Batanes Islands, during the twenty-four hours from 6 a. m. of October 17 to the same hour of October 18. It becomes at once apparent that the distribution of the rainfall was far from being uniform and still more so from having any relation to the least distance of the vortex, at least as regards stations in which this distance exceeded 15 or 20 miles.

As has been stated before, the Weather Bureau stations closest to the track of this typhoon were Aparri and Tuguegarao, in Cagayan Province, and Laoag, in Ilocos Norte. At Aparri and Laoag the storm or the flood carried away the rain gauges and hence it is impossible to know the exact amount of rainfall during this typhoon. Moreover, at Aparri as well as at Vigan and Baguio, the only stations north of Dagupan which are equipped with registering anemometers, the latter were damaged by the storm and thus we are unable to state the maximum force of the wind.

In the China Sea the violence of this typhoon was felt by the steamer *Rubi* en route from Hongkong to Manila. The barometric minimum was observed between 6 and 7 a. m. of the 18th, with most violent winds (force 11) from west-southwest and heavy seas from north-northeast, while the vessel was west of Bolinao and between meridians 118° and 119° east.

The captain of the steamer *Zafiro* who, coming from Manila, dropped anchor at Hongkong before noon of the 18th, closes his report on the observations made during the voyage with the following remark:

> At daylight on the 18th the weather showed a very threatening appearance away to the ESE and the long rolling swell from the center of typhoon came from the same direction. The swell was very large, continuous, and regular, and was an advance warning outside Hongkong, for over thirty hours.

The typhoon crossed the China Sea retaining the direction WNW, but with greater velocity than it had while traversing Luzon; passed at a short distance south of Hongkong, where the easterly winds attained a maximum force of 75 miles per hour; and finally entered the Asiatic continent west of Macao during the night of October 19–20.

Typhoon of October 22 to 26, 1909.—The violence of this typhoon was felt chiefly in Catanduanes Island and the Provinces of Camarines, Nueva Ecija, Pangasinan, and northern Zambales. Although in these districts the winds were of hurricane force and proved destructive, still they can not be compared with those of the typhoon of October 17 and 18, either in violence or duration, and still less in the extent of territory which suffered from them. In other words, though the typhoon of October 22 to 26 was fully developed, it was of a milder character and less formidable than its predecessor.

As regards the origin of this typhoon, we may state that the storm appeared first on October 18 in the form of a depression over the western Carolines, not far from the one hundred and forty-fifth meridian east. It seems that it did not acquire the development shown at the time of its appearance in the Philippines until the 21st or 22d, but existed as a depression of little importance. The barometers at Yap did not rise decidedly until the 22d, when the typhoon was already east of the Visayas, in the neighborhood of the one hundred and thirtieth meridian.

The following warnings were sent to foreign centers on October 18, 20, and 22:

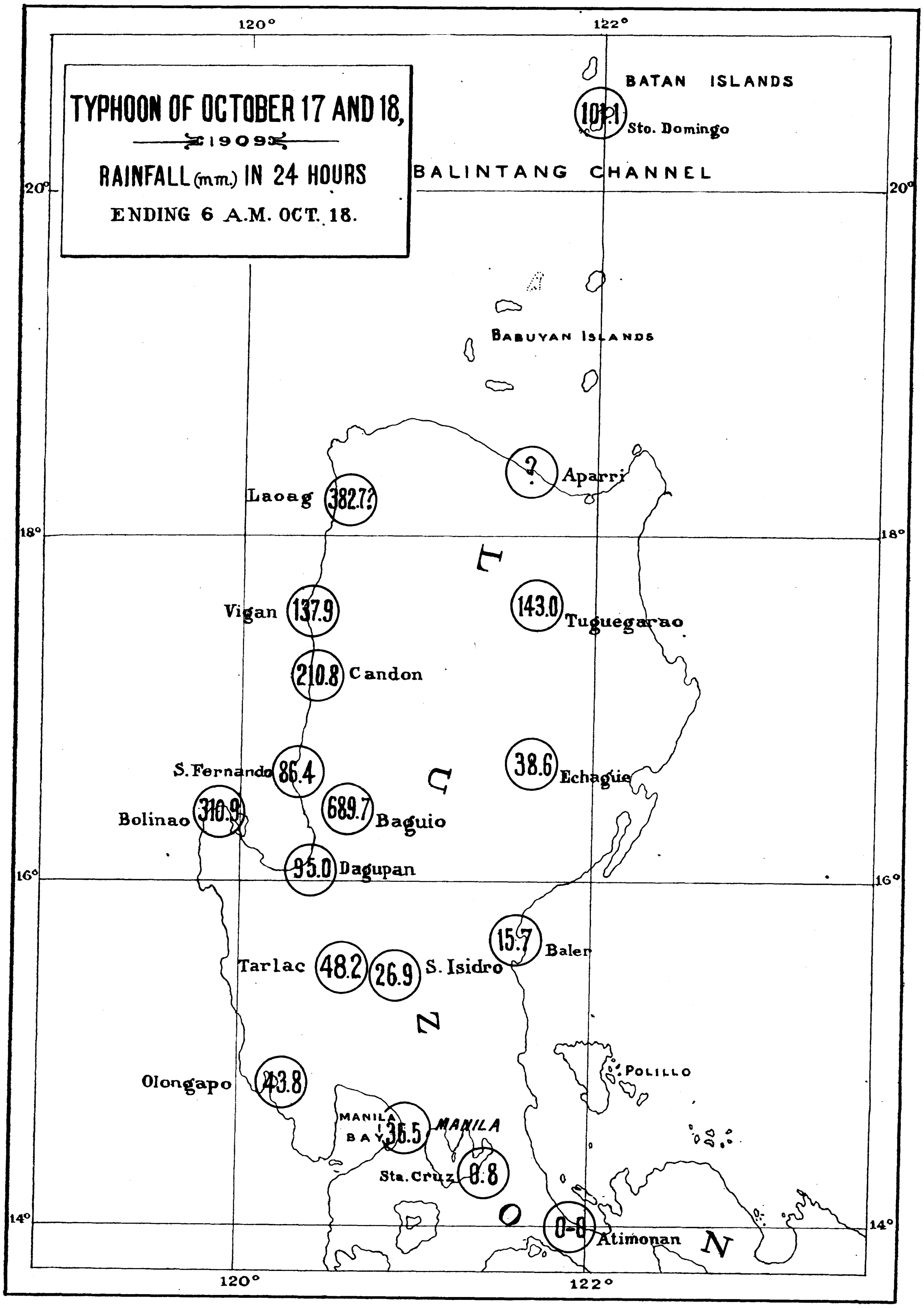
> October 18, 7 p. m.: Typhoon near or over the western Carolines, direction unknown.
>
> October 20, 11 a. m.: Typhoon near or over the western Carolines, almost stationary.
>
> October 22, 3 p. m.: Typhoon in the Pacific Ocean, about halfway between the Carolines and the Philippines, moving west or west-northwest.

In the morning of the 23d it was evident that the storm threatened to cross Luzon north of Manila and this was announced in the daily weather note for that day:

> October 23, 11.30 a. m.: The typhoon, which appeared yesterday afternoon far off east of the Visayas, is situated this morning east of southern Luzon, moving apparently to west-northwest. It will probably cross Luzon north of Manila by to-morrow.

The following table contains some of the observations made October 23 and 24 at Virac (Catanduanes), San Isidro (Nueva Ecija), and Dagupan (Pangasinan).

Plate XX.


TYPHOON OF OCTOBER 17 AND 18,
1909
RAINFALL (mm.) IN 24 HOURS
ENDING 6 A.M. OCT. 18.
120°
122°
20°
18°
16°
14°
BATAN ISLANDS
101.1
Sto. Domingo
BALINTANG CHANNEL
BABUYAN ISLANDS
?
Aparri
Laoag
382.7?
L
Vigan
137.9
143.0
Tuguegarao
210.8
Candon
S. Fernando
86.4
38.6
Echague
U
Bolinao
310.9
689.7
Baguio
95.0
Dagupan
15.7
Baler
Tarlac
48.2
26.9
S. Isidro
Z
POLILLO
Olongapo
43.8
MANILA BAY
36.5
MANILA
Sta. Cruz
8.8
O
0.6
Atimonan
N

METEOROLOGICAL OBSERVATIONS FOR OCTOBER 23 AND 24, 1909.

Date and hour.	Virac.					San Isidro.					Dagupan.				
	Pressure.	Wind.		Weather.	Rainfall (daily total).	Pressure.	Wind.		Weather.	Rainfall (daily total).	Pressure.	Wind.		Weather.	Rainfall. (daily total).
		Direction.	Force.				Direction.	Force.				Direction.	Force.		
October 23:	*mm.*		*0–12*		*mm.*	*mm.*		*0–12*		*mm.*	*mm.*		*0–12*		*mm.*
2 a. m						757.67	NW	1	c		757.87	NW	2	o	
6 a. m	753.95	WNW	1	o, d, u		57.78	NNE	1	o		57.64	NW	2	o	
10 a. m	51.21	WNW	3	o, r		58.14	NNW	3	o		58.51	NW	2	o	
11 a. m	49.16	WNW	5	o, q											
Noon	45.51	WNW	6	o, q											
1 p. m	42.70	W	7	o, q											
2 p. m	41.64	WSW	8	o, q		55.26	NW	4	o		55.83	NW	3	o	
3 p. m	41.51	SW	9	o, q											
4 p. m	43.34	SSW	8	o, q		54.78	NW	5	o						
6 p. m	48.07	S	7	o, q		54.84	NW	1	o, d		54.93	NW	2	o, d	
8 p. m	51.56	SSE	6	o, q		54.56	NW	2	o		54.63	W	2	o, d	
10 p. m	54.46	SSE	2	o, d		53.51	NW	2	o, r		53.93	W	2	o	
Midnight	54.88	SSE	3	o	85.8	49.35	WNW	9	o, d		52.19	NW	2	o, r	6.3
October 24:															
1 a. m						47.87	WNW	10	o, q		50.84	NW	3	o, d	
2 a. m	55.13	SE	5	o, d		46.48	WNW	11	o, q		49.14	NW	3	o, d, l	
3 a. m						43.77	WNW	11	o, q						
4 a. m	55.68	[illegible]	3	c		38.74	W	12	o, l		45.82	NW	5	o, l	
4.30 a. m						35.85	WSW	12	o, t, l						
5 a. m						39.56	SW	12	o, q						
6 a. m	56.53	ESE	3	o		44.93	SSW	10	o, q		41.59	NNW	5	o, u, p	
7 a. m						48.55	SSE	8	o, q		37.09	NE	8	o, q, p	
8 a. m						50.36	SSE	9	o, q		44.13	SE	10	o, q	
10 a. m						53.45	SSE	12	o, q		49.62	SE	8	o, q	
Noon						54.49	SEbyS	7	o						
2 p. m	56.75	SE	2	o	1.8	54.06	SE	5	o, d		51.60	SE	8	o, q	
4 p. m						54.63	SE	2	o						
6 p. m						56.28	SSW	1	o		54.82	SE	4	o	
10 p. m						57.96	ESE	1	c	[1] 228.6	57.01	SE	2	o	35.0

[1] Amount of rainfall for the 23d and 24th.

These observations indicate that the vortex passed north of, and very close to, Catanduanes Island between 2 and 5 p. m. of the 23d; very close to, and likewise north of, San Isidro between 4 and 5 a. m. of the 24th; and very close to, but south of, Dagupan at about 7 a. m. of the same day. The direction of the typhoon was then almost NWbyW, and its rate of progress remarkably great. This extraordinary velocity was found taking the four points of the track nearest to Virac, Atimonan, San Isidro, and Dagupan. The distances between them are, respectively, 133, 88, and 49 miles. Now the vortex covered these successive distances in $9^h\ 40^m$, $4^h\ 10^m$, and $2^h\ 30^m$. Hence the rate of progress was 13.8, 21.1, and 19.6 miles per hour, respectively.

In Plates XXII, XXIII, and XXIV we offer a few photographs from which our readers may get some idea of the effects of this storm in Dagupan and Villasis. The latter is a town situated about 17 miles ESE of Dagupan. We are greatly obliged to our observer at Dagupan and to Mr. Ponciano Fernandez, teacher at the public school of Villasis, for their kindness in sending these photos for the use of our Bureau. According to the anemometer records of Dagupan, between 7 and 8 a. m. of the 24th the gusts of the wind reached for several minutes the velocity of 114 kilometers (71 miles) per hour.

The cablegrams exchanged between Hongkong and Manila Observatories were as follows:

Manila.—October 23, 11.10 a. m.: Typhoon east of southern Luzon, moving west-northwest.

October 24, 5 a. m.: Typhoon north of Manila, moving west-northwest.

October 24, 2 p. m.: Typhoon west of northern Luzon, more than 100 miles distant, moving west-northwest.

Hongkong.—October 23, 11.45 a. m.: Typhoon southeast of Luzon, moving west-northwest.

October 24, 11.45 a. m.: Typhoon near Bolinao, moving west-northwest.

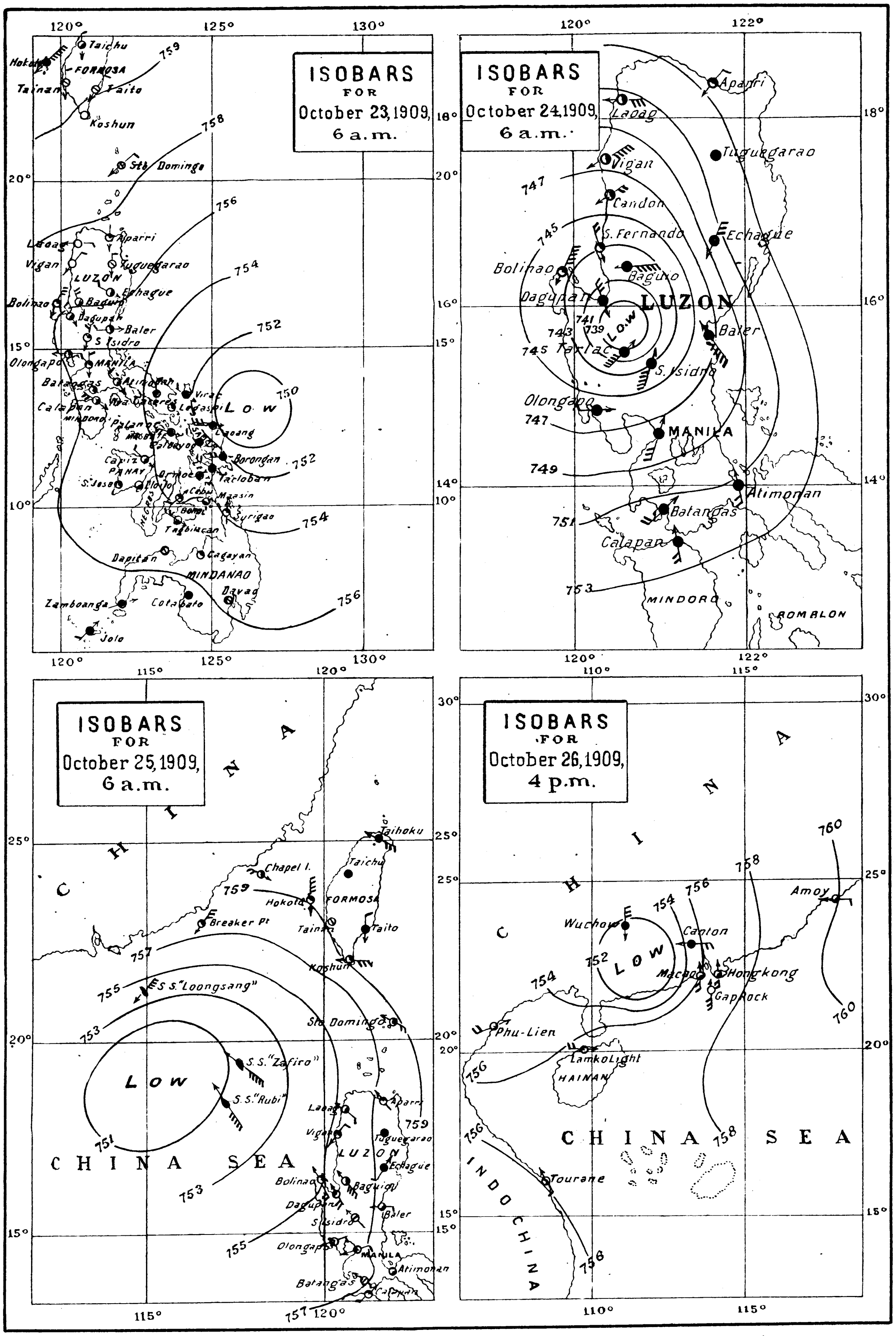
October 24, 6 p. m.: Typhoon northwest of Luzon, moving west-northwest.

October 25, 11 a. m.: Typhoon south-southeast of Hongkong, moving west-northwest.

October 26, noon: Typhoon west of Hongkong, moving northwest.

During the afternoon of October 24 the steamer *Rubi* found herself near the vortex, to the north of the path. The observations made on this occasion are contained in the following table:

Plate XXI.



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

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "RUBI," OCTOBER 23 TO 26, 1909.

[Captain, R. Almond.]

Date and hour.	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Remarks.
October 23:	mm.		0-12.		
10 a. m	758.35	N	3	o	Left Manila.
4 p. m	54.54	NWbyN	4	o	Fine but overcast.
6 p. m	54.79	NWbyN	5	o	Sun set with heavy yellow bank to ESE.
8 p. m	55.56	NNW	5	o	Do.
10 p. m	55.81	NNW	5	o	Overcast but clear.
Midnight	55.56	NNW	5	o	Do.
October 24:					
2 a. m	55.30	NNW	7	o	Do.
4 a. m	54.29	NNW	8		Fresh gale; rough NW sea.
6 a. m	51.75	NNW	8		Do.
7 a. m	49.97	NbyW	8	r	Hard gale; heavy sea, light rain.
8 a. m	50.73	N	9	r	Do.
10 a. m	50.48	NbyE	10	r	Do.
Noon	49.21	NNE	11		Ship's position,[1] 17° 27′ lat. N, 117° 47′ long. E.
2 p. m	46.67	NE	11	r	Hard gale with continuous heavy rains.
3 p. m	46.67	ENE	11	r	Do.
4 p. m	45.90	E	11		Ship hove to on starboard tack.
5 p. m	45.40	E	12		Hurricane with tremendous sea.
6 p. m	44.63	EbyS	12		Do.
7 p. m	45.40	ESE	12		Do.
8 p. m	45.40	SE	12		Do.
9 p. m	45.90	SE	12		Sky breaking at times.
10 p. m	47.68	SSE	11		Do.
11 p. m	48.19	SSE	11		Do.
Midnight	49.21	SSE	11	q	Fierce gale, squally, heavy rain at times.
October 25:					
2 a. m	50.48	SSE	10	q	Do.
4 a. m	51.24	SSE	10		Weather improving.
6 a. m	53.02	SE	9		Fresh gale, fine and clear.
8 a. m	55.05	SE	9		At 7 a. m. kept ship on course NWbyN.
10 a. m	56.32	S	8		
Noon	56.06	SbyE	7		Ship's position,[1] 18° 52′ lat. N, 117° 00′ long. E.
10 p. m	58.86	SE	7		Weather moderating with clearer sky and less rain.
October 26:					
10 a. m	59.62	S	6		Do.
Noon	59.37	S	5		Ship's position,[2] 22° 05′ lat. N, 114° 43′ long. E.
4 p. m	58.10	S	4		At 3 p. m. arrived at Hongkong.

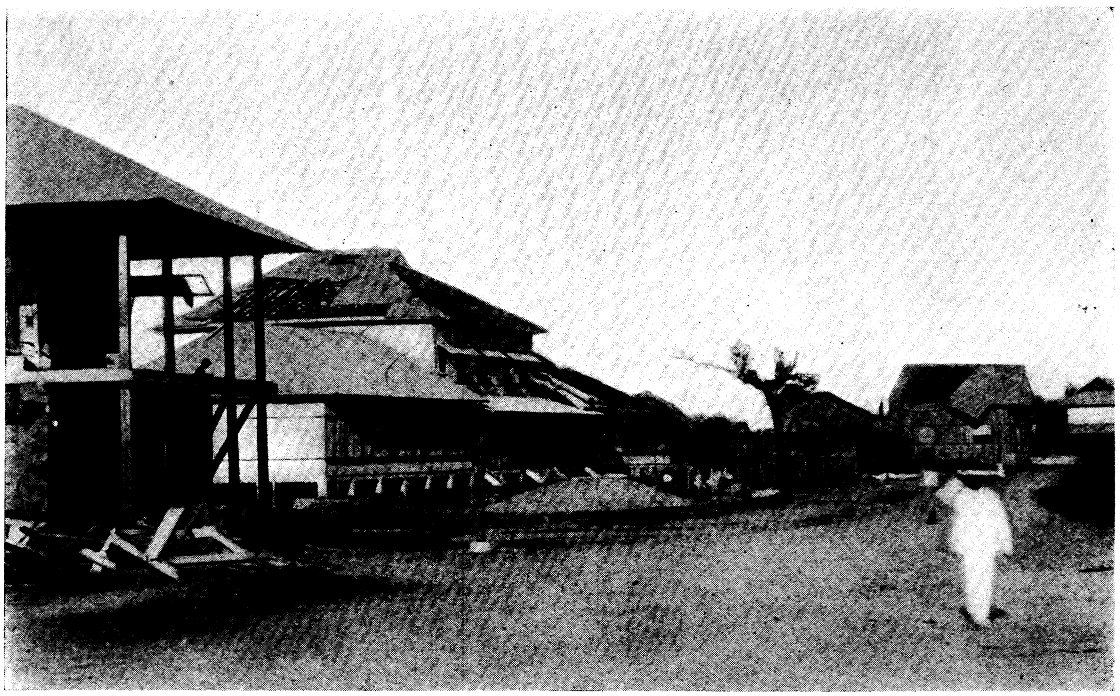
[1] By dead reckoning. [2] By observation.

On the 25th the storm assumed a somewhat more northerly direction and on the 26th it penetrated into the continent, moving apparently toward NNW or NbyW.

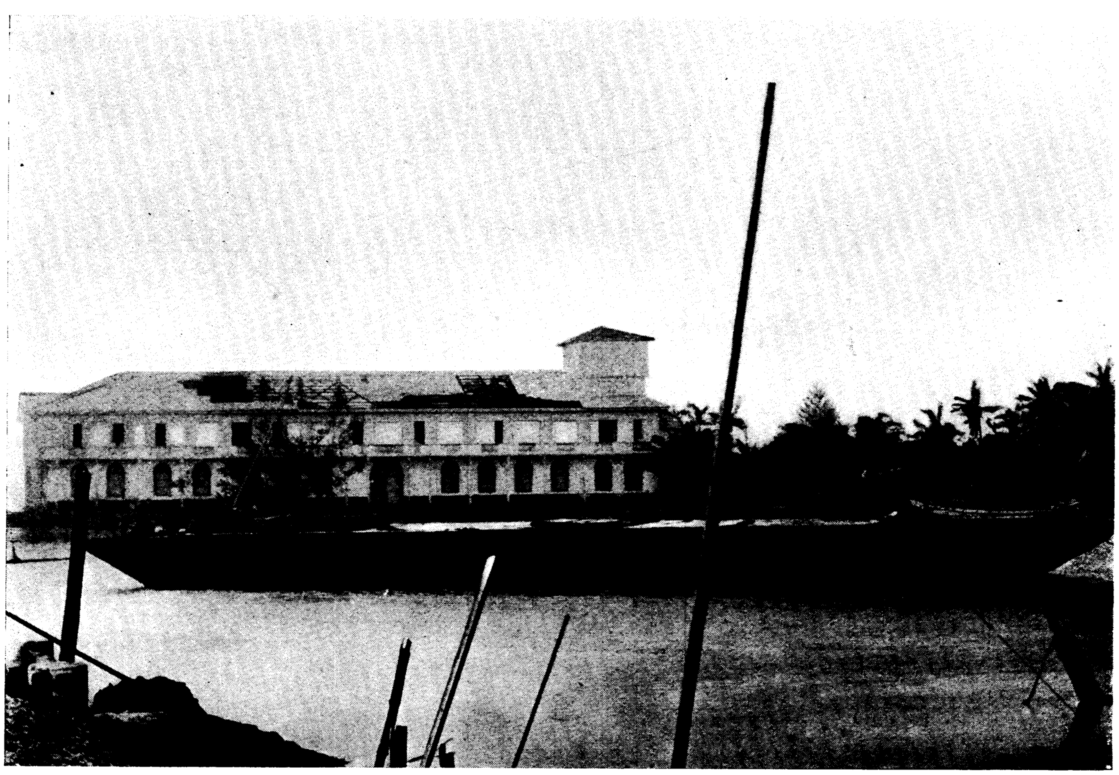
THE TYPHOON OF MINDANAO AND ANNAM, OCTOBER 26 TO NOVEMBER 1, 1909.

Although, owing to the lack of adequate means of communication with Mindanao, Manila Observatory failed to announce the existence of this typhoon—the last during the stormy month of October, 1909—until it had passed out into the China Sea and was situated southwest of Luzon, subsequent information received by mail makes it clear that it had its origin in the Pacific Ocean and caused quite heavy damage to various towns when it entered the southeastern part of Mindanao at noon of October 27. The following interesting particulars are taken from a letter of Rev. Bernardino Llobera, S. J., missionary at Caraga:

On October 27 we had a typhoon which passed south of Caraga. The towns north of us felt hardly anything. In Caraga (126° 34′ E; 7° 18′ N) it destroyed only banana plants; but in Manay (126° 32′ E; 7° 10′ N.) it brought down the municipal building, several private houses, and many trees. In Zaragoza (126° 32′ E; 7° 6′ N) nearly half of the town was ruined. From Santa Cruz (126° 31′ E; 7° 3′ N) it is reported that there are hardly any houses left standing; about the same may be said of Tarragona (126° 28′ E; 6° 59′ N) and Mati (126° 14′ E; 6° 56′ N), where the principal street is blocked by the great number of fallen trees. The wind began to blow here from north on the 26th with sufficient force to oblige the steamer



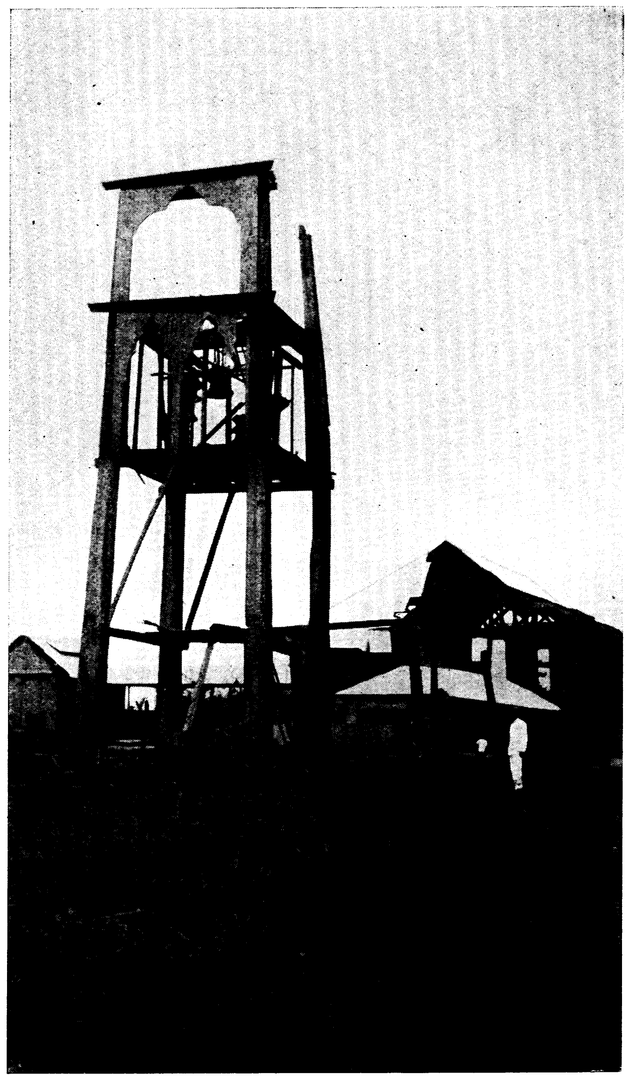
CENTRAL SCHOOL AND OTHER PRIVATE BUILDINGS.



SAN ALBERTO COLLEGE CONDUCTED BY THE DOMINICAN FATHERS.

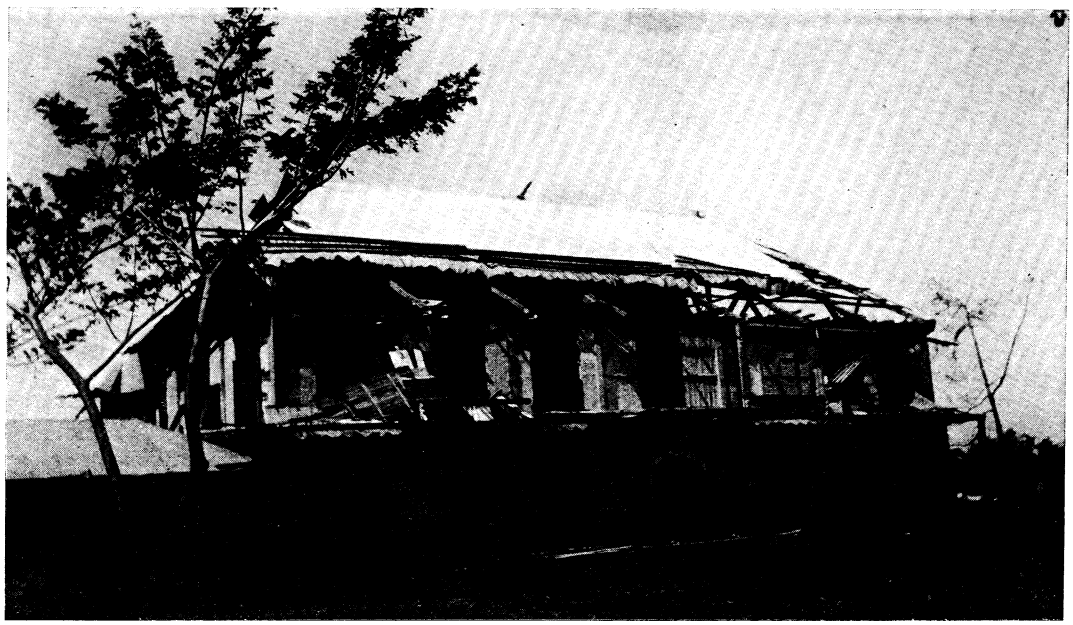
EFFECTS OF THE TYPHOON OF OCTOBER 24, 1909, IN DAGUPAN, PANGASINAN.

Plate XXIII.



STEEPLE AND CONVENT.

EFFECTS OF THE TYPHOON OF OCTOBER 24 1909, IN VILLASIS, PANGASINAN.



CONVENT.

RUINS OF THE CHURCH.

EFFECTS OF THE TYPHOON OF OCTOBER 24, 1909, IN VILLASIS, PANGASINAN

belonging to D. Simeon to weigh anchor and seek refuge at Baganga (126° 32′ E; 7° 30′ N). At about 1 p. m. of the 27th the wind veered to east; at 1.30 p. m. to southeast, and at 3 p. m. to south. The barometer fell here to 751 millimeters and the waves which dashed against the rocky shore were about 5 meters high. Thank God! the violence of the storm lasted only one and a half hour. The hemp plantations are nearly ruined.

The diameter of this typhoon was very small, at least while the storm was traversing Mindanao, passing between the stations of Cagayan de Misamis and Cotabato, Dapitan, and Zamboanga. In the China Sea, however, it appears to have acquired a somewhat greater extent, so that its influence was clearly noticeable at Manila by the constancy of the winds from the second quadrant and the behavior of the higher air-currents.

On the 30th the following dispatch was sent to our foreign correspondents:

October 30, 11 a. m.: Typhoon over southern part of China Sea, moving west.

The weather notes for October 31 and November 1 contained these statements concerning the typhoon:

October 31, 11.40 a. m.: The depression or typhoon mentioned in the preceding days continues moving westward and is approaching the southern part of Annam.

November 1, 11.30 a. m.: The depression or typhoon of the China Sea has entered the southern part of Indo-China between Tourane and Cape Saint Jacques, moving westward.

From Hongkong we received the following advices:

October 30, 11 a. m.: Typhoon northwest of Palawan, moving west-northwest.

October 31, 1 p. m.: Typhoon east of southern Annam, moving west-northwest.

In the supposition that the typhoon retained the same direction throughout its track from the southeast of Mindanao to Annam, it moved approximately toward WNW.

The foregoing discussion of the typhoons of October, 1909, was ready for the printer, when we received of M. J. Ferra, Director of the Meteorological Service of Indo-China, abundant material in the form of observations, notes, and isobars, referring to these typhoons and prepared for the benefit of Manila Observatory by M. A. Beljonne, assistant meteorologist of Phulien Observatory. To both these gentlemen we hereby tender our most sincere thanks for their continued kindness in these matters.

Of the three typhoons which penetrated into Indo-China, the one of October 31 was the most remarkable for its intensity and the corresponding destructive effects. The data received from Phulien fully confirm our statement that this typhoon acquired greater extent while crossing the China Sea. For the sake of comparison we give on Plate XXV the distribution of isobars at 2 p. m. of the 27th, when the typhoon was in Mindanao, and at 10 a. m. of the 31st, when it had penetrated into Annam.

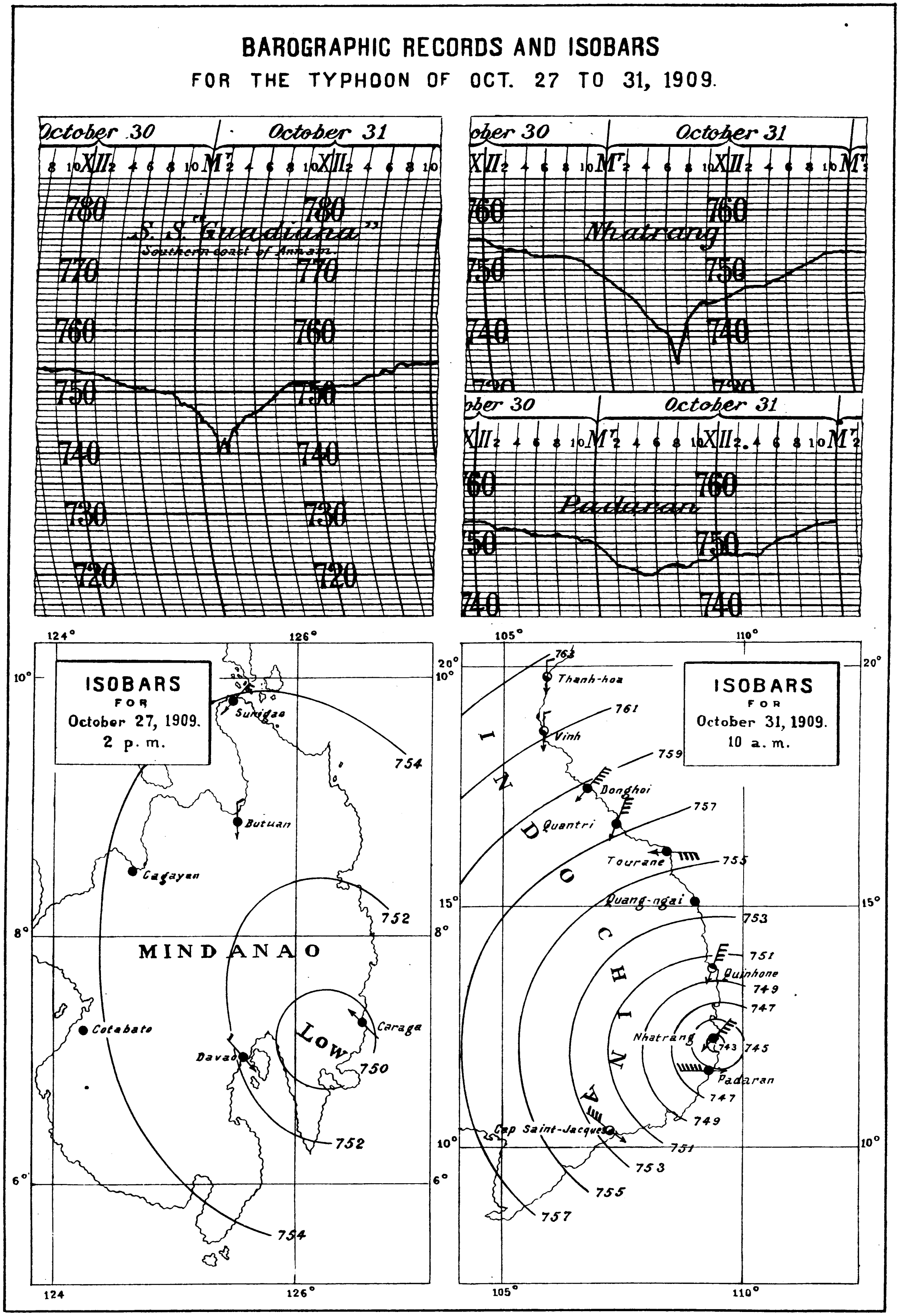
We must, however, add that at 10 a. m. of the 31st the typhoon had already diminished in intensity to a very remarkable degree. If we had been able to construct the isobars for a few hours earlier, while the vortex was still over the China Sea near the coast of Annam, the contrast between the form of the storm-field on the 27th and that which it presented on the 30th and during the first hours of the 31st would undoubtedly have been much greater.

The decrease in intensity which we asserted and the little progress made by the vortex between 7 and 10 a. m. of the 31st are clearly proved by the following facts:

(1) The barometric minimum was observed at Nhatrang at 6.45 a. m.; after which time the barometer rose rapidly, as if the vortex were moving off. Nevertheless, at 10 a. m., when the pressure had risen from 734.7 to 744.7 millimeters, the wind was still blowing from northeast, which indicates that the center was not receding as the barograph curve would have us to believe, but was still to the south of that station.

(2) Similarly, at Padaran the winds were still coming from west at 10 a. m. of the 31st. This supposes that the center was then north-northeast of that place, in perfect accordance with the position indicated by the northeast winds prevailing at Nhatrang.

Plate XXV.



N. B.—The barometric readings have been reduced to standard gravity.

(3) At Nhatrang the winds were of hurricane and destructive force while blowing from the north; but they diminished in violence when they veered to north-northeast and northeast; a fact which is simply inexplicable unless the storm began to fill up rapidly when it entered the continent.

In conclusion we copy an interesting note written by M. Yersin, chief of the meteorological station at Nhatrang, which M. Beljonne had the goodness to send us together with a facsimile of the barograph curve traced at the station mentioned:

At this time (October 30, 9 a. m.) we observed a heavy swell in the sea, with a covered sky, light wind from west and abnormal behavior of the barometer. After midnight the barometric curve remained horizontal, after 8 a. m. it showed a tendency to descend and afterward fell continually.

During the afternoon and evening heavy swell in the sea, covered sky, and light west-northwest wind.

At 10 p. m. the wind commenced to blow in squalls accompanied by rains. The fall of the barometer became rapidly more pronounced.

At midnight the barometer shows 749.0 millimeters and continues to fall steadily at the rate of 3.0 millimeters per hour. The sea is in a turmoil; the squalls increase constantly in violence. The wind comes from west-northwest until 4 a. m., when it veers to northwest. Between 2 a. m. and 5 a. m. I observed several flashes of lightning scattered from EbyN to S. A thunderclap, not far distant, was heard at 4.50 a. m.

At 5.30 a. m. there was sufficient daylight to permit observing the sky: the clouds were hurrying from north to south with great velocity. The squalls were now violent enough to snap trees and carry off roofs. An entire roof of corrugated iron, which formed a shelter for the boats of the Residence, was carried the distance of a block and hurled against some native houses which were wrecked by it.

At 6 a. m. extremely fierce squalls blew from north. The clouds converged from all points of the horizon toward an area in the sky, marked by a clear space, whose bearing was south-southeast of Nhatrang and altitude about 30° above the horizon. One could clearly see how the clouds rose from the southern horizon and advanced toward this spot, while at Nhatrang they moved from north to south. At the point of convergence must have been situated the center of the typhoon.

At 6.45 a. m. the wind attained its greatest fury. But happily this paroxysm did not last long, as the wind moderated when veering to north-northeast and northeast.

The barometric minimum was observed at 6.45 a. m., the corrected reading being then 734.7 millimeters.

At Suoi-Giao the typhoon appears to have been still more severe than at Nhatrang: at the time of its greatest fury, about 7 a. m., a considerable number of full-grown Heveas (a species of rubber trees) were uprooted or broken off.

A cyclonic wave ascended the Suoi-Giao River, such as has never before been witnessed. The inundation was complete in a very short time, between 7 and 8 a. m., at the moment when the storm began to abate, and lasted about twelve hours.

The northern limit of the typhoon seems to have been between Ninh-Hoa and the Varella. Ninh-Hoa has been hit hard, so has likewise Hone-Cohe. More to the north nothing worse happened than heavy rains which brought on inundations. Toward south, Camraigne and Bangoi have suffered severely. I believe that the vortex must have passed close to these places. At Phanrang, it seems, the typhoon was a very mild affair.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Á pesar de que el mes de Octubre del año próximo pasado no fué escaso en perturbaciones atmosféricas, todavía la media mensual de la presión atmosférica resulta algo menor este año en todas las estaciones de Filipinas. Comparada esta media con la normal de Octubre es naturalmente muchísimo menor. Así en Manila, por ejemplo, la diferencia entre la media mensual y la normal de este mes es de —1.51 mm. El 17 fué el día de menor presión en Filipinas, si exceptuamos unas pocas estaciones en la costa occidental del norte de Luzón en las que hallamos anotado como día de menor presión el 18. Téngase presente, sin embargo, que por día de menor presión entendemos el día á que corresponde la media diaria más baja del mes, no el día de la mínima absoluta; pues ésta fué menor el 23 ó el 24 en algunas estaciones que se hallaron cerca de la trayectoria del segundo tifón de Luzón de que hablaremos luego. La velocidad grande con que éste se movía al atravesar el Archipiélago y la lentitud observada en cambio en el otro tifón del 17 y 18, son la causa de que corresponda á este último la media diaria mínima de la presión atmosférica en todas las estaciones del Weather Bureau.

La temperatura media mensual es en casi todas las estaciones ligeramente superior á la de Octubre del año pasado. La de Manila sólo se diferencia de la normal en +0.1°C.

Precipitación acuosa.—En la tabla que acompaña el texto inglés se hallará que solas once estaciones dan un total de lluvia inferior al de Octubre 1908. Los días de mayor precipitación acuosa para Luzón fueron el 17 en la parte septentrional de la isla y el 23 ó 24 en la región central y meridional. En las estaciones de Visayas y Mindanao se observa bastante variedad en el día de máxima lluvia mensual.

DEPRESIONES Y TIFONES.

Este mes de Octubre ha sido muy notable por el crecido número de tifones que han desfogado en Filipinas. Dos cruzaron el canal de Balintang con un intervalo de solos tres días durante la 1.ª década del mes; otros dos atravesaron la Isla de Luzón los días 17 y 24; y por fin el 27 se observó otro de muy reducido diámetro en la Isla de Mindanao. Además, en las Islas Marianas se sintieron bien los efectos de otros dos tifones los días 3 y 11, habiendo sido el del 11 el de más intensidad que se ha observado en Guam en todo el año 1909. En la imposibilidad de entrar al presente en una discusión completa y detallada de todos estos tifones, diremos brevemente algo de cada uno de ellos, siquiera con el fin de señalar sus trayectorias con la mayor precision que nos sea posible con los datos que hemos podido recoger.

DOS TIFONES EN EL CANAL DE BALINTANG, 2 Y 5 OCTUBRE, 1909.

Las trayectorias de estos dos baguios pueden verse en la lámina XIV. Los dos tienen de particular el haberse inclinado al WSW ó SW después de atravesar el canal de Balintang. Debido á este cambio en la dirección de la trayectoria se vió libre la vecina colonia de Hongkong de la furia del primero de estos tifones que hubiera sin duda pasado muy cerca á haber conservado la dirección que llevaba al acercarse á las Islas Batanes.

Tifón de 27 Septiembre á 6 Octubre.—Parece haberse formado este tifón al sur de Marianas en los alrededores de las Carolinas Occidentales del 27 al 28 de Septiembre. El 29 demoraba al SW de Guam, y la mañana del 30 al W de Guam y N de Yap. Estas diferentes posiciones del centro ciclónico parecen poder deducirse con bastante claridad de las observaciones hechas en Guam durante estos últimos días del mes de Septiembre, las cuales hemos incluído en una tabla en el texto inglés.

El primer aviso de tifón fué enviado por el Observatorio de Manila á Hongkong, etc. la mañana del 30 en estos términos:

Día 30, 11 a. m.: Tifón en el Oceano Pacífico, á la mitad de camino entre las Islas Marianas y Luzón; dirección desconocida.

El tifón se movió con mucha rapidez, es decir á razón de 16.5 millas por hora, y así vino á pasar por el norte de Aparri á través de las Islas Batanes la tarde del 2 de Octubre. En este día se enviaron á Hongkong, etc. los siguientes dos telegramas, el último de los cuales era el que con más precisión señalaba la posición del centro ciclónico:

Día 2, 8.45 a. m.: Tifón al E de la parte norte de Luzón, distancia menor de 300 millas, moviéndose al WNW.

Día 2, 1 p. m.: Tifón al ENE de Aparri, moviéndose al WNW.

Preciosas son por demás é interesantes las observaciones hechas en la estación de Sto. Domingo durante el paso de este baguio por las Islas Batanes. Véanse en el texto inglés. Por ellas se ve que el vórtice pasó muy cerca por el sur de aquella estación moviéndose aún al WNW.

Durante la noche del 2 al 3 comenzó el baguio á cambiar de dirección é inclinarse al W y WSW. Sin embargo, el Observatorio de Manila no pudo cerciorarse de este cambio de dirección hasta la mañana del 4, como puede verse por estos avisos de tifón remitidos á Hongkong, Phulien, Taihoku, Shanghai y Tokio los días 3 y 4:

Día 3, mediodía: Tifón al W del canal de Bashi, moviéndose al WNW.

Día 4, 11.30 a. m.: Tifón en la parte N del Mar de China, moviéndose al W.

En la nota ordinaria del tiempo del día 5 se precisaba más la dirección del baguio al WSW con estas palabras:

Día 5, 12.30 p. m.: El tifón del Mar de China parece haberse movido al WSW y rellenádose en parte, demorando su centro esta mañana al Sur de Hainán.

Las observaciones hechas á bordo de los vapores *Taisang, Yuensang* y *Zafiro* juntamente con las del Faro Lamko, en el NW de Hainán, nos han servido admirablemente para trazar la trayectoria de este baguio en el Mar de China desde las Islas Batanes hasta Hainán. Damos dichas observaciones en cuatro tablas en el texto inglés. Llamamos de una manera particular la atención sobre el fuerte oleaje ciclónico observado á bordo del *Yuensang* procedente primero del NE, después del N, luego del NW y por fin del WSW y SW. Compárense las horas en que se observaron estos cambios en la dirección del oleaje, como se indican en las observaciones mencionadas; nótese la posición del barco en las mismas horas; y examinando en la lámina XIV la posición respectiva del tifón, se verá que el dicho oleaje procedía exactamente del vórtice. Parecido oleaje se observó también á bordo del *Zafiro.*

Para dar alguna idea de la violencia de este baguio copiamos en el texto inglés una descripción de lo observado á bordo del vapor alemán *Phranang* en viaje de Bangkok á Hongkong. Tomamos dicha descripción del Hongkong Daily Press del 7 de Octubre. Por ella se ve que se halló el *Phranang* muy cerca del vórtice, toda vez que el barómetro bajó hasta 709.9 mm., mínima observada á eso de 8 a. m. del día 4.

Al Observatorio de Hongkong debemos agradecer los siguientes telegramas referentes á este baguio:

Día 2, 11 a. m.: Tifón al NE. de Luzón, moviéndose al WNW.
Día 3, 11.45 a. m.: Tifón al ESE de Hongkong, moviéndose al WNW.
Día 4, mediodía: Tifón al S de Hongkong, moviéndose al W.
Día 5, mediodía: Tifón en Hainán, moviéndose al W.

Tifón de 3 á 10 de Octubre.—Este tifón parece haberse formado del 3 al 4 de este mes al E del norte de Luzón, y á una distancia algo mayor de 300 millas, según lo indicó el Observatorio en la nota ordinaria del tiempo del día 4 con estas palabras:

Un nuevo tifón apareció ayer noche al este del norte de Luzón á una distancia de más de 300 millas de Aparri.

Casi en los mismos términos se telegrafiaba á Hongkong etc. á las 11.30 a. m. del 4.

Tifón al E de Aparri, distancia mayor de 300 millas, dirección desconocida.

Á eso de mediodía del 5 no nos cabía la menor duda de que este tifón iba á cruzar como el anterior por los alrededores del canal de Balintang, y así se envió á Hongkong etc. este aviso de tifón:

Día 5, 1 p. m.: Tifón al ENE de Aparri, moviéndose al W ó WNW.

En la lámina XV podrán ver nuestros lectores la distribución de isobaras á 10 a. m. del 4, cuando el vórtice de este segundo baguio demoraba al este del norte de Luzón, y el del anterior se hallaba en el Mar de China al este de Hainán.

Los mapas del tiempo de los días 6 y 7 indicaban con tanta claridad que el tifón, en vez de continuar moviéndose al W, se había inclinado al 3er cuadrante de una manera mucho más marcada que el tifón del día 2, que nos resolvimos á enviar al Observatorio de Hongkong y demás Servicios Meteorológicos del Extremo Oriente este aviso de tifón:

Día 7, 11 a. m.: Tifón en la parte N del Mar de China, moviéndose al SW.

Sin embargo, sólo conservó esta dirección hasta llegar á Paracels el día 8. Desde dichas islas volvió á moverse al W y WNW, hasta que hubo pasado por el N de Tourane. Dirigióse luego al N, penetrando en Indochina la tarde del 10 un poco más arriba del paralelo 20°.

Del Observatorio de Hongkong son los siguientes telegramas que recibimos los días 5, 6 y 7:

Día 5, 6 p. m.: Tifón cerca del canal de Balintang, moviéndose al W.
Día 6, mediodía: Tifón al W del canal de Balintang, moviéndose al W.
Día 7, mediodía: Tifón al NE de Paracels, moviéndose al W.

TIFONES DE MARIANAS, 3 Y 11 DE OCTUBRE, 1909.

Tifón de 2 á 8 de Octubre.—En la nota ordinaria del tiempo del día 4, después de situar los dos tifones de que hemos hablado en las líneas que preceden, se añadió lo siguiente:

Hay indicios de un tercer tifón en los alrededores de las Islas Marianas.

Y el día 8 se hacía de nuevo referencia al mismo tifón en estos términos:

Otro tifón lejano se hallaba situado ayer tarde al W de las Islas Bonín: se ha movido al nordeste y su centro demora esta mañana al norte de dichas islas.

Hemos de confesar que era entonces imposible con los pocos datos que poseíamos identificar los dos tifones. Posteriormente con las observaciones que fuímos recibiendo de Marianas y los mapas del tiempo de Japón vimos que efectivamente un tifón había atravesado el día 3 las Islas Marianas moviéndose al WNW, el cual después de recurvar en los alrededores de 135° Long. E y 25° Lat. N vino á pasar en la segunda rama de la parábola por entre Japón y las Islas Bonín, durante los días 7 y 8.

Teníamos ya trazada la trayectoria probable de este baguio, cuando recibimos las preciosas observaciones hechas á bordo del vapor *Supply* en viaje de Guam á Yokohama, las cuales la confirman admirablemente. Véase la ruta seguida por este vapor en la lámina XIV y algunas de sus observaciones en una tabla que acompaña el texto inglés. Damos al Comandante Sr. E. L. Bisset las más expresivas gracias por la atención que tuvo en remitirnos datos tan valiosos que con razón creyó habían de sernos útiles en nuestra discusión y estudio de los tifones del Extremo Oriente. El *Supply* se encontró dos veces cerca del centro de este tifón en las dos ramas de su parabólica trayectoria.

Tifón de 9 á 13 de Octubre.—Fué este un tifón muy bien desarollado y de grande intensidad, al menos mientras demoraba al S y SW de las Islas Marianas. Se movía entonces al NW y hubo de deshacerse con toda probabilidad en medio del Oceano Pacífico á la mitad de camino entre las Marianas y Liukiu. La intensidad que tenía este baguio el día 11 la demuestran bien los vientos violentísimos del ENE que por espacio de muchas horas se observaron en Guam, como puede verse en la tabla de observaciones que damos en el texto inglés.

El Observatorio de Manila anunció este tifón con los siguientes telegramas:

Día 10, 5 p. m.: Tifón al S de las Carolinas Occidentales; dirección desconocida.
Día 11, 9 a. m.: Tifón en, ó cerca de las Carolinas Occidentales; dirección desconocida.

Día 12, 7.30 a. m.: Tifón al W de la parte sur de las Islas Marianas, moviéndose al NW.

Día 13, 10 a. m.: Tifón W de las Islas Marianas, moviéndose al NW.

Día 14, 11 a. m.: Tifón en el Oceano Pacífico, á la mitad de camino entre las Islas Marianas y Liukiu, moviéndose al NNW ó N.

Día 15, mediodía: Tifón en el Oceano Pacífico, á la mitad de camino estre las Islas Marianas y Liukiu, deshaciéndose.

DOS TIFONES EN LUZÓN, 17 Y 18, 23 Y 24 DE OCTUBRE, 1909.

Si parecidos fueron en su trayectoria los dos tifones que en la primera década del mes cruzaron el canal de Balintang en dirección al Mar de China, también lo fueron los que atravesaron la Isla de Luzón por el norte de Manila los días 17 á 18 y 23 á 24. Ambos desfogaron con gran violencia en las provincias que se hallaron más cerca de sus trayectorias: pero el primero, además de que era de muchísima mayor intensidad, fué acompañado de lluvias tan torrenciales, al menos en algunas provincias de Luzón, aun á regular distancia del vórtice, que fué causa de inundaciones verdaderamente extraordinarias y pocas veces observadas en Filipinas. Á esa lluvia é inundaciones del baguio del 17 y 18 fueron debidos los daños incalculables causados, como es sabido, en el famoso camino de Benguet que tuvo que cerrarse al tráfico público por espacio de más de dos meses. Y todavía es de temer que gran parte de las reparaciones hechas en este tiempo distan mucho de tener un carácter estable.

Dada, pues, la importancia de estos baguios procuraremos precisar cuanto podemos sus trayectorias y dar abundancia de datos é ilustraciones para satisfacer el interés que en ello tendrán nuestros lectores, especialmente los que más de cerca sintieron los destructores efectos de estos temporales.

Tifón de 13 á 20 de Octubre.—Apenas puede caber la menor duda de que se formó este tifón entre Guam, Islas Marianas, y Yap, Carolinas Occidentales y casi á igual distancia de ambas estaciones. Asímismo parece bastante cierto que se movió al principio muy inclinado al W y pasó por el norte de Yap el día 14, y por el norte de Palaos el 15. Afortunadamente tenemos para estos días observaciones hechas en estos tres puntos indicados, las cuales damos juntas en una tabla en el texto inglés. En Yap tuvo lugar la mínima barométrica el día 14, y en Palaos el día 15, soplando en ambas estaciones vientos de entre el W y SSW. En cambio, en Guam los vientos que habían venido del S todo el día 12 por efecto del tifón de que hemos hablado anteriormente comenzaron á soplar de una manera estable del ESE el día 13, indicando claramente con este role la existencia de un nuevo centro ciclónico al SW de las Marianas.

La existencia, pues, de este tifón aparecía tan clara desde la mañana del 14, que el Observatorio de Manila creyó poder enviar á Hongkong etc. este aviso de tifón:

Día 14, 11 a. m.: Tifón al N de las Carolinas Occidentales; dirección desconocida.

El día 15 se envió este otro telegrama situando el vórtice al E de las islas Visayas:

Día 15, mediodía: Tifón al E de las islas Visayas, moviéndose al W ó WNW.

Desde la tarde del 15 tuvo lugar un cambio bastante notable en la dirección de este baguio, moviéndose al WNW próximamente. El 16 se veía claramente que el temporal era peligroso para la Isla de Luzón y en especial para las provincias del norte de la isla. He ahí lo que á este propósito se decía en las notas ordinarias del tiempo de los días 16 y 17.

Día 16, 11.30 a. m.: El tifón continúa moviéndose al WNW ó W½NW. Cruzará probablemente la Isla de Luzón mañana por la tarde.

Día 17, 11 a. m.: El tifón se está acercando á la costa oriental de Luzón. Su centro se halla al NE de Manila y cruzará la Isla de Luzón durante esta tarde y noche. Las provincias más amenazadas por el temporal son las de la Isabela, Cagayán, Unión é Ilocos.

Fíjense nuestros lectores en la trayectoria de este baguio en la lámina XVI, y por ella reconocerán cuán exactamente se verificaron estas predicciones del Observatorio.

Véanse á continuación los avisos de tifón que desde el día 16 se cruzaron entre los Observatorios de Manila y Hongkong:

Manila.—Día 16, 9.30 a. m.: Tifón al E de la parte sur de Luzón, moviéndose al WNW.

Día 17, 8.30 a. m.: Tifón al NE de Manila, moviéndose al WNW.

Día 17, 6 p. m.: Tifón cruzando la parte norte de Luzón, moviéndose al WNW.

Día 18, 8 a. m.: Tifón al W de la parte norte de Luzón, distancia menor de 100 millas, moviéndose al WNW.

Día 18, 7 p. m.: Tifón al W del canal de Balintang, moviéndose al WNW.

Hongkong.—Día 16, 11.30 a. m.: Tifón al SE de Luzón, moviéndose al WNW.

Día 17, 11.30 a. m.: Tifón al NE de Manila, moviéndose al WNW.

Día 17, 8 p. m.: Tifón en el norte de Luzón, moviéndose al WNW.

Día 18, 11.30 a. m.: Tifón al NW de Luzón, moviéndose al NW.

Día 19, 11 a. m.: Tifón al SSE de Hongkong, moviéndose al NW.

Á fin de que nuestros lectores se puedan formar alguna idea de la intensidad y desarrollo que tenía este baguio, al menos cuando llegó á Luzón, reproducimos en la lámina XVII las curvas barográficas obtenidas en nuestras estaciones de Aparri, Laoag, Tuguegarao y Vigan, y publicamos además en una tabla que puede verse en el texto inglés algunas de las observaciones hechas en las tres primeras que son las que se hallaron más cerca de la trayectoria. Y aún para que se vea mejor la grande extensión que tenía en este baguio el área de vientos huracanados, damos en otra tabla las observaciones hechas en Sto. Domingo, Islas Batanes, en Bolinao y en el observatorio Mirador, Baguio, estaciones distantes respectivamente de la trayectoria 133, 140 y 120 millas.

Dos cosas llamaron justamente la atención de muchos en este baguio y fueron (1) la duración extraordinaria de los vientos huracanados y (2) las lluvias tan abundantes y torrenciales que los acompañaban. Lo primero fué debido á la notable lentitud con que avanzaba el baguio mientras atravesaba el norte de Luzón. Como prueba de esto, hemos tomado los dos puntos de la trayectoria en que se halló el vórtice á la menor distancia de Aparri y Laoag; y calculado la velocidad de traslación con que salvó dicha distancia. La posición del vórtice en estos dos puntos era 121° 35′ Long. E y 18° 08′ Lat. N y 120° 55′ Long. E y 18° 28′ Lat. N respectivamente. Tenemos, pues, una distancia aproximada de 43 millas. Ahora bien, el tiempo empleado en recorrer esta distancia fué cinco horas treinta minutos. Luego la velocidad de traslación en esta parte de la trayectoria fué algo menor de ocho millas por hora.

Á esta misma lentitud con que se movió el baguio debe atribuirse en gran parte, no precisamente el que las lluvias fuesen en algunas partes tan abundantes y torrenciales, sino el que éstas durasen como los vientos huracanados por espacio de tantas horas. La cantidad de agua caída en Baguio en el intervalo de 24 horas, ó sea de 6 a. m. del 17 á 6 a. m. del 18, es la mayor que se había registrado hasta ahora en Filipinas: 689.7 mm. (27.15 pulgadas). Á la verdad tenemos esta cantidad de lluvia por tan exorbitante, que la tendríamos por inverosímil y dudosa si no la viésemos atestiguada por observaciones dignas de toda confianza.

Con lluvias tan extraordinarias y de tanta duración no es de maravillar que ocurriesen en el centro y norte de Luzón las terribles inundaciones que hemos mencionado más arriba. Á falta de fotografías de las regiones más castigadas, reproducimos dos que nos remitió el observador de Dagupan y que dan una idea de la inundación allí observada, á pesar de haber distado Dagupan del vórtice unas 150 millas.

En la lámina XX verán nuestros lectores la cantidad de agua recogida en 24 horas, ó sea de 6 a. m. del 17 á 6 a. m. del 18, en los pluviómetros de las estaciones establecidas en Filipinas desde las Provincias de Tayabas y de La Laguna hasta las Islas Batanes. Con estos datos á la vista hay que confesar que la distribución de lluvia dista mucho de haber sido regular y mucho menos proporcional á la menor distancia del vórtice, al menos si consideramos las estaciones que distaban de él más de 15 ó 20 millas.

Según hemos ya indicado, las estaciones del Weather Bureau que se hallaron más cerca de la trayectoria de este baguio fueron Aparri y Tuguegarao en la Provincia de Cagayán y Laoag en la Provincia de Ilocos Norte. En Aparri y Laoag fué el pluviómetro arrancado y llevado por el viento ó la corriente, haciéndose por lo tanto imposible saber la cantidad de agua caída durante este tifón. Además en Aparri, lo mismo que en Vigan y Baguio, únicas estaciones al norte de Dagupan provistas de anemógrafo, sufrió éste desperfecto, y así no podemos tampoco precisar la fuerza que alcanzó el viento en lo más fuerte del temporal.

En el Mar de China sintió la violencia de este baguio el vapor *Rubi* en viaje de Hongkong á Manila. Observóse la mínima barométrica á 6 y 7 a. m. del 18 con vientos violentísimos (fuerza 11) del WSW y grande oleaje del NNE cuando se hallaba el barco al W de Bolinao y entre los meridianos 118° y 119° E.

El Capitán del vapor *Zafiro*, que en viaje de Manila á Hongkong logró fondear en la vecina colonia antes de mediodía del 18, termina sus observaciones hechas durante la travesía con esta nota:

Al amanecer del 18 el tiempo presentaba un aspecto muy amenazador muy lejos hacia el ESE y un grande oleaje procedente del centro del tifón venía de la misma dirección. Este oleaje era muy notable, continuo y regular constituyendo fuera de Hongkong una señal precursora más de 30 horas antes que desfogara el temporal.

El baguio atravesó el Mar de China conservando la dirección al WNW, pero con más velocidad que al cruzar la Isla de Luzón, y penetró en el Continente al W de Macao la noche del 19 al 20, después de haber cruzado cerca por el Sur de Hongkong donde los vientos de la parte del Este alcanzaron la máxima velocidad de 75 millas por hora.

Tifón de 22 á 26 de Octubre.—La violencia de este baguio se dejó sentir principalmente en la Isla de Catanduanes y en las Provincias de Ambos Camarines, Nueva Écija, Pangasinán y norte de Zambales. Aunque en estas regiones los vientos fueron huracanados y destructores, con todo ni en su intensidad ni en su duración y menos en la extensión del área por ellos perjudicada pueden compararse con los del baguio del 17 y 18. En otras palabras, este baguio del 23 y 24, aunque bien formado, no era del tipo del anterior, sino de un carácter mucho más benigno y menos formidable. Cuanto al punto de origen de este tifón, puede decirse que apareció el día 18 en forma de depresión en las Carolinas Occidentales, no lejos del meridiano 145° E. Probablemente hasta el día 21 ó 22 no adquirió el desarrollo que tenía al llegar á Filipinas, sino que continuaba siendo una simple depresión de poca importancia. Los barómetros de Yap no subieron francamente hasta el 22 cuando el baguio se hallaba ya al este de las Visayas, en los alrededores del meridiano 130° E.

He ahí los avisos de tifón enviados por el Observatorio de Manila á Hongkong etc., los días 18, 20 y 22:

Día 18, 7 p. m.: Tifón en, ó cerca de, las Carolinas Occidentales; dirección desconocida.

Día 20, 11 a. m.: Tifón en, ó cerca de, las Carolinas Occidentales; casi estacionario.

Día 22, 3 p. m.: Tifón en el Oceano Pacífico, á la mitad de camino entre las Carolinas y Filipinas, moviéndose al W ó WNW.

El 23 por la mañana se veía ya claramente que el tifón amenazaba atravesar la Isla de Luzón por el N de Manila y así se dijo en la nota ordinaria del tiempo de dicho día:

Día 23, 11.30 a. m.: El tifón que se hallaba ayer tarde al este de las Visayas demora esta mañana al este del Sur de Luzón, moviéndose aparentemente al WNW. Probablemente pasará mañana por el norte de Manila.

En una tabla que acompaña el texto inglés podrán ver nuestros lectores algunas observaciones hechas los días 23 y 24 en Virac, Catanduanes, en San Isidro, Provincia de Nueva Écija, y en Dagupan, Provincia de Pangasinán. Según ellas, el vórtice pasó muy cerca por el N de Catanduanes entre 2 y 5 p. m. del 23, muy cerca de San Isidro y también por el norte, entre 4 y 5 a. m. del 24, y muy cerca de Dagupan por el sur á eso de 7 a. m. del mismo día. La dirección del baguio era entonces casi NW¼W y su movimiento de traslación notablemente grande. Esta extraordinaria velocidad la hemos hallado considerando los cuatro puntos de la trayectoria más cercanos á Virac, Atimonan, San Isidro y Dagupan. Las distancias respectivas que separan estos puntos son 133, 88 y 49 millas. Ahora bien, el vórtice salvó estas sucesivas distancias en $9^h\ 40^m$, $4^h\ 10^m$, y $2^h\ 30^m$. De donde se movía con una velocidad media de 13.8, 21.1 y 19.6 millas por hora respectivamente.

En las Láminas XXII, XXIII y XXIV reproducimos algunas fotografías que podrán dar á nuestros lectores alguna idea de los efectos del temporal en Dagupan y Villasis. Este último pueblo está situado á 17 millas al ESE de Dagupan. Agradecemos á nuestro Observador de Dagupan y al Sr. Ponciano Fernandez, Maestro de la Escuela Pública de Villasis, su amabilidad en enviarnos estas vistas para uso de nuestro Bureau. Según los registros del anemógrafo de Dagupan, entre 7 y 8 a. m. del 24 las rachas de viento alcanzaron por espacio de varios minutos la velocidad de 114 kilómetros (71 millas) por hora.

Los telegramas que se cruzaron entre Hongkong y Manila desde el día 23 son como siguen:

Manila.—Día 23, 11.10 a. m.: Tifón al E de la parte sur de Luzón, moviéndose al WNW.

Día 24, 5 a. m.: Tifón al N de Manila, moviéndose al WNW.

Día 24, 2 p. m. Tifón al W de la parte norte de Luzón, distancia mayor de 100 millas, moviéndose al WNW.

Hongkong.—Día 23, 11.45 a. m.: Tifón al SE de Luzón, moviéndose al WNW.

Día 24, 11.45 a. m.: Tifón cerca de Bolinao, moviéndose al WNW.

Día 24, 6 p. m.: Tifón al NW de Luzón, moviéndose al WNW.

Día 25, 11 a. m.: Tifón al SSE de Hongkong, moviéndose al WNW.

Día 26, mediodía: Tifón al W de Hongkong, moviéndose al NW.

El día 24, por la tarde, se encontró cerca del vórtice al norte de la trayectoria el vapor *Rubi,* cuyas observaciones incluímos en una tabla en el texto inglés.

El 25 se inclinó el baguio algo más al N y el 26 por la mañana penetraba en el Continente moviéndose al parecer al NNW ó N¼NW

EL TIFÓN DE MINDANAO Y ANNAM, 26 DE OCTUBRE Á 1.° DE NOVIEMBRE, 1909.

Aunque por falta de comunicación expedita con la Isla de Mindanao, el Observatorio de Manila no pudo anunciar este último tifón del mes de Octubre hasta que se hallaba ya en el Mar de China al SW de Luzón, con todo, es cierto que se formó en el Pacífico y que al penetrar en la parte sudeste de la Isla de Mindanao á mediodía del 27 causó en varios pueblos pérdidas materiales de mucha consideración.

Véanse á continuación los interesantes datos que tomamos de una carta del R. P. Bernardino Llobera, S. J. Misionero de Caraga:

En 27 de Octubre tuvimos un baguio que pasó por el Sur de Caraga (126° 34′ Long. E, 7° 18′ Lat. N). Los pueblos del norte de Caraga apenas sintieron nada. En Caraga sólo tumbó saguings. En Manay (126° 32′ Long. E, 7° 10′ Lat. N) tumbó el tribunal, varias casas y muchos árboles; en Zaragoza (126° 32′ Long. E, 7° 06′ Lat. N) casi medio pueblo; en Santa Cruz (126° 31′ Long. E, 7° 03′ Lat. N) dicen que apenas quedaron casas y casi lo mismo en Tarragona (126° 28′ Long. E, 6° 59′ Lat. N) y Mati (126° 14′ Long. E, 6° 56′ Lat. N). La calzada está interrumpida por los muchos árboles caídos. El 26 comenzó á soplar viento norte que obligó al vapor de D. Simeón, que estaba aquí fondeado, á levar ancla y marcharse á Baganga (126° 32′ Long. E, 7° 30′ Lat. N). Á eso de la 1 de la tarde del 27 el viento roló al E. Á la 1 y media al SE y á las 3 al S. El barómetro bajó aquí á los 751 mm. Las olas en estas peñas subían á unos 5 metros. Gracias á Dios que lo fuerte del temporal sólo duró aquí cosa de 1½ horas. Las plantaciones de abacá han quedado casi destruídas.

El diámetro de este baguio era muy reducido, al menos mientras atravesaba la Isla de Mindanao, por entre las estaciones de Cagayán de Misamis y Cotabato, Dapitan y Zamboanga. En el Mar de China parece adquirió alguna mayor extensión, notándose bien su influencia en Manila así en los vientos bien entablados del 2.° cuadrante como en las demás corrientes atmosféricas.

El día 30 se envió á Hongkong etc. este aviso de tifón:

Día 30, 11 a. m.: Tifón en la parte S del Mar de China, moviéndose al W.

Y en las notas ordinarias del tiempo de los días 31 de Octubre y 1.° de Noviembre se decía lo siguiente:

Día 31 de Octubre, 11.40 a. m.: La depresión ó tifón mencionado en los días anteriores continúa moviéndose al W y se acerca á la región meridional de Annam.

Día 1.° de Noviembre, 11.30 a. m.: La depresión ó tifón del Mar de China ha penetrado en la parte meridional de Indochina entre Tourane y Cap Saint Jacques moviéndose al W.

Del Observatorio de Hongkong recibimos estos telegramas:

Día 30, 11 a. m.: Tifón al NW de la Isla Palawan, moviéndose al WNW.

Día 31, 1 p. m.: Tifón al E del S de Annam, moviéndose al WNW.

Suponiendo que siguió este baguio la misma dirección en toda la porción de su trayectoria comprendida entre el sudeste de Mindanao y Annam, puede decirse que se movió al WNW próximamente.

Habíamos terminado ya este trabajo sobre los tifones de este mes de Octubre, cuando recibimos de M. J. Ferra, Director del Servicio Meteorológico de Indochina, multitud de observaciones, notas é isobaras referentes á los mismos y preparados para este observatorio por M. Beljonne, Meteorolgista Auxiliar del Observatorio de Phulien. Nos complacemos en manifestar á entrambos nuestro más sincero agradecimiento por su bondad en seguir favoreciéndonos en esta materia.

De los tres tifones que penetraron en Indochina, el más notable por su intensidad y efectos destructores fué sin duda el del 31. Con los datos suministrados por Phulien queda confirmado lo que decíamos arriba acerca de la mayor extensión que adquiró este baguio en el Mar de China. Para que se vea esto más claramente damos en la lámina XXV la distribución de isobaras á 2 p. m. del 27 y 10 a. m. del 31 cuando el vórtice se hallaba en Mindanao y en Annam respectivamente. Y aun debemos advertir aquí que á 10 a. m. del 31 el tifón había disminuído de una manera muy notable en intensidad. Si nos hubiese sido posible trazar las isobaras unas pocas horas antes cuando el vórtice demoraba en el Mar de China cerca de la costa de Annam, el contraste entre la forma que presentaba este baguio el 27 y la que tenía el 30 y primeras horas del 31, hubiera sido sin duda mucho mayor.

La disminución de intensidad que acabamos de indicar y juntamente lo poco que avanzó el baguio entre 7 y 10 a. m. del 31 lo prueban evidentemente los hechos siguientes:

(1) La mínima barométrica se observó en Nhatrang á 6^h 45^m a. m. del 31 subiendo después rápidamente el barómetro como si se alejase el vórtice. Sin embargo, á 10 a. m. cuando el barómetro había subido ya de 734.7 mm. á 744.7 mm. el viento era todavía NE lo cual indicaba que el vórtice no se alejaba como parecía indicar la curva barográfica, sino que permanecía aún hacia el Sur de la estación.

(2) Asímismo en Padaran los vientos soplaban aún del W á las 10 a. m. del 31, lo cual suponía el vórtice hacia NNE de aquella estación confirmando perfectamente la posición indicada por los vientos NE de Nhatrang.

(3) Los vientos fueron en Nhatrang huracanados y destructores cuando soplaron del N, pero disminuyeron considerablemente en fuerza al rolar al NNE y NE, lo cual es imposible explicar si si no es suponiendo que el tifón empezó á rellenarse rápidamente en cuanto penetró en el Continente.

Vamos á terminar incluyendo aquí una nota interesante que sobre este tifón escribió M. Yersin, Jefe de la estación meteorológica de Nhatrang y que M. Beljonne ha tenido la bondad de remitirnos juntamente con una copia de la curva barográfica de aquella estación.

Por este tiempo (30 de Octubre, 9 a. m.) observamos grande oleaje en el Mar con cielo cubierto, viento ligero del W y barómetro anormal. Después de media noche la curva baragráfica se mantuvo horizontal, después de 8 a. m. manifestó tendencia á bajar, y bajó luego contínuamente.

Durante la tarde grande oleaje en el mar, cielo cubierto y vientos ligeros del WNW.

Á las 10 p. m. el viento comenzó á soplar en chubascos acompañados de lluvias. La bajada del barómetro era cada vez más pronunciada.

Á media noche estaba el barómetro á 749.0 mm. y continuaba bajando á razón de unos 3 mm. por hora. El mar tumultuoso, los chubascos aumentando en violencia por momentos. El viento sopla del WNW hasta 4 a. m. en que rola al NW. Entre 2 y 5 a. m. observé varios relámpagos por los cuadrantes 1° y 2°. Un trueno no distante se dejó oir á 4.50 a. m.

Á las 5.30 a. m. había ya suficiente luz para poder observar el cielo: las nubes corrían del N con gran velocidad. Los chubascos eran ahora tan violentos que arrancaban árboles y destechaban las casas. Un tejado de planchas de hierro que servía de protección á los botes de la Residencia fué llevado todo entero á la distancia de una manzana viniendo á dar contra algunas casas de indígenas que destruyó por completo.

Á las 6 a. m. desfogaban chubascos furiosos del N. Las nubes convergían de todos los puntos del horizonte hacia una región del cielo señalada por una claridad al SSE de Nhatrang y á unos 30° sobre el horizonte. Uno podía distinguir claramente cómo las nubes subían del horizonte y avanzaban hacia dicha región cuando en Nhatrang en cambio se movían de norte á sur. En el punto de convergencia debía hallarse el centro del tifón.

Á las 6.45 a. m. alcanzó el viento su máxima violencia. Pero afortunadamente esto duró poco, pues amainó la fuerza del temporal en cuanto roló el viento al NNE y NE.

La mínima barométrica se registró á 6.45 a. m. siendo su lectura, hechas las debidas correcciones, 734.7 mm.

En Suoi-Giao parece haberse sentido el tifón con más violencia aún que en Nhatrang: en el tiempo de su mayor furia, á eso de 7 a. m., un gran número de árboles "Heveas" fueron tronchados ó arrancados de raíz.

Una ola ciclónica hizo subir el río Suoi-Giao como nunca se había visto antes. La inundación fué completa en muy poco tiempo entre 7 y 8 a. m., cuando el temporal comenzaba á amainar, y duró unas 12 horas.

El límite norte del tifón parece haber sido entre Ninh-Hoa y Varella. Ninh-Hoa sufrió mucho así como también Hone-Cohe. Más al norte no hubo apenas más que lluvias pesadas que fueron causa de inundaciones. Hacia el sur, sufrieron mucho Camraigne y Bangoi. Yo creo que el vórtice pasó por encima ó muy cerca de estos puntos. En Phanrang parece que el tifón fué de 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.	Air temperature.[2]			Underground temperature.						Relative humidity, mean.	Vapor pressure, mean.	Evaporation.[2]	
		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	757.74	26.7	31.5	23.3	28.2	29	28.8	28.8	28.6	29	83.5	21.6		1.4
2	56.72	27.3	31.5	22.5	28.2	29.3	28.8	29	28.6	29	81.4	21.9		3.1
3	55.92	27.5	30.8	25.2	28.6	29.5	28.8	29.1	28.4	29	83	22.7		2.1
4	55.66	26.5	30.7	24.2	28.8	29.2	29	29	28.6	29	87.8	22.5		.9
5	55.16	27.8	32	24.5	28.4	29.5	28.9	29	28.6	29	78.9	21.7		3.7
6	55.50	27.2	30.4	24.5	28.5	29.2	28.9	29	28.6	29	82	21.9		1.6
7	57.50	25.4	29.6	22.9	28.4	28.8	28.8	28.8	28.6	29	90.8	21.9		.7
8	58.52	27.3	31.7	23	28	29.2	28.7	28.9	28.4	28.9	81.4	21.6		2.4
9	58.77	26.6	29.3	23.7	28.6	29.2	28.8	28.9	28.5	28.9	84.2	21.7		1.3
10	57.96	26.6	31.6	22.9	28.1	29.2	28.8	29	28.5	28.9	84.8	21.8		1.6
11	57.94	26.4	30.2	24.3	28.6	29	28.9	29	28.5	28.9	86.7	22.1		1.1
12	59.12	27.4	32.6	23.3	28.3	29.5	28.8	29	28.5	28.9	80.4	21.6		2
13	59.15	27.2	32.9	22	28.4	29.7	28.9	29.1	28.4	28.9	77.1	20.6		2.4
14	58.22	27.1	32.4	21.9	28.5	29.6	28.9	29.2	28.4	28.9	77.4	20.5		2.3
15	56.86	27.6	32.5	23	28.6	29.7	29	29	28.4	28.9	80.3	21.9		1.9
16	54.83	27.6	32	23.9	28.9	30.1	29.2	29.5	28.6	29	82.9	22.7		2.1
17	50.07	28.1	29.3	25.5	29.1	29.1	29.3	29.2	28.6	29	78.5	22.1		3.8
18	52.23	27.1	30.4	24.7	28	28.9	28.9	28.9	28.5	29	84.6	22.5		1.7
19	55.76	26.9	32.1	24.2	28	29.3	28.7	28.9	28.6	29	85.6	22.4		1.3
20	57.78	27.3	32.5	23.4	28.3	29.7	28.8	29.1	28.6	28.9	85.1	22.7		1.5
21	59.07	26.9	32.2	23.5	28.7	29.7	28.9	29.2	28.7	28.9	87.3	22.8		1.2
22	58.78	27.6	32.2	23.4	28.7	29.9	29	29.3	28.6	28.9	82.7	22.5		1.8
23	55.70	26.4	29.8	24.3	28.9	29.3	29.2	29.3	28.5	28.9	86.8	22.1		2.1
24	53.74	25.6	28.9	23.5	27.7	27.3	28.7	28.5	28.2	28.8	90.5	22.1		1
25	58.76	27.7	32.7	24.3	27.4	28.7	28.3	28.6	28.4	28.8	82.1	22.5		2.1
26	59.54	27.1	31.9	23.8	28.2	29	28.6	28.7	28.4	28.8	83.3	22		2
27	58.93	26.4	30.9	23.3	28.2	29	28.6	28.7	28.5	28.8	86.6	22.1		1.3
28	58.01	26.1	30	22.4	28	28.4	28.6	28.7	28.4	28.7	86.2	21.6		1.3
29	58.22	26.2	29.9	24.1	28	28.4	28.5	28.6	28.4	28.7	88	22.2		1.1
30	58.09	26.9	31.4	23.8	28	28.7	28.5	28.7	28.4	28.7	79.1	20.6		3.6
31	59.03	26.8	32	23.2	27.9	29	28.4	28.8	28.4	28.7	79.2	20.5		2.9
Mean	757.07	26.9	31.2	23.6	28.3	29.2	28.8	29	28.5	28.9	83.5	21.9		1.9
Total														59.3
Departure from normal	— 1.51	+ .1	+ .2	+ .5							— .1	+ .1		

Date.	Wind.				Clouds.			Sunshine.	Rain, 24 hours beginning midnight.	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	WSW	105	9.5	WSW	6.5	Ci.-S. E	Cu. NE	6 05		Ω ≡ d a. p p.
2	SW	390.5	32	SW	8.3	Ci.-S. NE	Cu. SW by W	7 15		≡ a. ○ ⟨ p.
3	SW	450.5	32.5	SW by W	6.7	Ci.-S.	Cu.	7 15	4.7	● a.
4	WSW	337	34	WSW	9.1	A.-Cu. E	Fr.-N. WSW	2 55	16	● a. p. ↙° p.
5	W quad.	432	38	W by S	8.6	Ci.-S. E	Cu. NW	5 50	.3	≡° a. ↙° ○ p p.
6	SW quad.	352.5	28	W	9.2	A.-Cu. W	Cu.-N. W	1 25	1.1	p d p.
7	SE quad.	166.5	25	WSW	9.6	A.-Cu. SW	N. SW	1 50	22.4	● a. p. ⊤ ⟨ p.
8	WSW, N	195	21.5	SW by W	7.8	Ci.-S. NE	Cu. SW	8 00		≡ ○² a. ⟦⟨° p.
9	N	175	17.5	NNW	9.7	Ci.-S. ENE	S.-Cu.	0 00	2.3	≡° a. ● p. ○ a. p.
10	WSW, N	178.5	18.5	N	5.1	Ci.	Cu. N	8 00		≡° a.
11	N quad.	131	15	NNE	9.6	Ci.-S.	Fr.-N. E by S	0 10	1.8	● ≡° a. ⟨ a. p.
12	ESE	137	15.5	WSW	4.6	Ci.-S. E	Cu. E	9 00	.1	≡ ○² a. p° p.
13	W	132.5	12.5	S	2	Ci.	Cu. E	10 00		≡° a.
14	WSW	137	13	W	4.2	Ci. ESE	Cu. NE	9 50		Ω ≡ a.
15	WSW	127.5	14.5	WSW	4.2	Ci.	Cu. NE	9 45		Ω ≡° a.
16	W by S	212.5	26	W by S	7.8	Ci.-S. E by N	Cu. NW	6 10	.5	≡ a. ○² ⟦⟨ ● p.
17	WSW	918.5	64	W by S	10	Ci.-S.	Fr.-N. NW	0 00	1.9	↙° a. ↙ p p.
18	SW	775.5	60	SW	9.8	Ci.-S.	N.-cf. WSW	0 00	36.7	● a. p. ↙ a. ○ p.
19	SW	209	24	WSW	7.4	Ci.-S.	Cu.-N. SSW	4 55	6.1	≡° d a. ● p.
20	WSW	138	18	WSW	5.4	Ci.	Cu. SE	8 10		≡° a. ⟦⟨° p.
21	Variable	91.5	15	W	4.4	Ci.	Cu. E	7 05	.8	≡ ● ⊤ ⌒ ⟨ p.
22	E, WSW	139	15	WNW	4.4	Ci. SE	Cu. NNE	9 35		≡ a.
23	N	467	55	W by S	9.6	Ci.-S.	Fr.-N. N	0 00	14.5	≡° a. ● ↙° p.
24	SE	665	70	WSW	9.7	Ci.-S.	N. SW	0 15	53.6	● ↙ a. ⊍ p.
25	ESE	271.5	20.5	SE	6.3	Ci.-S.	Cu. SE	7 40	.3	≡° a. d p.
26	ENE	123	11	NW	4.8	Ci.-S.	Cu. ESE	9 30	.8	● ≡° a. ⊍ p.
27	ENE	111	9	SW by W	7.1	Ci.-S. N	N.-cf. E	5 05	1.1	d° ≡° a. ● p.
28	Variable	129.5	15	NW	8.7	A.-Cu. SE	Cu.-N. E	2 50		≡° a. d° ⟦⟨ p.
29	ESE	136	11.5	ENE	9.9	Ci.-S.	Fr.-N. SE, E	0 00		d° a. ●° p.
30	E	253.5	26	E	7	A.-Cu. SE	Cu. E	4 25		≡° a.
31	E	179.5	19.5	E	6.8	Ci.-S. NW by W	Cu. E	8 00		≡° ○ a.
Mean		266.7	25.4		7.2			5 12		
Total								161 00	165	
Departure from normal		+83.6			+ .6			—11 21	—26.7	

[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. 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0–12.	0–10.			mm.	
1	757.75	26.9	30.7	23.2	81.5	SE	2.7	8.8	Ci.-S.	Cu.-N. SW	------	d° a.
2	57.74	27.7	30.5	25.7	74.4	SE, SW	3	8	Ci.-S., A.-S.	Cu.-N. SW	------	
3	57.77	27.8	30.9	25	76	SW, SSW	3.7	9.8	A.-S.	Cu.-N. SW	2.5	●° p.
4	57.24	26.8	30.4	24.3	78	SW	2	8.5	A.-S.	Cu.-N. SW	------	● a.
5	56.60	28	31	25.8	74.5	SW	2.5	8.5	Ci.-S.	Cu.-N. SW	------	d° p.
6	57.36	27.6	31.7	24.9	77.2	SSW, SE	2	9.2	Ci.-S.	Cu.-N. SW	5.7	●
7	57.95	27.8	30.7	24.9	78.3	SE	1.7	8.8	Ci.-S.	Cu. SW	------	
8	58.64	27	31.6	22.2	79.8	SE, SSW	1.3	8	Variable	Cu.-N. SW	65.3	●² ⌈ζ² ζ² p.
9	58.44	26.5	30.3	22.2	84.2	Variable	1.3	10	A.-S.	Cu.-N. W quad.	15.2	● ζ ⊤° p.
10	57.93	26.7	32.6	22	82	Variable	1.8	9	Ci.-S., A.-Cu.	N. SW, NW	.5	d a. p.
11	57.37	27.7	31.5	23.6	81.8	Variable	1.2	7.3	Ci.-S.	Cu.-N. ESE	21.3	● p.
12	58.63	27.5	31.3	22.4	79.3	SE	1	6	Ci.-S.	Cu. E	1	⌈ζ² ● a. ●° p.
13	58.37	26.8	32.4	23.5	80.8	Variable	1.3	7.2	Ci.-S.	Cu.-N. NNE	1.3	d a. p.
14	57.31	27.5	32.9	23.7	82	NNE, SE	1.5	5.8	Ci.-S. SW	Cu., Cu.-N. E	------	
15	56.14	27.5	32.8	22.4	79.4	Variable	1.5	6.5	Ci.-S.	Cu. E	------	
16	55.19	28.2	32.8	23.8	77	SSW	1.5	9	Ci.-S.	Cu. SW, NNE	------	
17	54.94	28.5	31.2	26.7	75.7	SSW	3.3	8.7	Ci.-S.	Cu. SW	19.8	
18	55.37	28.1	32.1	24.8	77.8	SW, SE	1.5	8.2	Ci.-S. NNE	Cu. SW	1	●² a.
19	--------	28.7	33.7	25.6	77.2	SE, WNW	1.7	6.5	Ci.-S. ENE	Cu. SW	------	
20	--------	28.6	32.8	24.7	77.5	NNE, SE	1.3	5.8	Ci.-S.	Cu. NW	------	
21	--------	27.9	34.4	24.3	81.5	SE	1.8	8	Ci.-S. NNE	Cu. SW, NNW	2.3	d p.
22	--------	28.4	34.7	23.8	77.3	Variable	1.8	9.3	Ci.-S. E	Cu. Variable	------	
23	--------	27.8	31.7	25.1	78.7	SSW	2.7	10	Ci.-S. SSW	Cu.-N. SW	------	
24	--------	28.1	30.2	26	77.4	SE	1.8	9.5	Ci.-S.	Cu.-N. SW	------	
25	--------	27.4	31.3	24.1	81.7	NW quad.	1.7	7.7	Ci.-S.	Cu.-N. NE	11.7	● ζ p.
26	--------	26.4	29.1	24.1	86	N, SE	1.3	9	Ci.-S.	Variable	14.5	d° a.
27	--------	26.8	31.3	24.2	83.5	Variable	1.7	9	Ci.-S. SSW	Variable	4.4	● p.
28	--------	27.1	29.1	24.5	80.8	SE	2.5	10	Ci.-S.	Cu.-N. E	------	
29	--------	27.3	31.6	24.2	83	Variable	1.5	9.2	Ci.-S.	Cu.-N. SW, ENE	------	◡ p.
30	--------	27.4	33.1	23.7	78.5	Variable	2	7.8	Ci.-S.	Cu. E	------	ζ p.
31	--------	27.6	33.4	23.9	79.7	Variable	1.5	8	Ci.-S. W	Cu. E	------	
Mean	757.26	27.6	31.7	24.2	79.4	------------	1.9	8.3	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	166.5	

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	757.53	26.8	31.7	23.7	84.2	W	0.3	7.5	Ci., Ci.-S. NNE	S.-Cu., Cu. W	17.5	ζ Ω² p.
2	57.51	27.3	32.2	23.8	82	SW	.3	9.3	Ci.-S. NE	Cu. SW	------	● a. Ω² ⌈ζ p.
3	57.26	28.3	32.6	25.7	75.8	W	.7	9.5	Ci.-S. NE	Cu. SW	------	Ω² a. ⌈ζ ζ p.
4	56.56	27.4	30.4	25.9	78.1	SW, WSW	.8	8.8	Ci.-S.	N.-cf. WSW	------	p° a.
5	56.34	28.6	33.3	24.5	73.5	WSW	.8	7.3	Ci.-S. SE	Cu. SW	------	Ω² a. ζ p.
6	57.30	28.6	32.5	26.4	75.8	SW, WSW	.8	8.2	A.-Cu. SW	Cu. W	------	◡ a.
7	58.22	27.4	32.5	24.1	82.5	Variable	.3	8.5	Ci.-S. NE	Cu. SW	------	Ω² a. ζ° p. ○ a. p.
8	58.70	27.3	33	23.5	80.1	WNW	.2	7.5	A.-Cu. E	Cu.-N. SW	------	Ω² a. ⌈ζ ⊤ ζ° p.
9	58.44	26.1	32.3	23.2	83.2	W	.2	7.3	A.-Cu. E	Cu., S.-Cu. SW	1	≡ a. ⌈ζ ⊤ ●° p.
10	57.64	27.1	32.7	22.7	79.8	W	.5	5	A.-Cu. E	Cu., Cu.-N. W	------	Ω° p.
11	57.51	27.5	32.2	23.5	82.8	NE quad.	.5	4.2	Ci. NE	Cu. SE	------	ζ a. p. p° p.
12	58.76	27.4	32.5	23.6	82.7	Variable	.3	3.5	Ci. NW	Cu. NE	------	Ω² a.
13	58.44	26.2	31.5	23.8	88.3	NNE, N	.4	5.2	Ci.	Cu. NNE	8.4	Ω² d° a. ⌈ζ ● p.
14	57.30	26.3	30.4	23.1	87.8	NbyW, NNE	.2	2.5	Ci., A.-Cu. NE	Cu. SE	------	Ω² a.
15	55.92	27	32.1	22.9	81.3	W by N	.2	4	Ci. ENE	Cu. N	1.8	Ω² a. ○ p.
16	54.61	28.1	31.5	25.1	78.7	SW, WSW	1.6	8	Ci.-S. N	Cu. SW	------	d a. ○ a. p.
17	54.56	29.3	33.5	27.5	71.2	SW, SSW	2.4	7.3	Ci.-S. N	Cu. SW	------	○ a.
18	55.86	28.5	33.9	24.6	73.7	Variable	.3	4.7	Ci.-S. N	Cu. SW	------	Ω° p.
19	56.63	27.1	32.9	24	82.5	NNE, WNW	.3	3.7	A.-Cu. N	Cu. SW	------	Ω° a. p.
20	57.77	27.1	31.4	23.5	83.2	WNW	.2	4.2	A.-Cu. NE	Cu.-N. E	1.5	Ω a.
21	58.58	27.1	31	24.5	86.2	NW, N	.2	4.8	Variable	N.-cf. N	4.6	● Ω² a.
22	57.62	27.1	32.2	24	82.7	W	.8	8.2	Ci.-S. E	Cu. NW	------	● a. ζ² ●° ⊤° p.
23	56.48	28.2	32.3	25.4	78	S, SW	1.3	9.7	Ci.-S.	N.-cf. SW	1	⌈ζ ζ² a. ◡ p.
24	58.22	26.9	31.4	25.4	87	WNW	.1	9.3	Ci.-S. N	Fr.-N. NW	14.5	d ● a. d° ζ² p.
25	58.97	27	31	24.4	87.5	E, ENE	.5	7	A.-Cu. NE	Cu. E	8.4	d a.
26	58.58	25.8	28.2	23.5	91.3	NE	.3	9.2	Ci.-S. E	Fr.-N. E	36.1	● a. p. ◡ p.
27	57.14	26.3	30.2	23.2	89.6	NE	1.7	9.3	Ci. E	Fr.-N. ENE	24.4	●² a. p.
28	57.48	27.2	31.1	24.1	83.5	E	.7	8.7	A.-Cu. E	Cu. SE	------	Ω° p.
29	58.25	26.5	31.8	23.7	87.5	E by N	.2	8.8	A.-Cu. SE	Cu. E	25.4	Ω² a. ●² d p.
30	58.20	26.4	30.4	22.9	87.2	E	.4	6	Variable	Cu. E	------	●° a. Ω° p.
31	58.67	27	31.8	22.8	83.2	NE quad.	.8	4.8	Ci.	Cu. E, ENE	6.4	Ω² a. p.
Mean	757.45	27.3	31.8	24.2	82.3	------------	.6	6.8	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	151	

[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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10.			mm.	
1	757.81	26.5	29.9	24.1	78.3	SSW, S	7.2	6	Ci.-S. E	Cu. WSW, SW	12.2	Ω ≡° a. ☈ ⌣° ●
2	57.41	27.2	30	23.8	70.5	SW quad.	11.6	6.2	Ci.-S.	Cu. SW		Ω² ●° a. ⌒° p.
3	57.32	27.1	30	23.5	72.8	W, SW	10.3	7.5	Ci.-S.	Variable WSW	10.7	Ω ≡° ⌒° a. ● p.
4	56.75	26.7	29.1	24.8	73.9	SW	9.4	6.7	Ci.-S.	N.-cf. WSW	3.7	Ω ≡° d a. < p.
5	56.61	26.9	30.5	24.5	74.3	SW quad.	9.7	7	A.-Cu. W	Cu.-N. SW	14	● a. p. Ω ≡° ☈ <
6	57.38	27	30.5	25.2	72	SW	10.3	6.7	A.-Cu. W	S.-Cu. W		Ω ≡° d° a.
7	58.27	27.3	31.5	23.4	75.8	SW	7	5.8	Ci.-S.	Cu. SW		Ω ≡° a. ∞ p.
8	58.84	27	31.9	23.9	77.8	S	6.5	6.3	Ci.-S. N	Cu. S, SSW		Ω ≡° a. ☈ < ● p.
9	58.61	26	29.1	24.5	83.8	SW	4.7	6.5	Ci.-S.	Cu. W, WNW	6.6	Ω ≡° a. ● < p. ☈
10	57.65	26.1	30	24.3	82.5	Variable	5.4	6.2	Ci.-Cu. SE	Cu. NNW	6.1	Ω² ≡° a. ☈° ● < p.
11	57.61	26.9	30.5	23.7	78.7	E, NE	6.5	3.5	Ci.	Cu. NNE, E		≡° a. ☈° < p.
12						W, E	7					
13						E	9.3					
14						E, W	7.8					
15						W	5.8					
16						W, WSW	8.8					
17						W	15.7					
18						W	10.1					
19						W	6.7					
20	57.88	27.3	31.2	23.7	76	SE	5.4	3.7	Ci.	Cu. N quad.	3.8?	Ω ∞ a. ☈ < p.
21	58.62	26.6	31	23.9	82.2	S	5.5	4	Ci.	Cu. N	6.1	Ω ≡° a. ●° ☈ p.
22	57.85	27.1	31.5	23.1	75.3	SSW, S	5.9	5.3	Ci.-S. E	Cu. N quad.		Ω ≡° a.
23	56.34	27.7	30.5	25.5	75.6	SW	11.5	8.5	Ci.-S.	Cu. NW	.8	≡° a. ● p.
24	57.90	27.8	30.9	25.3	75.7	S quad.	9.9	8.2	Ci.-S.	Cu. SW		⌣ p.
25	58.70	27.7	32	25	76.7	ENE	6.9	6.2	Ci.-S. Ci.	Cu. E		⌣ Ω a. < p.
26	58.28	27.1	30	23.9	78.2	NE quad.	7.9	6.8	Ci.-S.	Cu., Cu.-N. E	10.4	Ω a. ● p.
27	57.27	27	30.6	24.7	78.2	NE	14.5	8.2	Ci.-S. E	Cu. ENE	1.8	p p.
28	57.48	28	30.7	25.6	72.1	S quad.	12.3	8	Ci.-S.	Variable SE	1	
29	58.17	26.6	31.4	24.8	79.6	SE	4.5	8.2	Ci.-S.	Cu., Cu.-N. E		●° a. ☈ p.
30	58.11	27.1	30.4	23.7	73.4	E		6.8	Ci.	Cu. E		
31	58.62	26.9	31	24.4	75.2	E	6.4	7.2	Ci.	Cu. E		< p.
Mean	757.80	27	30.6	24.3	76.5		8.4	6.5				
Total												

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0–10			mm.	
1	758	26.2	30.9	23.5	84.4	NE, E	6.6	8.8	Ci.-S.	Cu.	13	⊤ ☈ ● p.
2	57.88	24.6	28.4	23.5	94.2	SW	10.3	9.7	Ci.-S.	Cu.-N.	41.1	● a. p. ⌒ p.
3	57.45	26.2	28.5	23.3	85	SW	21.2	10	Ci.-S.	Cu.-N. SW	56.1	● a. p. ⊤ p.
4	57.02	25.8	28.5	23	88.8	SW	16.5	9.8	Ci.-S.	Cu.-N. SW	19.3	● a. p. ☈ p.
5	57.03	25	28.2	22.2	91	SW		10	Ci.-S.	Cu.-N. SW	82	● ☈ a. p.
6	57.42	26.1	27.5	23	86.2	SW		10	Ci.-S.	Cu.	22.1	● ⊤ a.
7	58.60	26.3	29.5	22.6	85.2	SW	11.2	7.5	Ci.-S., A.-Cu.	Cu.		☈ a. < p.
8	59.02	26.6	30.1	24	85.3	SW	8	7	Ci.	Cu.	1.5	☈ ● p.
9	58.76	26.6	30.7	23.8	82	E	4.4	9.5	A.-Cu. NE	Cu. NW	1	⊤ ●° p.
10	57.86	26.3	30.5	23.6	86.3	NE, SW	5.6	8.8	A.-Cu. NE	Cu.	.5	d ⊤ p.
11	57.59	27.2	32.4	24	81.8	NE quad.	7.3	6.7	A.-Cu. E	Cu.	5.6	⊤ ☈ ● p.
12	58.83	27.2	31.2	23.5	81.7	NE quad.	9.8	4.2	Ci.	Cu. NE		d a.
13	58.70	27.5	31.9	24.2	81	N, E	9.2	4.3	Ci.	Cu. NE, ENE		< p.
14	57.78	27.2	32	24.5	83	NE	7.9	5.3	Ci.-S.	Cu. NE	3.3	d ● a. < p.
15	56.56	27.2	32.4	22.8	80.7	NE	6.2?	5.5	Ci. ESE, E	Cu. NNE		Ω² a.
16	55.45	27.4	30.5	24.4	81.2	W, SW	11	7.5	Ci.-S. E	Cu.		< Ω a. ○ a. p.
17	54.52	28.2	30	25	78	SW	32.6	7.3	Ci.-S.	Cu. SW	.5	● a.
18	55.68	27.5	30.4	24.5	83	SW	22.4	8.8	Ci.-S.	Cu. SW	20.1	● a. p. ☈ p.
19	56.89	26.7	29.9	24.1	87.8	SW	13.2	8.5	Ci.-S.	Cu.-N. SW	4.8	● a. p.
20	58.13	26.9	30.6	24	85	SW	6.2	3.5	Ci.	Cu. SW		< p.
21	59.10	26.9	32.4	23.8	86.2	Variable	5.1	5.3	A.-Cu.	Cu. NE	8.9	Ω² a. ⊤ ● ☈ p.
22	58.44	27.2	32.7	23.5	83.7	NE	5.3	6.3	Ci.	Cu. N		< p.
23	56.51	26.4	29.2	24	86.7	SW	8.6	8.8	Ci.-S., A.-Cu.	Cu. NW	15	Ω ○ a. d ● p.
24	57.70	26.7	29.9	23.9	86.3	SW	12.3	9.2	Ci.-S.	Cu.-N. SW	5.6	● a.
25	59	26.9	30.8	24.2	86	SW	5.9	6.8	Ci., A.-Cu.	Cu.	.8	d ⊤ < p.
26	58.68	27.4	32	24.4	81.2	NE	11.3	7	Ci.-S. E	Cu. NE	4.8	● ☈ p.
27	57.39	27.6	31.7	24.6	81.8	NE	16	8.5	Ci.-S.	Cu. ENE	13.7	< d a. ⊤ ● < p.
28	57.21	26.8	31	24.6	82.5	Variable	10.2	8	A.-Cu., Ci.-S.	Cu.-N. E	4.1	● ○ a. d p.
29	58.22	26.7	32.1	23.8	84	E	6.9	9.2	A.-Cu.	Cu. SE	19	● ☈ p.
30	57.95	27	31.6	23	79.6	NE	10.4	7.7	A.-Cu.	Cu. NE		< p.
31	58.56	27.7	31.6	24.6	75.3	NE, N	11.1	6.7	Ci.	Cu. N		< p.
Mean	757.68	26.8	30.6	23.8	84		10.8	7.6				
Total											342.8	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	757.78	24.7	29.5	21.3	89	S, SSE	4	7.3	Ci.-S.	Cu.-N.	18.3	Ω ≡° a. ⌈↯ ↯ p.
2	57.54	26.2	29.4	22.9	85.4	S quad.	6.8	9.3	Ci.-S.	Cu.-N. SSW	7.1	●² d ≡° ↙° a. ↯ p.
3	57.42	26.5	29	23.3	82.8	S	8.9	10	Ci.-S.	Cu.-N. SW	19	≡° ⌈↯ a. ● a. p. d
4	56.68	27.3	29.3	24.9	79.8	SSW	11.3	10	Ci.-S.	Cu.-N WSW	1.8	≡° a. ↯ p.
5	56.67	26.4	30.5	23.2	82.3	Variable	8.4	9.7	A.-Cu. NW	Cu.-N. W, WSW	10.7	≡° a. ⌈↯ ● d p.
6	57.24	27.1	30.4	23.8	80.2	E, SSW	9	9	A.-Cu. W by N	Cu. WSW	------	≡° a. ↯ p.
7	58.16	27.6	30.9	23.8	77.2	SE quad.	6.5	7.3	A.-Cu. W	Cu. W	------	≡° a.
8	58.77	25.9	30.5	23.4	88.5	SSE, N	1.9	6.5	A.-Cu. NE, NW	Cu. SW	.5	≡° ⌈↯ a. d ↯ p.
9	58.63	26.1	30.6	23.4	82.2	N	4.8	8.7	A.-Cu. E	Cu.-N.	.8	≡° d a. ↯ p.
10	57.56	25.4	29.4	22.6	90.9	S, N	2.9	9.2	Ci.-S.	Cu.-N. NNW	4.8	d ≡° a. p. ⊤ ⌒ ↯
11	57.60	26	31.3	21.1	86	SSW, S	4.2	4.7	A.-Cu. NW	Cu.-N. ESE	------	≡° a. ⊤ ↯ p.
12	58.62	26	32.2	20.9	84	N	3.9	4.2	Ci.-S.	Cu.-N. E	------	Ω ≡° a. ↯ a. p.
13	58.44	25	31.2	21.4	88.2	N, S	2.7	5	Ci.-S.	Cu.-N. NE	.3	Ω ≡° ⊤ d ⌈↯ ↯
14	57.27	25.7	32.2	21.2	80.7	N	4.1	3.8	Ci. E	Cu.-N. E	5.6	Ω ≡° ⌒ ●° a. ↯ p.
15	56.06	25.6	32.7	21.1	85.5	Variable	4.6	7.5	Ci.	Cu.-N. N	3	Ω ≡° a. ↯ p.
16	54.83	26.9	31	23.6	84.5	W	4.8	8.2	Ci.-S.	Cu.-N. W by N	------	d ≡ p a. ↯ p.
17	54.11	29.1	32.5	27.5	73.7	SSW	22.8	9	Ci.-S. N	Cu.-N. SW	------	≡° a. ↯ ϖ° p.
18	55.68	27.6	32.4	24.7	81.2	SSE, SSW	12.9	8.7	Ci.-S.	Cu.-N. SW	------	≡° a.
19	56.68	26.2	31.5	23.3	84.8	Variable	3.9	5.7	A.-Cu. SW	Cu.-N.	6.4	≡° a. ⌒² ↯ ⊤ p. ●
20	57.85	26	31.6	21.9	83.5	Variable	3.9	6.7	A.-Cu. N	Cu. NNW	25.1	Ω ≡° a. ● ⌒ ⊤ ↯
21	58.56	26.5	33.2	22.7	83.3	Variable	4.3	4.5	Ci.	Cu.-N.	------	Ω ≡° a. ⊤ ↯ ϖ° p.
22	57.78	26	31.3	21.1	84.2	NW quad.	4.2	7.5	Ci.-S., Ci.	Cu.-N. N, NW	74.7	Ω ≡° a. ⌈↯° ↯ ● p.
23	56.40	23.9	26	22.3	95.3	Variable	5.4	10	Ci.-S.	Cu.-N. W	39.1	⌈↯ ≡ ●² ⊤ ↯²
24	57.92	27.2	30.9	24.2	84	SE quad.	7.5	9	A.-Cu. S, SSE	Cu.-N. S	4.8	↯ ≡° a. ϖ° p.
25	58.68	26.7	32.5	22.9	82	Variable	5.9	5.7	A.-Cu. E, NE	Cu. E	------	≡° a. ↯ p.
26	58.40	26.5	31.8	23	83	Variable	3.9	7.7	Ci.-S. SE	Cu.-N. NE	18.5	≡° a. ⌈↯ ● p.
27	57.36	25.8	31.3	23.1	86.2	NE quad.	6.1	9	A.-Cu. E	Cu.-N. E	30.2	⊤ a. ≡° ● d a. p.
28	57.31	27.8	31.9	23.5	75.8	SE quad.	7.6	9.2	Ci.-S. SSE	Cu.-N. ESE	------	≡° a.
29	58.15	27.1	31.6	23.7	79.3	Variable	4.1	8	A.-Cu. ESE	Cu. SE, E	------	ϖ° ≡° a. ⌈↯ ↯ p.
30	57.94	27.2	33.1	22.8	76.3	E, SSE	6.8	5.3	Ci. N	Cu. ENE, E	------	≡° a. ↯ p.
31	58.49	25.7	32.8	20.9	83.3	Variable	4.1	5.8	Ci. N	Cu. E, ENE	------	≡° a.
Mean	757.44	26.4	31.1	22.9	83.3	------	6.2	7.5	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	270.7	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	757.70	26.5	33	22.9	86.2	W quad.	0.7	7.5	Ci.-S ESE	Cu.-N. W	------	⊎² a. p. ⊤ p.
2	57.46	27.7	31.7	23.8	77.2	W quad.	.7	7.2	Ci.-S. E	Cu.-N. WSW	------	⊎² ϖ° a. ↯ p.
3	57.20	27.5	31.4	24.4	75.5	Variable	.5	8.7	Ci.	cu., cu.-N. w by s	5.6	◯² a. ● p.
4	56.39	27.4	30.5	23.6	77	SW	.7	8	Ci., Ci.-S.	Cu.-N. W	------	● a.
5	56.43	27.5	31.9	24.6	76.7	SW	.8	8.5	Ci., Ci.-S. E	Cu. WSW	14	● d ⌈↯° p.
6	57.10	27.6	31.8	24	76	WSW	.5	7.7	A.-Cu. SW	Cu. W	------	
7	58.25	28.4	32.5	23.8	72.2	SE quad.	.7	8	A.-Cu. SW	Cu. SW	9.1	
8	59.10	26.1	31.3	23.4	89.6	WSW	.3	9	Ci.	cu.-N., N. N, NNW	11.7	● a. p. ⌈↯ p.
9	58.53	26.6	31	23.5	83	W	.8	7.8	Ci. S	Cu.-N. N, NW	------	
10	57.74	26.1	31.3	23.4	87.2	NNE	1	6.7	Ci.-S. S	S.-Cu., Cu.-N. N	------	d a. ↯ p.
11	58.01	27	30.9	23.9	84.8	SE	1	5.8	Ci.-S. WNW	Cu., Cu.-N. SE	.8	↯ ●° a.
12	59.16	27.3	32.5	23.6	82	N, W	1	2.8	------	Fr.-Cu. E by N	------	≡ Ω² a. d p.
13	58.71	26.5	30.4	24.1	86.3	NW quad.	.8	3.7	Ci.	Cu., Cu.-N. NE	3.6	Ω² ● ⌈↯ a. ↯ p.
14	57.58	27.2	32.6	24	82.8	WNW	1	3.8	Ci.	Cu. N quad.	------	Ω² a. ⌒ ⌈↯² ↯ d p.
15	55.99	27.5	32.6	24.3	80.7	WNW	1.2	6.7	Ci. S	Cu. N, NNW	1	Ω² a. ⊕° ● p. ◯²
16	54.39	28	32.6	25.2	77.7	W quad.	1.5	7.5	Ci. SE	Cu. NW	------	◯² a. p.
17	53.76	29	34	25.8	64.2	SW quad.	1.3	6.8	Ci. E	Cu. SW	------	◯² a p.
18	55.66	28.6	33.6	25.4	74.1	S, SE	1.2	5	Ci.-S. NE	S.-Cu. SSW	------	Ω² a.
19	56.68	28.2	32.5	24.5	79.5	Variable	.2	4.5	Ci. NE	Cu. SW	------	Ω² a. ↯ p.
20	57.91	28.3	34.5	25	78.8	W, NNE	.5	3.8	Ci.-Cu. SE	Cu.-N. N	------	Ω² ⌒ p.
21	58.91	26.8	34	25	84.3	WNW	1.3	4.5	Ci.	Variable NNE	1	Ω² a. ● ⌈↯ p.
22	57.80	27	32.4	24.4	84.5	WNW, NW	1.7	7	Ci.-S. S	Cu., Cu.-N. NNE	35.9	Ω² a. ● p.
23	55.87	24.7	26.5	23.5	91.2	Variable	1.3	10	------	N. W	50.3	↯ a. ●² a. p.
24	58.22	27.5	32	23.5	83.3	SSE	.5	7.5	Ci.-Cu. NNE	Cu. SSE	5.8	
25	59.39	27	32	23.8	83.8	SSE	.8	6.3	Ci.-Cu., A.-Cu.	Cu. SE	2	⌈↯ a. ● a. p.
26	59	27.3	32.8	24.6	81	Variable	.7	7	Ci., Ci.-S.	Cu.-N. E	------	
27	58.18	26.9	32	24.3	83.3	ENE	1	8.5	Ci.-S.	Cu.-N., N. E	18.3	● a. p.
28	58	27.6	31	24.2	83.2	ESE, SE	1.8	8.5	Ci.-S. NNE	Cu.-N. SE	------	● ⌈↯ a. d p.
29	58.56	26.8	31.3	24.7	85.5	Variable	.8	8.7	Ci.	Cu.-N. ESE	------	⊎² d a.
30	58.81	25.8	31.1	23.5	83.8	Variable	.7	6	Ci.-S. N	Fr.-cu., N. SE, SSE	7.4	● d p.
31	59.12	27.5	31.8	23.5	80.4	Variable	.5	2.7	Ci.-S.	Cu. NE	------	Ω² a.
Mean	757.60	27.2	31.9	24.1	81.2	------	.9	6.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	166.5	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	-------	27.1	30.7	------	87.5	W	0.7	7.2	Ci.-S. N	Cu. E, NE	52.1	d a. ●^{2} ϟ p.
2	-------	25.5	31.1	------	93.2	NW, SE	.3	7.2	Ci.	N.	19.6	≡° a. ● p.
3	-------	25.7	29.5	------	91.3	SW, E	.3	8.8	Ci.-S. NW	Cu.-N. S	4.8	≡° ● a.
4	-------	25.5	30.4	------	92	SE quad.	.5	10	Ci.-S.	N.	3.8	●° a. p.
5	-------	26.5	31.7	------	90	SE, W	.3	9	Ci.-S. SW	Cu.-N. NE, W	9.4	● p.
6	-------	26.3	29.7	------	90.8	Variable	.5	9.3	Ci.-S. SW	Cu.-N. SW quad.	2	d ⌒° a.
7	-------	27	31.8	------	88.3	SW quad.	.8	7.8	Ci.-S. SW	Cu.-N. NE, S	4.1	⌈ϟ° p. ● a. p.
8	-------	26.5	30.8	------	88.7	NE, N	.3	7.3	Ci.-Cu. SW, N	Cu.-N. N	19.6	●° a. ● p.
9	-------	25.6	29	------	93.5	NW, NE	.2	9.2	Ci.-S.	Cu.-N., N. NE	26.1	●° a. ⌈ϟ ● p.
10	-------	26.5	30.8	------	91.3	Variable	.3	9.5	Ci.-S.	Cu.-N. W, N	8.7	● a. ϟ p. ⊤ a. p.
11	-------	27.6	31.3	------	88	NE	.5	6.5	Ci.-S.	Cu.-N. E	21.1	● ϟ ⊤ p.
12	-------	27.4	30.9	------	88.2	NE	.5	4.5	Ci.	Cu. E	------	● a. ϟ° p.
13	-------	28	31.1	------	88	N, NNE	.8	4.7	Ci. SE	Cu. NE	------	ϟ° p.
14	-------	28	31.2	------	85.3	N, NE	.7	5.7	Ci., Ci.-S.	Cu. NE	------	ϟ p.
15	-------	28.2	31.5	------	86.8	N, NNW	.3	6.7	Ci.-S.	Cu.-N. N	12.2	ϟ p.
16	-------	27.7	31.3	------	87.3	WNW, W	.8	9.3	Ci.-S.	Cu.-N. NW, N	------	●^{2} a. d° p.
17	-------	28	33.4	------	86.3	SW	.5	7.8	Ci.-S.	Cu.-N. SE, W	------	ϟ° p.
18	-------	28.3	34.2	------	84.2	SW	1.2	8	Ci. NE	Cu.-N. S	------	
19	-------	27	32.2	------	90.2	SSW	.5	5.8	Ci.-S. SE	Cu.-N. SW, N	5.6	● ⊤ p.
20	-------	27.2	31.2	------	87.7	NW, N	.3	3.3	Ci.-S. NW	Cu. SE	------	
21	-------	27.6	31.6	------	88.5	NW	.3	4.5	Ci.-S.	Cu. E	53.1	Ω a.
22	-------	27.7	31.7	------	88.2	N, NW	.5	6.	Ci. SE	Cu.-N. N	15.2	●^{2} ⌈ϟ^{2} a. ⌈ϟ° p.
23	-------	26	27.8	------	95.2	W	1.5	10	Ci.-S.	N. NW	15.2	● ⌈ϟ a. p.
24	-------	26	29.9	------	92.3	SW, W	.7	9	Ci.-S.	Cu.-N. S, E	3.3	● a. p. ϟ ⌈ϟ° p.
25	-------	27.6	31.2	------	88.2	ENE, NE	.3	6.5	Ci.-S., Cu.	Cu. S	41.1	●^{2} ⌈ϟ p.
26	-------	27.6	30.9	------	87	NE	.8	8.2	Ci. SE	Cu. E	1.8	● a.
27	---•---	27.8	31.3	------	83.7	NE	1.8	8.2	Ci.-S.	Cu.-N. E	13	● p.
28	-------	27.6	30.7	------	84.2	NE quad.	1	9.7	Ci.-S. NE	Cu.-N. SE	2.3	● a.
29	-------	26.8	31.5	------	89.2	E, NNE	.3	8.8	Ci.-Cu. SE	Cu.-N. SE, S	11.2	● ⌈ϟ° p.
30	-------	26.2	29.7	------	90.3	NE	.5	8.7	Ci.-S.	Cu.-N. S	17.2	● a. ⌈ϟ° ● p.
31	-------	27.4	30.8	------	87	Variable	.5	7.2	Ci.-S.	Cu.-N., Cu. SE	------	
Mean	-------	27	31	------	88.8	------------	.6	7.6	------------	------------	------	
Total	-------	------	------	------	------	------------	------	------	------------	------------	362.5	

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. Upper.	Clouds. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*0–12.*	*0–10.*			*mm.*	
1	757.91	25.9	31.2	22.1	86.5	N	1	6.3	Ci. E	S.-Cu. NE	0.5	ϖ Ω a. ϟ p.
2	57.46	27	31.2	23.1	83.2	SW	1.7	7.3	A.-Cu.	S.-Cu. SW	7.6	d a. ϟ p p.
3	57.25	27.6	29.5	25	81.3	SW	3	9.7	A.-Cu.	S.-Cu., Fr.-N. SW	4.6	p° d ● p.
4	56.54	26.9	29.7	23.6	85.7	SW	3	9.8	A.-Cu.	Fr.-N. SW	39.1	●° a. ⌈ϟ p^{2} p.
5	56.46	27	30	25.1	85	SW	2.3	9.8	A.-Cu.	Fr.-N., S.-Cu. SW	35.3	p a. p.
6	57.12	27.5	30.4	25	83	WSW, SW	2.5	9.2	A.-Cu.	S.-Cu. SW	.8	p a. p° p.
7	58.44	28.4	32.7	24.8	77.2	SW	1.3	7	A.-Cu. NW	S.-Cu. SW	------	ϟ a. p.
8	59.08	26.6	29.7	24	87.2	Variable	.5	9.5	Ci.-S.	S.-Cu.	.3	⊤ ≡ a. ϟ p.
9	58.90	25.6	27.5	23.5	91	N, W	1	9.2	A.-Cu.	S.-Cu. W	7.9	ϟ ● a. d a. p.
10	57.95	25.1	30.5	22.7	91.5	Variable	.7	7.3	A.-Cu.	S.-Cu. N	1	d a. ● ⊤° ϟ p.
11	58.29	25	30	22.4	92.3	N	1	4.3	Ci.-S.	S.-Cu. ESE	14	Ω^{2} a. ● ⊤ ϟ p.
12	59.47	25.5	31.7	21.2	89.2	N	1	2.5	A.-Cu.	S.-Cu. E	1.5	Ω^{2} a. p° ⊤° ϟ p.
13	58.94	26.3	32.9	22.2	87.8	N	1.2	3.7	Ci.-S.	Cu., Cu.-N. NE	10.9	Ω^{2} d ⌒° ⊤ p. ϟ
14	57.85	26.7	33	23.1	84.8	N	1.2	4.3	Ci.	Cu. NE	------	⌒° a. d ϟ p.
15	56.27	27.2	33.5	23	82.5	N	.8	5.8	Ci.-S.	S.-Cu. N, NE	------	◯ d a. ϟ p.
16	54.48	26.8	31.4	23.1	85.8	W, N	2.3	7.7	Ci.-S. NE	S.-Cu. W	3.8	◯ a. p p.
17	53.47	28.8	30.5	26.7	74.8	SW	5.2	8.3	Ci.-S.	S.-Cu. SW	------	↙° a. p. ⊕ p.
18	55.61	29.4	32.2	27.5	74.5	S quad.	2.5	7.7	Ci.-S.	S.-Cu. SSW	------	
19	56.84	28.1	32.9	24.4	81.2	Variable	1.2	3.3	Ci.	S.-Cu.	------	ϟ p.
20	58.09	27.4	32.5	23.6	84.8	N	.8	3.3	Ci.-S.	Cu. N	------	ϟ p.
21	59.19	26.7	31.7	23.6	87.5	N	1	3.5	Variable	Cu. NE	7.6	Ω ● a. ϖ p.
22	58.17	26.1	30.3	23	89.5	N	.8	7	A.-Cu.	S.-Cu, NE	32.3	Ω^{2} a. ●° a. p.
23	55.30	25.7	27.7	24	91.7	SW quad.	3	10	A.-Cu.	N. W	27.7	↙° ● a. p. ⊍ p.
24	58.19	26.3	30.4	23.9	89.5	SE quad.	1.2	8.3	Ci.-S., A.-Cu.	S.-Cu. S	5.3	⊤ ●° ⊍ ϟ p.
25	59.54	26.8	31.1	23.4	89	Variable	1.2	7.2	A.-Cu. SE	S.-Cu. ESE	5.6	⌒ ⊤ d ● ϖ ϟ
26	59.24	26.8	33.6	23.1	86.7	N	1.2	5.3	Ci.-S.	S.-Cu. E	1	ϖ Ω a. d ϟ ⊍ p.
27	58.63	26.5	32.4	24	89.2	NE	1.5	8	Ci.-S.	S.-Cu. E	11.2	⌈ϟ° p p. ϖ d a. p.
28	58.10	27	31.9	23.3	86	Variable	1.3	8.7	A.-Cu. SE	S.-Cu. SE	------	⊤° ⊍ p.
29	58.91	25.1	31.7	23	92.7	Variable	.8	9.2	A.-Cu. E	S.-Cu. SE	33.3	●^{2} ⌈ϟ ϖ p.
30	58.71	26.4	32.9	22.8	84.5	N	1.2	6.7	Ci.-S.	S.-Cu. E	1	⊍ a. p° ϖ ϟ p.
31	59.22	26.4	32.7	22.5	84.3	N, E	1.3	5	Ci.-S.	S.-Cu. E	2.8	⊍ Ω a. p° ϖ p.
Mean	757.73	26.7	31.3	23.6	85.8	------------	1.6	6.9	------------	------------	------	
Total	-------	------	------	------	------	------------	------	------	------------	------------	255.1	

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.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.					mm.	
1	757.40	28	32.7	23.5	78.5	ENE	------	4	Ci.-S.	ESE	Cu.		------	◯ a.
2	56.80	27.2	33	23.1	82.2	W quad.	------	6	Ci.-S.		Cu.-N.	SW	39.4	d° ●° a. ⚡ p.
3	56.38	25.7	29.5	23.5	90.7	W	6.8	9.7	Ci.-S.		Fr.-N.	SW	53.8	⊤ a. ⚡² p. ● a. p.
4	55.65	25.8	29.9	24	90.2	SW	7.6	8.5	Ci.-S.		Fr.-N.	WSW	20.8	● a. p.
5	55.20	26.2	30.9	23.9	89.5	WSW	9.8	8	Ci.-S.		N.	WSW, SW	6.6	d² a. ● p.
6	56.12	26.6	31.1	24.4	88.8	WSW	8.1	7.3	Ci.-S.		Fr.-N.	WSW	14.7	d ● a. ⚡ p.
7	57.78	27.1	32	24	84.2	SW, W	5.6	9.2	Ci.-S., A.-Cu.		N.	WSW	------	⚡° p.
8	58.50	26.8	31.7	25	85.2	W	3.9	9	A.-Cu.	SE	N.	WSW	8.4	● a. p.
9	58.24	25.8	30.8	22.9	86.8	WSW	6.2	9.2	A.-Cu.	NE	Fr.-N.	WNW	4.8	● ⊤ d ⚡ p.
10	57.24	26.3	30.2	23.1	88.5	E, ENE	5.5	6.3	Ci.-S., Ci.		N.		36.3	d ● a. ⌒ d² p.
11	58	27.8	31.1	24.4	84.8	E	7.4	4.5	------		Cu.-N.	ESE	1.8	● a. d a. p.
12	59.20	28	31.9	23.9	82.3	E	8.6	3	Ci.		Cu.	ENE	------	d² a.
13	58.80	28.2	32.7	24.7	81.5	NE	9.6	3	Ci.		Cu.-N.	NE	.3	●° a. d ⚡ p.
14	57.67	28.9	32.6	25.9	75	NE	11.3	1.2	Ci.		Cu.		------	⚡ p.
15	56.10	27.6	33.6	22.8	80.5	NE	8.6	3	Ci.	SE	Cu.	NE	.5	● ⌒ ⚡° p.
16	53.60	27.6	32.1	24.1	82.2	W	9.4	8.2	Ci.-S.	ESE	Cu.	NNW, NW	.3	◯° ⚡ p.
17	51.22	28.1	30.2	26.5	78.9	SW	20.3	10	Ci.-S.		Fr.-N.	WSW	.3	d a. ↙° p.
18	54.32	28.4	32	25.6	79.5	SW quad.	8	7.2	Ci.-S.		Cu.-N.	SW	------	d° a.
19	56.12	27.8	33.3	23.9	82.9	SW	4.6	4.7	Ci.-S.		Cu.-N.	SW, WSW	------	≡° a. ⚡ p.
20	57.77	27.3	33	22.6	82.7	SSE, ESE	3.6	1.3	Ci.	SE	Cu.		------	⚡° p.
21	59	27.9	33.2	23.1	81.2	E, NE	7.1	.5	Ci.		Cu.		------	≡° a.
22	58.07	27.6	32.9	22	80	NE	8.9	3.8	Ci.	SE	Cu.		14.5	⊍° ⚡ p.
23	52.80	24.6	27.6	22.4	94.3	W	15.6	10	Ci.-S.		N.	N	100.6	d ●² a. p. ↙ p.
24	57.11	27.6	31.5	24	86.5	SW	5.9	9.3	Ci.-S.		Cu.	SSW	.5	● a. ⚡° p.
25	59.28	28	30.9	24	83.2	E	11.3	3.5	A.-Cu.	SE	Fr.-Cu.	E	3	d a. p. ⚡ p.
26	59.37	27.4	31.5	25	87.3	E	10.1	4.8	Ci.		Cu.	ENE	69.1	● a. ●² p.
27	58.71	26.9	30.2	24	90.5	NE quad.	15.3	7.5	Ci.		Fr.-N.	ENE	42.7	● a. p.
28	57.96	27.7	30.3	23	86.5	E, ENE	13	8.5	Ci.-S.		Cu.-N.	ESE	2.5	● a.
29	58.57	27.6	30.5	25	85.7	ENE, E	9.7	9	Ci.-S.		Cu.-N., Fr.-N.	E	22.9	⊤ ⚡ d° p.
30	58.79	27.3	30.8	22.9	81.2	ENE	13.5	5.3	Ci.-S.		Cu.	ENE	1.5	● a. d° p.
31	59.29	27.4	31	24.6	82.7	E	11.8	3	Ci.	N	Cu.-N.	ENE	7.4	● a. p.
Mean	757.13	27.3	31.4	23.9	84.3	------	9.2	6.1	------		------		------	
Total	------	------	------	------	------	------	------	------	------		------		452.7	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4 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.		Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.					mm.	
1	757.74	27.1	29.7	24	84.8	N	10.6?	6.7	Ci.		N.	NE	20.5	● a. ⚡° ⊕ ⊍° p. d
2	56.74	27.2	31.9	23.4	81.5	SW	11.4	7.2	Ci.	E	Cu.	W	1.3	≡° Ω² a. d [⚡ p. ⊍² ⊕
3	55.72	28	32.4	25.5	75.8	SW	13	8.7	Ci.	E	S.-Cu.	W	------	[⚡ d p.
4	55.08	27.4	32.2	23.8	80.3	SW	7.3	9.8	Ci.	EbyS	S.-Cu.		------	[⚡ d ⚡ p.
5	54.78	27	31.5	24	81.2	SW	8.1	8.5	Ci.-S.		S.-Cu.	W	.8	[⚡ d p.
6	55.34	26.8	31.9	24.6	84.3	SW	------	9.7	Ci.		S.-Cu.	WSW, W	18.6	[⚡ ● d p.
7	57.39	26.5	32.2	23.4	87.5	Variable	4.9	9.5	A.-Cu.	E	S.-Cu.	S	2.8	[⚡ ● d° p.
8	58.31	26.8	32.5	23.7	86.5	NWbyN	4	9.5	Ci.-S.	EbyN	Cu.	SW	.5	d a [⚡ d ⚡° p.
9	58.74	25.4	31.7	23.4	90.2	SW	------	9.8	Ci.-S., Ci.		S.-Cu.	NW	25.4	d a. [⚡ ● d p.
10	57.94	26.8	30.7	23	85.5	N	15.1	6.7	Ci.		S.-Cu.	NE	41.9	d ⌒ a. d p.
11	57.86	27	30.4	24.4	90.3	N, NEbyN	9.8	8.3	Ci.		S.-Cu.	NE	.3	d ● a. d ⊤° p.
12	59.14	27.4	32.3	23.1	84.8	NE, NNE	12.7	2	Ci.	E	S.-Cu.	NE	.5	Ω d a. ⚡ p.
13	59.04	28.8	32.7	25.2	80.4	NE	13.5	6.3	A.-Cu.	NE	Cu.	NE	7.1	d a. ⚡ ● p.
14	58.18	28.6	31.5	25.1	77.5	N	16.1	4.8	Ci.	ENE	S.-Cu.	NE	.3	d a. p. ⚡ p.
15	56.78	28.2	30.5	26.5	80.2	N	17.8	6.3	Ci.		S.-Cu.	NE	2.8	d ●° a. ⚡ p.
16	54.24	28.1	31.9	24.8	81	SW	7.9	8.8	Ci.-S.		S.-Cu.	N, NNE	------	d ◯ a.
17	49.98	28	29.4	26.2	76.5	WSW	------	10	Ci.-S.		S.-Cu.	SW	------	⚡ a. ↙ [⚡ d p.
18	52.50	28.3	32	25.2	75	SSW	2.8	9.7	Ci.-S.		S.-Cu.	SW	------	∞ a.
19	55.54	28.1	33.5	25.2	78.8	S quad.	5.1	7.3	Ci.		S.-Cu.	S by W	------	
20	57.78	27.6	32.9	24.1	84.2	Calm	2	3.7	Ci.		S.-Cu.		------	Ω° a. ⚡ p.
21	59.19	27.8	32	23.8	85.1	N	5.4	3.7	Ci.	E	S.-Cu.	NE	------	⚡ Ω ≡° a. ⚡ ⊕° p.
22	58.70	28.7	31.5	27.2	79	N	------	5	Ci.	E	S.-Cu.	NNE	2.5	⚡ a. p. ⊕° p.
23	54.61	25.9	28.2	23.6	88.3	NW	14.7	10	Ci.-S.		N.	N quad.	188.8	⊤° ● a. ↙ ● p.
24	54.79	26.8	30.8	23.6	86.5	S quad.	------	10	Ci.-S.		S.-Cu.	S by E	8.1	↙° ● a.
25	58.98	27	32.3	24.6	87.2	SW	5.6	7.5	A.-Cu.	SE	Cu.	SE	10.9	Ω° d [⚡ ● ⚡ ≡° ⊕
26	59.39	27.6	31.5	23.8	86.2	NE	13.6	4.7	Ci.		S.-Cu.	NE	------	Ω a. ⚡ p. ⊕ a. p.
27	58.83	28.1	30.3	26.8	84.2	NE	18.6	7.2	Ci.		S.-Cu.	NE	.8	d a. ● ⚡ ⊕ p.
28	58.02	27.8	31.5	26.3	86	NE	15.7	9	Ci.	ESE	S.-Cu.	NE	3.8	⊕ d a. ⊤° ● ⚡ p.
29	58.50	26.3	30.8	23.6	90	SW	5	10	Ci.-S.		S.-Cu.	SE	28.7	d [⚡ ● p.
30	58.52	27.4	31.7	23.6	84.8	NE, ENE	9.4	8	Ci.-Cu.	SSE	S.-Cu.	ENE	.8	d a. ⊕ [⚡ ⚡ d p.
31	59.21	27.3	32.5	23.1	82.2	NE	7.6	4.8	Ci.	NE	Cu.	NE quad.	------	⊕ Ω a. ⊕° p.
Mean	757.02	27.4	31.5	24.5	83.4	------	10.3	7.5	------		------		------	
Total	------	------	------	------	------	------	------	------	------		------		367.2	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	757.60	27.5	33.3	23	78.8	NNE, NW	1.5	7.2	Ci.-S.	Cu.-N. NE	0.8	⏀ Ω^2 a. ●° ◡ p.
2	56.71	26.8	29.8	23.8	83.5	SW	1,7	9	Ci.-S.	Cu. NW	13.4	Ω^2≡°◡d°●°ϟ◯
3	55.88	26.1	29.9	24.3	87.2	Variable	1.4	7.8	Ci.-S.	Cu.-N. SWbyW	15.9	d a. ● ◯ a. p.
4	55.67	25.5	28.1	23.9	90.1	NE	.7	9.5	Ci.-S.	Cu.-N. SW, WSW	8	≡ d ● a. p. Γϟ° p.
5	55.34	26.5	31.4	23.5	82.7	NW	1.4	9.7	Ci.-S.	Cu.-N. WNW	------	d ◡ ≡° a. ◯ a. p.
6	55.31	25.8	29.4	24.4	87.7	W quad.	1.3	10	A.-Cu.	Cu.-N. W	24.8	◯ a. ● p. d a. p.
7	57.14	24.8	27.8	23.5	93.5	NNE, ESE	1.2	10	Ci.-S.	Cu.-N. SbyW	91.9	≡ p. d ● a. p.
8	58.50	26.2	28.9	23.4	86.7	Variable	.8	9.5	Ci.-S.	Cu.-N. SbyW	4.4	◯ a. ⊤ d ● p. ≡
9	58.78	26.1	28.5	24.2	89.8	NNE	.8	9.7	Ci.-S.	Cu.-N.	4.7	●° a. d ≡ a. p.
10	58.02	26.4	32	23	84	NNE	1.2	6.3	Ci.-S.	Cu.	------	≡° d° a. Γϟ p.
11	57.71	26.5	30.5	23.9	84.2	NNE	1.2	6.7	Ci.-S.	Cu.-N. NEbyE	------	Ω a. d° ◯ Γϟ p. ≡
12	58.86	27.8	33.3	23.3	79.2	NNE	1.3	4.3	Ci.-S.	Cu. ENE	------	Ω a. ◯ ϟ p.
13	59.03	27.7	33.9	22.8	75	NNE	1.5	1.5	Ci.-S.	Cu.	------	Ω^2 a. ϟ p.
14	58.17	27.2	33	23.1	81.3	NNE	1.7	5.3	Ci.-S.	Cu.	------	Ω a.
15	56.88	27.1	32	23.6	83.4	NNE	1.3	5	Ci.-S.	Cu. NEbyN	------	Ω a. ϟ d° p.
16	54.97	28.1	34.3	23.8	80.7	NNE, WNW	1.7	8.3	Ci.-S. E	Cu.	------	Ω a. ⊤ p. ◯° a. p.
17	50.70	27.6	28.9	25.2	85.3	WNW	3.2	10	Ci.-S.	Cu.-N. NW	43.8	Γϟ ● a. ↙ ● p.
18	51.54	28.6	29.7	25	79.4	SW quad.	4.7	10	Ci.-S.	Cu.-N. SWbyW	.5	↙ ● a.
19	55.38	27	28.6	25.2	90.2	S	1.8	9.8	Ci.-S.	Cu.-N. SSW	10.8	⌒ ●° ◯° a. ↙ ● p.
20	57.64	26.7	29.3	24.4	90.5	NE quad.	1.2	8.2	Ci.-S.	Cu. S by E	------	●° a. ϟ° p. ≡ a. p.
21	59.08	26.8	30.4	24.4	90.4	NNE. SSW	1.3	6	Ci.-S.	Cu. E by S	------	Ω a. ≡ Γϟ a. p.
22	58.79	27.3	31.6	24.1	89.2	N quad.	1.2	6.8	Ci.-S.	Cu.-N. NEbyE	------	Ω a. d° p. ≡ ϟ a. p.
23	56.33	26.9	31.7	24.1	87.2	NW quad.	1.5	8.8	Ci.-S. ESE	Cu.-N. NNE	23.5	≡° Ω ◯° a. ●° p.
24	52.99	25.4	27.6	23.6	88.8	Variable	3.8	10	Ci.-S.	Cu.-N. SSW	115.6	↙ ● a. p. ◡° p. ●^{2}
25	58.40	26.4	31.2	23.9	89.7	NE quad.	1.2	8.3	Ci.-S.	Cu. SSE	3.8	◯° a. ●° Γϟ p. ≡
26	59.21	27.3	32.8	23.7	84.5	NE quad.	1.3	5.5	Ci.-S.	Cu. E, ENE	------	Ω^2 a. Γϟ d p. ≡
27	58.66	27.6	32.4	23.6	80	NE quad.	1.8	7.3	Ci.-S.	Cu. ENE	.3	⊤ ≡ ●° p.
28	57.68	27.2	32	23.6	79.7	NE quad.	1.2	7	A.-Cu.	Cu. ENE	------	d° ϟ p.
29	58.06	26.6	29.2	24.6	85.3	E	1.2	9.7	Ci.-S.	Cu.-N. EbyS	.6	d a. p. Γϟ p.
30	57.58	27.2	32.1	24.5	79	ENE	1.7	9.5	A.-Cu.	Cu. E	------	≡ a. ◡ p.
31	58.58	27.5	32.6	25	77.5	E	1.7	8	Ci.-S.	Cu. E	------	◡^{2} a. d° p.
Mean	756.94	26.8	30.8	23.9	84.7	------	1.6	7.9	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	362.8	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	757.65	27.3	------	22.6	79.5	NW quad	0.8	5.5	Ci. SE	Cu. NE	------	Ω^2 ≡ a. ⏀^{2} ◡° p.
2	56.42	26.8	------	23.1	84.8	Variable	.8	7.8	Ci. NE	Cu.-N. WSW, W	25.4	Ω^2 ◯° ●^{2} ϟ ⊤⏀^{2}
3	55.78	25.7	------	23.4	90.7	ESE	.7	8.2	Ci.-S.	Cu. SW	12.9	Ω a. ● p. ◡^{2} a. p.
4	55.56	25.5	------	22.9	91.5	SE	.6	8.5	Ci.-S.	N. SW	16.8	Ω^2 ≡ ◡^{2} a. ● ϟ p.
5	55.12	26.5	------	23.4	86.3	W quad.	1.1	9.3	Ci.-S. NE	Cu. W, WNW	------	◡^{2}Ω^2≡a. ◯^{2}a. p.
6	55.05	26.6	------	23.6	84.2	SSW	.8	7.5	Ci.-S.	N. SW	21.3	⏀^{2} d° a. ●^{2} p.
7	57.26	25.6	------	23.9	92.5	SSE	1	9.7	Ci.-S.	N. S	5.8	●° a. p. Γϟ p.
8	58.53	26.2	------	23.4	88.7	SE	.9	8.7	Ci.-S. NE	N. SSW	11.2	Ω° ◯^{2} a. d^2 ● p.
9	58.88	25.2	------	22.8	91.5	Variable	1.1	10	Ci.-S.	N. Variable	48.8	⊕^{2} a. p. ●^{2} p.
10	57.99	26.3	------	22.8	88.2	NW	.8	6.2	Ci., Ci.-S.	Cu.-N. NE	.3	Ω^2 ≡ a. ⊤ d^2 ϟ p.
11	57.90	26.2	------	23.7	87	NE quad.	1.1	7.2	Ci.	N. NE	1	Ω^2 ≡ d ⊕^{2} a. ϟ p.
12	59.21	27	------	22.9	78.6	N quad.	1.3	3.7	Ci.	Cu., Cu.-N. ENE	------	Ω^2 a. ◯^{2} ϟ p.
13	59.13	27.3	------	22.7	76.5	N quad.	.8	2.8	Ci.	Cu.-N. NE	------	Ω^2 a. ϟ p.
14	58.17	27.7	------	23.2	77	Variable	1	5.5	Ci.	Cu.-N. NE	------	Ω^2 ≡ a. ⊤ p.
15	56.88	27.8	------	23	77.2	NNW	.8	4.8	Ci.	Variable	------	Ω^2 ≡ a.
16	54.86	27.9	------	24	80.7	NW	1.1	6.8	Ci.-S. SE	Cu. NW	------	≡ Ω^2 a. ◯^{2} p.
17	49.14	26.2	------	24.6	86.7	SW	4.2	9.5	A.-S.	N. W	26.9	p° a. ●° ↙ p.
18	50.76	26.6	------	24.5	83.7	SSW	5.7	9.3	Ci.-S.	N. SW	------	↙ a. ⊕^{2}↙° p.
19	55.44	26.7	------	24	84.8	SSE, SW	1.1	8	Ci.-S.	Cu.-N. S	5.6	Ω° a. ● p.
20	57.50	27.9	------	23.2	81.3	SE	1	6.3	Ci.	Cu. S	------	Ω^2 a. Γϟ ⌒° p.
21	58.92	27.6	------	24	83.6	NE, ENE	.9	5.7	Ci.	Cu.-N. ESE	------	Ω° a. ϟ p.
22	58.82	27.7	------	23.5	80.5	NW	1.2	6.3	Ci.	Cu.-N. NE	------	Ω^2 ≡ a.
23	56.20	26.1	------	23.9	89.7	NW	2	9.3	Ci.-S.	N. N quad.	------	◯^{2}≡a. ⊕^{2}●^{2}Γϟp.
24	52.19	------	------	------	------	S quad.	6.7	9.2	Ci.-S.	N. SE, S	228.6[1]	↙^{2} ●^{2} a. ⏀^{2} p.
25	58.62	------	------	------	------	ESE, E	.8	6.5	Ci.-S. NW	Cu. S	.5	Ω^2 a. ◯^{2} d p.
26	59.50	------	------	------	------	NE quad.	1.2	5.8	Ci.-S.	Cu. SE	------	Ω^2 ⊕^{2}a. ⏀^{2}p.
27	59.03	------	------	------	------	ENE	1.2	7	Ci.-S.	Cu.-N. E	------	⏀^{2} p.
28	58.13	------	------	------	------	NE quad.	1.1	6.7	Ci.-S. S	Variable E	4.3	Ω° a. d° Γϟ ● p.
29	58.40	------	------	------	------	Variable	.8	9.8	Ci.-S.	Fr.-N., N. ESE	2.8	Ω° ⊕^{2} a. ●° p.
30	58.28	------	------	------	------	ESE	1.9	8.7	Ci.-S.	N. E	------	
31	59.32	------	------	------	------	ENE, ESE	.9	7.3	A.-Cu. S	N. E	------	d° a. ⏀^{2} a. p.
Mean	756.92	26.7	------	23.4	84.6	------	1.5	7.3	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	412.2	

[1] Amount of rainfall for the 23d and 24th.

METEOROLOGICAL DATA, ETC.—Continued.

DAGUPAN.

[$\phi=16°\ 03'$ N; $\lambda=120°\ 20'$ 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	757.66	28.2	34.3	23.9	83.7	SE, NW	8.1	6.3	A.-Cu.	S.-Cu.		Φ p.
2	56.28	27.6	32.2	24.7	87.5	NW, W	9	9.3	A.-Cu.	S.-Cu. NW		ω Φ ◯° a. ω^2 p.
3	55.68	26.2	33.2	23.9	92.5	S	6.9	8.8	Ci.-S.	S.-Cu. SE	27.4	ω Φ ◯° a. p^2 ϟ p.
4	55.37	26.8	32.1	23.4	87.6	S quad.	9.5	9.5	A.-Cu.	S.-Cu.		≡ a.
5	55.20	26	28.1	24	91.2	NW	12.7	9.8	A.-Cu.	S.-Cu. NW	33.7	ω Φ d a. ● p.
6	54.76	25.8	31.7	23.1	89	Variable	9	8.8	A.-Cu.	N. NW	16.2	● a. p.
7	56.94	25.8	32.8	23.5	93.2	SE	10.4	8.5	A.-Cu.	S.-Cu. SE, SSE	3.6	ω Φ a. d p p.
8	58.48	26.5	31.8	23.6	90.2	Variable	7.7	9.7	A.-Cu.	S.-Cu. SSE	3.5	p p.
9	58.82	26.5	31.6	24.5	91.8	N, NNW	6	8.7	A.-Cu.	S.-Cu. NW	19.8	d a. p p.
10	58	27.5	31.4	23.3	84.3	NW quad.	9.2	3.3	Ci.-S.	S.-Cu.		
11	57.76	27.6	32.9	24.8	84.5	SE	6.9	6.7	A.-Cu.	S.-Cu. SE, ESE		≡ ○ a.
12	58.87	28.2	33.9	23.4	80.2	SE	7.2	3.3	Ci.-S.	S.-Cu.		ϟ p.
13	59.07	28.6	34.4	24	80.6	Variable	8.6	3.8		S.-Cu.		ϟ p.
14	58.12	28.8	34.2	24.5	80.3	SE, NW	8.8	3.7	Ci.	S.-Cu., Cu.		≡ a.
15	56.92	28.3	33.9	24.2	84	Variable	7.6	2.5	Ci.	S.-Cu., Cu.		ϟ p.
16	54.81	28.1	32.2	24	85.8	NW	12.3	7	Ci.-S.	S.-Cu. NW		Ω ≡° ○ a. ⊤ p.
17	48.08					NW quad.	46.3	10		N. NW	95	↙° ⊤ ● a. ↙ ● p.
18	49.61	24.1[1]	26.4	22.5	93.4[1]	SE, SW	21.8	9.8		N. SW	81	↙° ●^{2} a. p d^2 p.
19	54.85	26.4	31.7	24	89.2	SE	11.3	7.2	A.-Cu., Ci-S.	S.-Cu. SE	5.3	p p.
20	57.45	27.8	33.6	23.8	86.3	S quad.	6.7	6.2	Ci.	S.-Cu. SE		ϟ^c ⊤° p.
21	59	28.2	33.2	25.2	84.7	NW	7.2	3.8	Ci.	S.-Cu. SE		Φ ϟ p.
22	58.82	28.2	32	25.5	84.7	NW	11	5.7		S.-Cu. NNW		Φ p.
23	56.45	28	30.3	26.8	85.7	NW	19.9	9.3	A.-Cu.	S.-Cu. NNW	6.3	d^2 p.
24	50.63					SE	41.7	10	A.-Cu.	N. SE	35	ϟ ↙^{2} ● a. ↙ ● p.
25	58.07	27.4	33.4	23.6	82	SE quad.	17.7	8.8	A.-Cu.	S.-Cu.	1.8	p ω° ⊤ Φ p.
26	59.42	27.6	33.6	23.5	84.8	N	9.8	5.7	Ci.	S.-Cu.		Φ p.
27	58.74	27.9	33.6	23.9	81.2	SE, S	9.4	8.8	A.-Cu.	S.-Cu.		Φ a. ⌒ ≡° p.
28	58.04	27.5	35.1	23.3	78.7	S quad.	7.9	6.8	Ci.	S.-Cu.		d° p.
29	57.81	26.7	31.6	23.9	83.8	SE	10.2	9.2	A.-Cu.	S.-Cu. ESE		d° ϟ° p.
30	57.62	27.1	33.4	24	79.2	SE quad.	16.5	9.3	A.-Cu.	S.-Cu. SE		
31	58.65	27.8	33.4	24.5	74.7	SE	15.9	8.2	A.-Cu.	S.-Cu. SE		ω a.
Mean	756.65	27.3	32.5	24	85.3		12.7	7.4				
Total											328.6	

[1] From five observations.

BOLINAO.

[$\phi=16°\ 24'$ N; $\lambda=119°\ 53'$ E; barometer above sea, 8.5 meters; gravity correction not applied, —1.65 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0-12.*	*0-10.*			*mm.*	
1	757.53	27.7	30.9	24.9	83.8	SSE, NNW	1.7	9.3	Ci.-S.	Cu.-N.		Ω ≡° a. ◯^{2} p. Φ
2	56.22	27.6	31	25	83.8	W quad.	2.3	10	Ci.-S.	Cu.-N.	13.2	ω^2 ≡° Ω a. ● p.
3	55.21	26.6	29.3	24.8	87	S quad.	2	10		Cu.-N.	1.8	≡° ● a.
4	55.25	26.6	29.8	24.2	86.7	S quad.	1.8	9.3	Ci.-S.	Cu.-N.	1	● a.
5	55.15	25.7	27.8	24.1	90	N quad.	2.3	9.8	Ci.-S.	Cu.-N.	63.3	Γϟ d^2 a. ● p.
6	53.84	24.7	26.7	23.6	92.2	SSW	4.3	9.7	A.-Cu.	Cu.-N.	9.4	↙ ● a. ↙° ● Γϟ p.
7	56.44	26.3	28.9	24.1	90.2	SSE, SE	2.3	9.5	Ci.-S.	Cu.-N.	2.8	≡° a. ● p.
8	58.24	26.4	28.5	24.2	90.2	SE quad.	1.7	10	Ci.-S.	Cu.-N.	9.4	≡° a. Γϟ° ● p.
9	58.59	26.7	29.9	24.3	85.8	Variable	1.8	9.7	A.-Cu.	Cu.-N.	11.9	● a. p. ◯° p.
10	57.96	26.5	29.9	22.9	85.8	SSE, NNW	1.8	5	Ci.-S.	Cu.		≡° a.
11	57.48	27.2	30.8	23.9	86	Variable	1.2	6.5	Ci.-S.	S.-Cu.		Ω ≡° a.
12	58.84	27.7	30.7	24.4	83	E quad.	2.3	2.7	Ci.	S.-Cu.		Ω ≡° a.
13	58.96	28.4	31.6	24.9	81.6	SSE, WNW	2	5	Ci.-S.	Cu.		d ≡° a. ϟ p.
14	57.97	28.1	31.5	24.9	81.8	Variable	2.2	3.2	Ci.	Cu.		≡° Ω° a.
15	56.72	27.6	30.9	24.9	83.3	Variable	1.7	5.2	Ci.	Cu.		Ω° ≡° a.
16	54.89	27.7	30.7	24.2	84	N quad.	5	8.7	Ci.-S.	Cu. NNE, N	1.5	↙ d p.
17	48.83					NNW, WNW	9	10		N.	310.9	↙ ●° ⊤ a. ↙^{2} ● p.
18	47.44					SW	7.3	10		N., Cu.-N.	57.9	↙^{2} ●^{2} a. ↙° ● p.
19	54.25	25.7	29.4	23.7	92.2	SSE	3.2	10	Ci.-S.	Cu.-N.	1	●° a. ○ d p.
20	57.18	26.6	29.9	23.9	87.2	S quad.	1.5	10	Ci.-S.	Cu., Cu.-N.		Ω ≡° a. ⊤° ϟ p.
21	58.95	27.4	30.8	24.6	84.5	Variable	1.8	7.3	Ci.-S.	Cu., Cu.-N.		Ω ≡° a. ϟ p.
22	58.86	27.7	30.9	25.1	82.7	N quad.	2.3	7.5	Ci.	Cu.		≡ a.
23	56.72	28.4	30.8	27.2	83.3	N quad.	5	10	Ci.-S.	Cu.-N.		○ a. ↙° ●° p.
24	50.42	25.4	28.2	22.5	88.7	SE quad.	8.5	10		Cu.-N., N.	21.9	↙^{2} ● a. p.
25	57.49	27.3	30.9	24.5	84.7	SE quad.	3.8	9.8	Ci.-S.	Cu.-N.		Φ° p.
26	59.36	27.4	30.8	23.9	84.1	NNE	1.8	9.2	Ci.-S.	S.-Cu., Cu.		Ω ≡° a.
27	58.63	27.8	32	23.6	82.4	SE quad.	1.5	7	Ci.-S.	S.-Cu., Cu.		≡° Ω^2 a.
28	57.96	27.4	30.6	24.3	81.8	NE quad.	2	7.2	Ci.-S.	S.-Cu., Cu.-N.		≡° Ω a. Φ° p.
29	57.77	28.1	31.8	25.2	81.3	SE quad.	2.5	9.5	Ci.-S.	Cu.-N.		≡° a. Φ^2 p.
30	57.36	27.6	30.9	25.5	79.3	SE, SSE	2.5	10	Ci.-S.	Cu.-N.		≡° a.
31	58.48	27.5	31.7	24.9	79.3	SSE	2.5	10	Ci.-S.	Cu.-N.		≡° a.
Mean	756.42	27.1	30.3	24.4	85.1		3	8.4				
Total											506	

METEOROLOGICAL DATA, ETC.—Continued.

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1512.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).[1]	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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0–10.			mm.	
1	636.26	18.9	23	17	82.6	W	8.2	8	Ci.-S. SE	Cu. NE	-------	Ω a. ≡ p.
2	34.82	17.2	21.5	15.9	94.7	W	12.5	10	Ci.-S. ENE	Fr.-Cu. NNW	10.1	Ω^{2} ◯^{0} a. ≡ ● p.
3	34.08	17.3	21	15.9	97.7	W	10.7	9.8	Ci.-S. ESE	Variable	13	◯^{0} a. d ● p. ≡
4	33.84	17.2	21.5	15.4	94.3	W	9.8	10	Ci.-S.	Cu.	6.9	Ω a. d ● p. ≡
5	33.10	16	18	15.2	98.2	NW	15.7	10	A.-S.	Fr.-N. NW	139.2	⊕ a. ≡ ● a. p.
6	32.74	16.5	19	15.2	93.1	SW	20.9	8.8	Ci.-S., Ci.	Fr.-N. SW	19.8	↙ ● ≡ a. ●^{0} p.
7	34.98	17.7	22.4	15.3	92.3	E	8.2	8.2	Ci.-S.	Fr.-Cu. SW	12.2	Ω^{0} d^{0} a. ⊤ ● p. ≡
8	36.38	17.7	22.4	15.3	95.2	Variable	8.6	10	Ci.-S.	Variable	24.4	●^{0} Ω ◯^{0} a. ≡ ● p.
9	36.61	17.2	21.9	15.1	94.8	W quad.	9.5	9.5	A.-Cu. ESE	S.-Cu., Cu.	6.6	●^{0} a. ≡^{2} ● p.
10	36.31	18	22.3	14.8	96.5	Variable	8.3	6	Ci.	Cu.	.3	≡^{0} a. ●^{0} ≡^{2} p.
11	36.22	19	23.5	16.4	83	E	13.8	8.8	A.-Cu. NE	S.-Cu. ENE	-------	Ω^{0} a. ≡^{0} p.
12	37.40	19.2	23.9	16.4	85	E	12.6	5.5	Ci.	Cu. SE	-------	≡ p.
13	37.47	18.8	22.5	16.6	92.2	SW	6.7	6.5	-------	Fr.-Cu. SW	-------	Ω^{0} a. ≡ p.
14	36.57	18.6	23	15.8	92.5	Variable	7.9	5.5	Ci.	Cu., Cu.-N.	-------	Ω^{2} a. ≡ p.
15	35.66	18.6	24.1	15.6	91.8	N, W	8.1	5.8	Ci.	Fr.-Cu. NE	6.4	≡ ⊤ ● < p.
16	33.73	18.3	22.4	16.4	91.7	W quad.	9.2	9	Ci.-S. NNE	S.-Cu. NE	1.8	Ω a. ≡^{2} ● p.
17	25.39	17.2	18.7	16	98.7	N, W	-------	10	A.-S.	N.	689.7	●^{2} ↙ a. ● ↙^{2} p.
18	26.76	-------	-------	-------	-------	SW	-------	10	-------	N. SW	51.3	● ↙^{2} a. ↙ ● p.
19	33.49	-------	-------	-------	-------	S	-------	9.8	Ci.-S	S.-Cu. SSW	-------	≡ p.
20	35.80	-------	-------	-------	-------	S quad.	-------	8.8	Variable	Cu.-N. SW	17.3	● Ω^{2} d a. ≡ a. p.
21	37.28	-------	-------	-------	-------	SE, SW	-------	9.8	-------	Fr.-N.	1.3	Ω ● a. ≡ a. p.
22	37.16	-------	-------	-------	-------	Variable	-------	9.5	-------	Fr.-N. NE	-------	≡ a. p.
23	35.19	-------	-------	-------	-------	Variable	-------	8.8	Ci.-S. ESE	Cu.	12.7	Ω^{2} a. ≡ ●^{0} ⌒ p.
24	29.62	-------	-------	-------	-------	SE	21.6	10	A.-S.	N. SE	72.9	↙^{2} ● a. ↙ ● p.
25	36.20	-------	-------	-------	-------	ESE	13.8	9.8	Ci.-S.	S.-Cu. SE	-------	↙ ⊕ a. d^{0} p.
26	37.48	18.5	23.1	15.9	86.2	E	-------	5.2	Ci.	Cu.	-------	≡ ⦶ p.
27	37.29	18.3	22.2	15.2	86.1	ESE	18.4	7.5	A.-Cu. E	Cu. E quad.	-------	
28	36.72	17.9	23.1	14.8	83.1	E, SE	23.2	7.5	Ci.-S., A.-Cu.	Cu.	-------	d p.
29	36.36	19	23	17	85	E	28	8.5	Ci., Ci.-S.	S.-Cu. SE	-------	◯^{0} ≡^{0} p.
30	35.76	17.7	21.1	15.8	80.2	E	47	8.5	A.-Cu.	Cu. E	-------	d a. ↙ a. p.
31	36.86	17.7	21.6	15.3	85.2	E, ESE	30.4	7.2	Ci., A.-Cu.	Fr.-Cu. E	-------	◯^{0} p.
Mean	634.95	17.9	22	15.8	90.4	-------	15.4	8.5	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	1085.9	

VIGAN.

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

Day.	Pressure (mean).[1]	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	757.63	28.3	34.1	24	76.5	Variable	1	0.3	Ci.	Cu.	-------	Ω a.
2	56.34	26.6	31.2	23.9	86.5	S quad.	1	8	Ci.-S.	Cu.-N.	56.2	Ω d^{0} a. ● p.
3	55.27	26.8	30.5	23.3	86	S	1.5	8	Ci.-S.	Cu.-N. SW	2	●^{2} a. ⦶ p.
4	55.51	26.9	31.2	23.5	83.8	S quad.	1	6.8	Ci.-S.	Cu. WSW	36.3	●^{2} p.
5	54.93	24.1	25.4	23	94.8	Variable	1	9.8	-------	N. NNW	62.5	● a. ●^{2} p.
6	53.83	26	30.1	22.8	83.5	S quad.	1.3	9.2	Ci.-S.	Cu.-N.	16.8	● a. d p.
7	56.85	26.9	32.4	23.8	83.3	N quad.	.8	5.3	Ci.-S.	S.-Cu.	22.4	Ω a.
8	58.64	26.9	31.3	24	86.5	N	1.2	6.7	Ci.-S.	Cu.-N., S.-Cu.	7.1	● a. p.
9	58.97	26.8	31.9	23.4	83.6	Variable	1	4.2	Ci.-S.	Cu.	-------	d a. p.
10	58.13	27.4	31	23.9	82.8	Variable	.7	2	Ci.-S.	Cu.	-------	Ω a.
11	57.67	28.4	33.2	24	80.2	SE quad.	1	0	Ci.	Cu.	-------	≡^{0} Ω a.
12	59.18	28.1	32.6	25	80.3	N	.8	.3	Ci.	Cu.	-------	Ω a.
13	59.21	28.4	31.9	25.5	83.3	Variable	.8	2.2	Ci.	Cu. SW by W	-------	Ω ≡^{0} a. <^{0} p.
14	58.31	28.1	32.7	24.6	81.5	Variable	.8	.7	Ci.	Cu.	-------	Ω a. <^{0} p.
15	56.95	27.9	33.1	22.7	76.5	N quad.	1	0	Ci.	Cu.	.8	Ω a. ● p.
16	55.30	27.6	31.9	23.9	77.3	NE quad.	2	1.2	Ci.	Cu.	-------	
17	45.21	-------	-------	-------	-------	N, WNW	7.8	9.3	-------	N. N	137.9	↙ ● a. ↙^{2} ●^{2} p.
18	42.35	-------	-------	-------	-------	S	7.5	8.5	-------	N. SSW	81	↙^{2} ● a. ↙ ● p.
19	54.05	27.5	31.1	24.5	79.8	SE quad.	1.2	3.3	Ci.-S.	S.-Cu.	-------	≡^{0} a. ⦶ p.
20	57.62	27.3	31.6	23.9	81.8	Variable	.7	1.2	Ci.-S.	Cu. NE	-------	⦶ p.
21	59.39	27.5	31.9	24.6	82.3	Variable	.8	3.7	Ci.-S.	Cu.	-------	d a. <^{0} Ω ⦶ p.
22	59.15	27.4	32	24.5	83.7	N quad.	.8	2	Ci.-S.	Cu. N	-------	d a. ⦶ p.
23	57.20	27.3	30.9	23.6	82.7	N, NNE	1.5	4.3	Ci., Ci.-S.	Cu. N	-------	Ω ≡^{0} a. ∞ d p.
24	51.68	28.5	32.4	24.5	73.4	NE quad.	2.5	9.5	Ci.-S.	S.-Cu. SSE	-------	d^{0} ⦶ p.
25	57.92	27.3	32.4	23	78.5	Variable	1	6.2	Ci.-S.	Cu.	.3	≡^{0} a. d^{0} p.
26	59.73	26.9	31	23.9	86.2	Variable	1.2	.7	Ci.	Cu.	-------	Ω p.
27	59.01	27.6	32	23.5	83.2	Variable	.7	1.7	Ci.	Cu.	-------	Ω a.
28	58.17	27.5	32.6	23.3	76.6	N, NW by W	.5	1.7	A.-Cu.	Cu.	-------	Ω a. d^{0} p.
29	58.04	26.7	33	23	78.8	Variable	.8	2.7	Ci., Ci.-S.	Cu.	-------	Ω ≡^{0} a. ⌈< p.
30	57.66	28.2	35	23.5	69.3	NE quad.	.8	3.3	Ci.-S.	Cu.	-------	⦶ p.
31	58.72	28.4	34	25	66.5	Variable	.8	2.2	Ci.	Cu.	-------	
Mean	756.41	27.4	31.9	23.9	81	-------	1.5	4	-------	-------	-------	
Total	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	423.3	

[1] Not reduced to sea level.

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.			Rain, 24 hours beginning 6 a. m.	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	758.29	28	35	23.5	80	NW	1	7.2	Ci.-S.	Cu. N, NE	6.9	d a. ● ⊽ p.
2	55.34	26.8	31	24	86	SE	.5	9.2	A.-S.	Cu.-N. NE		
3	54.72	28.4	36	22.2	80.5	NW	.7	7.8	Ci.-S. SE, S	Cu.-N. NE		Ω ○° a. ↯ p.
4	54.94	26.4	29.4	24	87.7	NE	1	9.3		Variable N		d° p.
5	53.80	25.1	28	22.8	91.7	N	.2	10		N.	13.2	d a. ● p.
6	54.48	25.3	30.5	22.3	90.8	NW	.3	8.7	Ci., Ci.-S.	Cu.-N. E	3	≡° a.
7	57.12	26.8	30.8	24	86.3	NW	.2	8.8	Ci.-S.	Cu.-N., S.-Cu.		● a. d p.
8	58.58	25.5	30.8	23.5	90.2	NE	.5	8.3		Cu.-N. N, NE	3.8	d a. ● p.
9	58.90	26.2	32.1	23	87.8	SW	.2	7	Ci.	Cu.-N NE		Ω a.
10	58.57	27	32.6	24	88.2	NW	.5	9.5		Cu.-N. S, SE	3.3	● a. d p.
11	58.84	26.7	32.2	23.5	85.7	N, SE	.8	5.3	Ci.	Cu.-N. E	2.3	Ω a. ● p.
12	59.72	27.5	34.4	23	82.7	SE	.3	5.8	Ci.-Cu. E	Variable SW, SE		d a.
13	59.42	27.8	35.3	23	81.3	NW	.2	2		Cu. E		Ω a.
14	58.68	27.1	33.5	22.3	83.8	NW	.5	1.3		Cu. NW		Ω a.
15	57.80	26.3	32.5	21	83.3	N quad.	1.2	4	Ci., Ci.-S.	Cu. N, NE		Ω a.
16	55.27	26.4	30	24	90.5	NW	2	9.8		Cu.-N. N	96.8	● ◠ a. ●² p.
17	36.46					NW	9.5	10		N. N	143	↙ ●² ↙² ●² p.
18	44.21					SE	5.8	8.3	Ci.-S.	N. S		↙² ●² a.
19	54.42	27.9	34	21.6	76	Variable	.5	7.5	Ci.-S. S	Cu. SE		Ω a. ⊽ ↯ p.
20	57.12	28.9	35	23.1	77.8	SW	.3	6.3	Ci.	Cu. SE, S		Ω a. ⊽ ↯ p.
21	58.89	28.6	35.5	24	79.8	NW	.5	5	Ci.-S.	Cu. SE		Ω² a.
22	58.98	27.9	33.5	23.9	81.3	NW	.7	3	Ci.	Cu. SE		Ω a.
23	57.64	26.6	32.3	23.5	86	NW	1.7	7.3	Ci.-S., Ci.-Cu.	N., Cu.-N. N	16.5	Ω a. ∞ ● p.
24	55.24	25.9	30.5	23.7	87.3	NW, SE	1.3	8.5	Ci.-S.	Cu.-N. SE	37.3	d a. ● a. p.
25	59.44	26.7	32.5	23.6	88.8	SE	.5	8.5	Ci.	Cu.-N. SE		● d a.
26	60.40	27.5	34.5	23	81.4	Calm	0	5.2	Ci.-S.	Cu. SE		Ω a.
27	60.10	27.1	34	21.7	79.8	SE	.2	5.3	Ci.	Cu. SE		Ω² a.
28	59.82	26.5	31.4	22	83.7	N, S	.3	7.7	Ci.	Cu.-N. SE		Ω² a. d p.
29	59.42	25	31.6	23.3	92.2	Calm	0	9.5	A.-S.	Cu.-N. SE	31.2	⊤ a. ●² ⌐↯² p.
30	59.75	26	32.5	23	85.2	NE	.7	6	Ci.	Cu.-N. S	3.6	d a. ● p.
31	60.57	25.5	31.1	21.7	86.1	SE	.3	7.7	Ci.	Cu.-N. SE		d° a. p.
Mean	756.68	26.8	32.5	23	84.9		1	7.1				
Total											360.9	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		km. p. h.	0-10.			mm.	
1	758.82	28	32.5	24.4	82.3	NE	7.5	4.2	Ci. E	Cu.-N. N	19.6	● p.
2	55.13	26	28	24.5	89.7	W	15.4	10	Ci., Ci.-S.	Fr.-N. N, NNW	5.6	● a. p. ↯ p.
3	55.04	27.5	32.2	24.2	81.3	Variable	7.2	8.7	Ci., Ci.-S. NW	S.-Cu.	29.7	↯ ⊤° p.
4	55.20	25.5	27.5	24	88.7	NW	16	10	Ci.-S.	S.-Cu., N. N	46.2	● a. p.
5	53.40	23.9	25.4	23	92.5	W, SW	18.7	10		N.	22.3	● a. p.
6	54.78	25	28.5	23	88	SE, E		10		S.-Cu., N E	41.1	d a. ● p.
7	57.55	24.6	27	22.6	91	Variable	9	10		S.-Cu. E	60.4	● a. p.
8	59.07	25.4	29.1	22.6	86.5	E	7.2	8.7		S.-Cu. E	5.8	● a.
9	59.18	26.8	31.3	23.5	84.3	NE quad.	6.5	6.2		Cu.-N. E, NE	1.8	p a.
10	59.05	27	30	24.2	87.7	NE	9.4	6.7		Cu.-N. E	6.9	● a. ◠ p.
11	59.20	27.7	31.6	24.7	81.5	NE	11.8	1		Cu.-N. NE		⊤° p.
12	60.10	27.4	32	23.5	84.1	SE, E	9.9	.2		Cu.-N.		Ω a.
13	59.81	27.8	32.3	24.1	82.8	NE	10.5	0				Ω a.
14	59.20	27.3	32	24	82.2	NE	6	.3		Cu., Cu.-N.		Ω a.
15	58.38	27	31.5	24	86.3	W, NE	7.5	2.7		Cu.-N. NE	9.6	Ω ◠ a. ● p.
16	55.96	27.9	30.5	24.1	79.5	N	19.5	8.3		Cu.-N. N	39.6	● a. ↯ p.
17	36.88					NNW		10		N. N		↙ ● a. ↙² p.
18	44.09					SE		9.2		S.-Cu. SE		●° a. ↙² a. p.
19	54.64					Variable	7.6	8.3	Ci. NW	S.-Cu.		≡° a.
20	57.63					NE	4.7	6.3	Ci. E	S.-Cu., Cu.-N.		Ω a. ↯ p.
21	59.54					NE	3.7	4.3	Ci.	Cu.-N. S		
22	59.58					NE	4.6	.3		Cu. SE	.5	Ω a.
23	58.80					NE	12.3	8.5	Ci., A.-Cu. E	Cu.-N. NE	2.5	●° a. p.
24	56.18					NE, SE	14.6	9		S.-Cu. E, SE	25.4	●° a. ● ↯ ⊤° p.
25	59.70					SE	7.3	8.2		S.-Cu. S, SE	.3	●° a. p.
26	60.74					NE, SE	5.2	2.8	Ci. E	Cu.-N. SE		Ω a.
27	60.47					SW, E	4.5	2.8	Ci.	Cu.-N. SE		Ω a.
28	60.04					NE, E	5.8	2.3		S.-Cu. E		Ω a.
29	59.59					SE, ENE	7.6	6.8	A.-Cu. S	Cu.-N. S, SE	1	Ω a. ◠ ● ↯ p.
30	60.32					E	6.5	7.7	A.-Cu. E	S.-Cu. SE		
31	60.87					SW, SE	6.6	2.3	Ci. E	Cu.-N. SE		Ω a.
Mean	757.06	26.6	30.1	23.8	85.5		9	6				
Total											318.3[1]	

[1] 29 days of observation. The amount of rainfall could not be measured on the 17th and 18th.

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	22	96	66	10	8	1	● a.
2	33.8	22.5	91	70	8	6	------	Ω a.
3	31.3	22	96	72	8	8	1.5	Ω² ● a. ◯ p.
4	32.8	22.4	95	70	7	8	------	Ω a. ◯ p.
5	33.5	21.7	95	72	7	8	------	Ω² a.
6	32.2	22.4	95	75	9	8	1	Ω a. ●° p.
7	33.6	22.4	95	66	7	6	------	Ω a.
8	31.4	22.6	93	79	7	10	1.5	Ω a. d ●° p.
9	32.5	23.2	95	66	10	7	------	●° d° a.
10	32.5	23.2	94	71	8	8	12.2	d° a. ●² p.
11	30.6	21.6	95	75	8	8	------	Ω a.
12	30	22	94	80	9	10	7.1	Ω ● a. ⊤ p.
13	32.5	20.3	94	67	9	7	1.5	Ω a.
14	32.5	21.9	97	78	7	8	16.5	● a. p.
15	29	22.7	95	79	9	9	------	● d a.
16	32.3	21.4	97	71	9	9	------	Ω² a. ◯ p.
17	33	22.5	94	75	9	9	2.3	Ω a. ● ϟ p.
18	32	23.4	93	78	9	8	1	Ω a. ● ϟ p.
19	33.1	21.7	96	63	7	7	------	Ω a.
20	32.7	21.6	94	69	9	7	------	Ω² ≡° a. ⊤ ◯ p.
21	32.5	22.7	97	73	9	8	21.6	Ω ≡ ● a.
22	26.6	22.9	97	95	10	10	31.7	d a. ● a. p.
23	28.5	21.9	92	94	10	10	19.3	● a. d p.
24	31.5	21.8	93	72	10	9	------	●° a. ⊍ p.
25	30.5	22.6	93	73	10	9	3.8	● a.
26	30.5	22.2	97	78	9	8	3.3	Ω ≡ ● a. ●° p.
27	30.5	22.6	95	95	10	10	23.6	● a. p. d² p.
28	27.7	22.6	94	76	10	10	8.4	● a. ⊍ ⏀ p.
29	30.8	22.4	95	83	10	10	12.4	● a. p. d ϟ p.
30	31.3	21.5	97	90	9	10	3.8	Ω ≡ a. ● d p.
31	32.2	22.5	93	82	9	8	------	Ω ≡° a. d p.
Mean	31.5	22.2	94.7	75.9	8.8	8.4	------	
Total	------	------	------	------	------	------	173.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.7	22.5	96	74	10	9	3	● a.
2	31.3	21.5	98	64	4	7	------	Ω a.
3	30.3	22	96	71	10	10	4.3	Ω a. ● p.
4	31.3	21.2	96	76	10	6	------	Ω a.
5	31.3	22	97	75	5	9	------	Ω ≡° a.
6	31.5	22	97	76	10	10	------	Ω a. ⊤ p.
7	32.3	22	96	94	10	10	6.6	Ω a. p² ⊤ d p.
8	30.7	22	96	68	7	10	37.8	Ω a. p Γϟ p.
9	31.3	22	96	80	10	9	------	● ≡° a.
10	30.3	22.5	93	84	3	8	------	Ω a.
11	29.1	22.4	94	96	4	7	30.6	Ω a. ●² p.
12	30.7	22.5	96	80	10	9	.5	Ω a. ⊤ d p.
13	29.8	22	98	81	1	6	------	Ω a.
14	30.1	22.2	87	78	3	9	------	Ω a.
15	30.1	22.2	97	81	10	10	------	Ω a.
16	29.8	22.3	97	75	10	7	------	Ω a.
17	31.5	23	98	82	10	5	2	Ω a. ●° p.
18	32.3	22.4	97	69	3	9	------	Ω a. Γϟ p.
19	31.3	21.5	98	84	2	8	------	Ω a.
20	32.8	23	97	83	5	8	------	Ω ≡° a. ⊤ p.
21	31.3	24	96	83	10	8	2.5	≡° a.
22	27.9	23	90	84	10	10	49.8	p a. d a. p. ● p.
23	25.8	22.5	96	97	10	10	49.3	● a. p.
24	31.9	22.3	92	87	10	10	9.4	● a. p a. p.
25	29.9	23	92	81	10	10	19.3	p² a. ● p.
26	28.8	23.6	97	81	10	10	.5	d p.
27	29.9	22.4	96	80	7	10	114.3	Ω d a. ●² p.
28	25.6	22.5	98	90	10	10	20.8	●² a. p p.
29	29.6	21.5	96	71	10	10	1.8	Ω a. ⊤° p p.
30	31.8	23	92	94	4	10	2.8	Ω a. p d p.
31	31.8	21.5	96	75	10	10	------	Ω a.
Mean	30.4	22.3	95.5	80.5	7.7	8.8	------	
Total	------	------	------	------	------	------	364.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.2	20.1	93	78	10	5	------	● a. d° ⏀ ϟ p.
2	28.8	24.4	83	76	7	4	------	≡° a. ϟ p.
3	29	22.8	91	78	4	9	6.1	Ω ≡ p a. ◯ p.
4	30.4	22	94	75	8	7	------	Ω ≡° a. ◯ ϟ p.
5	30.5	23	87	68	3	7	------	Ω ≡ a. ◯ ϟ p.
6	30.2	23.7	90	81	6	8	------	Ω ≡ ◯ a.
7	31.6	23.6	91	73	8	7	------	Ω ≡ a. ϟ p.
8	31.2	24.3	88	76	8	6	11.2	Ω ≡ d ⊤ a. ● p.
9	30.2	22.2	92	75	7	6	8.4	≡ a. ● d° p.
10	30	23	86	79	6	7	.8	≡ a. d° ϟ p.
11	30.1	22.5	90	78	8	9	.5	≡ Γϟ a. ●° ϟ p.
12	30.2	22.5	91	76	10	9	------	≡° ◯ a. d° Γϟ p.
13	29.8	22.7	85	73	3	6	9.1	Ω ≡° a. Γϟ ● ϟ p.
14	29.5	21.8	86	73	3	9	1.3	≡ a. ●° ϟ p.
15	30.7	23	87	74	6	9	.5	Ω ≡ ●° a. ϟ p.
16	29	22.5	84	79	9	9	.8	Ω ≡ a. ◯ d° p.
17	29.2	25.4	90	83	9	6	------	≡° ◯ a.
18	30.2	24.7	93	78	5	9	------	Ω ≡° a. ◯° ϟ ⊤ p.
19	30.2	22.2	93	73	3	6	------	Ω ≡° a. Γϟ p.
20	31.4	23.3	85	63	2	8	.5	Ω ≡ a. d° ϟ p.
21	29.8	23.1	87	88	10	9	7.1	≡° a. Γϟ ϟ p.
22	28.4	21.8	88	86	10	9	21.6	Γϟ a. ●° a. p. ◯ ⊍
23	27.8	20.8	97	98	10	10	121.4	p ● a. p.
24	29.2	21.4	97	93	9	10	14.7	● a. p. ◯° ϟ ⏀ p.
25	28.4	23.3	87	83	9	10	------	⊍ ≡° d° a. ◯° ⊍ p.
26	30.8	24.3	87	81	10	9	2	d° ◯ a. ⊤ ● ⊍ p.
27	29.2	22.9	91	79	9	9	58.2	●° a. ◯ ● p.
28	26	22.9	99	85	10	10	12.7	● a. p. ⊕ ⏀ p.
29	30.3	22.5	90	84	10	10	9.7	≡° d a. Γϟ ● ϟ p.
30	31.3	22.9	93	86	4	9	12.2	⊍ a. Γϟ ● ϟ p.
31	30.5	22.1	88	75	7	8	------	≡° a. ◯ p.
Mean	29.7	22.8	89.8	78.9	7.2	8	------	
Total	------	------	------	------	------	------	298.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.5	21.8	98	71	6	7	------	
2	31.3	21.3	96	68	5	8	------	
3	32.7	22.4	96	67	5	6	------	
4	31.8	22.4	96	71	5	6	------	
5	32.6	21.9	97	71	5	7	------	
6	32.7	22.5	96	69	5	7	14.5	⊤ ● p.
7	31.7	23	97	77	9	6	21.8	⊤ a.
8	33.2	22.5	100	78	7	7	19.3	● a. ● ϟ p.
9	33.1	21	98	79	6	8	------	
10	33.7	21.1	96	63	6	5	33.5	●² ϟ p.
11	32.2	22.2	97	69	6	6	------	
12	33.5	23.2	96	74	7	7	43.9	●² Γϟ p.
13	34.2	21.9	97	61	6	6	53.3	●² Γϟ p.
14	32.8	21.9	99	66	5	7	2.3	⊤ ● Γϟ p.
15	34.2	22	98	75	7	8	------	
16	34.5	22	97	72	5	6	------	
17	33.9	22.1	96	83	5	9	------	
18	32.7	21.8	97	62	6	7	------	
19	33.7	22	96	61	5	6	------	⊤ p.
20	35.2	22.5	96	63	5	7	49	Γϟ ●² p.
21	33.2	22.5	97	66	5	6	21.3	● Γϟ p.
22	32.7	22.5	97	65	5	7	39.4	⊤ ●² p.
23	31.7	22.7	96	75	7	7	27.9	⊤ ●² p.
24	30.8	23	96	75	6	5	------	Γϟ p.
25	34.5	23.5	97	72	6	6	------	
26	32.9	23	97	65	5	7	14.2	● Γϟ p.
27	27.1	22.6	96	92	9	10	95.8	●² a. p.
28	30.2	22.4	96	76	10	8	26.7	●² a.
29	33.3	22.1	97	67	7	7	------	
30	32.7	21.6	96	63	5	6	------	
31	33.8	21.2	96	62	5	6	------	
Mean	32.7	22.2	96.8	70.3	6	6.8	------	
Total	------	------	------	------	------	------	462.9	

METEOROLOGICAL DATA, ETC.—Continued.

COTABATO.
[ϕ=7° 13′ N; λ=124° 15′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	xi-mum.	Mini-mum.	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	22.6	93	71	4	6	3.8	p a. ⌣² ● p.
2	31	21.6	93	75	4	8	3.8	≡ ● a. ● ⌣² p.
3	30.4	21.8	93	67	3	5	------	Ω ◯² a. ⌣ p.
4	31	22.2	93	70	6	9	------	⌣ p.
5	31	21	93	69	2	8	------	≡ a. ⋖ p.
6	31	21.3	91	69	4	8	------	Ω ≡ a. ⋖ p.
7	32	21.6	93	67	3	4	------	≡ T a. ⋖ p.
8	32	21.2	92	68	5	3	12.7	≡ a. ● ⌈ζ p.
9	31.6	20	93	72	10	4	7.6	≡ a. ● ⋖ p.
10	31.6	20.4	93	65	4	6	2.5	≡° a. ⌈ζ ● p.
11	31	21.2	94	75	3	4	6.4	≡ a. T ● ⋖
12	31.6	21.2	95	72	4	6	------	≡° a. ⋖ p.
13	31.6	21.6	97	66	1	3	------	Ω ≡ a. T d. ⋖ p.
14	31	22.2	93	69	4	4	17.8	Ω ≡ a. ● ⋖ p.
15	31.6	22.5	95	64	8	4	------	≡ a. T ⋖ p.
16	30.5	22.4	93	74	4	10	2.5	≡° a. ◯ ⋖ p.
17	31	22	95	73	10	10	19.6	●° a. ● p.
18	30.6	22.8	93	74	4	10	------	d ● a. ⋖ p.
19	30.8	20	96	64	2	3	------	Ω a. ⋖ p.
20	31.8	22.6	93	66	6	10	3.8	Ω a. T ● ⋖ p.
21	31.8	21.1	93	66	4	4	43.2	Ω ≡ a. ⌈ζ ● p.
22	31	22.6	97	66	6	3	12.2	Ω ≡ a.
23	30	23.8	85	74	10	10	53.3	●² a. p. d p.
24	31.2	------	95	71	8	10	------	≡° a. ⌣ ⋖ p.
25	32	23	93	77	3	10	3	≡ a. T ● ⋖ p.
26	28	22.1	95	84	10	10	3.8	≡° ●° a. d ⋖ p.
27	29	22	93	83	10	10	55.9	≡ d ● a. ●² p.
28	------	21	96	76	10	10	4.6	d a. ● a. p. ⋖ p.
29	31	21.6	93	61	10	6	------	≡ a. ⌣² p.
30	32	21.8	95	60	5	4	27.9	Ω ≡° a. ●² ⋖ p.
31	30.4	23.2	93	73	6	10	------	Ω ≡ a. d p.
Mean	31	21.8	93.5	70.4	5.6	6.8	------	
Total	------	------	------	------	------	------	284.4	

CAGAYAN, MISAMIS.
[ϕ=8° 29′ N; λ=124° 38′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maxi-mum.	Mini-mum.	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	22.5	96	90	8	10	20.3	● d ⌈ζ p.
2	33.4	22.3	89	52	9	9	------	↙° ◯² p.
3	34.7	22.7	90	54	7	10	------	↙° T p ⋖ p.
4	33	22.1	90	64	10	8	------	⊕ ⋖° p.
5	33.4	21	92	58	3	7	------	Ω² ≡ a. ⋖° p.
6	32.9	22.2	90	65	9	6	.5	Ω ≡ a. ⋖° p p.
7	33.9	21.7	89	69	4	9	25.4	Ω ≡ a. ⊕ ●² p.
8	32.6	23.3	94	77	7	9	2	d T ⋖ p.
9	33.8	23.2	92	64	9	8	------	⋖² p.
10	33.1	23.3	91	55	10	6	------	Ω² ≡° a. ⋖ p.
11	32.9	21.7	93	81	4	9	17.8	Ω² a. d ● ⌈ζ² p.
12	31.9	21.1	96	72	6	7	------	d° ⋖° p.
13	31.1	22.4	92	65	3	9	------	Ω² ≡² a. ⋖ p.
14	32.7	23.3	91	64	9	6	------	Ω ≡ a. ⋖ p.
15	32.9	22	89	59	7	8	------	Ω° ≡° a. ⊕ ⋖ p.
16	32.9	21.9	90	61	9	9	------	Ω° ≡ a. ⊕ ⋖° ●° p.
17	35.2	22.2	90	51	9	9	------	≡ a. ⊕ ⌓° ⋖° p.
18	35.9	22.9	89	69	9	8	.3	Ω° ≡° a. p° ⊕° ⋖° p
19	33.6	21.9	85	60	4	4	2.5	Ω a. d ⋖ p.
20	33	22.1	91	60	1	3	22.9	
21	32.9	23.8	95	67	10	4	29.2	● d a. p.
22	32.3	22.8	97	62	9	8	------	● a. ⋖ p.
23	33.2	22.2	94	63	9	9	17.8	d ⊕ ● p.
24	33.2	22.3	96	62	4	9	------	⌈ζ d p.
25	32.4	23	94	72	10	8	21.6	●² ⌈ζ p.
26	29.7	22.9	94	79	10	10	.4	d ⌣ ⋖² p.
27	30.6	22.6	95	88	7	10	4.6	d p.
28	27.4	22.6	98	87	10	10	------	d a. p. ⌣ ⋖° p.
29	32.2	22.4	95	68	8	8	------	Ω² ≡ a. ⊕ ⌣ p.
30	32.4	22.7	90	66	6	4	2	Ω² ≡° a. ◯ T d p.
31	32.1	22.2	95	64	8	8	------	⊕ ⌣ ⋖° p.
Mean	32.7	22.4	92.3	66.7	7.4	7.8	------	
Total	------	------	------	------	------	------	167.3	

DAPITAN.
[ϕ=8° 40′ N; λ=123° 25′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maxi-mum.	Mini-mum.	6 a. m.	2 p. m.	6 a. m.	2 p. m.		
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	34.1	23.1	93	63	10	10	------	Ω ≡ a.
2	34.4	22.3	92	62	8	6	------	Ω a. ◯ ⋖ p.
3	33.8	23.7	85	68	8	10	2	Ω a. ● ⋖ p.
4	34.2	24	91	66	6	4	------	⋖ p.
5	34.8	24	90	65	7	7	------	Ω a.
6	35	23.8	91	63	5	4	------	Ω ≡ a. ◯ p.
7	34	22.5	95	68	5	6	------	Ω ≡ a. T ⋖ ●° p.
8	35.5	23.4	95	67	7	6	------	≡ a. ⋖ p.
9	34	23.4	94	66	10	7	2.8	Ω a. ● ⋖ p.
10	34.9	23.5	97	61	10	5	------	Ω a. ⌈ζ p.
11	34.9	23.7	92	68	9	4	------	Ω a.
12	33.5	23	93	66	6	4	------	Ω a.
13	34.1	23	97	68	7	6	3.6	Ω ● T a.
14	33.7	23	95	74	5	8	------	● T a. ◯ p.
15	33.4	23.3	91	68	9	8	------	●° a. ◯ p.
16	33.6	22.3	97	68	8	6	------	Ω ≡ a. ⋖ p.
17	32.8	23.1	96	66	9	9	5.8	↙ p° ● p.
18	31.4	22.8	87	74	7	10	2	● ⋖ p.
19	33.9	23	92	68	8	6	------	⋖ p.
20	32.7	22.8	95	70	7	5	------	
21	33.2	23.2	94	63	10	4	------	Ω a. ⋖ p.
22	32.9	23.4	88	62	7	6	24.4	● a.
23	29.4	22.9	88	80	4	4	------	● a.
24		22.7	77	65	10	7	------	Ω ● a.
25	30.8	23.1	90	73	10	5	------	
26	30.9	23.3	90	73	10	10	62.7	● p.
27	27.2	22.8	95	82	10	10	9.4	● a.
28	30.1	22.4	90	72	10	8	3.6	● a.
29	------	22.6	91	66	9	7	------	≡² a. ⋖ p.
30	------	22.7	92	66	8	5	4.8	⋖ p.
31	------	22.5	90	70	7	8	------	● a. ⋖ p.
Mean	33.1	23.1	91.7	68.1	7.9	6.6	------	
Total	------	------	------	------	------	------	121.1	

BUTUAN.
[ϕ=8° 56′ N; λ=125° 32′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	Maxi-mum.	Mini-mum.	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	97	76	8	8	9.1	Ω a. T ● p.
2	29.8	23.5	96	79	9	10	1.5	Ω ∞ a. ⌈ζ ● p.
3	29.6	23.6	96	88	8	10	2.5	Ω a. ● d ⌈ζ p.
4	29.5	23.6	97	68	10	10	------	Ω a.
5	30.3	24	95	63	8	6	------	Ω ∞ a. ⋖ T p.
6	30.6	23.5	93	63	10	7	------	Ω a. d° p.
7	31.6	23.4	95	68	10	8	29.2	Ω ∞ a. ⌈ζ ● p.
8	30.	23.3	96	80	8	10	------	Ω a. T ⋖ d° p.
9	29.6	22.5	94	84	8	10	26.7	Ω T a. d p.
10	28.7	23.2	95	66	8	4	------	●² d a. ⌒ p.
11	31.4	23.6	97	66	8	5	3.3	Ω a. ⌈ζ ● p.
12	30.6	22.6	96	62	6	6	2.8	Ω a. ⌈ζ ● p.
13	29.5	22.6	98	76	6	9	------	Ω a. T p.
14	29.5	23	97	71	4	7	.3	Ω ≡ ⊕ a. ●° p.
15	29.5	21.6	97	68	10	7	------	Ω ≡ a. ⋖ p.
16	29.8	22.1	96	69	10	10	------	Ω ⊕ a.
17	32.3	23.7	95	64	9	7	------	Ω a. d° ⊕ p.
18	31.3	23.8	91	58	8	8	------	Ω ⊕ a.
19	30.8	24.1	95	78	3	10	5.1	Ω ∞ a. ⋖ p.
20	30.5	23.9	96	74	10	8	------	Ω ● a. d° p.
21	30	24.2	97	59	6	6	.3	Ω a. d° a. p.
22	29.5	24.4	96	76	8	10	.8	d ⌒ ● a. ⋖ p.
23	29.6	24	93	67	10	10	------	Ω a. T p.
24	31.1	24.4	89	70	8	9	.8	T ⋖ p.
25	31.8	23.6	96	89	8	9	14	● a. ●² T p.
26	27	23.1	97	86	10	9	6.4	≡ d a. ● a. p.
27	26	23.4	98	96	7	10	11.2	Ω ≡² a. ● d p.
28	29.6	24.4	93	76	9	9	------	Ω ≡² a. d° p.
29	31.4	23.2	96	69	4	10	24.4	Ω ≡ a. ⌈ζ ● p.
30	30.1	22.6	94	68	9	9	------	Ω a. T p.
31	30.3	22.6	96	62	2	4	------	Ω ∞ a.
Mean	30	23.4	95.4	72.2	7.8	8.2	------	
Total	------	------	------	------	------	------	138.4	

METEOROLOGICAL DATA, ETC.—Continued.

YAP (WESTERN CAROLINES).

[ϕ=9° 29′ N; λ=138° 08′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	-----	-----	-----	-----	-----	-----	-----	
8	-----	-----	-----	-----	-----	-----	-----	
9	-----	-----	-----	-----	-----	-----	-----	
10	-----	-----	-----	-----	-----	-----	-----	
11	-----	-----	-----	-----	-----	-----	-----	
12	-----	-----	-----	-----	-----	-----	-----	
13	-----	-----	-----	-----	-----	-----	-----	
14	-----	-----	-----	-----	10	10	29.5	
15	-----	23.7	91	82	10	10	58.2	● a. p. ϟ° p.
16	28.9	22.4	93	84	10	10	2	d° ●° a. d° ϟ p.
17	29.7	22.5	96	78	9	8	.5	●° p.
18	33.1	23.7	93	78	9	7	17.3	d° ● a.
19	30.6	23.2	97	93	3	8	3	●° a. ● p.
20	31.3	24	97	89	8	9	31	↙° ● p.
21	30.6	28.9	97	96	10	10	31.7	d°a. ↙°●⊍°p.
22	27.1	23.4	91	92	8	10	3	● ⊍° p.
23	30.1	24.6	98	75	8	8	2.5	Ω a. ●° p.
24	33	24.2	94	73	8	6	1.3	●° a. ⌒° ϟ° p.
25	31.8	24.2	98	80	7	8	4.6	●° a.
26	31.2	23.9	96	83	8	9	23.1	●° a. ⌒ p^2 p.
27	31	23.8	92	71	6	8	18	da. ⊍°ϟ°●°p.
28	31	23.2	93	75	9	8	-----	ϟ° ⊍° p.
29	31.2	23.8	92	74	5	6	6.9	↙°●a. ϟ°⊍p.
30	31.2	23.8	92	78	6	9	11.9	p ⌒ a.
31	27.5	23.4	98	89	10	10	18.3	● a. ϟ p.
Mean	30.6	23.6	94.6	81.8	8	8.6	-----	
Total	-----	-----	-----	-----	-----	-----	-----	

MAASIN.

[ϕ=10° 08′ N; λ=124° 50′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	29.4	23.1	95	80	10	8	-----	⌒a. ϟ^2 ⊍^{2}⊕°p.
2	29.3	24	92	77	10	10	-----	
3	29.2	24.8	92	83	10	10	18.8	Ω°a. ↙°●^{2}[ϟ^{2}p.
4	30	24.3	88	74	10	10	-----	
5	29.6	24.3	93	78	10	10	19.3	↙° ●^{2} [ϟ^2 d p.
6	30	22.5	91	81	10	10	-----	⊤ p.
7	30	23.8	95	88	10	10	-----	
8	30.8	24.1	92	81	10	10	21.8	[ϟ^2 ●^{2} p.
9	30.1	23	95	91	10	10	16.5	d. ϟ ● p.
10	30	23.1	94	78	10	8	-----	d. a.
11	30.4	23.5	95	79	10	6	-----	Ω^2 a.
12	30.5	23.4	94	77	8	10	-----	d ⌒° p.
13	31.6	22.6	88	80	10	10	35.6	d ● ⊤^{2} ⌒^{2} p.
14	30.4	23	93	80	10	10	41.1	● d [ϟ p.
15	30	23.1	95	72	8	10	-----	
16	30.4	24.6	93	79	10	10	-----	ϟ p.
17	30	22.4	92	74	10	10	5.6	↙° ● a.
18	30	26.6	87	89	10	10	-----	
19	30.1	24.2	92	81	10	8	-----	
20	30.6	24	91	83	3	10	-----	⊍° ϟ° p.
21	30	24	95	83	8	6	3.3	≡ d^2 a.
22	30	23.6	93	76	10	10	11.7	[ϟ p p.
23	30.6	22.9	95	87	10	10	-----	[ϟ ↙° p.
24	29.5	23.8	92	88	10	10	-----	d°a. ⊍°⊕°ϟ^{2}p.
25	30.6	23.3	93	71	10	6	-----	d° a. [ϟ^2 p.
26	31.4	24.4	90	80	10	10	4.1	d°⌒°pa. d°ϟ^2⊍
27	30	24	91	76	10	10	8.1	pa. ⊍°⊍^{2}ϟ⊤p.
28	30.8	24.1	89	81	7	10	-----	⊍^{2} p.
29	29.5	24.6	95	76	10	8	-----	⊕^{2} ϟ p.
30	30	25.2	82	66	10	5	-----	ϟ° ⊕^{2} ⊍° p.
31	31	23	96	65	10	8	-----	ϟ ⊕^{2} p.
Mean	30.2	23.8	92.2	79.2	9.5	9.1	-----	
Total	-----	-----	-----	-----	-----	-----	185.9	

SAN JOSÉ BUENAVISTA.

[ϕ=10° 44′ N; λ=121° 55′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	93	90	10	10	92.7	d ●^{2} [ϟ p.
2	29.9	22.9	97	85	10	10	7.6	● a. p.
3	29	24.3	93	93	10	10	56.1	●° a. ● ϟ p.
4	28.5	23.1	96	93	10	10	28.7	●°a. ●d⊤ ϟp.
5	27	23	96	93	10	10	33.5	● a. p. [ϟ p.
6	28.1	23.7	96	92	10	10	98.6	⊤ a. ● a. p.
7	30.8	23	96	82	10	3	-----	
8	31	23.5	95	72	10	3	-----	
9	29.8	23.4	89	80	10	10	.8	d ϟ p.
10	30.2	23.4	96	77	10	10	-----	⊤ ϟ p.
11	30.8	23.2	93	76	3	10	3.3	● ⊤ ϟ p.
12	31	22.8	92	76	3	8	-----	
13	31.1	22	88	72	0	8	-----	⊤ d p.
14	31	23	94	78	7	10	-----	
15	31	21.5	87	74	6	8	.5	⊤ ϟ ●° p.
16	30.4	23.4	92	77	10	10	13.7	○ ● [ϟ p.
17	31.4	25.5	88	77	10	10	-----	
18	31	26.8	87	93	10	10	4.6	↙° ● p.
19	31.5	24.4	95	76	10	8	1.8	● p.
20	31.9	23.8	92	74	3	9	-----	d p.
21	31.2	23.3	90	71	6	4	-----	ϟ p.
22	31.4	23.5	90	72	2	6	5.8	⊤ ⊍ p.
23	31	23.9	97	97	10	10	94	[ϟ ● a. p.
24	31	24	97	88	10	10	10.4	● ⊤ a.
25	31.6	24.6	90	78	10	4	1	● ϟ p.
26	31.1	23.6	91	85	3	10	21.8	● a. ⊕° p.
27	30.3	23.8	94	81	10	10	5.8	⊤ a. ● d a. p.
28	29.1	24.3	95	78	10	10	3.3	⊤ a. ● p.
29	29.2	24.4	89	84	10	10	-----	
30	31	23.3	94	74	8	7	-----	[ϟ p.
31	31.4	22.8	95	68	10	3	-----	
Mean	30.5	23.6	92.8	80.8	8.1	8.4	-----	
Total	-----	-----	-----	-----	-----	-----	484	

BORONGAN.

[ϕ=11° 37′ N; λ=125° 26′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	-----	-----	96	75	6	9	4.3	Ω ≡ a. ○ [ϟ p.
2	-----	-----	96	76	8	9	4.8	≡ a. ● p.
3	-----	-----	96	83	10	10	4.3	[ϟ ● p.
4	-----	-----	94	79	10	10	1.5	≡ a. ● p.
5	-----	-----	93	76	10	10	4.8	≡ a. ● p.
6	-----	-----	95	78	10	9	-----	●° a.
7	-----	-----	97	72	5	8	10.4	Ω ≡ a. ● p.
8	29.9	23.1	96	72	10	10	.8	d ●° a.
9	29.5	23.2	96	71	9	10	-----	≡ a.
10	31.1	23.5	96	72	8	8	-----	Ω ≡ a. ϟ p.
11	31.2	22.8	96	70	6	5	-----	Ω ≡ a. ϟ p.
12	31.4	22.2	96	69	6	5	8.9	Ω ≡ a. ● p.
13	31.1	22.7	96	75	4	6	2.8	● p.
14	31.6	22.8	95	66	3	4	-----	≡ p a.
15	31.8	22.4	95	65	10	8	-----	Ω ≡ a.
16	32.7	23.8	86	72	10	10	-----	↙° p.
17	32.9	23.7	90	56	10	7	-----	↙° p.
18	33.2	22.9	96	60	8	9	-----	Ω a.
19	31.2	22.2	93	71	2	8	3	Ω ● a. [ϟ p.
20	32	23.4	96	70	2	6	1.3	Ω ≡ a. ϟ ● p.
21	32.1	23.3	95	72	2	5	-----	Ω ≡ a. ϟ p.
22	31.6	23.1	95	70	4	10	49.8	Ω ● ○ a. ● p.
23	26.9	23.1	94	80	10	10	22.1	●^{2} a. ϟ p.
24	32.5	21.9	96	80	7	10	20.1	Ω ≡ a. ● p.
25	30.2	23.6	97	76	9	5	18.3	[ϟ ● ≡ a. ● p.
26	30.7	23.7	97	89	10	10	32.8	≡ a. ● a. p.
27	31.1	24.9	94	89	9	8	39.1	● a. ↙° ●^{2} p.
28	30.8	22.4	91	76	9	9	9.9	● a. ↙° p.
29	31.2	24.3	97	78	10	10	26.7	[ϟ ● ≡ a. ●^{2} p.
30	30.9	21.6	97	68	8	6	7.9	●^{2} ≡ a. ● p.
31	31.3	22	96	67	8	9	40.4	≡ a. ● a. p.
Mean	31.2	23	94.9	73.3	7.5	8.2	-----	
Total	-----	-----	-----	-----	-----	-----	314	

METEOROLOGICAL DATA, ETC.—Continued.

PALANOC.

[$\phi=12° 22' N$; $\lambda=123° 36' E$]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	24.5	95	------	9	8	1.3	
2	31.5	25	98	------	4	8	1	
3	30	24.6	98	------	9	9	2.5	⊤ p.
4	29.2	25.4	93	------	10	9	3	
5	29.5	25	97	------	9	9	2	
6	29.2	24.8	98	------	10	9	2.5	
7	32.6	26.2	94	------	9	8	7.4	
8	31.4	25	97	------	8	10	26.2	⊤ p.
9	29.6	24.2	96	------	10	10	1	
10	29.2	24.2	94	------	10	8	1	
11	32	25.4	97	------	8	6	------	⊤ p.
12	32.5	25	95	------	4	6	------	
13	33	25.6	96	------	6	7	.8	
14	30.8	24.8	98	------	8	4	------	
15	32.4	26	98	------	8	8	------	
16	30.6	25.6	92	------	9	10	.8	↙° p.
17	30.2	23.6	90	------	10	10	------	
18	31.4	27.2	92	------	10	10	------	
19	31.6	25.2	98	------	9	8	------	
20	32.6	24.5	97	------	4	4	------	
21	32.8	25.2	98	------	8	6	------	
22	30.2	25.6	90	------	8	7	45.2	
23	26.4	23.5	98	------	10	10	30.2	↙° ● a. p.
24	32.4	23.5	94	------	10	9	11.9	
25	31.4	24.5	98	------	10	4	2.5	
26	32.6	25.4	98	------	4	6	.8	
27	32.2	25.5	98	------	8	8	17	
28	31.5	23.2	96	------	8	9	------	
29	32.2	25.6	98	------	9	9	------	⊤ p.
30	32.2	25.4	98	------	8	7	------	
31	31.6	25.8	95	------	8	9	------	
Mean	31.2	25	95.9	------	8.2	7.9	------	
Total	------	------	------	------	------	------	157.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29.7	24	97	64	10	8	20.3	● a. p. ●° ⛈ p.
2	30.1	23.3	96	80	6	8	.5	p a. ●° p.
3	29.8	25.5	87	82	10	10	5.6	●° a. ● p,
4	30.9	24.2	86	84	10	10	2	d ς p.
5	29.9	25	88	88	10	10	8.6	● a. ●° p.
6	29.9	25.5	81	81	10	10	4.6	d a. ●° ς p.
7	31.2	24.3	93	77	10	10	1.5	●° a. ς p.
8	------	25.4	87	73	7	8	3.6	d a. ς p.
9	32	24.4	95	74	10	10	1.8	●° a. d° p.
10	30.8	24.2	97	74	9	7	7.6	● a.
11	30.3	24.3	97	83	10	8	.3	● ⊤ a. d° ς p.
12	------	25.1	90	69	5	2	3	ς ● p.
13	31.5	24.2	91	67	4	3	18.5	d° a. ⛈ ●² p.
14	31.2	23.8	96	69	6	4	4.6	⊤ a. ς ●² p.
15	30.9	24	96	74	7	8	.3	● ⊤ p.
16	------	24.1	90	62	10	10	------	d a. ς p.
17	32	25	81	76	10	10	------	↙° d a, p.
18	29.9	24.8	84	74	10	10	1.5	d° ↙° a. p. ●° p.
19	------	24.3	86	66	10	5	------	
20	32	25	94	69	10	3	------	
21	33.5	23.5	96	70	3	3	2.5	Ω a. ς p.
22	32.1	24	98	67	5	3	------	p. a. ω ⛈ p.
23	31.1	24.5	80	93	10	10	51.8	⊤ a. ● p.
24	29.2?	24.7	89	78	10	10	.5	d° a. ς p.
25	21.5	24.8	94	81	10	10	3.3	●° a. d° p. ς p.
26	31.3	25.2	93	73	7	7	3	d° a. p p.
27	31.5	26.3	85	71	7	6	16	p° a. ⌒ ●² ς p.
28	31.2	24.2	86	80	8	10	.3	d a. p.
29	30.2	25.2	89	76	10	10	12.7	● ⛈ p.
30	31.8	23	88	76	10	10	2	● a. ς p.
31	31	26.3	85	72	10	6	------	
Mean	31	24.6	90.2	74.9	8.5	7.7	------	
Total	------	------	------	------	------	------	176.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	23.5	96	80	8	9	1.5	
2	30.7	23.3	97	75	5	9	1.3	
3	29.8	24.4	95	78	10	10	------	
4	30.1	24.5	93	76	8	10	.3	
5	30.6	24.2	89	75	7	10	2.5	
6	31.1	24.4	91	72	9	8	.5	
7	32	24.2	93	65	9	6	------	
8	27.4	24.3	94	90	7	10	9.4	
9	27.3	24.5	96	98	10	10	2.5	
10	29.8	23.6	98	74	10	7	3.3	
11	31.7	23.5	97	72	7	3	------	
12	30.9	23	99	70	2	3	7.9	
13	30.9	23.4	97	74	5	6	16	
14	30.4	24	97	75	6	6	8.9	
15	31.2	25.1	91	74	9	8	4.1	
16	30.2	25.6	87	94	9	10	------	
17	31	26.3	86	70	10	10	------	
18	32.9	24.3	84	61	10	9	------	
19	32.7	23.7	97	91	8	9	16.3	
20	31.3	23.4	97	75	2	3	------	
21	30.2	23.3	98	83	4	8	2.8	
22	30.4	23.7	99	76	7	8	50.8	
23	25.5	23.2	100?	91	10	10	100.8	
24	31.6	22.6	97	84	8	10	25.4	
25	31.1	23	96	75	5	3	4.1	
26	30.5	23.5	100?	79	7	8	10.7	
27	30.4	24.7	95	81	8	9	19.6	
28	29.5	23.2	99	83	9	8	1.3	
29	29.7	24.6	------	79	10	9	1	
30	29.8	22.8	94	75	7	6	3	
31	30.2	22.8	95	72	7	4	12.2	
Mean	30.4	23.9	94.9	78	7.5	7.7	------	
Total	------	------	------	------	------	------	306.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	22.6	98	83	10	5	0.5	●° d p.
2	------	22.5	99	68	6	7	------	
3	------	22	96	75	9	10	.5	p p.
4	------	22.2	91	82	10	10	------	d p.
5	------	22.1	98	77	10	10	.8	●° a. p p.
6	------	22.5	90	75	10	7	------	
7	------	22.4	96	74	7	6	------	
8	------	22	90	81	5	10	1	p p.
9	------	22.2	92	83	7	10	3	p p.
10	------	22.5	97	72	7	4	2.8	⛈ ● p.
11	------	22	92	------	5	5	------	⊤ p.
12	------	22.1	92	------	5	4	------	
13	------	21.8	92	------	7	4	.3	●° a. d p.
14	------	21.9	92	------	5	6	------	
15	------	21	98	------	7	7	4.3	●° p.
16	------	21	91	89	7	10	------	●° a.
17	------	21.1	92	------	10	10	------	
18	------	22.1	92	66	10	6	------	
19	------	22	92	75	7	7	------	
20	------	21.9	98	73	6	5	------	
21	------	22	91	74	6	7	------	
22	------	21.7	98	------	5	5	10.2	● p.
23	------	22	98	90	10	10	14.5	● a. ↙° ● p.
24	------	21.9	99	75	5	4	------	
25	------	21.8	90	75	5	5	.5	
26	------	22	91	75	4	4	1.5	●° a. p. ⌒ p.
27	------	21.9	90	------	8	5	7.9	● a. p.
28	------	22	94	76	7	7	3.6	d p a. ● p.
29	------	21.9	91	------	10	6	1.3	p ●° p.
30	------	21.6	95	74	7	5	1.3	
31	------	21	92	67	4	4	3.3	● a. p.
Mean	------	21.9	93.8	76.3	7.1	6.6	------	
Total	------	------	------	------	------	------	57.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	24.2	93	71	8	8	------	
2	29.2	23.8	87	93	2	10	21.1	p a. ●² p.
3	29.6	24.8	84	80	10	10	22.9	●² p.
4	27.4	24	84	87	10	10	35.6	●² a. p.
5	27.8	23.6	88	81	10	10	3.6	
6	27	24	90	86	10	10	1.5	
7	30.6	23.8	92	71	10	8	7.6	p a. [ʓ p.
8	29.4	25	92	76	10	9	3.3	[ʓ a.
9	29.4	25.4	86	78	1	4	2.5	
10	30	23.8	95	84	10	8	12.7	
11	26.2	23.8	87	98	10	10	91.4	↙° ●° a. ↙ ●² p.
12	27.6	22.8	92	92	10	10	22.9	●° a. p.
13	26.6	24.2	90	86	10	10	20.3	●° a.
14	28	23.6	91	84	10	10	10.2	
15	29.4	22.6	85	76	10	10	6.9	
16	29	24	95	77	10	4	5.1	
17	27.4	23.4	97	84	10	8	28.7	●² a.
18	28.8	23.8	84	82	8	10	2	
19	29	23.8	92	80	3	10	6.1	p a.
20	29	24.4	89	77	8	10	2.5	
21	30.2	24.8	89	75	10	9	3	
22	30	23.8	84	78	6	4	10.2	
23	29.8	23.8	89	74	4	6	1.3	[ʓ ●² a.
24	29	23.8	89	77	4	6	10.7	● a.
25	30	25	84	70	1	6	2	● a.
26	29.6	26	87	76	4	8	3.3	●° a. p.
27	29	26.2	86	75	1	3	3.8	●° á. p.
28	30	25	84	71	1	3	------	
29	30	25	83	68	1	6	1.3	●° p.
30	29.6	25.6	87	71	2	4	1.3	●° p.
31	30	25.8	89	71	3	4	------	
Mean	29	24.3	88.5	79	6.7	7.7	------	
Total	------	------	------	------	------	------	343.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.5	23.4	95	76	9	9	------	p° ⌣° p.
2	30.5	22.2	96	73	7	10	0.8	d ⌣ ⏀ p.
3	31.8	22.5	96	80	10	9	4.1	d ● ⌣ ⏀ p.
4	31.3	22.4	97	71	10	9	------	p° p.
5	31	24	96	87	10	10	1.3	⌒ ● a. d p.
6	32.4	22.5	96	71	9	10	4.3	d ● p.
7	29.6	23.5	97	86	10	10	5.6	≡ ● a. d ⊤ p.
8	31.2	23.1	98	69	9	10	------	⊤ p.
9	30.4	23.5	94	75	10	10	------	d° p.
10	32.2	23.4	96	70	10	5	4.3	p a. p.
11	30.7	24.4	94	82	10	10	.8	● [ʓ d p a.
12	31.8	24.4	94	62	4	3	9.9	⊤ a. ● ⊤ p.
13	31.9	23.8	96	62	10	2	3	● a.
14	32.7	23.4	95	64	7	7	------	
15	32	23	94	76	3	9	3.3	● p.
16	30.2	22.1	96	82	10	10	------	
17	30.2	20.7	------	79	10	10	------	↙ ●° a. ↙° p.
18	31.1	24	86	89	10	10	3.6	d a. p. ●° p.
19	31.5	22.1	98	75	10	7	------	
20	32.1	22	93	63	8	4	3.8	
21	32.1	23.2	96	68	8	2	.5	p° p.
22	31.8	23.5	94	67	5	5	------	⌣ p.
23	31.8	24.1	------	79	10	10	26.9	p° a. d° ⊤ ↙° ● p.
24	31.8	23.5	96	78	10	10	10.9	● a. ⌣ p.
25	31.5	22.5	91	79	10	10	------	p° ⌣ p.
26	31.5	22.4	97	71	3	5	.5	⊤ ⌣ p.
27	31.7	22.1	91	84	9	10	.5	⌒° a. p a. p. ⌣ p.
28	30.6	25	86	76	10	10	102.9	d° p° a. ●² [ʓ p.
29	29.3	22.8	98	80	10	10	34	≡ ●² a. [ʓ ● a. p.
30	31	22	98	68	10	7	10.9	●² a. [ʓ ● p.
31	31.5	22.7	96	69	9	9	2	
Mean	31.3	23	94.8	74.5	8.7	8.1	------	
Total	------	------	------	------	------	------	233.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.7	23.2	96	88	9	8	10.7	●° ⊕ ◯ a. p. ⏀ p.
2	32.9	22.9	97	67	4	9	------	∞ a. ⌒ ϟ p.
3	32.2	25.1	92	70	9	9	------	
4	30.4	25.8	90	81	9	9	13.2	d° a. ●° ⊤ ϟ p.
5	32.4	25	93	73	9	9	------	Ω° a. ϟ p.
6	32.8	25	90	71	9	9	------	d° a. ϟ p.
7	32.2	25.2	87	87	9	8	1	d° ●° a. p. ⌒ ϟ p.
8	32.5	23.5	97	70	9	9	------	d° ϟ p.
9	30.2	23.9	97	87	9	9	7.4	d ● ⊤ [ʓ p.
10	32.3	23.7	97	77	9	8	15.5	● d a. d ⌒ ϟ p.
11	31.9	24.9	90	76	8	5	7.9	● ⌒ a. p. ϟ p.
12	32.5	22.6	96	66	1	5	------	
13	32.9	23.2	96	74	5	5	1.3	d ● a. ⌒ ϟ d p.
14	30.8	22.4	94	75	4	7	.8	●° a. ϟ p.
15	32.9	22.7	95	79	9	8	8.9	● a. p. ϟ p.
16	31.6	25	97	82	9	10	10.2	● d° a. ϟ d ⊤ p.
17	34.5	25.2	78	73	10	10	------	d° ↙° a. p.
18	31	25.4	79	83	9	9	------	∞ p.
19	31.7	24	96	72	8	4	------	∞ a. ⏀ ϟ p.
20	32.4	23.6	96	83	5	9	3.8	d° ⊤ a. ● ϟ ⏀ p.
21	32.5	22.8	97	69	2	8	------	
22	32	23.1	92	71	8	7	3.3	⊕ ◯ a. p. ϟ ⊤ ●
23	31.7	23.2	91	94	10	10	85.8	d a. ↙ ●² p.
24	29.7	21.5	88	83	9	8	1.8	∞ d ⏀ ϟ ● p.
25	31.2	25	92	72	8	5	.8	⊕ ◯ a. ∞ ϟ ●° p.
26	32.9	23.7	96	71	2	8	3.8	∞ d a. d ⏀ ● p.
27	33.6	25.8	84	73	8	8	10.2	● ⌒ a. ∞ ⏀ p.
28	32	24.8	82	84	10	9	2.5	● a. p. ⏀ p.
29	31.1	25.2	85	76	10	8	52.1	● a. p. [ʓ ● p.
30	30.9	22.4	89	67	9	5	5.6	d ● a p. ϟ ⏀ p.
31	32.4	24	80	68	8	8	1.3?	● a p. d p.
Mean	32	24	91.3	76.2	7.6	7.8	------	
Total	------	------	------	------	------	------	247.9	

NUEVA CACERES.

[ϕ=13° 37′ N; λ=123° 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.7	22.5	98	73	8	8	------	
2	32.7	22	98	67	7	7	------	
3	32.2	23.9	92	69	8	8	9.7	● p.
4	31.6	23.5	95	83	10	10	1.5	d ●° p.
5	31.2	23.4	93	69	10	9	------	
6	32.6	23.7	95	69	9	9	2.5	●° p.
7	31.1	23.5	95	77	9	9	------	
8	33	23.5	97	76	6	10	41.4	d ⊤° ●° p.
9	30.4	23.2	98	88	8	10	27.9	● a. d ●° p.
10	32.1	22.3	98	70	9	6	1.3	d a. ⊤° ● p.
11	33	23.3	99	63	8	6	------	
12	33.5	22.5	97	69	5	6	------	d p.
13	32.5	21.9	98	69	4	5	------	
14	31.9	23	93	64	6	6	------	
15	31.8	22.7	93	75	9	8	12.7	● p.
16	30.5	23.6	97	75	9	9	2.5	
17	29.9	24.3	84	79	10	10	12.7	● p.
18	31.9	23.5	82	71	10	9	------	
19	33.1	23.2	97	58	8	6	------	
20	34	22.3	97	69	3	6	------	
21	33.2	22.5	98	67	3	5	------	∞ a.
22	31.7	22.1	97	72	7	8	22.9	
23	26.6	23.9	95	95	10	10	153.7	● a. p.
24	32	20.2	97	82	9	9	24.6	● a. p.
25	32.5	22.9	97	75	9	7	------	
26	33.8	21.6	98	71	5	8	13.5	● p.
27	33.5	22.8	97	71	7	8	13.7	d ● p.
28	32.9	23	97	70	9	9	------	
29	33	23.6	96	76	10	9	12.7	⊤° ●° p.
30	32.5	22.8	97	68	9	6	------	
31	32.9	21.2	98	74	7	6	------	
Mean	32.1	22.9	95.6	72.7	7.8	7.8	------	
Total	------	------	------	------	------	------	353.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.3	21.2	97	90	5	7	9.9	● p.
2	32.6	20.4	96	70	4	7	------	
3	32.5	22.4	93	66	6	7	------	
4	32.6	22.3	95	70	6	6	------	
5	33	23.7	87	69	7	7	9.7	● a. p.
6	32.9	23.9	90	72	9	7	2	● a. p.
7	33.2	22.7	96	91	7	10	6.9	● a. ●° p.
8	32.3	21.4	97	71	5	6	------	
9	33	23.1	93	79	7	9	.3	d p.
10	32.5	21.5	96	74	9	6	25.4	d a. ⊤ ●² p.
11	31.6	22.6	97	73	10	9	1	● ⊤ a.
12	33.8	21.5	96	64	6	5	------	Ω a.
13	33.9	21.6	96	66	3	4	------	
14	31.8	20.6	96	64	4	5	------	⊤ p.
15	31.7	20.3	96	78	3	7	3.6	● a.
16	32.8	20.6	96	70	4	8	2.5	◯ p.
17	29.3	25.2	87	82	10	10	32	↙° ● p.
18	31.2	23	84	83	10	10	5.6	● a p.
19	32	20.9	96	68	6	6	------	
20	32.8	21.9	87	66	3	5	------	Ω a.
21	32.7	22.5	97	63	6	4	------	
22	32.4	21.2	97	65	1	5	------	
23	29.8	22.2	96	83	8	10	26.9	⊤ ● p.
24	30.3	22.6	97	70	10	7	14.5	↙° a. ● a. p.
25	33.7	22.3	97	75	7	7	.3	d a.
26	33.6	22	95	66	1	5	.5	●° a. ⌣ p.
27	33	22.3	96	75	5	9	5.3	● a.
28	32.7	21.8	96	71	6	7	30.7	●² a. ⌐⊻ p.
29	29.4	22.2	97	80	9	9	31.7	●² ⊤ a.
30	32.3	21.3	97	65	7	6	3.3	⟨ a. ● p.
31	32.8	22.2	94	60	4	5	------	
Mean	32.3	22	94.5	72.2	6.1	6.9	------	
Total	------	------	------	------	------	------	212.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.3	21.7	98	65	6	8	------	d p.
2	31	22.2	98	64	7	7	------	d p.
3	30	21.8	98	66	3	8	1.8	●° p.
4	30.1	22	98	67	6	9	2.8	d ●° p.
5	30.6	22.1	98	65	10	7	------	d° a. ⊤° p.
6	30.3	21.7	98	64	7	6	------	Ω ∞ a.
7	31.1	21.9	98	64	7	8	14.7	∞ a. ●² p.
8	30.4	21.6	98	64	5	8	4.6	d a. ●° p.
9	30.9	21.5	98	64	5	7	------	
10	30.9	21.7	97	65	8	8	------	
11	30.5	21.7	98	65	7	8	31.5	●² ⊤° p.
12	30.4	21	98	64	5	6	------	Ω a.d p.
13	30.1	22	98	65	7	9	------	Ω ∞ a. d p.
14	30	21.5	98	65	5	7	27.9	●² ⟨ p.
15	31	21.2	98	63	7	3	------	
16	30.1	22	97	65	7	5	------	
17	29.2	21	98	69	9	9	56.9	Ω a. ●² p.
18	28.3	20.4	98	74	10	8	24.6	● a.
19	31.6	21	98	60	5	7	------	
20	31.9	21.4	98	59	3	9	25.4	●² ⊤° p.
21	31.8	22.2	97	59	7	8	------	Ω ∞ a.
22	28.6	21.6	98	72	2	9	------	d p.
23	26.8	19.2	96	79	10	10	81	●² a. p. ↙° p.
24	29	21	98	71	9	7	------	d a.
25	29.7	22	97	66	9	6	------	d a.
26	30	22.4	98	66	5	5	------	Ω ∞ a.
27	29.8	22.2	98	67	10	8	5.3	Ω ∞ a. ●° p.
28	29.5	21.8	98	66	10	8	------	d a.
29	29	21.3	97	67	9	10	8.4	d a. ●° p.
30	29.4	21.8	98	66	9	7	------	Ω ∞ a.
31	29.8	22.3	98	66	3	7	------	
Mean	30.1	21.6	97.8	65.9	6.8	7.5	------	
Total	------	------	------	------	------	------	284.9	

SANTA CRUZ, LAGUNA.

[ϕ=14° 18′ N; λ=121° 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	33.1	22	98	72	9	8	------	● a.
2	33.6	21.5	95	68	8	7	------	⊤ p.
3	33.6	22.5	98	62	10	8	------	⊤ a. p.
4	32.9	22.1	97	88	8	10	36.3	≡° a p. ● ⌐⊻² p.
5	31.9	23.3	95	69	10	10	------	●° d a.
6	29.7	23.9	89	92	10	10	13.7	⊤ a. d ● a. p.
7	29.6	22.6	98	92	10	10	9.9	d a. p. ⌐⊻ ⟨ p.
8	33.1	22.7	98	65	9	8	15.7	⊤ p.
9	31.1	23.9	97	75	10	10	1.8	●² a. d² p.
10	32.7	22.9	98	67	9	7	8.9	● a. ⟨ p.
11	31.8	23.5	98	74	10	10	5.3	⊤ a. ⌐⊻ d a. p.
12	33	23.4	96	64	1	3	------	d° a.
13	33.1	22.2	97	63	1	2	------	
14	33.4	20.9	99	54	2	2	------	≡° a.
15	33.3	21.3	96	59	1	6	------	d° a.
16	32.1	21.9	96	70	10	10	5.3	d ● ⌐⊻ p.
17	29.2	24.4	88	78	10	10	.8	p² a. d p p.
18	32.6	25.5	78	77	10	10	1.3	d a.
19	32.9	21.6	96	72	10	9	1.5	d² p.
20	34.1	22.3	97	69	4	7	------	d° ⌐⊻ ⟨ p.
21	33.6	22.1	96	60	6	3	------	≡° a. d° ⟨ p.
22	33.1	21.4	97	66	2	5	------	≡° a. ⟨ p.
23	29.1	22.3	96	96	10	10	146.8	d a. p. d² ● p.
24	30.6	23	96	74	10	10	29.5	● a. ◯° d p.
25	33.4	23.5	87	89	10	9	3.8	d ● ⌐⊻ p.
26	32.3	23	97	68	2	4	11.2	≡° a. d p.
27	31.9	23.9	89	70	8	9	10.2	● d a. p.
28	30.1	23.2	88	80	8	9	10.9	● a. p. d p.
29	30.2	24.3	92	78	10	10	2	d a. ⊤ d p.
30	32.1	23	97	68	9	8	------	
31	32.1	24	90	65	7	7	.3	d a.
Mean	32.1	22.8	94.5	72.4	7.5	7.8	------	
Total	------	------	------	------	------	------	315.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29.8	21.4	95	81	8	6	2.3	p a.
2	30.2	19.4	98	65	7	6	------	
3	29.9	21.9	95	80	8	7	10.9	p ● p.
4	28.8	22	97	91	5	9	27.4	● p p.
5	38.4	20.3	99	81	8	8	------	● ⌒ a.
6	27	21.8	90	88	10	9	21.8	● a. p. p p.
7	28.4	21.3	98	96	6	8	14.7	● p.
8	30.3	21.4	97	73	8	10	1.5	● a. p.
9	28.4	22.4	98	75	10	8	------	
10	30.2	21.2	99	72	9	8	12.4	p a. ⌒ p.
11	28.7	21.8	96	87	8	8	10.4	● a. p ⌒ p.
12	30	21.9	95	69	1	7	.5	⌒ a. p ● p.
13	31	21.1	95	79	6	5	------	⌒ p.
14	30.7	18.6	99	60	7	5	------	
15	30	20.7	97	65	1	5	------	⌒ a.
16	29.2	20.2	97	78	9	5	5.8	p p.
17	25.2	22.7	97	91	9	8	------	p a.
18	28.7	22.4	85	81	9	8	------	
19	31.3	19.1	96	69	7	9	6.6	⌒ ● p.
20	32.8	19.4	97	62	10	6	------	
21	32	20.1	99	63	10	6	------	
22	32.1	19.4	98	59	7	4	------	
23	25.8	20.8	97	96	9	8	185.2	p ●² p.
24	29	20.6	99	77	10	9	28.7	●² a.
25	30.8	22.5	93	76	6	9	10.4	⌒ p.
26	28.9	21.9	95	76	6	6	9.9	● ⌒ a. ● p.
27	28.8	21.8	95	76	8	6	17.3	● a. ⌒ ● p.
28	26.6	21.5	92	91	9	8	38.4	●² p a.
29	27.8	22.3	97	83	10	9	4.3	●² a. p p.
30	28.3	20.3	96	79	8	8	4.6	p a. ● p.
31	28.4	20.9	94	77	7	9	11.7	⌒ a. ● a. p.
Mean	29.3	21.1	96	77.3	7.6	7.3	------	
Total	------	------	------	------	------	------	424.8	

METEOROLOGICAL DATA, ETC.—Continued.

TARLAC.

[ϕ=15° 30′ N; λ=120° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	34.9	22	97	54	6	7	------	Ω d a.
2	34.1	23.1	96	60	8	10	------	Ω a.
3	33.2	22.2	91	80	10	10	------	Ω a. ⊤ d ∞ p.
4	32.8	22.2	99	66	10	5	3.8	Ω ≡ a. d ⊤ p p.
5	31.1	21.7	98	74	10	9	1	Ω ⊕ a. d p.
6	32.7	21.8	98	60	8	6	.5	Ω ⊕ a. d p.
7	30	23.2	97	83	10	10	35.3	Ω ≡ ⊤ a. ● a. p.
8	32.8	23	98	79	10	9	41.5	Ω ⊤ a. ● ⌒ d p.
9	30.2	23.9	99	78	9	10	30	Ω d a. ● ⊤ p.
10	34.3	22.5	98	60	10	5	14	Ω ⊕ a. ● ⌒ ⊤ ☇
11	30.3	23.3	97	76	5	10	------	Ω a.
12	33.1	22.3	98	63	9	6	------	Ω a.
13	34.9	22.1	95	53	1	3	------	Ω a.
14	34.8	23.4	98	54	1	4	------	Ω a.
15	34.7	22.3	99	51	1	4	------	Ω a. ⛈ d° p.
16	34.1	22.7	97	58	8	4	------	Ω a.
17	28	25.2	85	87	10	10	48.2	d° a. ⊤ ● p.
18	29.7	23.2	94	81	10	10	14.5	d ● a. p.
19	31.3	22.3	100	89	9	9	5.3	Ω a. ● p.
20	34.1	22.7	98	61	9	5	------	Ω ≡ a. ⛈ p.
21	34.2	23.8	96	56	9	3	1.8	Ω a. ⛈ ● p.
22	34.3	23.5	99	60	9	3	------	Ω ≡ a.
23	34.2	25	92	70	9	9	61	Ω a. ● p.
24	25	22.3	100	94	10	10	69.1	↙ ● ⛈ a.
25	33.3	22	98	37	9	7	------	Ω ≡ a. ⊤ d° p.
26	33.4	22.7	97	36	6	4	------	Ω a.
27	33.4	22.6	94	61	7	4	.5	Ω a. ● p.
28	33.4	22	98	59	7	8	1	Ω a. ● ⊤ p.
29	30.9	23.9	96	84	9	10	.3	d° p.
30	32.2	22.9	95	68	9	7	------	Ω a. d° p.
31	33.1	22.5	97	61	7	4	------	Ω ≡ a. d° p.
Mean	32.5	22.8	96.6	66.2	7.9	6.9	------	
Total	------	------	------	------	------	------	327.8	

BALER.

[ϕ=15° 40′ N; λ=121° 34′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	23.2	91	66	10	9	------	⊕ ∪ p.
2	31.9	23.6	88	62	10	10	------	⊕ ∪ p.
3	33.2	25	88	75	10	6	------	☇ p.
4	33.4	25.4	79	69	10	10	------	⊕ ⊤ p.
5	31.5	25.8	79	65	10	10	------	⊕ p.
6	32.5	25.2	80	62	10	10	------	d° a. ⊕ p.
7	31	23.8	87	86	10	10	0.8	●° ⊤ p.
8	30.2	23	92	74	10	10	16	⊕ ● ⛈ p.
9	28	23.4	91	83	10	10	------	d° p.
10	31.3	------	98	68	10	10	----	d p.
11	27.2	23	94	90	10	10	18.5	d ●° p.
12	30	23.5	96	81	10	9	2.5	⊕ p.
13	30.4	23	96	77	10	9	9.7	● a p.
14	30.2	23	96	70	10	8	------	
15	32	23.2	91	61	10	10	------	⊕ p.
16	32.9	24	90	80	10	10	.8	d° p.
17	27	26	------	99	10	10	15.7	↙° ●° p.
18	30	24	83	69	10	10	.8	d° a.
19	31.7	21.8	91	71	10	10	------	⊕ p.
20	30.5	22.5	96	72	10	10	------	⊕ p.
21	30.5	23	93	75	10	10	------	⊕ d° ☇ p.
22	32	20.4	92	57	10	10	------	⊕ ∪ p.
23	------	23.3	92	71	10	10	188	↙ ●^{2} p.
24	------	------	------	------	10	10	81.3	↙ ●^{2} a.
25	------	------	------	------	10	10	23.6	p° a. p. ● p.
26	------	------	------	------	10	10	.3	●° p.
27	28.2	23.8	96	85	10	10	41.1	⌒ ●^{2} p.
28	28.8	22.6	97	82	10	10	25.4	p ☇ ●° p.
29	26.2	22.8	97	93	10	10	98	☇ ●^{2} p.
30	29.4	22.9	97	78	10	10	22.6	⌒ ● p.
31	29.9	24.2	91	78	10	10	26.9	● a.
Mean	30.4	23.5	91.1	75	10	9.7	------	
Total	------	------	------	------	------	------	572	

SAN FERNANDO UNION.

[ϕ=16° 37′ N; λ=120° 19′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	33.4	23.9	96	67	3	5	------	Ω a.
2	32.2	23.6	90	70	6	8	37.1	Ω a.
3	31.3	23.2	97	68	9	5	.5	●^{2} a. ●° p.
4	31.3	23.4	92	71	9	9	5.1	
5	27.7	23.6	97	83	10	10	60.5	●^{2} a.
6	28.7	23	94	87	10	8	13.5	●^{2} a. ● p.
7	31.1	22.4	95	78	6	10	22.9	⌒^{2} ● p.
8	30	23.4	94	82	6	6	10.2	● p.
9	31.3	23.8	97	71	5	6	1.3	● p.
10	31.1	23	97	73	1	2	------	
11	31.7	23.5	94	72	3	5	------	Ω a.
12	32.3	23.4	97	71	2	2	.3	Ω a. ●° p.
13	32.5	23.4	95	66	1	2	------	Ω a.
14	32.4	23.5	95	72	1	2	------	Ω a.
15	32.5	23.6	95	71	1	2	------	Ω a. ⌒° p.
16	32.7	23.1	95	68	3	5	------	Ω a.
17	27.8	23	------	94	10	10	86.4	Ω a. ●^{2} p.
18	26.9	------	95	85	10	10	22.9	●^{2} ↙° a. ● p.
19	32.4	21.6	82	68	7	10	------	
20	31.6	22.9	95	70	6	3	9.1	Ω a. ● p.
21	31	23.9	96	73	6	2	------	
22	31.4	25	96	79	3	1	------	Ω a.
23	30.9	25.1	96	79	4	8	------	Ω a.
24	29.3	25.2	72	66	10	10	------	Ω a.
25	31.9	24	87	72	10	10	------	Ω a.
26	31.4	22.8	96	73	2	3	------	Ω^{2} a.
27	31.8	23.2	95	67	3	2	------	Ω a.
28	31.4	22.6	96	70	2	5	------	Ω a.
29	31.9	22.4	95	67	3	6	------	Ω a. ⊤° p.
30	31.6	24.2	89	64	8	3	------	Ω a.
31	31.9	23.1	95	70	9	6	------	Ω a.
Mean	31.1	23.4	93.5	73.1	5.5	5.7	------	
Total	------	------	------	------	------	------	269.8	

ECHAGÜE.

[ϕ=16° 41′ N; λ=121° 39′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	------	95	56	10	8	3.3	⛈ ◯ ● p.
2	32.4	------	97	66	10	10	------	◯^{2} a. ∪° p.
3	35	------	97	51	7	7	------	Ω^{2} ≡° a. ⛈ p.
4	32.6	------	96	68	9	10	------	Ω° ⛈ ◯° a. ⛈ d
5	30.6	------	97	70	10	10	------	⛈ p.
6	33.4	------	98	61	10	9	5.1	⌒ ⊕ a. ⛈ ● p.
7	34.4	------	97	60	10	8	7.9	◯ a. p. ⛈ ● p.
8	30.1	------	97	75	10	10	24.1	●° d a. ⛈ ⌒ ●°
9	27.8	------	98	84	10	9	6.1	●° d^{2} a. ⊤° p.
10	33.1	------	97	59	9	9	------	d^{2} ⌒° a. ⛈ d° p.
11	29.9	------	97	80	10	10	.3	d° a. p. ⛈ p.
12	33.2	------	98	59	10	3	------	≡° a. ⛈ p.
13	34.9	------	97	52	1	2	------	Ω^{2} a.
14	34.5	------	95	54	8	3	------	Ω° a. ⛈ p.
15	32.6	------	97	62	7	9	------	Ω^{2} ≡° a. ⛈ p.
16	31.3	------	97	66	10	10	3.3	●° a. ⛈ ◯^{2} a. p.
17	30	------	94	95	10	10	38.6	●° d a. ↙ d^{2} ⊤° p.
18	30.1	------	85	58	10	10	4.6	↙° ●° a. ⛈ p.
19	33.1	------	87	55	8	7	------	◯° ⊕ a. ⛈ p.
20	33.8	------	97	56	5	7	1.5	Ω^{2} a. ◯° a. p. ⛈
21	34.9	------	94	49	5	2	------	Ω^{2} a. ☇° p.
22	34	------	96	55	10	3	------	Ω^{2} a. ∞ p.
23	31.4	------	94	72	10	10	72.9	Ω° d° a. ⛈ ↙° ●°
24	28.4	------	96	80	10	10	10.2	↙° ●° d^{2} a. ⛈ ●°
25	31.4	------	98	80	10	9	2.3	d^{2} a. ⛈ ∞° d° p.
26	34.5	------	97	57	8	7	------	⛈ ∞^{2} p.
27	31.6	------	96	78	10	9	------	d° ⌒° a. ⛈ ∞° p.
28	28.5	------	98	87	10	10	4.1	d° a. p. ⛈^{2} ● p.
29	29.7	------	99	78	8	9	21.3	d° a. ⛈ a. p.
30	30.6	------	99	88	10	10	5.3	●^{2} ⊕^{2} d^{2} a. ⛈ d^{2}
31	30.3	------	97	68	10	9	3	d° a. p. ⛈ ●° p.
Mean	32	------	96	67.1	8.9	8	------	
Total	------	------	------	------	------	------	213.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	24.5	85	74	5	7	------	Ω^{2} ≡ a.
2	29.8	25.2	84	70	8	10	30.5	Ω^{2} ≡ a. ●^{2} p.
3	30.4	25	84	72	6	7	------	⌒° a. ζ p.
4	30	25	87	73	7	9	------	Ω^{2} ≡ a.
5	26	25.2	84	88	10	10	54.6	Ω ≡° a. ● a. p.
6	29.4	23.9	91	75	10	10	32.3	● a. ↙° a.
7	30.4	24.4	83	69	8	9	3.8	Ω ≡° a. p p.
8	30.7	25.5	86	75	10	8	5.1	d a. ⌒° p p.
9	30.5	24.6	86	73	2	9	------	Ω ≡° a. ⊕ ⌒ d p.
10	31.2	25.1	84	74	1	4	------	Ω^{2} ≡ a.
11	31.8	25.3	84	72	3	4	------	Ω^{2} ≡ a. d ⌒° p.
12	31.6	26	83	72	2	0	------	Ω^{2} ≡ a. ⊤° ⌒° p.
13	31.8	25.9	85	72	0	3	------	Ω^{2} ≡ a.
14	31.8	25.5	84	69	0	3	------	Ω^{2} ≡ a.
15	31	24.9	83	64	0	0	------	Ω^{2} ≡ a.
16	31.1	24.7	81	70	9	9	------	Ω^{2} ≡ a.
17	26.8	25.4	84	88	10	10	210.8	↙ ●^{2} a. p.
18	24.9	22.9	90	88	10	10	154.9	↙^{2} ●^{2} a. ↙ ● p.
19	30	22.5	89	71	8	9	------	⊕ p.
20	30.4	24.1	86	72	5	4	2.5	Ω ≡° a. p ⌈ζ^{2} p.
21	30.9	25.6	87	69	10	6	------	d a.
22	30.6	25.7	81	74	8	0	------	⌒° a. d p.
23	31	25.2	86	72	4	9	------	Ω^{2} ≡ a. d p.
24	29	26.6	77	59	10	10	------	d p.
25	30.3	23.8	67	73	9	9	------	Ω^{2} ≡ a.
26	30.7	24.7	83	75	4	3	------	Ω^{2} ≡ a.
27	31	24.6	86	73	4	2	------	Ω^{2} ≡ a.
28	30.5	23.4	85	71	5	8	------	Ω^{2} ≡ a. d ⌒° p.
29	31.1	24.7	86	72	4	8	12.7	Ω^{2} ≡ a. ⊤° ● ⌈ζ^{2} p
30	31.2	24.1	84	67	9	4	------	Ω^{2} ≡ a.
31	30.4	23.5	84	66	7	8	------	Ω ≡° a.
Mean	30.3	24.8	84.2	72.6	6.1	6.5	------	
Total	------	------	------	------	------	------	507.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	35.8	23	87	46	0	7	3	⌒ p.
2	28.9	23.6	96	88	10	10	121.4	●^{2} a. p. ↙° p.
3	31.8	23	96	69	10	10	2.5	● a. d p.
4	30.6	23.4	96	67	10	10	9.4	● p.
5	24.5	22.7	97	97	10	10	101.9	●^{2} a. p.
6	29.4	22.4	98	77	10	10	4.6	● a. d p.
7	31.5	22.6	96	60	10	10	------	d a.
8	29.5	22.9	92	73	10	10	23.9	● a. p.
9	30.8	23	97	73	4	4	------	⌒ ζ p.
10	33	22.9	97	67	1	4	------	Ω^{2} a. ζ ⌒ p.
11	34.8	23.7	97	54	0	0	------	Ω^{2} a
12	32.5	23.3	92	65	0	0	------	
13	31.8	23.9	96	72	0	9	------	
14	33.7	24.3	100	65	0	2	------	Ω^{2} ≡^{2} a.
15	35.2	22.1	95	51	0	1	------	Ω a.
16	31.2	23.5	84	75	9	8	2.5	⌒^{2} a. d ●° ⌒ p.
17	------	------	79	------	10	10	382.7?	d a ●^{2} ↙ a. p.
18	------	------	------	------	10	10	186.2	●^{2} ↙^{2} a. p.
19	------	------	------	------	10	8	------	
20	------	------	------	------	2	5	------	≡° a.
21	------	------	------	------	4	7	------	≡° d a.
22	------	------	------	------	4	3	------	
23	------	------	------	------	2	7	------	Ω^{2} ≡° a. d p.
24	------	------	------	------	10	10	1.5	d a. ↙° a. p.
25	31.8	24	94	64	10	8	------	
26	33	23.6	97	67	3	4	------	Ω^{2} a.
27	34.3	22.7	97	51	1	1	------	Ω^{2} ≡° a.
28	33.9	22.4	96	47	4	1	------	Ω^{2} ≡° a.
29	33.3	23.3	94	61	2	4	19.3	Ω ≡° a. ● ⌈ζ^{2} p.
30	33.2	23.1	96	48	9	8	------	
31	34.4	21.9	83	45	8	6	------	
Mean	32.1	23.1	93.8	64.4	5.6	6.4	------	
Total	------	------	------	------	------	------	858.9?	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.4	25.9	85	70	3	4	2.5	●° a. d p.
2	27.6	24	85	94	10	10	82.8	● d a. p. ↙^{2} ⊤ ζ^{2}
3	31.5	23.8	84	72	5	9	3.4	○° ●° p.
4	27.6	25.1	86	90	10	10	85.3	● d a. d ●^{2} ζ^{2} p.
5	28.7	23.4	91	82	10	10	18.3	⊤ d ● a. ↙° ● p.
6	30.6	24.9	80	69	10	7	6.1	●° p p.
7	28.8	24.3	76	74	8	10	2.8	d° a. d ●° p.
8	29.3	24.3	------	67	8	2	.1	d° a. p.
9	30.8	25	77	72	8	2	4.1	● p.
10	30.4	24.9	81	63	5	2	------	d° a.
11	31.2	24.8	79	70	4	3	------	
12	31.4	24.8	93	74	4	2	------	v a. d° Ω^{2} p.
13	31.3	24.2	89	77	1	5	5.5	d° a. ● d Ω p.
14	29.8	24.8	93	80	1	6	5	● a. d ⌒° ●° p.
15	30.2	24.6	90	70	4	4	11.6	d ● a. d° p.
16	29.2	26	77	76	9	4	2.9	d a. p.
17	28.4	25.5	81	86	10	10	101.1	● a. p. ↙^{2} p.
18	27.5	24.7	90	92	10	10	24.5	● a.
19	29.8	26.2	90	83	9	8	.1	●° a.
20	30	25.7	92	81	9	9	------	d ⌒° a.
21	30	25.2	88	75	7	3	------	
22	30.6	24.8	87	78	4	6	------	Ω^{2} p.
23	30.8	24.5	82	78	4	6	------	d a. Ω^{2} p.
24	30.3	26.7	78	82	8	9	7.6	≡° a. ● p.
25	28.9	25.1	89	82	10	8	------	
26	30.2	25.7	92	76	8	2	------	≡° p.
27	30.4	25.3	89	78	7	8	------	d° p.
28	29.6	24.6	90	72	6	2	------	
29	31.4	23.8	84	76	3	9	2.5	≡ a.
30	27.2	22.8	87	84	10	10	4.7	d a. ● a. p.
31	29.3	24	80	78	6	7	3.6	
Mean	29.8	24.8	85.5	77.4	6.8	6.4	------	
Total	------	------	------	------	------	------	374.5	

SEISMOLOGICAL BULLETIN FOR OCTOBER, 1909.

By Rev. Miguel Saderra Masó, S. J.,

Assistant Director of the Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

4, 1^h 15^m. **Sumay** (Guam). Earthquake of intensity III.

7, 8^h 40^m. **Capiz** (N of Panay). Oscillatory earthquake. Direction S-N; intensity III; duration 5 seconds.

8, 2^h 0^m. **Sumay** (Guam). Earthquake of intensity IV; repeated at 5^h with intensity II.

9, 1^h 37^m. **Surigao** (NE of Mindanao). Earthquake of intensity II.

9, 23^h 50^m. **Northeastern Mindanao.** Earthquake of intensity IV. It was perceptible throughout the quasi-peninsula of Surigao and the northern part of the Agusan Valley, showing equal intensity at the stations of Surigao and Butuan, which are more than 100 kilometers apart. At both places were clearly noticed two series of vertical shocks, separated by an interval of 3 to 5 seconds. In Surigao the phenomenon was preceded by a noise similar to that of a sudden, violent gust of wind (III of the scale of Davison). Despite its considerable intensity and wide extent, this disturbance has not been recorded by the Manila microseismographs. Its origin lay probably along the eastern shore of Butuan Bay and must have been at a very shallow depth. This, together with the mainly vertical direction of the movements, accounts fully for the failure to impress the distant seismographs. Several earthquakes of a similar character had occurred in this same region during the preceding month of September.

10, 6^h 15^m. **Sumay** (Guam). Earthquake of intensity III.

17, 8^h 25^m. **Santo Domingo** (Batanes Islands). Earthquake of force III, accompanied by subterraneous noises.

17, 23^h 32^m. **Valley of the Agusan River** (Mindanao). An earthquake which developed force II at Butuan, but IV at Talacogon, where its duration was very long. The origin appears to have been to the south of the latter town, near parallel 8° N.

21, 18^h 25^m. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction ESE-WNW; intensity III; duration some 15 seconds. It was preceded by a detonation like the boom of a cannon which was immediately followed by the seismic movements.

23, 21^h 20^m. **Sumay** (Guam). Earthquake of intensity III.

24, 3^h 30^m. **San Isidro** (Central Luzon). A very light and instantaneous shock of intensity II.

[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. (2a).	Period.			
			h. m. s.	*h. m. s.*	*h. m. s.*	*h. m. s.*	*mm.*	*s.*	*h. m.*		
192	3	NNW-SSE	----------	----------	15 40 25	15 40 33	0.04	2.4	15 43	V. M.	Vertical component 0.02 mm.
		WSW-ENE	----------	----------	15 40 25	15 40 51	.03	2.4	15 43	V. M.	
193	12	NNW-SSE	10 28 39	----------	10 28 53	10 29 24	.06	2.4	10 33	V. M.	V. C. 0.04 mm.
		WSW-ENE	10 28 39	----------	10 28 53	10 28 58	.05	2.4	10 33	V. M.	
194	14	NNW-SSE	12 51 00	----------	12 51 14	12 51 15	.10	1.2	12 54	V. M.	V. C. 0.06 mm.
		WSW-ENE	12 51 00	----------	12 51 15	12 51 16	.09	2	12 54	V. M.	
195	21	NNW-SSE	7 50 13	7 56 36	8 02 55	8 22 55	.01	12.2	8 59	V. M.	Baluchistan and NW of British India.
		NNW-SSE	7 50 18	7 56 30	8 02 42	8 22 45	.03	12	8 56	H. P.	
		WSW-ENE	7 50 13	7 56 26	8 02 54	8 20 35	.01	11.6	8 58	V. M.	
		WSW-ENE	7 50 18	7 56 32	8 02 29	8 18 41	.07	13.2	8 57	H. P.	
196	29	NNW-SSE	10 19 02	----------	----------	----------	-------	------	10 58	V. M.	
		NNW-SSE	10 19 03	----------	----------	----------	-------	------	10 56	H. P.	
		WSW-ENE	10 19 02	----------	----------	----------	-------	------	10 58	V. M.	
		WSW-ENE	10 19 03	----------	----------	----------	-------	------	10 56	H. P.	
197	30	NNW-SSE	18 22 19	----------	18 26 14	18 26 36	.66	2.4	18 58	V. M.	V. C. 0.53 mm.
		NNW-SSE	18 22 20	----------	18 26 17	18 26 34	1.57	8.7	18 57	H. P.	
		WSW-ENE	18 22 19	----------	18 26 16	18 26 34	.57	2.4	18 58	V. M.	
		WSW-ENE	18 22 20	----------	18 26 20	18 27 41	1.22	8.1	18 58	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=9.6 seconds; WSW–ENE pendulum, T=9.9 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, 1^h 15^m. **Sumay** (Guam). Temblor de tierra de intensidad III.

7, 8^h 40^m. **Capiz** (N de Panay). Temblor oscilatorio, dirección S-N, intensidad III, duración 5^s.

8, 2^h 00^m. **Sumay** (Guam). Temblor de tierra de intensidad IV. Repitió á 5^h con intensidad II.

9, 1^h 37^m. **Surigao** (NE de Mindanao). Temblor de tierra de intensidad II.

9, 23^h 50^m. **NE de Mindanao.** Temblor de tierra de intensidad IV. Fué muy perceptible en toda la cuasi-península de Surigao y en la parte N del Valle del Agusan. Tuvo la misma intensidad en las estaciones de Surigao y Butúan distantes entre sí más de 100 kms.: en ambas estaciones se notaron bien dos series de movimientos verticales separados por un intervalo de 3 á 5^s. En Surigao fué precedido de un ruido semejante á una ráfaga repentina de vientos (III de la secala de Davison). Este temblor á pesar de ser algo intenso y de grande extensión no fué registrado por los seismógrafos de Manila su origen se hallaba probablemente á lo largo de la costa oriental de la bahía de Butúan, y debió ser muy superficial. El próximo pasado Septiembre hubo en la misma región algunos temblores del mismo carácter.

10, 6^h 15^m. **Sumay** (Guam). Temblor de tierra de intensidad III.

17, 8^h 25^m. **Santo Domingo** (Islas Batanes). Temblor de intensidad III, acompañado de ruido subterráneo.

17, 23^h 32^m. **Valle del Agusan** (Mindanao). Temblor de intensidad IV en Talacogon y II en Butúan. Su duración fué muy larga en Talacogon: el origen se hallaba probablemente al Sur de esta población cerca del paralelo 8° lat. N.

21, 18^h 25^m. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección ESE-WNW, intensidad III, duración unos 15^s. Precedió un estampido como de cañonazo que parecía proceder del E (VI de la escala Davison), é inmediatamente se percibieron los movimientos séismicos.

23, 21^h 20^m. **Sumay** (Guam). Temblor de tierra de intensidad III.

24, 3^h 30^m. **San Isidro** (Centro de Luzón). Ligerísima é instantánea sacudida de intensidad II.

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 meridiano 120° E de Greenwich.

BULLETIN FOR NOVEMBER, 1909.

METEOROLOGICAL BULLETIN FOR NOVEMBER, 1909.

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

GENERAL WEATHER NOTES.

Pressure and temperature.—The monthly mean of atmospheric pressure in the Philippines differs very slightly from that for November of the preceding year, the greatest departure being only —0.47 millimeters, found for the station of Aparri. Nevertheless, a comparison of the same monthly mean with the normal shows the former to have been rather low. Thus for Manila, for instance, the difference from the normal is —1.24 millimeters. Some of the stations registered the highest pressures of the month on the 11th and 12th, while others experienced them on the 30th. The minima occurred on the 6th in Mindanao and the Visayas, but on the 15th or 16th in nearly the whole of Luzon.

The monthly mean temperature is found to have been generally somewhat higher than during November, 1908. In Manila the extremes were 32.7° C, and 21.4° C, registered on the 9th and 20th, respectively.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS NOVEMBER, 1909.

Station.	Pressure.						Temperature.					
	Mean.	Departure from November, 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from November, 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran	--------	--------	--------	--------	--------	--------	26.9	+0.4	33.5	13	21.6	25
Surigao	757.68	+ .09	759.58	11	752.82	6	26	— .1	32.5	15	22.4	13
Cebu	57.56	— .10	59.70	11	52.05	6	26.3	0	31.5	8	22.2	29
Iloilo	57.88	+ .17	60.05	11	53.39	6	26.1	— .1	32.4	1	22.2	7
Ormoc	57.65	— .13	59.80	11	50.15	6	25.5[1]	+ .1	32.9[1]	22	20.4[1]	2, 24
Tacloban	57.76	— .20	59.92	11	48.29	6	--------	--------	--------	--------	--------	--------
Capiz	--------	--------	--------	--------	--------	--------	26.4	+ .2	32	17	--------	--------
Calbayog	58.07	+ .05	60.13	11	52.12	6	25.8	+ .4	33.1	1	21.2	26
Legaspi	58.01	+ .18	60.18	30	53.16	15	26.5	+ .4	33.6	20	21.5	20, 25
Atimonan	58.10	— .22	60.79	30	51.83	15	26.4	+ .1	32.4	22	22.3	20
Manila	58.14	— .18	60.71	30	52.23	15	25.8	+ .7	32.7	9	21.4	20
Olongapo	57.91	— .20	60.37	12	52.56	15	26.2	+ .6	33.8	5	21.2	13
San Isidro	58.17	— .06	60.81	30	52.71	15	--------	--------	--------	--------	--------	--------
Dagupan	57.96	— .21	60.55	30	52.77	15	26.7	+ .5	34.4	1	21	27
Bolinao	57.78	— .07	60.41	12	52.79	16	26.8	— .2	31.9	9, 22	21.8	27
Baguio	636.04[2]	--------	638.18[2]	12	632.05[2]	16	17.8	--------	--------	--------	13.5	26
Vigan	758.15	— .25	760.63	12	753.20	16	27	+ .2	35.6	8	22	25
Tuguegarao	59.39	— .25	63.27	30	54.79	16	25.6	+ .2	34.3	22	20.2	26
Aparri	59.93	— .47	63.79	30	55.34	17	25.4	--------	32.5	18	21.4	30

[1] From 29 days only. [2] Not reduced to sea level.

Precipitation.—A careful examination of the following table, prescinding from the stations in the Carolines and Marianas, shows that the number of stations which report a total rainfall in excess of that during November, 1908, is about equal to the number of those which registered a smaller amount. The quantity of water gathered in the pluviometers of Manila Observatory is only 4.6 millimeters greater than the normal for November.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF NOVEMBER, 1909.

Station.	Total.	Departure from November, 1908.	Rainy days.	Departure from November, 1908.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from November, 1908.	Rainy days.	Departure from November, 1908.	Greatest rainfall in a single day.	Day.
	mm	*mm.*			*mm.*			*mm.*	*mm.*			*mm.*	
Jolo	250.7	− 1.1	24	+ 4	41.7	23	Calapan	586.8	------	19	------	167.9	14
Isabela, Basilan	178.1	+ 28.7	19	0	36.6	14	Legaspi	566.1	+151.6	24	− 1	85.1	14
Zamboanga	125.6	------	13	------	40.4	15	Nueva Caceres	322.6	------	19	------	80.5	14
Davao	185.6	−104.4	9	− 3	50	20	Batangas	268.6	−196.7	20	+ 6	83.3	15
Cotabato	257.5	−151.2	19	− 3	86.4	5	Atimonan	435.6	−842.3	21	− 1	91.1	14
Cagayan, Misamis	174.5	− 1.8	18	+ 4	70.1	5	Silang	322.9	− 36.7	12	+ 1	86.6	6
Dapitan	429.2	+ 88	22	+ 3	60.7	5	San Antonio, Laguna	533.5	+ 25.2	25	− 1	121.2	6
Butuan	585.2	+370.1	24	+ 3	244.9	5	Manila	136.3	− 82.2	19	+ 5	32.2	7
Yap, W. Carolines	334.4	+109	28	+ 5	83.3	3	Olongapo	130.7	−109.5	13	+ 2	48.8	7
Tagbilaran	281.6	+ 76.9	18	− 5	66	8	San Isidro	111.3	−248.4	16	+ 6	38.3	7
Surigao	465.9	+ 19.8	19	− 5	101.5	5	Tarlac	168.4	−120.1	10	+ 1	38.4	7
Maasin	344	− 95.3	12	− 4	142.5	6	Baler	489.3	------	14	------	89.9	17
Cebu	289.3	+ 94.8	20	0	89.7	6	Dagupan	44.5	−185.7	9	0	16	7
Iloilo	379.8	+ 34	23	+ 7	130.7	6	Bolinao	73.4	− 45.3	10	+ 4	28.2	1
San Jose Buenavista	399.2	−107.9	20	+ 5	155.4	6	Baguio,	81.3	+ 1.1	8	+ 3	31.2	24
Ormoc	424.6	+236.8	20	− 1	138.9	6	San Fernando, Union	83.2	+ 9.9	7	0	22.9	22
Tacloban	370	− 22.8	20	0	62.2	6	Echague	188.1	−214.5	23	+ 6	47.5	15
Borongan	835.3	+366.6	24	− 1	127.3	6	Candon	74.3	− 69.9	8	+ 4	31.7	22
Calbayog	399.7	+138.1	24	− 1	141.7	14	Vigan	44.3	+ 38.7	5	+ 1	25.5	16
Romblon	637.2	------	24	------	130.8	14	Tuguegarao	306.3	+ 79	12	+ 2	67.6	15
Laoang	627.3	+ 54.1	26	+ 1	122.7	27	Laoag	104.5	+ 87.7	12	+ 8	20.1	15
Gubat	204.7	−328.9	24	− 2	27.2	27	Aparri	603.7	+413.7	20	+ 2	110.6	18
Sumay, Guam	196.8	+ 84.9	24	+ 2	36.8	12	Sto. Domingo	710.7	+294.2	23	+ 1	128.5	18

DEPRESSIONS AND TYPHOONS.

During the month of November two notable typhoons have crossed the Philippine Archipelago south of Manila. The first of these was remarkable for the unusual violence which it displayed in the Visayas and the China Sea, and for the changes in direction of the track while the storm traversed the China Sea—viz, after inclining toward north, the typhoon, on reaching the height of Bolinao, resumed its original westerly course and entered the Asiatic Continent near Tourane. The second storm was distinguished by the extraordinary development which it acquired in the China Sea after having crossed the Philippines ill defined and with little intensity; but above all by the fact that for several days it remained practically stationary to the east of the Paracel Islands.

We shall endeavor to ascertain the tracks of these two typhoons, which are represented on Plates XXVI and XXIX, to the best of our ability.

THE TYPHOON OF THE VISAYAS, NOVEMBER 6 AND 7, 1909.

It would seem that this typhoon formed north of the Pelew Islands on November 2 to 3. Although a low-pressure area existed in the neighborhood of the Western Carolines ever since the last days of October, we do not believe that it had a well-defined cyclonic center before the 2d. On the 3d Manila Observatory sent the following advice to Hongkong and the other observatories of the Far East:

November 3, 11 a. m.: Typhoon north of Pelew Islands; direction unknown.

In the morning of the 5th it became perfectly clear that the disturbance threatened to cross the Archipelago through the Visayas and the interisland seas between the latter and Luzon. The following notices were given to the newspapers of the capital on that day:

November 5, 11.40 a. m.: The depression or typhoon east of the Visayas seems to be moving slowly to W or WNW.

November 5 6 p. m.: The typhoon over the Pacific is approaching the Visayas, moving apparently to

WNW. It will probably cross Samar Island and the interisland seas between Luzon and the Visayas by to-morrow. Navigation very dangerous south of Luzon.

Similar warnings were telegraphed to all the stations of the Weather Bureau, giving ample time to forewarn the endangered regions. To Hongkong, etc., we cabled as follows:

November 5, 9.30 a. m.: Typhoon east of the Visayan Islands, moving W or WNW.
November 5, 6 p. m.: Typhoon east of the Visayan Islands, moving WNW.

Hongkong, on the other hand, favored us with the following cablegram:

November 5, noon: Typhoon southeast of Luzon, moving west.

A special weather note given out during the forenoon of the 6th described the situation thus:

November 6, 11 a. m.: The typhoon is at present over or near the southernmost part of Samar Island, moving west or west-northwest. It will probably cross at a considerable distance south of Manila by tomorrow morning.

The daily weather note of the same day stated:

November 6, 1 p. m.: The islands in, or very near to, the track of the storm are southern Samar, northern Leyte, Masbate, northern Panay, Romblon, and Mindoro.

The following notices were exchanged between Manila and Hongkong on the 6th:

Manila.—November 6, 11 a. m.: Typhoon over the eastern Visayas, moving W or WNW.
November 6, 6 p. m.: Typhoon between the Visayas and Luzon, moving W or WNW.
Hongkong.—November 6, 5 p. m.: Typhoon south of Luzon, moving W.

A comparison of these notices with the track of this typhoon (Plate XXVI) will convince the reader that these warnings were both timely and accurate.

As regards the passage of the typhoon through southern Samar, we confine ourselves to reproducing here part of a letter written by the parish priest of Salcedo (125° 40′ E; 11° 9′ N) and kindly forwarded to the Central Office by the observer at Borongan, Rev. Cesareo Montes, O. S. F.

* * * At 2 a. m. of the 6th the barometer had fallen to 748 millimeters. At 4 a. m. the winds were still from north-northeast with continually increasing force. At 7 a. m. they veered to northeast and at about 8 a. m. to east. These last were the most violent which we experienced. The barometer had by this time reached 737 millimeters. At 9 a. m. the winds came already from southeast and were less violent than the preceding.

The vortex did not pass over this place, nor over Guiuan (125° 44′ E; 11° 2′ N). I have been told that the greatest damage was done by the storm between Guiuan and Sungi Point (125° 50′ E; 10° 55′ N).

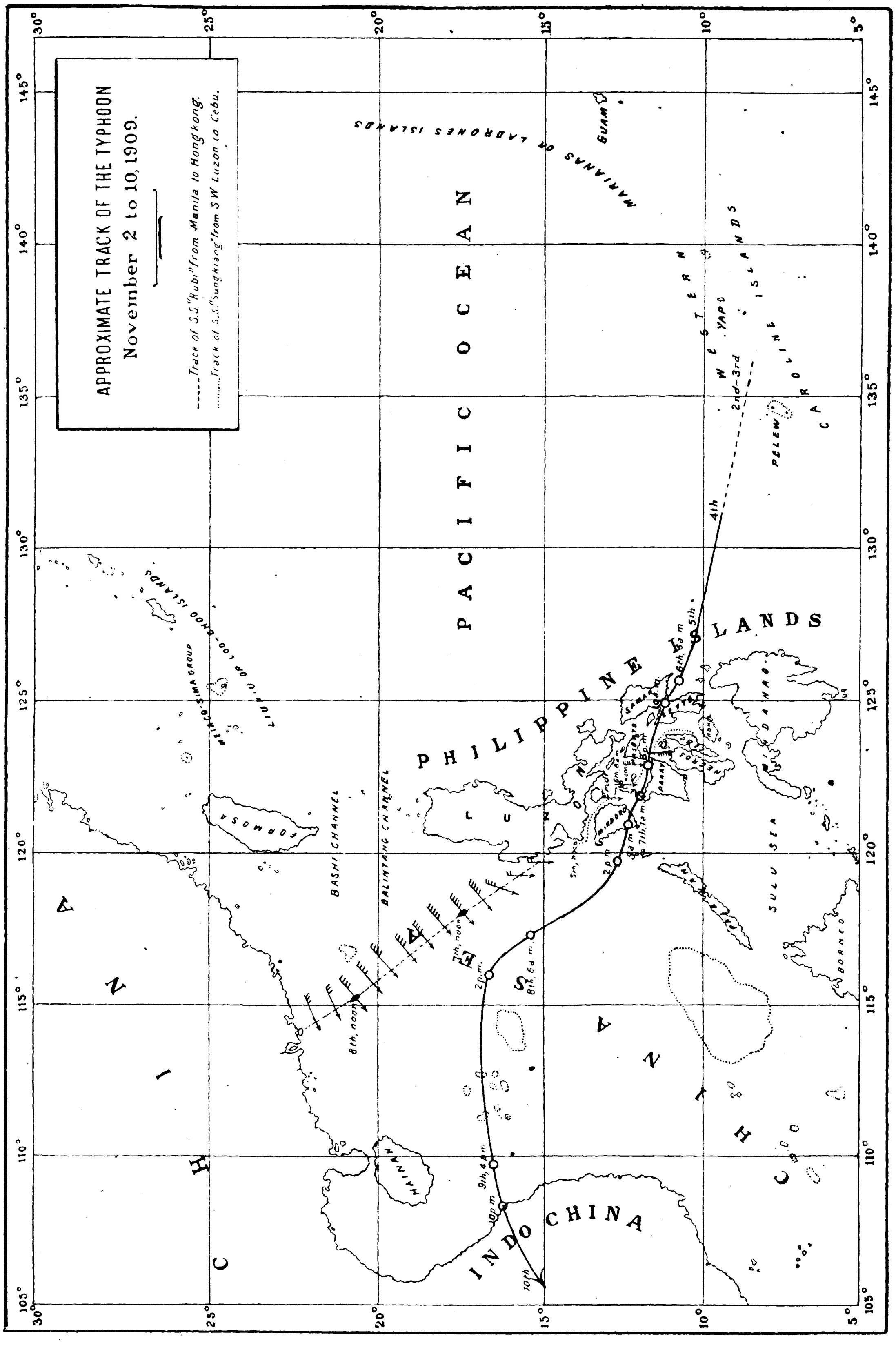
After the typhoon I visited Balangiga (125° 23′ E; 11° 7′ N) and found that there the coastal plains have been hit more severely than at Guiuan. I am of the opinion that the storm gathered force in Saints Peter and Paul's Bay, since Father Ranera states that his barometer, only recently compared and corrected in Manila Observatory, fell to 722 millimeters. The convento at Balangiga is inclined to one side and practically ruined; of the church only the bare walls are left standing. The convento of Basey (125° 4′ E; 11° 17′ N) is likewise dismantled.

These data seem to show that the typhoon entered the Archipelago south of, and not far from, Sungi Point early in the morning of November 6.

Of all our stations, Tacloban and Capiz are those which came to lie nearest to the vortex; the former north, the latter south of the track. In Plate XXVII we reproduce the barograph curves obtained in these two stations. The minimum was 728.53 millimeters in Tacloban, with hurricane winds from east, and 730 millimeters in Capiz, with winds likewise of hurricane force, but coming from west.

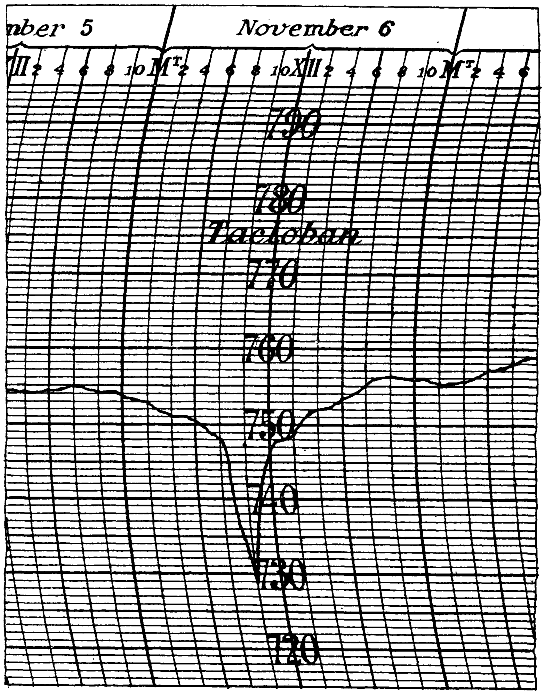
Thanks to the painstaking and faithful work of our observer at Tacloban, Mr. Perfecto Paulino, we are in possession not only of very complete observations made during the passage of the storm and under very trying circumstances, but also of numerous details concerning the destructive effects of the storm in many towns of northern Leyte.

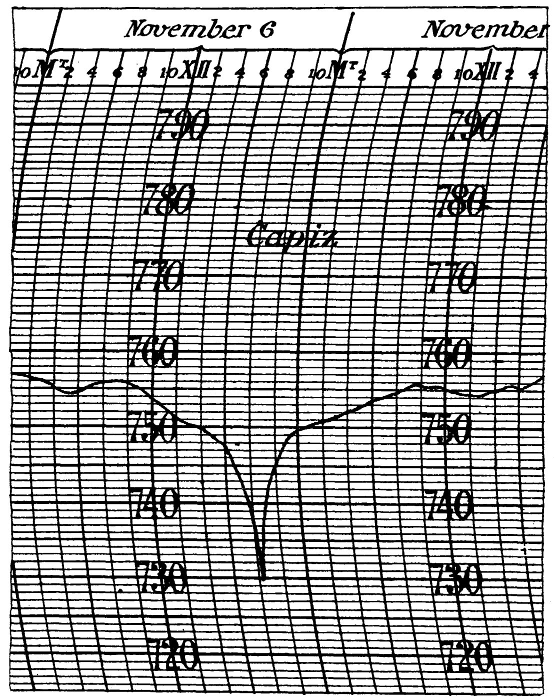
Plate XXVI.

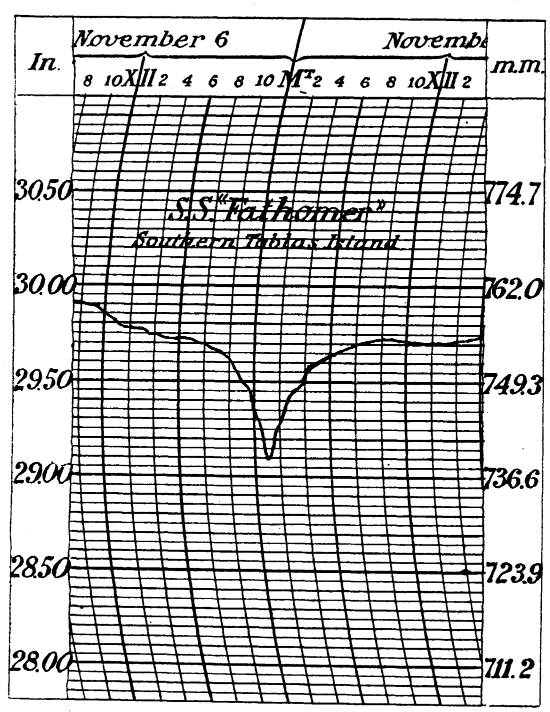

APPROXIMATE TRACK OF THE TYPHOON
November 2 to 10, 1909.
Track of S.S. "Rubi" from Manila to Hongkong.
Track of S.S. "Sungkiang" from S.W. Luzon to Cebu.
PACIFIC OCEAN
PHILIPPINE ISLANDS
CHINA SEA
INDO CHINA
FORMOSA
HAINAN
BASHI CHANNEL
BALINTANG CHANNEL
SULU SEA
BORNEO
GUAM
MARIANAS or LADRONES ISLANDS
WESTERN CAROLINE ISLANDS
YAPS
PELEW
LUZON
MINDANAO
4th
2nd-3rd
8th, noon
7th, noon
9th, 4 A.M.
10th

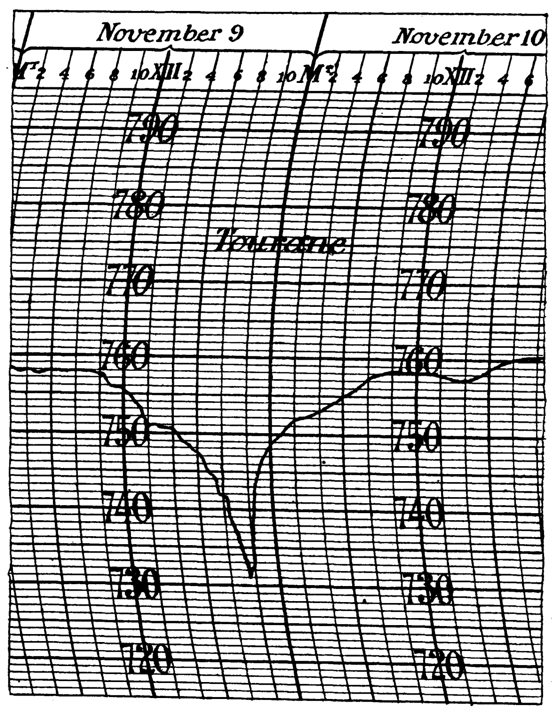
BAROGRAPHIC RECORDS

Plate XXVII.









METEOROLOGICAL OBSERVATIONS MADE AT TACLOBAN, LEYTE, NOVEMBER 5 TO 7, 1909.

Date and hour.	Pressure.	Wind.		Clouds.			Weather.	Rain-fall (Daily total).	State of sea.	Remarks.
		Direction.	Force.	Amount.	Form.	Direction.				
November 5:	*mm.*		*0-12.*	*0-10.*				*mm.*		
2 a. m	754.94	WNW	1	9	Cu.-N.	NNE	o	------	-----	From 4.45 a. m. to 5.50 a. m. rain.
6 a. m	55.76	WNW	2	10	N.	NNE	o, d	------	T	Drizzling; at 8.15 a. m. the rain begins to fall.
10 a. m	56.87	WNW	2	10	N.	NNE	o, r	------	T	Continuous rain with light breeze.
2 p. m	54.41	NW	2	10	N.	N	o, r	------	M	Continuous rain; at 1 p.m. thunder to the NE quad.
6 p. m	54.36	WNW	2	10	N.	N	o	------	-----	Roaring sea, light breeze.
10 p. m	54.23	NW	3	10	N.	N	o	61.7	-----	Roaring sea; from 11.25 p. m. to midnight heavy rain.
November 6:										
2 a. m	52.86	NNW	2	10	N.	----------	o, r	------	-----	Roaring sea; heavy continuous rain.
4 a. m	51.11	NNW	8	10	N.	----------	o, q	------	-----	Roaring sea; squalls with fresh gale.
6 a. m	50.33	NNW	6	10	N.	N	o, q	------	L	Squally.
7 a. m	49.47	NW	6	10	N.	N	o, q	------	L	Do.
8 a. m	48.09	NW	8	10	N.	NW	o, q	------	B	Fresh gale.
8.30 a. m	46.48	NWbyW	10	10	N.	NW	o, q	------	B	Whole gale.
8.45 a. m	42.11	WNW	11	10	N.	NNW	o, q	------	R	Furious storm.
9. a. m	38.08	NW	12	10	N.	NNW	o, q	------	R	Furious hurricane.
9.15 a. m	36.11	NNE	12	10	N.	N	o, q	------	R	Do.
9.30 a. m	34.03	ENE	12	10	N.	NNE	o, q	------	R	Do.
9.45 a. m	31.84	ENE	12	10	N.	NE	o, q	------	R	Do.
10 a. m	28.53	E	12	10	N.	NE	o, q	------	R	Do.
10.15 a. m	30.10	ESE	12	10	N.	ENE	o, q	------	R	Do.
10.30 a. m	33.03	ESE	12	10	N.	ENE	o, q	------	R	Do.
10.45 a. m	35.33	ESE	12	10	N.	ENE	o, q	------	R	Do.
11 a. m	39.32	SE	10	10	N.	E	o, q	------	R	Whole gale.
11.30 a. m	44.19	ESE	12	10	N.	E	o, q	------	H	Furious hurricane.
Noon	46.37	ESE	12	10	N.	E	o, q	------	H	Do.
2 p. m	48.52	SSE	4	10	N.	E	o	------	L	Moderate breeze; from 1.15 p. m. to 1.35 p. m. wind abated.
4 p. m	51.95	SSE	8	10	N.	SE	o	------	M	Fresh gale.
6 p. m	53.40	SE	3	8	Cu.-N.	----------	o	------	M	Gentle breeze; roaring sea.
8 p. m	55.13	ESE	6	10	Cu.-N.	----------	o	------	-----	Strong breeze.
10 p. m	56.10	SE	5	10	N.	----------	o	62.2	-----	Fresh breeze; roaring sea.
November 7:										
6 a. m	57.14	SE	1	8	Cu.-N.	S	o	------	T	
10 a. m	58.56	SE	2	9	Cu.-N.	ESE	o, d	------	T	Drizzling; from 10.35 a. m. to 10.55 a. m. rain.
Noon	56.89	SE	2	8	Cu.-N.	S	o	3.3	T	Light breeze.

Of the very exhaustive report of Mr. Paulino we copy only the following paragraphs which give the more important facts:

Dreary indeed and disheartening is the aspect of this capital (Tacloban) after the passage of the hurricane which ruined the entire town. The number of structures of strong, light, and mixed materials which have been overthrown, inclined, or torn to pieces by the storm is 850. The Government Building and the high school lost each several sheets of galvanized-iron roofing; the parish church is minus that half of its roof which faced southeast; the presidencia was unroofed and had the partition walls blown down; the Government pier was destroyed completely: in short, there is not a house or building in the town which has not been destroyed, or at least has suffered serious damage. Sheets of iron roofing flew about as if they had been bits of paper, causing one death and several injuries.

Two launches of the Tabacalera Company, the *Prueba* and *Trinidad,* were wrecked in the harbor of Tacloban; the *Emilia,* owned by the same company, was lost at Carigara, the crew saving themselves by swimming. The *Penafort,* another launch belonging to the firm Limpangco, was at the time in Dulag Bay with a crew of 15 men, all of whom have disappeared without a trace having been found of them up to the present (middle of November). The *Aurora,* a launch of Jose Go-Sico, went down, but the crew escaped by swimming.

Here in Tacloban the water rose to a height of 2.5 meters in the lower portion of the town, wetting the hemp, copra, rice, and other merchandise stored in the warehouses of the Tabacalera, Limpangco, Ortega, Smith Bell & Co., and others. The resulting losses amount to about ₱27,000.

So great was the violence of the winds that not merely slender trees were ruined, but even some of the giants were uprooted.

Mr. Paulino then proceeds to give a long list of the damages caused by the typhoon in other towns of northern Leyte, in Burawen, Tanauan, Alangalang, Caybiran, Palo, Tolosa, Dagami, Dulag, Carigara, Barugo, Naval, etc.

Though we are unable to state exactly over which points of the island the typhoon passed, we may safely assert that it must have passed Tacloban at a distance of less than 10 miles.

After crossing Leyte, the typhoon followed a path strongly inclined toward west, that is to say, about WbyN, and passed south of Masbate Island and north of Cebu and Negros Islands in the afternoon of the 6th. The point of the track at 5 and 6 p. m. is well established by the observations made aboard the steamer *Sungkiang.* This steamer had made shelter between the Gigantes Islands (close to the northeastern end of Panay) when the cyclonic center passed over it, accompanied by all the usual phenomena, such as absolute calm, serene sky, jumping of the wind to a direction directly opposite to the one from which it had been coming before the calm, etc. The following table contains the observations made at the time and kindly placed at our disposal by the master of the vessel.

We must, however, remark that the barometric minimum of 731.51 millimeters given in these observations is decidedly too high, if we compare it with the heights observed at Tacloban and Capiz, which were somewhat lower, despite the fact that neither town had been within the vortex. It would appear that the barometer of the *Sungkiang* (an aneroid) lacks sensitiveness, at least when pressure is very low. Within the center the pressure was in all probability less than 720 millimeters.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "SUNGKIANG," NOVEMBER 5 TO 7, 1909.

[Captain, W. Shane.]

Date and hour.	Pressure.	Wind direction.	Remarks.
November 5:	*mm.*		
Noon			Ship's position, 14° 00′ lat. N, 120° 23′ long. E.
4 p. m	758.43	E	Light breeze and showery.
8 p. m	59.45		Light airs and showery.
Midnight	59.16	N	Fresh breeze and fine weather; slight following sea.
November 6:			
4 a. m	57.67	N	Strong breeze; overcast; moderate sea.
6 a. m	57.41	N	At 6.15 a. m. barometer falling and weather looking dirty.
8 a. m	56.91	N	Strong squally winds, moderate sea.
10 a. m	55.64	N	
Noon	54.37	N	Ship's position, 11° 51.5′ lat. N, 122° 57.5′ long. E. Wind blowing a moderate gale; very dirty looking ahead, sky heavily overcast. At 1.30 p. m. heavy driving rain squalls; wind increasing fast.
1 p. m	52.33	NbyW	
2 p. m	48.78	NbyW	Ship making a lot of leeway; high short sea. At 2.30 p. m. made out N Gigante Island light-house, distant about 1′; kept ship away to round same. At 2.45 p. m. rounded Uaidajon Island, distant 4 cables, and steered S for an anchorage.
3 p. m	46.75	NbyW	At 3.20 p. m. rounded ship to an anchorage in 12 fathoms water 5 cables off Bantigal Islands with 90 fathoms cable on port and 60 on starboard.
3.30 p. m	44.97	NbyW	
4 p. m	42.43	NbyW	Wind increasing to violently hurricane force. Tremendous sea; ship rolling, pitching, and straining.
4.30 p. m	35.32	NbyW	
5 p. m	32.78	Calm	Wind dropping to a calm. Sky brightening overhead and all land close to, visible. Between 5 p. m. and 6 p. m. center of storm passing over ship.
5.30 p. m	31.51	Calm	
6 p. m	32.01	SbyE	Before 6 p. m. storm broke over ship again from the opposite direction, viz, south, and increased rapidly to hurricane force.
6.30 p. m	36.59	SbyE	
7 p. m	43.19	SbyE	Squalls less frequent.
7.30 p. m	46.24	SbyE	
8 p. m	48.02	SbyE	Sea running more true from south. Vessel riding better.
9 p. m	50.56	SbyE	The land north of Gigante Island light plainly visible.
10 p. m	51.83	SbyE	Moderate gale; overcast.
Midnight	52.33	SbyE	Strong steady wind with squalls of little force at intervals. Overcast, moderated sea from south.
November 7:			
4 a. m	52.08	SSE	Strong breeze; overcast and squally.
8 a. m	58.18	SSE	Strong breeze; rough head sea, fine weather.
Noon	57.67	SE	Ship's position, 11° 12′ lat. N, 124° 06′ long. E; fresh breeze, fine weather, moderate sea.

The following interesting description of the *Sungkiang's* experiences during the passage of the center over her, is taken from a Cebu paper:

It began to blow and rain about Saturday noon, and as the storm increased I thought it would be safe to look for an anchorage. At 3 o'clock in the afternoon I anchored 3 miles off Gigante, a place on the east coast of Panay, which, although by no means a very safe anchorage, was the best place I could find under the circumstances. Only five minutes after anchoring the typhoon broke loose in all its fury, and the sea commenced to run high. The vessel rolled like a Hull trawler in a storm off the coast of Iceland, and the wind was simply fierce. The rain made it absolutely impossible to distinguish anything 5 feet away from one. I had both anchors out, 90 fathoms of chain on one and 65 on the other. I sent a man up on the forecastle head to see whether the chains were unbroken, but the *wind was so heavy that he could not get up.*

He could hardly get his head above the top of the ladder, so furious was the wind. At 5 o'clock it suddenly became dead calm, and the passengers thought that all danger had passed. But I knew better: *it was the center of the typhoon!*

One can not possibly imagine what a typhoon really is until he has been in one. One minute you think the ship is going to be blown up into the clouds, and then comes the center—all is calm, the surface of the sea is smooth as a mirror [?], and if you had nothing else to do, you might *lean back in a deck chair and enjoy a cigar:* but it does not last long, for the typhoon is traveling right over you, and before long the storm breaks loose again from exactly the opposite direction to which it blew from before the calm spasm.

When it started to blow the wind came from NNE, but at 6 o'clock, when the center had passed over the vessel, it blew from SSW.

About 10.30 the typhoon was over, but it was still blowing a heavy gale, and I waited until 4.30 Sunday morning before I weighed anchor, which took us nearly two hours. We had then drifted to a distance of only one-fourth mile off the rocks.

This is the third but the worst typhoon I have ever experienced. About three years ago I was in one on the China coast, near Amoy and on that occasion we saved the lives of about 60 Chinamen who were drifting about on rafts. Then I was in a typhoon about four months ago, but that was mere child's play compared with this last one. This is the first time I have been in the center of a typhoon, and I hope it will be the last time, too.

All the towns on the northern coast of Panay experienced the destructive fury of the typhoon which not only inflicted heavy material damages, but also caused personal injuries and even loss of life. The following report has been received from Mr. José E. de León, observer at Capiz:

In this town hardly a house remained standing; practically everything has been destroyed by the fury of the hurricane; the church and parish residence, the provincial and municipal buildings, the post and telegraph office, the meteorological station, the barracks, the Protestant mission-house with orphan asylum and hospital. Only the high school and the prison, both recently constructed, have escaped unscathed.

The mightiest trees which had resisted all preceding storms, have been uprooted, some of them of such enormous dimensions that three men could not encircle them with outstretched arms.

The water has risen so high that it is feared lest it ruin the bridge which is being built.

In the towns of Calibo, New Washington, Panitan, Dao, Loctugan, Ivisan, Panay, and Pontevedra only very few houses are left standing. Several personal accidents have occurred in these towns, while the material loss is estimated at ₱800,000.

Concerning Calibo we have additional information, kindly furnished by Sr. D. Juan Azárraga, an eyewitness of the happenings during the passage of the typhoon:

I have the honor of informing you with deep sorrow of the disasters caused in this town by the last typhoon, which visited it between 8 and 11.30 p. m. of the 6th instant. The barometer has here fallen to 720 millimeters and about 98 per cent of the buildings have been destroyed. My house lost one-fifth of its iron roof. The whirl tore it off, carried it upward and deposited it entire on the grounds next to our property.

A luminous phenomenon resembling St. Elmo's fire, passed over the whole town, whirling and moving with the velocity of the wind. The latter was such as to render it highly imprudent to leave the house even to take refuge in that of a neighbor. One poor fellow who was carrying his trunk on his shoulders was borne away by the wind as far as a group of trees outside of the town. One woman who likewise ventured to go out of doors, found herself minus her hair, without being aware of the manner in which she lost it (!); another was lifted to the height of the trees in the public square and dropped to the ground, sustaining injuries of which she died four days later. It is said that in Capiz, the capital of this province, a greater number of persons met with accidents.

Although at New Washington the barometric minimum was 10 millimeters higher than here, the fury of the winds was great. Clothes were torn on people, our warehouse was wrecked completely, the water of the river was driven backward and, overflowing the banks, carried away all the copra which had been deposited along them. Here at Calibo the church is without its roof, nearly all the sheets of iron having landed outside of the town. A few, however, fell near by and did great damage to the neighboring houses, some crashing not only through the roof, but also through the wooden floor and penetrating deeply into the ground.

In short, this has been a phenomenal typhoon, and I have witnessed none which equaled it in violence and duration. If it had lasted half an hour longer, the damage would have been incalculable, as on the beach the sea was gaining on the land, sweeping away everything which it encountered. This is the testimony of the ex-president of this town who, together with his family, partly swimming, partly carried by the waves, landed in a mangrove swamp along a creek near his house.

We beg to call special attention to the globe-lightning mentioned in the foregoing letter; this so much the more, as the same phenomenon has been observed likewise at Capiz, as testified to by the postmaster and the observer of the latter town. The former, in a telegram which he had the goodness to sent to the Director of the Weather Bureau, said among other things: "Vivid corruscations (*resplandores*) have been observed;" while the latter states in his report: "During the height of the storm globe-lightnings were seen, duller in color than ordinary lightning flashes, but very brilliant." As far as we know, electric phenomena like these have been observed in only extremely rare cases in the neighborhood of a cyclonic vortex.

Before passing on we will examine into the velocity with which the typhoon traveled from 10

a. m. to 8.20 p. m. of the 6th, that is to say, from the time of its closest approach to Tacloban to that of its least distance from Capiz, since these two positions of the center can be given with greater precision than any other occupied by it during the 6th and 7th. The distance of these two points of the path is 128.5 miles, and as the center covered it in 10^h 20^m, its mean velocity works out at 12.4 miles per hour.

The next islands to experience the fury of this typhoon were Tablas and Mindoro. In Plate XXVII may be seen the barograph curve traced on the Coast and Geodetic Survey ship *Fathomer,* which vessel was near the southwestern coast of Tablas when the vortex passed it at a short distance south. The barometric minimum, determined with a mercurial barometer, was 738.87 millimeters and occurred at 1.10 a. m. of the 7th. The wind veered from NbyE to NE, EbyS (at the time of the minimum), SE and SSE. We desire to express our gratitude for the kindness wherewith the Director of the Bureau of Coast and Geodetic Survey placed at our disposal the barograph curve and other data mentioned.

From Mindoro we have no observations except those made at the meteorological station of Calapan. These, however, suffice to show fairly well how, after the typhoon left the southernmost part of the island, its velocity of translation diminished while the track began to incline toward north. This is the only explanation which we find for the fact that the barometer of Calapan failed to continue rising as it had to do, if the storm retained the westerly direction and the velocity with which it had crossed the Visayas. Instead of thus rising, it remained low for many hours and even fell again after noon until at 2 p. m. it had regained the same height which it had shown at 6 a. m.

The northerly turn of the track is, moreover, proved by the observations made on board the steamer *Zafiro* which are contained in the following table.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "ZAFIRO" NOVEMBER 6 TO 9, 1909.

[Captain, R. Rodger.]

Date and hour.	Pressure.	Wind.		Weather.	Remarks.
		Direction.	Force.		
November 6:	*mm.*		*0-12.*		
2. 35 p. m	762. 49	ENE	5	o	Waglan light-house abeam; overcast and dull weather.
4 p. m	61. 73	ENE	5	o	Overcast and dull weather, high ENE sea.
8 p. m	60. 72	NE	6	o	Overcast with occasional clear weather, high NE sea.
Midnight	60. 97	NE	6	b	Passing clouds, clear weather, high sea.
November 7:					
4 a. m	58. 68	NE	7	o	Overcast and dull weather with breaks in sky and passing clouds.
8 a. m	59. 70	NE	7	o	Similar weather, high beam sea.
Noon	58. 94	NE	7	c	Ship's position, 19° 47′ lat. N, 116° 09′ long. E; cloudy and dull weather, high sea.
4 p. m	56. 14	NE	8	o	Overcast and dull weather, very high NE sea.
8 p. m	55. 89	NE	8	o	Overcast and dull weather, occasional clearness.
Midnight	54. 37	NE	8	o, c	Overcast and cloudy weather, high sea from NE.
November 8:					
4 a. m	51. 32	NE	9	o	Sky completely overcast, heavy sea.
8 a. m	51. 83	NEbyE	10	q	At 7.30 a. m. wind shifted, accompanied by heavy wind and rain squalls.
10 a. m	53. 35	E	10		Sea becoming confused with swell from south.
Noon	53. 10	ESE	10 to 11	q	Ship's position, 17° 25′ lat. N, 118° 38′ long. E; heavy squalls of wind and rain, sea confused.
4 p. m	52. 59	SEbyE	8		Wind and sea moderating, but latter very confused.
8 p. m	55. 38	SSE	5	b, c	Weather fine and clear with confused sea.
Midnight	56. 14	SSE	4	b	Bright clear weather, moderating confused sea.
November 9:					
4 a. m	55. 64	SSE	3	c	Cloudy and fine weather, slight southerly swell.
8 a. m	56. 91	SSE	3 to 4	b	Clear and fine weather, swell decreasing.
Noon	58. 18			b	Ship's position 14° 35′ lat. N, 120° 13′ long. E. Wind light variable, smooth sea, clear and fine weather and similar weather until arrival at Manila.

The observations of all the meteorological stations on the western coast of Luzon point likewise to a northerly direction of the track at the time in question, as is shown by the following comparison.

Station.	Barometric minimum.	Day and hour of the minimum.	Winds observed at the time of minimum.
	mm.		
Manila	752.15	7, 2.15 p. m.	ESE
Olongapo	50.90	7, 5.30 p. m.	ENE
Dagupan	52.60	8, 3.50 a. m.	SE
Bolinao	52.28	8, 4.00 a. m.	SE
Vigan	52.65	8, 4.20 a. m.	ENE

In view of these data we have supposed in tracing the path of this typhoon, that it moved toward north-northwest until it reached the latitude of Bolinao on the 8th. Thenceforward it resumed its westerly direction as is made evident by the weather maps of the following days. The following warnings crossed between Hongkong and Manila on November 7, 8, and 9:

Manila.—November 7, 10 a. m.: Typhoon west of Mindoro, moving west or west-northwest.

November 7, 4 p. m.: Typhoon southwest of Manila, moving west-northwest.

November 8, 10 a. m.: Typhoon west of Luzon, more than 100 miles distant, moving northwest or north-northwest.

November 9, 11.55 a. m.: Typhoon over northern part of China Sea, inclining westward.

Hongkong.—November 7, noon: Typhoon southwest of Luzon, moving west-northwest.

November 8, noon: Typhoon west of Luzon, moving northwest.

November 9, noon: Typhoon northeast of Paracels, moving west-northwest.

Our thanks are due to Mr. A. Beljonne, assistant meteorologist, and to Mr. J. Ferra, Director of Phulien Observatory, for a set of curves and isobars prepared for Manila Observatory by the former gentleman by direction of the latter. These data enabled us to determine the exact point at which this typhoon entered Indo-China, that is to say, north of, and very close to, Tourane, at which station the barometer fell to 730.9 millimeters at 9.40 p. m. of the 9th. Once within the continent, the typhoon seems to have taken a west-southwest direction, but filled up very quickly, as is usually the case.

Plate XXVIII shows the distribution of isobars around the center of the typhoon for 6 a. m. and 8 p. m. of the 6th, 2 p. m. of the 8th, and 4 p. m. of the 9th.

THE TYPHOON OF NOVEMBER 12 TO 23, 1909.

This cyclonic storm appears to have formed on November 12 to the north of, and not far from, the Western Carolines. In fact, the observations made on that day on Yap and Guam point with sufficient precision to the existence of a cyclonic center between the two islands, but much nearer to the former than to the latter. The Observatory did not, however, announce the storm until the 13th, when it was lying north of the Pelew Islands. The reference made to it in the daily weather note was as follows:

November 13, 11.35 a. m.: Pressure is lowest over the Pacific, north of the Pelew Islands.

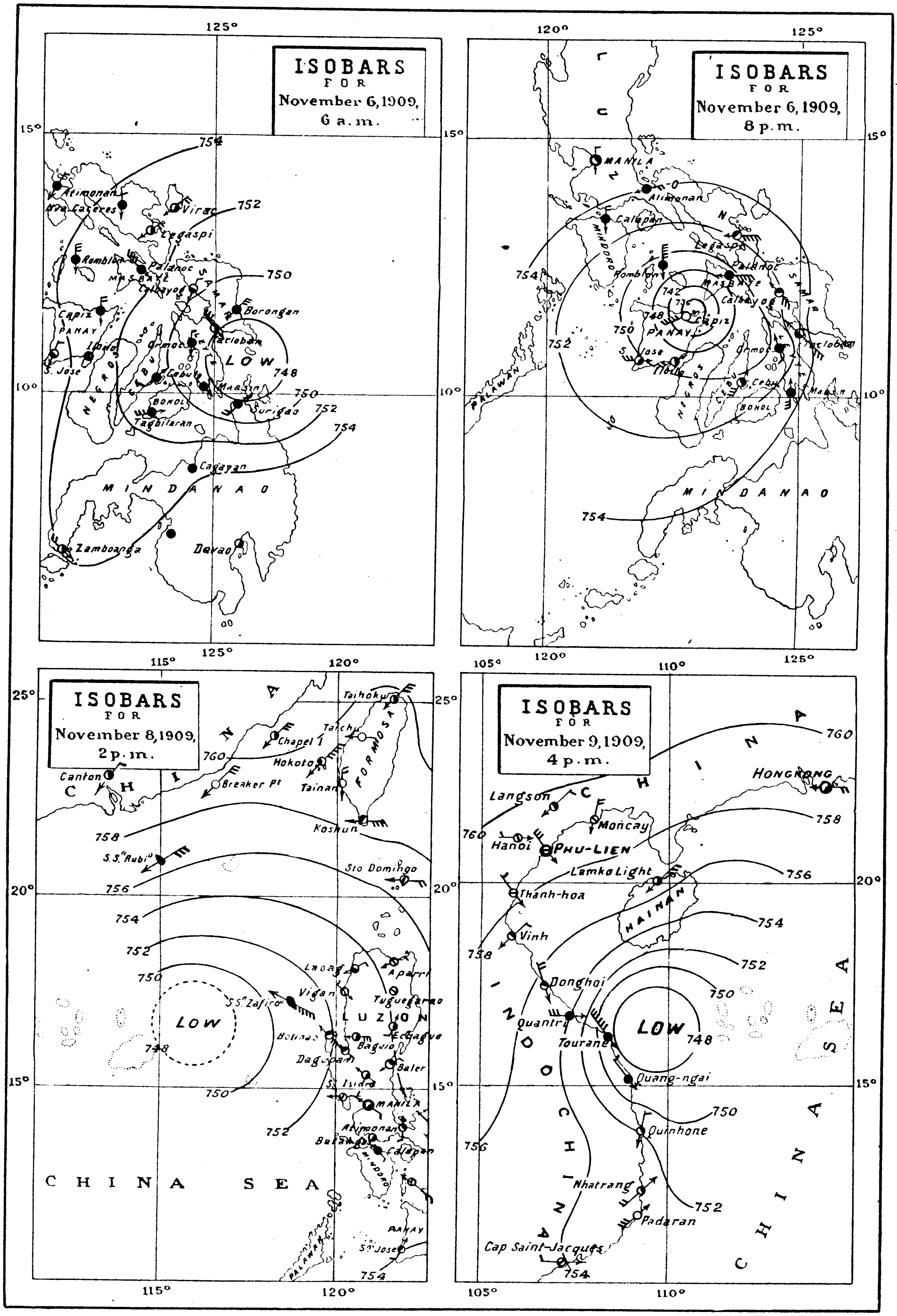
In the morning of the 14th there was no longer any doubt that a real typhoon lay east of the Visayas and threatened to cross the Archipelago, as it apparently moved toward west or west-northwest. This was stated in the daily weather note of that day in these words:

A new typhoon appeared yesterday evening east of the Visayas Islands: it was situated early this morning east of the northern part of Samar Island, moving apparently to west or west-northwest.

To Hongkong and the other meteorological centers of the Far East we dispatched this information:

November 14, 9.30 a. m.: Typhoon east of the northern Visayas or southeastern Luzon, moving west or west-northwest.

Plate XXVIII.



N.B.—The barometric readings have been reduced to standard gravity

While from Hongkong we received the following message:

November 14, 11 a. m.: Typhoon southeast of Luzon, moving west.

The course taken by this typhoon accross the Archipelago may be seen in Plate XXIX. From the afternoon of the 14th onward, the direction of the typhoon justified grave fears for Manila, and still more so for Batangas Province. Cyclonic storms which, like the one under discussion, enter the Philippines by crossing through northern Samar are usually those to be dreaded most by the capital and its vicinity, if they incline ever so little toward northwest. In the present case, however, the typhoon luckily became deformed to so great an extent while advancing within the Archipelago that at the time of its passage between Batangas and Manila its influence was hardly perceptible, except by the shifting of the winds and the moderate falling of the barometers.

The following notices were issued by the Observatory on the 15th:

November 15, 9 a. m.: The typhoon is situated this morning southeast of Manila, near the southern coast of Luzon, moving to WbyN. It will probably pass south of, and near to, Manila in the afternoon.

November 15, 11.45 a. m.: The typhoon continues moving apparently WbyN: it will probably pass near or over the southern part of Batangas Province.

November 15, 4 p. m.: The typhoon is at present in the neighborhood of Batangas Province. It has decreased in intensity while crossing the Archipelago; but it may develop again in the China Sea.

On the same day the following warnings were cabled to Hongkong, etc.:

November 15, 8 a. m.: Typhoon southeast of Manila, over or near southern Luzon, moving west or west-northwest.

November 15, 5 p. m.: Typhoon south of Manila, over or near southern Luzon, moving west-northwest.

Hongkong Observatory, on its part, favored us with the following dispatch:

November 15, noon: Typhoon in southern Luzon, moving west-northwest.

The fact that the typhoon suffered deformation while crossing the Philippines is brought out convincingly by a comparison of the distribution of isobars around the center at 2 p. m. of the 14th with that obtaining at 10 a. m. of the 15th which are both given in Plate XXX.

That, upon reaching the China Sea, the typhoon increased again in intensity seemed rather evident in the morning of the 16th, considering its effects manifested in the Philippines, especially in the stations along the western coast of Luzon. This fact was duly announced in the daily weather note for that day:

November 16, 11.30 a. m.: The typhoon was situated this early morning west of central Luzon, at a distance from Manila of about 150 miles, moving to west-northwest and increasing again in intensity.

The following cablegrams passed between Hongkong and Manila on the 16th.:

From Manila.—November 16, 5 a. m.: Typhoon west of Luzon, more than 100 miles distant, moving west-northwest.

From Hongkong.—November 16, noon: Typhoon west of Luzon, moving west-northwest.

The most remarkable feature of this typhoon, was, however, not so much the great intensity and full development which it acquired in the China Sea, but the fact that for several days the storm remained apparently stationary to the east of the Paracel Islands. We say *apparently,* because in reality it continued to move, though with most extraordinary slowness, at the same time recurving toward north and northeast. All ships which during those days plied the China Sea between Singapore, Hongkong, and Manila encountered such tremendous and unusually tumultuous seas that their arrival at ports of destination was belated by several days.

Fortunately we have been able to unite a considerable number of observations made on board these various vessels, which after a minute examination, have convinced us of the slow recurving of the typhoon as it is represented on Plate XXIX.

The configurations of isobars at 2 p. m. of the 17th and 2 p. m. of the 21st (Plate XXX) show clearly the different positions of the vortex at these times and, consequently, that the latter must have taken a northerly direction after the 17th, and also how slow must have been the progress during the interval of four days.

Plate XXIX.

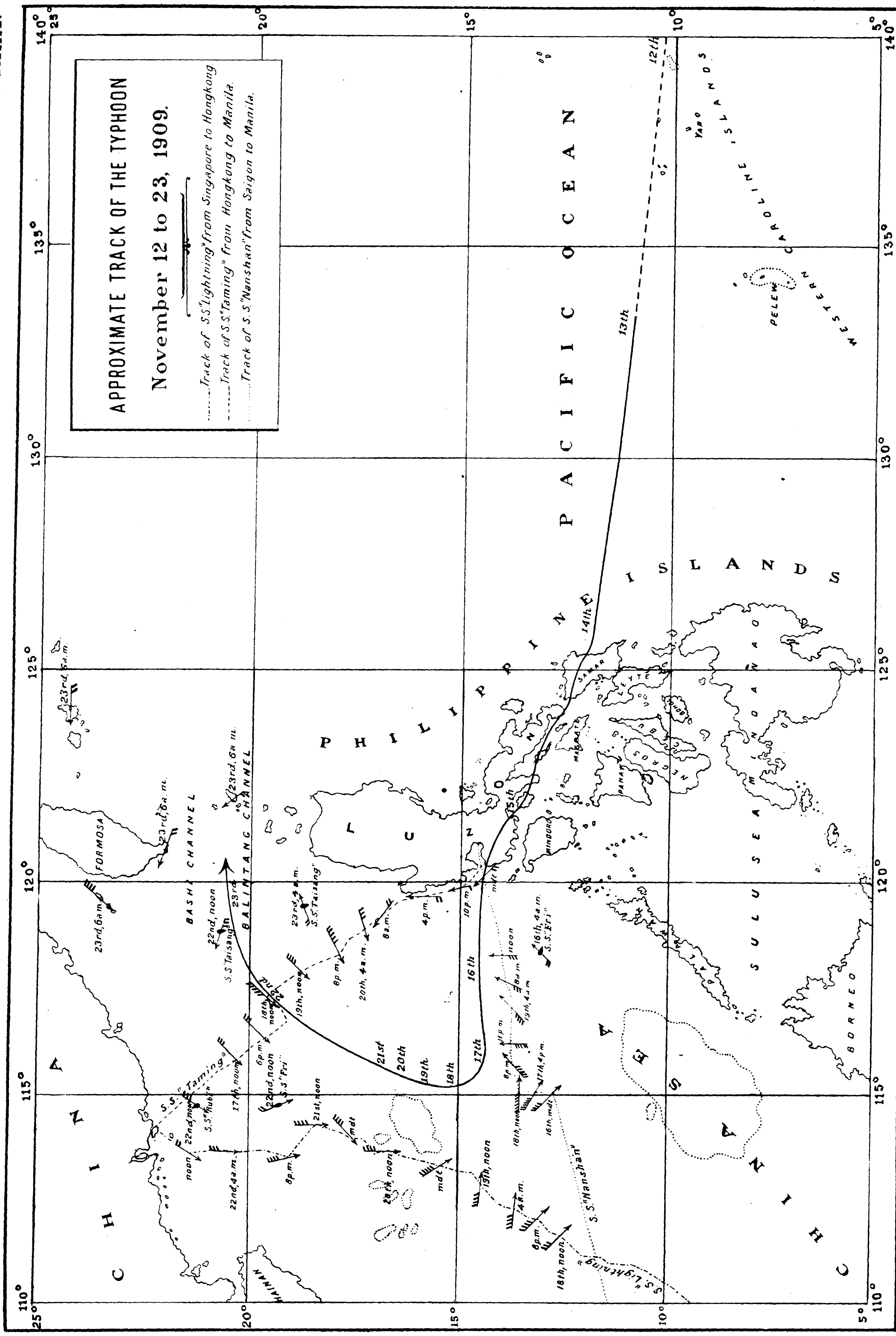
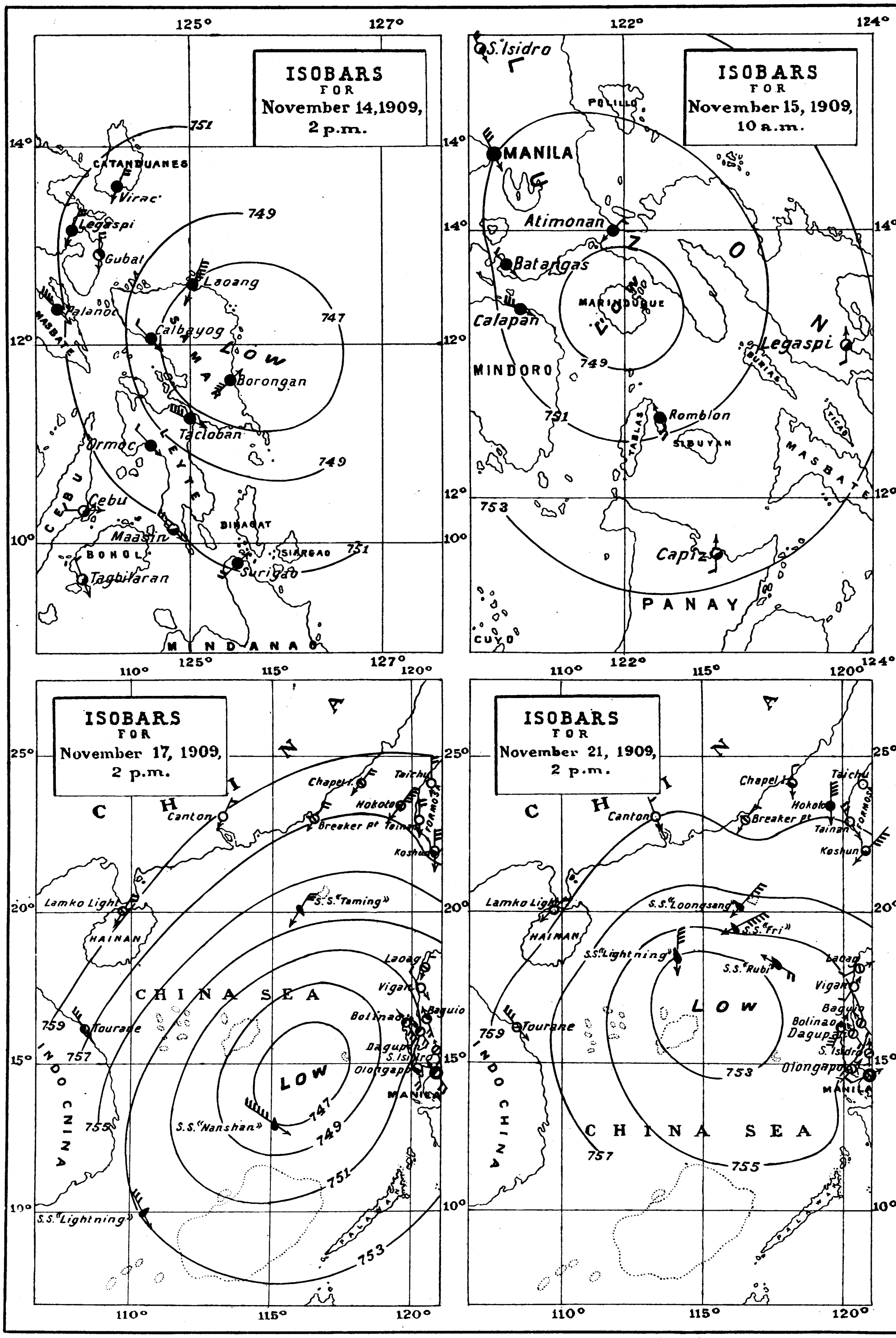

APPROXIMATE TRACK OF THE TYPHOON
November 12 to 23, 1909.
Track of S.S. "Lightning" from Singapore to Hongkong
Track of S.S. "Taming" from Hongkong to Manila.
Track of S.S. "Nanshan" from Saigon to Manila.
PACIFIC OCEAN
PHILIPPINE ISLANDS
LUZON
FORMOSA
BASHI CHANNEL
BALINTANG CHANNEL
CHINA SEA
SULU SEA
BORNEO
MINDANAO
WESTERN CAROLINE ISLANDS
PELEW
YAP
HAINAN

Plate XXX.



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

In order to furnish the reader with abundant data from which to judge the last part of the track, we publish in the following tables the observations made on board the steamers *Lightning, Rubi, Nanshan,* and *Taisang,* for which we hereby tender our sincerest thanks to the respective captains. Moreover, we have entered on Plate XXIX the route followed by the *Lightning,* under way from Singapore to Hongkong, by the *Taming* from Hongkong to Manila, and by the *Nanshan* from Indo-China to Manila: showing at the same time—at the interval of only a few hours—the direction and force of the winds experienced by these steamers. On the same plate will be found the positions of the *Rubi, Taisang,* and *Fri* on November 22, and the winds observed on board the same at the hours indicated. For the 23d are entered, in addition to the position of the *Taisang* and the winds felt by her, the winds which at the time prevailed at Hokoto (Pescadores), Koshum (S of Formosa), and Santo Domingo (Batanes Islands).

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "LIGHTNING," NOVEMBER 14 TO 22, 1909.

[Captain, A. E. Gentles.]

Date and hour	Position.				Pressure.	Wind.		Weather.	Remarks.
	Latitude N.		Longitude E.			Direction.	Force.		
	°	′	°	′	*mm.*		*0–12.*		
November 14:									
Noon	1	23½	104	26	757.54	N	1	o, t	Smooth sea.
November 15:									
Noon	4	54	106	25	56.01	NW	3	o, r	Moderate sea and heavy rain squalls.
November 16:									
Noon	7	34	108	40	56.52	NNE	4	o, r	Do.
November 17:									
Noon	9	43	110	16	56.27	N	6	o, t	High increasing confused sea.
4 p. m	10	20	110	40	54.74	NNW	6	c, t	Do.
8 p. m	10	50	110	55	54.49	NNW	6	c, t	Do.
Midnight	11	25	111	00	55.00	NNW	6	c, t	High increasing confused NW and NE seas.
November 18:									
4 a. m	11	40	111	09	54.24	NNW	6	o, t	Do.
8 a. m	12	00	111	10	55.51	NNW	7	o, t	Do.
Noon	12	30	111	33	56.01	NW	7	o, t	Do.
4 p. m	12	50	111	48	54.49	NNW	8	o, t	NW gale and high seas.
8 p. m	13	03	112	00	55.00	NW	8	o, t	Do.
Midnight	13	20	112	07	53.98	NW	8	o, t	Do.
November 19:									
4 a. m	13	35	112	19	52.97	WbyN	8	o, r	Cross NW and NE seas; heavy rain and squalls.
8 a. m	14	00	112	20	52.97	WbyN	8		Hard squalls and hazy with heavy rain and tremendous cross seas.
Noon	14	28	112	51	52.97	WbyN	8		Ship hove to.
2 p. m					51.44	WNW	9		
4 p. m	14	40	113	08	51.19	NW	9		Do.
6 p. m					51.70	NW	9		
8 p. m	15	05	113	13	52.71	NNW	9		Do.
10 p. m					52.97	NNW	9		
Midnight	15	28	113	16	53.47	NNW	9	o, q	
November 20:									
4 a. m	15	52	113	22	52.20	NbyW	9	o, r	
8 a. m	16	20	113	30	52.71	N	8	o, r	
Noon	16	39	113	37	52.97	N	8	o, r	
8 p. m	17	18	113	56	53.47	NNE	9	o, r	
November 21:									
4 a. m	17	48	114	05	53.98	N	9	o, r	Very heavy rain squalls.
Noon	18	21	114	18	55.00	N	8	o, r	Weather unchanged and tremendous cross sea.
8 p. m	19	05	113	27	56.78	NbyW	8	o, r	
November 22:									
4 a. m	20	25	113	40	57.79	N	5	o, r	Weather moderating and less sea and squalls.
Noon	21	20	113	38	59.06	NNE	3		Moderate wind and confused sea.
4 p. m	Off Hongkong.				58.30	NNE	3	o, r	Do.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "RUBI," NOVEMBER 20 TO 22, 1909.

[Captain, R. Almond.]

Date and hour.	Pressure.	Wind.		Weather.	Remarks.
		Direction.	Force.		
November 20:	*mm.*		*0-12.*		
10 a. m	757.34	SE	2	f	Light breeze; fine weather. At 10.30 a. m. left Manila.
4 p. m	55.81	SWbyS	2	f	Heavy swell from west.
10 p. m	57.59	ESE	3	f	Heavy confused sea.
November 21:					
10 a. m	58.10	SE	3	------	Do.
Noon	------	------	------	------	Ship's position, 18° 00′ lat. N, 117° 50′ long. E.
4 p. m	55.31	E	4	o,r	Fresh breeze; overcast and rain.
8 p. m	54.54	ENE	6	q	Fresh breeze and squally.
10 p. m	54.04	ENE	8	q	Fresh gale; continuous rain. Depression south of us evidently moving up toward Formosa.
November 22:					
2 a. m	54.04	ENE	10	q	Hard gale; continuous rain.
4 a. m	54.04	NEbyE	11	q	Do.
7 a. m	56.58	NEbyE	9	------	Fresh gale; weather clearing.
10 a. m	58.35	NE	7	------	Moderate gale; sun out.
Noon	58.86	NEbyN	6	------	Ship's position, 21° 14′ lat. N, 114° 44′ long. E.
4 p. m	58.61	N	2	b	Light breeze: fine clear weather. At 7 p. m. arrived at Hongkong.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "NANSHAN," NOVEMBER 15 TO 19, 1909.

[Captain, A. Jones.]

Date and hour.	Position.		Pressure.	Wind.		Weather.	Remarks.
	Latitude N.	Longitude E.		Direction.	Force.		
November 15:	° ′	° ′	*mm.*		*0-12.*		
4 p. m	11 38	110 53	759.19	NE	5	o, p, q	Slight easterly sea.
Midnight	12 2½	112 23	------	NE	5	o, p, q	Do.
November 16:							
4 a. m	------	------	57.16	NE	5	o, p, q	Do.
8 a. m	------	------	57.92	NE	5	o, p, q	Do.
Noon	------	------	57.92	NNE	6	o, p, q	Do.
1 p. m	------	------	------	N	6	o, r, q	Cross north and east sea.
4 p. m	------	------	56.40	N	7	o, r, q, l	Heavy north sea.
8 p. m	------	------	56.14	NNW	7	o, r, q, l	Do.
Midnight	12 44½	115 04	53.86	NW	7	o, r, q, l	Do.
November 17:							
4 a. m	12 50	------	51.57	NW	7	o, r, q, l	Do.
8 a. m	12 56	------	51.57	NW	7	o, r, q, l	Do.
10 a. m	12 58	------	50.30	NW	9	o, r, q	Do.
Noon	------	------	50.05	W	10	o, r, q	Do.
1 p. m	13 00	------	49.29	WNW	11	o, r, q	Do.
4 p. m	13 06	------	47.25	WNW	11	o, r, q	Do.
8 p. m	13 12	------	47.25	WNW	11	o, r, q	Do.
Midnight	13 20½	------	48.52	WNW	11	o, r, q	Do.
November 18:							
4 a. m	13 25	------	48.78	W	11	o, r, q	Do.
8 a. m	13 29	------	48.78	W	11	o, r, q	Heavy north-northwest sea.
Noon	13 33	------	49.79	W	11	o, r, q	Do.
1 p. m	13 35	------	49.79	WSW	10	o, q, r	Do.
4 p. m	13 45	------	50.30	SW	10	o, q, r	Heavy northwest swell.
8 p. m	13 45	115 44	52.08	WSW	9	o, q, r	Heavy west swell.
11 p. m	13 45	116 14	54.62	S	9	o, q, r	Do.
November 19:							
2 a. m	13 45	116 44	------	SW	8	p, q, h	Do.
4 a. m	13 45	117 04	54.87	SW	7	p, q, h	
8 a. m	13 53	117 40	54.87	SSW	6	c, h	Moderate west swell.
Noon	13 59	118 20	55.64	S	5	c, h	Do.
8 p. m	13 59	------	56.65	SSE	3	p, c	Southerly swell.
Midnight	14 30	120 09	52.16	SE	3	b	Do.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "TAISANG," NOVEMBER 21 TO 23, 1909.

[Captain, G. F. Matthews.]

Date and hour.	Position.		Pressure.	Wind.		Remarks.
	Latitude N.	Longtitude E.		Direction.	Force.	
November 21:	° ′	° ′	*mm.*		*0–12*	
8 a. m			761.22	NNE	3	Left Amoy at 7 a. m.
Noon	23 50	118 18	60.21	NNE	4	Chapel Island at 9.41 a. m.
4 p. m			58.94	NNE	5	
8 p. m			59.45	NNE	5	
Midnight			59.19	NNE	5	
November 22:						
4 a. m			57.67	NNE	5	
8 a. m			57.41	NE	5	
Noon	20 43	118 50	56.91	ESE	5	Confused cross sea.
4 p. m			55.38	SSE	5–6	
8 p. m			56.91	Southerly	5	
Midnight			57.92	SW	5	
November 23:						
4 a. m			57.67	WSW	4	
8 a. m			59.70	NW	3	
Noon	17 44	119 30	59.45	NW	2	
4 p. m			58.68	NNW	2	
8 p. m			59.95	Northerly	3	Piedra point at 10 p. m.
Midnight			59.45	Northerly	3	Slight northerly swell.

Considering these data we believe that our readers will realize how well founded is the path which we have assigned to this typhoon. We must, however, confess that during the last two days mentioned, that is, on the 22d and 23d, the intensity of the disturbance had already diminished to so great an extent, as to leave it a mere depression, which probably vanished during the afternoon or night of the 23d, while in the neighborhood of the Bashi and Balintang Channels.

We do not wish to close these notes without copying the following lines from a letter written by the master of the steamer *Lightning,* Capt. A. E. Gentles, to a friend, who brought it to our attention. They form a short and enthusiastic comment on the usefulness of Father Algue's baro-cyclonometer, or, as the writer calls it briefly, Algue's barometer:

* * * With reference to that particular storm, I may say it was the worst I have ever experienced, and I did not think it was possible for such a sea to get up in the China Sea, and I sincerely hope that we will never strike another like it. Its characteristics were so very misleading, owing to its being stationary; but thanks to the excellent barometer of José Algue, S. J., we were able to come to the conclusion that it had become stationary and not, as I first thought, that it was proceeding in the same direction as ourselves; so came on instead of hanging on down in the SW quadrant of the disturbance.

On the 21st at noon I ran away with the wind about two points on the starboard quarter until I got out of the heavy sea that was running, then headed up for Hongkong again at 6 p. m., as the sea had gone down then considerably, owing to our having ran to the westward.

I can not speak in high enough terms of the excellency of Algue's barometer, as, since our ships have been equipped with them, it has saved me from 7 typhoons, both in the China Sea and in the Bay of Bengal, and I sincerely think that every vessel trading in these waters ought to possess one: they are so entirely reliable in every way that I place considerable faith in it. * * *

We have already stated that, although the typhoon was not absolutely stationary, its movements were so extraordinarily slow for the space of three to four days that we may well call it practically stationary. In confirmation of this remark we add here merely the fact that from the 18th to the 21st the storm's mean velocity of translation was only about 1.5 miles per hour.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La media mensual de la presión atmosférica en Filipinas se separa muy poco de la de Noviembre del año próximo pasado, siendo la mayor diferencia de —.47 mm. correspondiente á la estación de Aparri. Con todo, si se compara la misma media con la normal de este mes resulta bastante baja: así la de Manila por ej. difiere de dicha normal en —1.24 mm. Las máximas presiones tuvieron lugar el 11 y 12 en unas estaciones y el 30 en otras; las mínimas se observaron el día 6 en las Visayas y Mindanao y el 15 ó 16 en casi todas las de Luzón.

La temperatura media mensual es en general ligeramente superior á la de Noviembre 1908. Las temperaturas extremas para Manila han sido 32.7° C y 21.4° C registradas respectivamente los días 9 y 20.

Precipitación acuosa.—Examinando con cuidado el cuadro sobre las lluvias de este mes que acompaña el texto inglés, y descontando las estaciones de Carolinas y Marianas, hallaremos que el número de estaciones que da un total de lluvia mayor que el año pasado es casi igual al de las estaciones que lo dan menor. La cantidad de agua recogida en los pluviómetros de Manila difiere de la normal de Noviembre en solos +4.6 mm.

DEPRESIONES Y TIFONES.

Durante este mes de Noviembre han cruzado nuestro Archipiélago por el Sur de Manila dos tifones por cierto bien notables. Distinguióse el primero por la extraordinaria intensidad con que desfogó en las Islas Visayas, en el Mar de China y en la costa de Indo-china, y por los cambios que sufrió la trayectoria en el Mar de China inclinándose primero al norte hasta llegar cerca de la altura de Bolinao y volviendo á moverse luego al oeste para penetrar en el Continente por los alrededores de Tourane. El otro tifón se señaló más bien por el extraodinario desarrollo que adquirió en el Mar de China, después de haber atravesado el Archipiélago muy deformado y debilitado, y sobre todo por haber permanecido prácticamente estacionario por espacio de varios días al E de las Islas Paracels.

Procuraremos precisar en cuanto podamos las trayectorias de ambos tifones, las cuales podrán ver reunidas nuestros lectores en las Láminas XXVI y XXIX.

EL TIFÓN DE VISAYAS, 6 Y 7 DE NOVIEMBRE, 1909.

Parece ser que tuvo su origen este tifón al norte de las Islas Palaos del 2 al 3 de este mes. Es verdad que desde los últimos días de Octubre existía un área de baja presión en los alrededores de las Carolinas Occidentales; mas no creemos que antes del día 2 hubiese ningún centro ciclónico bien desarrollado. El Observatorio de Manila envió el día 3 este aviso de tifón á Hongkong y demás Observatorios del Extremo Oriente:

Día 3, 11 a. m.: Tifón al N de las Islas Palaos, dirección desconocida.

Desde la mañana del día 5 se vió perfectamente que el tifón amenazaba atravesar el Archipiélago por las Islas Visayas y los mares interinsulares entre Luzón y Visayas. Véanse á este efecto los siguientes avisos de tifón dados á los periódicos de la Capital la mañana y tarde de dicho día.

Día 5, 11.40 a. m.: La depresión ó tifón al este de las Visayas parece moverse lentamente al W ó WNW.

Día 5, 6 p. m.: El tifón del Pacífico se acerca á las Visayas moviéndose aparentemente al WNW. Cruzará probablemente mañana la Isla de Sámar y los mares interinsulares entre Luzón y Visayas. Navegación muy peligrosa al sur de Luzón.

Avisos parecidos fueron telegrafiados á todas las estaciones del Weather Bureau con anticipación más que suficiente para que las regiones amenazadas pudiesen estar prevenidas contra el temporal.

Á Hongkong, etc. se remitieron estos dos cablegramas:

Día 5, 9.30 a. m.: Tifón al E de las Islas Visayas, moviéndose al W ó WNW.
Día 5, 6 p. m.: Tifón al E de las Islas Visayas, moviéndose al WNW.

Del Observatorio de Hongkong recibimos á la vez este cablegrama:

Día 5, mediodía: Tifón al SE de Luzón, moviéndose al W.

En una nota extraordinaria del tiempo dada la mañana del 6 decía el Observatorio:

Día 6, 11 a. m.: El tifón se halla al presente en, ó cerca de, la parte más meridional de la Isla de Sámar, moviéndose al W ó WNW. Cruzará probablemente por el sur y á bastante distancia de Manila mañana por la mañana.

Y en la nota ordinaria del mismo día 6 se añadió lo siguiente:

Día 6, 1 p. m.: Las islas situadas en, ó cerca de, la trayectoria de este baguio son el sur de Sámar, el norte de Leyte, Masbate, el norte de Panay, Romblón y Mindoro.

Entre Manila y Hongkong se cambiaron estos avisos de tifón.

Manila.—Día 6, 11 a. m.: Tifón cruzando las Visayas Orientales, moviéndose al W ó WNW.
Día 6, 6 p. m.: Tifón entre las Visayas y Luzón, moviéndose al W ó WNW.
Hongkong.—Día 6, 5 p. m.: Tifón al sur de Luzón, moviéndose al W.

Examinen nuestros lectores la trayectoria de este baguio en la lámina XXVI, y por ella echarán de ver lo exactos y oportunos que fueron los avisos de tifón dados por el Observatorio de Manila los días 5 y 6.

Por lo que toca al paso del tifón por el sur de Sámar, nos contentaremos con reproducir aquí parte de una carta del cura párroco de Salcedo (125° 40′ Long. E 11° 09′ Lat. N) que nos fué remitida por el Observador de Borongan, P. Cesáreo Montes.

* * * Á las 2 a. m. del 6 había bajado el barómetro hasta 748 mm. Á las 4 a. m. los vientos seguían soplando siempre del nornordeste cada vez más fuertes. Á las 7 a. m. rolaron al nordeste y á eso de las 8 a. m. al este. Estos fueron los más duros que tuvimos. El barómetro había bajado hasta 737 mm. Á las 9 a. m. los vientos soplaban ya del SE y no eran tan fuertes como los primeros.

Ni por aquí ni por Guiuan (125° 44′ long. E; 11° 02′ lat. N) pasó el vórtice. Según me dicen, donde más daño ha causado el baguio fué entre Guiuan y Punta Sungi (125° 50′ long. E; 10° 55′ lat. N).

Á Balangiga (125° 23′ long. E; 11° 07′ lat. N) fuí después del baguio y ví que las costas presentaban por allí peor aspecto que las de Guiuan. Yo creo que el tifón iba creciendo en fuerza en la bahía de S. Pedro y S. Pablo, pues el P. Ranera me dijo que su barómetro arreglado recientemente en el Observatorio de Manila había bajado hasta 722 mm. El convento de Balangiga quedó inclinado y destrozado, la Iglesia desmantelada. El convento de Basey (125° 04′ long. E; 11° 17′ lat. N) quedó asímismo todo desmantelado.

De estos datos parece deducirse con bastante probabilidad que el tifón penetró en el Archipiélago por el S y no lejos de Punta Sungi la madrugada del día 6.

De todas nuestras estaciones, Tacloban y Cápiz son las que más cerca se hallaron del vórtice, la primera al norte, y la segunda al sur de la trayectoria. En la lámina XXVII reproducimos las curvas barográficas obtenidas en ambos puntos. La mínima barométrica fué 728.53 mm. en Tacloban con vientos huracanados de la parte del E, y 730 mm. en Cápiz con vientos huracanados de la parte del W.

Gracias á la solicitud é interés por el servicio de nuestro observador de Tacloban, D. Perfecto Paulino, tenemos en nuestro poder no sólo observaciones completísimas hechas durante el paso del baguio y en muy difíciles circunstancias sino también multitud de detalles referentes á los efectos destructores de este tifón en varios pueblos del norte de Leyte. Las observaciones van en una tabla que acompaña el texto inglés. Los demás informes nos los remitió el Sr. Paulino en un largo report del cual resumiremos aquí lo más interesante.

Triste y desconsolador es el aspecto que presenta esta Cabecera después del furioso huracán que acaba de desfogar arruinando todo el pueblo. Son 850 las casas de materiales fuertes, ligeros y mixtos tumbadas, inclinadas ó destruídas por el temporal. De la Casa-Gobierno y del High School volaron algunas planchas de hierro galvanizado. De la Iglesia parroquial quedó destechada la mitad que mira al SE. La Casa-Presidencia destechada y los tabiques derribados. El pantalán del Gobierno destruído por completo. En una palabra, no hay casa ó edificio alguno en la población que no haya sido destruído ó sufrido al menos graves desperfectos. Las planchas de hierro volaban como si fueran papeles causando un muerto y varios heridos.

Dos lorchas de la Compañía Tabacalera llamadas *Prueba* y *Trinidad* naufragaron en este puerto. Otra lorcha *Emilia* de la misma Tabacalera naufragó en Carigara, salvándose á nado sus tripulantes. Otra lorcha *Penafort* de la casa Limpanco se hallaba en el Golfo del pueblo de Dulag con 15 tripulantes que desaparecieron sin que hasta la fecha (mediados de Noviembre) se haya sabido más de ellos. La lorcha *Aurora* de José Go-Sico también desapareció, pero sus tripulantes se salvaron á nado.

Aquí en Tacloban subió el agua en las partes bajas de la población hasta 2.5 metros mojándose entre otros efectos el abacá, cóprax y arroz depositados en los almacenes de la Compañía Tabacalera, Limpanco, Ortega, Smith Bell y otros, ascendiendo las pérdidas de dichos artículos á unos ₱27,000.

La fuerza de los vientos fué tal en este baguio que no sólo los árboles tiernos, sino también algunos árboles gigantescos fueron arrancados de cuajo.

Hasta aquí el observador de Tacloban quien añade luego una larga lista de los destrozos causados por el baguio en otros pueblos del norte de Leyte, tales como Burawen, Tanauan, Alang-alang, Caybiran, Palo, Tolosa, Dagami, Dulag, Carigara, Barugo, Naval, etc. etc.

Aunque no podemos precisar por qué puntos de Leyte pasó el vórtice, con todo se puede decir con bastante probabilidad que hubo de hallarse á una distancia de Tacloban menor de 10 millas.

Desde Leyte siguió el tifón su curso moviéndose bastante inclinado al W, es decir, al W¼NW próximamente, cruzando la tarde del 6 por el S de Masbate y N de Cebú y Negros. Las observaciones hechas á bordo del vapor *Sungkiang* sirven para precisar este punto de la trayectoria. Se hallaba este barco en las Islas Gigantes (situadas cerca de la extremidad nordeste de Panay), cuando le pasó por encima el vórtice del baguio con todos los fenómenos que lo suelen acompañar: calma absoluta, claridad en el cielo, salto del viento á una dirección enteramente opuesta á la observada antes de la calma, etc. etc. En el texto inglés damos, además de las observaciones indicadas, una interesante descripción que hemos copiado de un periódico americano de Cebú. Solamente advertiremos aquí que la mínima barométrica que nos dan las observaciones del *Sungkiang* 731.51 mm. es demasiado alta, si se compara con las mínimas de Tacloban y Cápiz las cuales fueron algo menores, á pesar de que ninguna de estas dos poblaciones se halló dentro del vórtice. Creemos que el barómetro del *Sungkiang* es poco sensible, al menos cuando la presión es muy baja. Probablemente la mínima en el vórtice debía haber sido menor de 720 mm.

Todos los pueblos situados en la costa norte de Panay sintieron la violencia destructora de este baguio, teniendo que lamentar grandes pérdidas materiales y algunas desgracias personales. Véase á continuación el report que nos remitió el observador de Cápiz, D. José E. de León.

En esta población apenas ha quedado casa alguna en pie: todo ha sido destruído prácticamente por el furioso huracán: Iglesia y Casa Parroquial, Gobierno, Municipio, Correos, Telégrafos, Observatorio, Cuarteles, Casa-Misión, Asilo de Huérfanos y Hospital protestantes. Solo se han salvado el High School y la Cárcel pública de reciente construcción.

Los árboles más grandes que habían resistido los temporales pasados, han sido ahora arrancados de raíz. Eran algunos de tales dimensiones que tres hombres no podían abrazarlos.

La crecida de agua es tal, que se teme derribe el nuevo puente que está en construcción.

En los pueblos de Calibo, New Washington, Panitan, Dao, Loctugan, Ivisan, Panay y Pontevedra no han quedado en pie más que unas pocas casas.

Ha habido en estos pueblos varias desgracias personales. Se calculan las pérdidas en unos ₱800,000.

De Calibo vamos á copiar la siguiente interesante carta que agradecemos á D. Juan Azárraga, testigo presencial de lo ocurrido durante el paso del baguio.

Tengo el honor de comunicarle con harto pesar los desastres ocasionados en este pueblo por el baguio último que tuvo lugar el 6 del actual entre 8 y 11.30 p. m. El barómetro en esta localidad llegó á señalar 720 mm. habiendo sido destruídos un 98 por ciento de los edificios. Esta su casa perdió una quinta parte de su techado de hierro que lo levantó y alzó el remolino trasladándolo por entero al solar del lado.

Cierto resplandor á forma de fuego de San Telmo cruzaba toda la población en forma vertiginosa y rapidísima según era la velocidad del viento. Ésta era tal, que no permitía á nadie sino por imprudencia salirse fuera de casa á refugiarse en la del vecino. Un pobre hombre con su baúl á cuestas fué lanzado por el viento hasta los mangles de las afueras de la población y una mujer saliéndose de su casa se encontró sin cabellos sin darse cuenta de la forma como los perdió. Otra mujer fué alzada por el viento á la altura de los árboles de la plaza y cayó desde allí despachurrada al suelo, á consecuencia de lo cual murió cuatro días después. En la cabecera Cápiz se oye que hubo más número de desgracias personales. En New Washington, el barómetro señaló diez milímetros más alto y sin embargo era tanta la fuerza del viento que rompía la ropa puesta al cuerpo, echó abajo completamente nuestro camarín de depósito y el río revuelto se desbordaba de sus riberas arrancando con su oleaje cuanto coprax había depositado en el mismo. La Iglesia de este pueblo está sin techo, pues sus planchas fueron casi todas lanzadas á las afueras de la población y algunas cayeron dentro de la misma perjudicando notablemente á las casas vecinas: planchas hubo que á más de atravesar el techo, atravesaron también el piso de madera quedando clavadas en el suelo á una profundidad considerable.

En fin, este ha sido un baguio fenomenal, que no he visto otro igual en fuerza y duración; si ésta se hubiese prolongado media hora más, hubiera sido esto un cataclismo, pues en la playa de este pueblo, había el mar ganado tierra adentro barriendo cuanto encontraba en la playa, siendo de esto testigo personal el ex-Presidente de este pueblo que con su familia fué á parar nadando y empujado por las olas al mangle de un riachuelo cerca de su casa.

Llamamos la atención de nuestros lectores sobre los resplandores de que se hace mención en esta carta, tanto más cuanto que el mismo fenómeno había sido observado en Cápiz, según testimonio del Jefe de Correos, Sr. Lara, y del observador. El primero decía entre otras cosas en un telegrama que se dignó poner al Director de este Observatorio: "Observáronse grandes resplandores" y el segundo hacía notar en su report que "se observaron durante la mayor fuerza del viento fuegos fatuos no de los colores que tienen los relámpagos, sino algo aplomados, pero muy claros." Manifestaciones eléctricas como estas rarísimas veces se han observado, que sepamos, en las cercanías del vórtice.

Antes de pasar adelante veamos con qué velocidad se movió el baguio desde 10 a. m. hasta 8.20 p. m. del 6, ó sea desde el punto de la trayectoria más próximo á Tacloban hasta el otro punto más próximo á Cápiz, ya que estas son las posiciones del vórtice que podemos dar con más precisión para los días 6 y 7. Dichos puntos distan entre sí 128.5 millas; el vórtice empleó en salvar esta distancia $10^h\ 20^m$; luego se movió con una velocidad media de 12.4 millas por hora.

Después de Panay, las Islas de Tablas y Mindoro fueron las siguientes en sentir la violencia de este baguio. En la Lámina XXVII incluímos la curva barográfica obtenida á bordo del vapor *Fathomer* del "Coast Survey" que se hallaba en las cercanías de la costa sudoeste de Tablas, cuando le pasó el vórtice cerca por el sur. La mínima barométrica tomada con un barómetro de mercurio fué 738.87 mm. y se observó á 1:10 a. m. del día 7. Los vientos fueron rolando del N¼NE al NE, E¼SE (al tiempo de la mínima), SE y SSE. Agradecemos al Director del Bureau del "Coast and Geodetic Survey" la amabilidad con que puso á disposición del Weather Bureau la dicha curva y demás datos que acabamos de mencionar.

De Mindoro no tenemos más observaciones que las hechas en la estación de Calapán, las cuales por sí solas indican con bastante claridad cómo el tifón después de haber abandonado la parte más meridional de Mindoro disminuyó su velocidad de traslación en tanto que empezaba á inclinar su trayectoria al norte. Sólo así nos podemos explicar porqué el barómetro de aquella estación en vez de seguir subiendo como le hubiera correspondido, á haber continuado el baguio su curso hacia el oeste conservando la misma velocidad con que había atravesado las Islas Visayas, se mantuvo bajo por muchas horas y aún volvió á bajar algo por la tarde hasta alcanzar á 2 p. m. la misma altura que había tenido á las 6 a. m.

Esta inclinación de la trayectoria al norte es confirmada además por las observaciones hechas á bordo del vapor *Zafiro* (véanse en el texto inglés) y por todas las de las estaciones de la costa occidental de Luzón, según podrán ver nuestros lectores, si se fijan en los datos que reunimos en el siguiente cuadro.

Estación.	Mínima barométrica.	Día y hora de la mínima.	Vientos observados al tiempo de la mínima.
	mm.		
Manila	752.15	7, 2:15 p. m.	ESE
Olongapó	50.90	7, 5:30 p. m.	ENE
Dagupan	52.60	8, 3:50 a. m.	SE
Bolinao	52.28	8, 4:00 a. m.	SE
Vigan	52.65	8, 4:20 a. m.	ENE

Fundados en estas observaciones hemos supuesto en la trayectoria de este baguio que se movió éste al NNW hasta llegar á la altura de Bolinao la mañana del día 8. Desde entonces volvió otra vez á dirigirse al oeste, según se echó de ver claramente en los mapas del tiempo de los días siguientes. Véanse á continuación los avisos de tifón que se cruzaron entre los Observatorios de Manila y Hongkong los días 7, 8 y 9.

Manila.—Día 7, 10 a. m.: Tifón al W de Mindoro, moviéndose al W ó WNW.
Día 7, 4 p. m.: Tifón al SW de Manila, moviéndose al WNW.
Día 8, 10 a. m.: Tifón al W de Luzón, distancia mayor de 100 millas, moviéndose al NW ó NNW.
Día 9, 11.55 a. m.: Tifón en la parte N del Mar de China, inclinándose al W.
Hongkong.—Día 7, mediodía: Tifón al SW de Luzón, moviéndose al WNW.
Día 8, mediodía: Tifón al W de Luzón, moviéndose al NW.
Día 9, mediodía: Tifón al NE de Paracels, moviéndose al WNW.

Gracias á los datos, curvas é isobaras que preparó para uso de este Observatorio M. A. Beljonne Meteorologista Auxiliar del Observatorio de Phulien y que nos fueron procurados y remitidos por el Director de dicho Observatorio M. J. Ferrá hemos podido señalar con toda exactitud el punto por donde penetró este baguio en Indochina, es decir muy cerca por el norte de Tourane, donde bajó el barómetro á 730.9 mm. á las 9.40 p. m. del día 9. Una vez en el Continente parece se inclinó al WSW, pero deshaciéndose muy pronto como suele generalmente acontecer.

Véanse en la Lámina XXVIII la distribución de isobaras en los alrededores del vórtice de este baguio á 6 a. m. y 8 p. m. del 6, 2 p. m. del 8 y 4 p. m. del 9.

EL TIFÓN DE 12 Á 23 DE NOVIEMBRE, 1909.

Parece haberse formado este baguio el día 12 al N y no lejos de las Carolinas Occidentales. En efecto, las observaciones hechas en aquel día en Yap y Guam señalan con bastante claridad la existencia de un centro ciclónico entre ambas estaciones, pero mucho más cerca de la primera que de la segunda. Sin embargo, el Observatorio no lo anunció hasta el día 13 cuando demoraba ya al N de las Islas Palaos. He ahí lo que se decía en la nota ordinaria del tiempo de dicho día.

Día 13, 11.35 a. m.: La presión atmosférica está baja en el Pacífico al N de las Islas Palaos.

El día 14 por la mañana no cabía dudar de la existencia de un tifón al E de las Visayas, el cual amenazaba atravesar el Archipiélago moviéndose, al parecer, al W ó WNW. Así lo indicó el Observatorio en la nota ordinaria del tiempo en estos términos:

Un tifón apareció ayer tarde al E de las Visayas: su centro demoraba esta madrugada al este de la parte norte de Sámar, moviéndose aparentemente al W ó WNW.

Á Hongkong y demás Observatorios Meteorológicos del Extremo Oriente se envió este Cablegrama.

Día 14, 9.30 a. m.: Tifón al este de las Visayas septentrionales ó de la parte sudeste de Luzón, moviéndose al W ó WNW.

El Observatorio de Hongkong nos telegrafió á su vez lo siguiente:

Día 14, 11 a. m.: Tifón al SE de Luzón, moviéndose al W.

Nuestos lectores podrán ver en la Lámina XXIX el curso seguido por este baguio á través del Archipiélago. La trayectoria se presentaba á la verdad desde la tarde del 14 muy peligrosa para Manila y más aún para la Provincia de Batangas. Tifones que, como el actual, penetran en Filipinas atravesando el norte de Sámar, por poca inclinación que lleven al NW, son generalmente los más temibles para la Capital y sus alrededores. Por fortuna, sin embargo, en este caso el tifón se fué deformando notablemente mientras se iba internando en el Archipiélago; de suerte que al pasar por entre Manila y Batangas apenas sí se notó su influencia si no es en el role de los vientos y regular bajada de los barómetros.

Véanse á continuación las notas ó avisos de tifón que fué dando el Observatorio desde la mañana del 15.

Día 15, 9 a. m.: El tifón se halla situado al SE. de Manila cerca de la costa sur de Luzón, moviéndose al W¼NW. Pasará probablemente esta tarde por el sur y cerca de Manila.

Día 15, 11.45 a. m.: El tifón continúa moviéndose aparentemente al W¼NW: pasará probablemente cerca ó á través de la parte sur de la Provincia de Batangas.

Día 15, 4 p. m.: El tifón demora al presente en los alrededores de la Provincia de Batangas. Ha disminuído en intensidad á medida que ha ido cruzando el Archipiélago; puede ser, con todo, que se desarrolle de nuevo en el Mar de China.

Á Hongkong, etc., se remitieron estos cablegramas la mañana y tarde del 15.

Día 15, 8 a. m.: Tifón al SE de Manila, en, ó cerca de, la parte sur de Luzón, moviéndose al W ó WNW.
Día 15, 5 p. m.: Tifón al S de Manila, en, ó cerca de, la parte sur de Luzón, moviéndose al WNW.

Del Observatorio de Hongkong recibimos lo siguiente:

Día 15, mediodía: Tifón en el S de Luzón, moviéndose al WNW.

Para convencerse de la deformación que sufrió este baguio á su paso por Filipinas bastará que se comparen entre sí en la Lámina XXX la distribución de isobaras alrededor del vórtice á 2 p. m. del 14 y 10 a. m. del 15.

Que una vez en el Mar de China volvió á aumentar en intensidad parecía claro la mañana del 16 dada la influencia que ejercía en Filipinas, especialmente en las estaciones de la costa occidental de Luzón. El Observatorio lo anunció oportunamente en la nota ordinaria del tiempo de dicho día.

Día 16, 11.30 a. m.: El tifón demoraba esta madrugada al W de la parte central de Luzón, distante de Manila unas 150 millas, moviéndose al WNW y aumentando de nuevo en intensidad.

Entre los Observatorios de Manila y Hongkong se cruzaron el 16 estos avisos de tifón.

Manila.—Día 16, 5 a. m.: Tifón al W de Luzón, distancia mayor de 100 millas, moviéndose al WNW.
Hongkong.—Día 16, mediodía: Tifón al W de Luzón, moviéndose al WNW.

Lo más notable en este baguio fué no tanto la grande intensidad y desarrollo que adquirió en el Mar de China, cuanto el haber permanecido aparentemente estacionario por varios días al E de las Islas Paracels. Decimos *aparentemente;* porque en realidad siguió avanzando aunque con extraordinaria lentitud y recurvando al propio tiempo hacia el N y NE. Cuantos barcos se hallaban por aquellos días viajando de Hongkong á Singapore ó Manila, ó de Singapore á Hongkong encontraron mares tan tremendas y extraordinariamente alborotadas que retardaron varios días la llegada á su destino.

Afortunadamente hemos podido reunir un buen número de las observaciones hechas á bordo de estos barcos, y después de haberlas examinado con toda escrupulosidad nos hemos convencido de la lenta recurva del tifón, según va representada en la Lámina XXIX.

La distribución de isobaras á 2 p. m. del 17 y 2 p. m. del 21 (Lámina XXX) hará ver fácilmente á nuestros lectores la diferente posición del vórtice en dichos días y por ende cómo se hubo de dirigir al N después del 17, y la lentitud con que hubo de moverse en este largo intervalo de cuatro días.

Con el fin de ofrecer aquí abundancia de datos que ayuden para confirmar la última parte de la trayectoria de este tifón, además de publicar en el texto inglés varias tablas con las observaciones hechas á bordo de los vapores *Lightning, Rubi, Nanshan* y *Taisang,* incluímos en la Lámina XXIX la ruta seguida por el *Lightning* en viaje de Singapore á Hongkong, por el *Taming* en viaje de Hongkong á Manila y por el *Nanshan* de Indo-china á Manila, indicando á la vez á intervalos de pocas horas la dirección y fuerza de los vientos. En la misma lámina señalamos para el día 22 la posición de los barcos *Rubi, Taisang* y *Fri* y los vientos observados á bordo de los mismos en las horas indicadas. Asimismo para el 23 indicamos la posición y vientos del *Taisang* y los vientos de Hokoto (Pescadores), Koshun (sur de Formosa) y Sto. Domingo (Islas Batanes).

Con todos estos datos creemos comprenderán nuestros lectores cuán probable sea la trayectoria que damos de este baguio. Sin embargo, hemos de hacer constar que en dichos dos últimos días, es decir el 22 y 23, había ya vuelto á disminuir tanto en intensidad, que no parece tuviese sino la forma de una depresión, la cual acabó de deshacerse probablemente la tarde ó noche del 23 en los alrededores de los canales Bashi y Balintang.

No queremos terminar estas notas sin copiar aquí las siguientes líneas tomadas de una carta del Capitán del vapor *Lightning,* Mr. A. E. Gentles, en las que hace resaltar brevemente lo servicial que le fué en esta y en varias otras ocasiones el buen uso del barociclonómetro del P. Algué.

Con referencia á este tifón en particular, puedo decir que ha sido el peor que jamás he experimentado y espero que no volveré á encontrar otro igual. Nunca pensé que fuese posible hallar mares tan extraordinariamente alborotadas en el Mar de China. Las notas características de este tifón fueron muy deceptivas debido á su estacionamiento; pero gracias al excelente barómetro del P. Algué me fué posible deducir que se hallaba estacionario, y que no avanzaba como yo pensaba al principio en la misma dirección que nosotros: así que procedimos adelante en vez de permanecer al SW del centro ciclónico.

No puedo ponderar bastante la excelencia del barómetro del P. Algué, pues desde que nuestros barcos están previstos de él me ha librado de siete tifones en el Mar de China y en el Golfo de Bengala, y creo que deberían poseerlo todos los barcos que navegan por estos mares. Lo juzgo yo de tanta confianza en todos sentidos, que pongo mucha fé en él.

Hemos dicho ya más arriba que aun cuando este baguio no estuvo del todo estacionario, con todo, su movimiento por espacio de tres ó cuatro días fué tan extraordinariamente lento que bien se le podía calificar de prácticamente estacionario. Baste añadir aquí en confirmación de esto que del 18 al 21 se movió con una velocidad media aproximada de solas 1.5 millas por hora.

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.	Air temperature.[2] Mean.	Air temperature. Maximum.	Air temperature. Minimum.	Underground temperature. 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.	Evaporation. Shelter, total.
	mm.	*°C.*	*°C.*	*°C.*	*°C.*	*°C.*	*°C.*	*°C.*	*°C.*	*°C.*	*Per ct.*	*mm.*	*mm.*	*mm.*
1	759.57	26	31.1	22.4	27.8	28.6	28.6	28.6	28.6	28.8	86.7	21.5	-------	1.5
2	59.20	26.1	31.3	22.2	27.8	28.6	28.5	28.5	28.5	28.9	82.7	20.7	-------	1.6
3	58.93	25.8	30.7	22.3	27.7	28.6	28.3	28.5	28.3	28.7	85.1	20.9	-------	1.4
4	58.25	26.1	31.5	23	27.8	28.7	28.3	28.6	28.3	28.7	82.5	20.6	-------	1.9
5	57.97	25.6	31.5	22	27.7	28.6	28.4	28.5	28.3	28.6	81.4	19.8	-------	2.2
6	56.91	24.8	28.2	22.5	27.6	27.8	28.3	28.3	28.3	28.6	88	20.4	-------	.9
7	53.70	24.9	27.5	23.2	27	27.1	28	28	28.4	28.5	90.9	21.2	-------	2.1
8	56.07	26.8	31.8	24.7	26.9	28	27.8	28	28.2	28.5	84	21.9	-------	1.9
9	58.42	26.9	32.7	23.9	27.5	28.8	28	28.3	28.3	28.7	85.1	22.2	-------	2
10	59.90	25.9	29.7	23.9	27.7	28.6	28.1	28.3	28.3	28.7	90.8	22.4	-------	1
11	60.42	25.7	30.7	23.4	27.7	28.8	28.1	28.4	28.3	28.6	89.8	21.9	-------	1.3
12	60.62	25.8	32.1	22.5	27.7	28.8	28.2	28.4	28.3	28.5	84.7	20.7	-------	2
13	60.26	25.6	31.2	21.9	27.6	28.3	28.2	28.4	28.3	28.5	81.5	19.7	-------	2.1
14	57.52	25.3	29	22.7	26.9	28	28.1	28.2	28.3	28.4	85.6	20.3	-------	1.9
15	52.23	24.6	26.6	22.4	26.7	27.1	27.9	27.8	28.2	28.3	91.3	21	-------	1.1
16	53.78	26.8	31	24.1	26.8	28.2	27.6	28	28.3	28.5	83.9	21.8	-------	2.6
17	55.08	26.1	31.5	23.2	27.2	28.7	27.8	28.1	28.3	28.4	82.7	20.7	-------	1.8
18	56.21	25.7	30.2	23.3	27.4	28.4	27.9	28	28.2	28.3	88.4	21.6	-------	.9
19	56.61	26.2	31.2	22.6	27.2	28.8	27.9	28.2	28.2	28.3	83.2	20.8	-------	1.9
20	56.92	26.2	31.6	21.4	27.2	28.9	27.9	28.2	28.2	28.3	81	20.3	-------	2.1
21	58.30	26.7	31.4	22.4	27.8	29	28.1	28.5	28.4	28.5	81	20.9	-------	2
22	58.96	27.1	32.2	23.2	27.9	29.3	28.3	28.5	28.3	28.3	83.1	22.1	-------	1.7
23	58.99	27.1	31.1	23.9	28	29.4	28.3	28.7	28.3	28.4	81.4	21.5	-------	2
24	59.15	26.5	31.3	22.9	28.2	29.4	28.5	28.6	28	28.3	83.4	21.4	-------	2
25	59.64	25	28.3	22.4	27.9	28.3	28.3	28.3	28.2	28.3	83.1	19.5	-------	1.7
26	59.65	25.1	28.6	23	27.3	27.8	28	28.4	28.2	28.4	77.1	18.3	-------	2.7
27	59.74	25	29.8	22.6	27	28	28	28.1	28	28.3	79.2	18.5	-------	1.6
28	59.99	24.6	28	22.4	26.8	27.5	27.7	27.9	28	28.1	88.9	20.5	-------	.9
29	60.37	24.7	29	22.5	27	27.6	27.7	27.8	28.1	28.2	89	20.6	-------	.9
30	60.71	25.4	31	22	26.8	28.2	27.7	28	28.2	28.2	77.5	18.4	-------	2.4
Mean	758.14	25.8	30.4	22.8	27.4	28.4	28.1	28.3	28.3	28.5	84.4	20.7	-------	1.7
Total														52.1
Departure from normal	—1.24	—0.2	+0.2	+0.5	-------	-------	-------	-------	-------	-------	+1.8	+0.2	-------	-------

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.		Prevailing form and its direction. Lower.		Sunshine.		Rain, 24 hours beginning midnight.	Miscellaneous.
		Km.	*Km.*		*0-10.*					*h.*	*m.*	*mm.*	
1	NNE	101	11	WNW	7.6	Ci.		Cu.	E	5	50	0.3	≡° ⌒ a. p [ϟ p.
2	NNE	80	10.5	W	6.8	Ci.		Cu.-N.	E	6	15	.2	≡ Ω a. p° p.
3	E	33.5	7	NNE	7.9	Ci.-S.		S.-Cu.	E	1	30	.3	≡ Ωd° ⌒² a. ●° p.
4	ENE	80.5	11.5	NE	6.8	A.-Cu.		N.-cf.	E	4	25	.6	≡° ⌒° a. d a. p.
5	NNE	192.5	20	NbyE	8	Ci.-S.		Cu.	E	5	10	.8	≡ d a. ●° p.
6	N	292.5	27	NNE	9.6	Ci.-S.	EbyS	Cu.-N.	ENE	0	00	17.6	≡° a. ● a. p.
7	ESE	522.5	34.5	ESE	10	-------		N.	ESE	0	00	32.2	q a. p.
8	ESE	368.5	31	ESE	8.5	A.-Cu.	SbyW	S.-Cu.	S	4	30	.3	↙° a. ⊤° ⌒ d° pp.
9	ESE	165	14	ESE	7.6	A.-Cu.	WSW, SSW	Cu.	SSE	6	30	1.3	≡° Ω° a. [ϟ ϟ pp.
10	ENE	89	13	WNW	8.4	Ci.-S.		Cu.		2	35	1.2	≡° ●° a. d p.
11	Variable	86	12.5	WNW	7.5	A.-Cu.	E	Cu.-N.	SE	5	15	10.6	≡° d a. ⌒ ● p.
12	ENE	127.5	19.5	ESE	4.4	A.-Cu.		Cu.	E	7	15	-------	≡° a. p° p.
13	NE	157	27.5	NNE	7.3	Ci-S.	SE	S.-Cu.		4	10	-------	≡ a. d° a. p.
14	NNW	126.5	16.5	NNE	9.3	Ci.-S.	SEbyE	Fr.-N.	ENE	1	30	4.5	≡ ○ a. d ● p.
15	NNW	456.5	36	N	10	-------		Fr.-N.	E	0	00	22.6	● a. d ϟ p. ↙
16	SE	251.5	19.5	SEbyE	7.2	A.-Cu.	SSE	S.-Cu.		6	00	-------	≡° ↙° ⊤ a.
17	SE	246	17.5	SE	7.6	A.-Cu.	SSW	S.-Cu.	S	4	50	13.3	≡ Ω° a. ⊤° p ● p.
18	SE	75.5	9	SE	9.2	A.-Cu.	SWbyS	S.-Cu.	S	0	50	3	≡° a. ● [ϟ ⌒ p.
19	WSW	110	18	W	3.7	Ci.-S.	SSE	Cu.		8	15	-------	≡ Ω² a.
20	SE	123.5	14	SE	1.8	Ci.-S.		Cu.		9	10	-------	≡ a. p° ∞ ϟ p.
21	WSW	87	11	S	3.5	Ci.-S.		Cu.	SSW	8	50	-------	≡ Ω a.
22	E, SW	130.5	14	W	4	Ci.		Cu.	S	9	10	-------	≡ Ω a. [ϟ ϟ p.
23	NNE, W	126	14	WNW	4.9	Ci.-S.		Cu.	ENE	8	30	-------	≡ [ϟ ϟ p.
24	ENE	200.5	15	W	4.2	Ci.-S.		Cu.	NE quad.	9	30	2.5	p° ● p.
25	NE quad.	158.5	16	E	7.7	A.-Cu.		Cu.-N.	E	1	30	-------	d° a. p. ⌒ p.
26	NNE	289.5	26	NNE	8.8	A.-Cu.	SE	S.-Cu.	E	1	15	-------	≡° a. d° a. p.
27	N	226.5	20.5	N	8.9	A.-Cu.	ESE	S.-Cu.	ENE	0	25	2.8	≡ a. d ● p.
28	NNE, NNW	149.5	12	N	9.5	Ci.-S.		S.-Cu.	E by S	2	00	9.5	≡° a. ● a. p.
29	E, N	151.5	13	E	8.8	A.-Cu.	S	N.-cf.	ENE	3	30	12.7	≡° a. ● ⊤° d p.
30	NE	172	19.5	NNE	3.6	Ci.		Cu.	E	8	10	-------	≡° a.
Mean	-------	179.2	17.7	-------	7.1	-------		-------		4	34	-------	
Total	-------	-------	-------	-------	-------	-------		-------		136	50	136.3	
Departure from normal	-------	+15.6	-------	-------	+0.8	-------		-------		—24	05	+4.6	

[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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	--------	26.8	31.7	22.6	83.9	Variable	1.2	9.8	Ci.-S.	Cu.-N., N. E	16	d a. ⊤ ● p.
2	--------	27	32.7	22.2	81.8	Variable	1.8	7.3	Ci.-S.	Cu.,Cu.-N. E	1.2	
3	--------	27.1	32.9	23.1	82	NNE, SE	1.5	7.7	Ci.-S.	Cu.-N. NE, E	1.7	⌒° a. d p.
4	--------	27	31.5	24.1	84.8	SE	1.3	9.8	Ci.-S.	Cu.-N. SE, E	5.8	● ⌒ p.
5	--------	26.8	28.8	24.5	83.2	WNW	2.8	10	Ci.-S.	Cu.-N. Variable	45.1	●° a.
6	--------	25.5	27.9	23.7	86.5	SW quad.	5.3	10	Ci.-S.	N.,Cu-N.NNW,SW	9.6	●² a. d p.
7	--------	27.4	29.7	23.6	80.9	SE	3.8	8	Ci.-S.	Cu.-N. S, SSW	------	
8	--------	27.4	30.9	23.3	81.2	SE	1.5	7.7	Ci.-S.	Cu., Cu.-N. E	66	●² p.
9	--------	27	30.5	23.3	85.6	Variable	1.2	9.5	Ci.-S.	Cu.-N. SW, NE	37	●² a. ˥ p.
10	--------	26.7	31.3	22.6	83	Variable	1.5	9.3	Ci.-S.	N. NW, E	18.5	●² a.
11	--------	25.4	28.9	22.8	87.3	WNW	1.3	9.7	Ci.-S.	N.,Cu.-N.Variable	3.6	● a.
12	--------	25.9	30.9	23.5	88.2	SE	1.3	8.5	Ci.-S.	Cu.-N. WNW, NE	14.2	● p.
13	--------	27	33.5	23.1	81.5	Variable	1.5	9	Ci.-S.	Cu.-N. NE, ENE	1.3	
14	--------	26.9	30.2	24	78.1	WNW	3	9.7	Ci.-S.	Cu.-N. Variable	.3	d a.
15	--------	26.7	29.5	24.6	82.2	SSW	2.8	8.8	Ci.-S.	Cu.-N. SW, SSW	8.4	d p.
16	--------	27.1	30.7	23.5	81.2	SE	2	8.3	Ci.-S.	Cu.-N.,Cu. SW	------	
17	--------	28.2	30	25.7	80.2	SE	2.3	8.5	Ci.-S.	Cu.-N. SSE	------	d° a.
18	--------	27.2	30.4	24.9	77.6	SSW	2.7	8.7	A.-Cu.	Cu.-N. S	------	
19	--------	27.6	30.7	25.5	80.1	SE	1.5	7.7	Ci.-S. E	Cu. S, NW	------	
20	--------	27.9	31.1	23.6	77.7	SE	1.5	7.5	Ci.-S. E, NNE	Cu.-N.SSW,WSW	------	
21	--------	27.3	31.8	23.9	82.2	SE	1.3	8	Ci.-S. E	Cu.-N. E	------	
22	--------	27.2	32.6	22.7	83.5	WNW, NE	1.5	6.8	Ci.-S.	Cu.-N. SE	1.8	d p.
23	--------	26.8	31.1	23.2	83.7	Variable	1.5	7.7	Ci.-S.	Cu..N. E	31.5	● ⊤ d p.
24	--------	27.2	31.2	23.1	80.7	Variable	1.7	7.3	Ci.-S.	Cu.-N. SE	5.1	● ϟ p.
25	--------	26.7	31.2	21.6	77.8	NNW, SE	1.5	8.3	Ci.-S. SW	Cu. SE, ENE	.8	Φ p.
26	--------	26.9	31.2	23.3	80	SE	1.2	7.8	Ci.-S.	Cu., Cu.-N. E	.3	
27	--------	26.3	29.5	23.1	83.3	N quad.	1.2	8.7	Ci.-S.	Cu.-N. SE, NNW	12.4	● a. ⌒ ϟ p.
28	--------	26.1	31.1	23	83.7	NNE	1	9.3	Ci.-S.	Cu.-N. Variable	------	
29	--------	26.8	30.7	23	78.5	NNE	1.2	10	Ci.-S.	Cu.-N. NE, E	------	
30	--------	27	31	23.3	81	SE	2	7.5	Ci.-S.	Cu.-N. E	1	d° p.
Mean	--------	26.9	30.8	23.5	82	------------	1.9	8.6	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	281.6	

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.	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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	758.69	25.4	29.4	22.7	87.8	E by N, N	0.2	8.8	A.-Cu. NE, N	N.-Cf. NE	9.1	●° a. p.
2	58.04	25.9	31.2	22.7	86.8	NW, WNW	.2	5.7	Ci.-S. N	Cu. NE	3	d° a. Ω² p.
3	57.60	26	30.1	23.6	88.2	NW quad.	.3	7.3	Ci.-S. NE	Cu., Fr.-N. N	14.2	Ω° a. ϟ p. ●° a. p.
4	56.82	25.4	27.5	23.3	91.2	NNW, WNW	.2	9.7	A.-Cu. N	Fr.-N. N	57.9	⊎ Ω² a. ●² p.
5	54.13	24.7	27.4	22.5	93.8	W quad.	1	10	------------	N. N, NW	111.5	●² a. p.
6	52.82	24.5	26	23.6	90	SW quad.	2.3	10	------------	Fr.-N. SW	33	●² a. p.
7	56.68	26.6	31.4	23.2	85	E, E by N	.2	7	Ci.-S. NE	Cu., S.-Cu. S	------	Ω² a. p. ∞ p.
8	57.29	27	31.6	24	85.7	E by N, NW	.2	5.3	A.-Cu. NE	Cu. SE	------	Ω² a. ∞ Ω° ϟ p.
9	58.66	26.5	31	23.8	89.6	E, E by N	.2	8.3	A.-Cu. E	Cu. SE	3.3	Ω² a.
10	59.34	26.2	31	23.6	86.8	W	.3	4.3	Ci. NE	Cu. W	16.3	p° a. ∞ ● p.
11	59.58	25.3	30.4	23.1	90.8	W	.2	8.5	A.-Cu. NE	N.	5.8	● a. Ω² p.
12	59.16	25.8	30	22.8	89.2	Variable	.3	5.7	Ci.	Cu. NE	------	Ω² a. p.
13	58.58	25.4	27.8	22.4	88.5	NW quad.	.8	7.8	Ci., Ci.-S. NE	Cu., N.-Cf.	3.3	Ω² a. ●° p.
14	54.66	25.2	28.4	23	88	W	2.6	9.5	------------	Fr.-N. W	61	● a. p.
15	55.64	27.5	32.5	23.6	77.8	SW	.3	6.2	A.-Cu SE	Cu. SW	------	∞ ○ Ω° p.
16	56.94	26.8	31	23.6	85	W, NE	.2	7.3	A.-Cu. NW	S.-Cu. SW	------	Ω° a. p. ∞ p.
17	57.13	27	31.7	24	87.6	E	.1	6.8	A.-Cu. E	Cu. NW	------	Ω² a. ∞ Ω° p.
18	57.39	27	30.8	23.3	83.3	WSW	.4	7.8	A.-Cu.	N.-Cf. SW	------	Ω° p° a. ∞ p.
19	57.37	27.1	31.8	24.8	83.8	WSW	.1	7.8	Ci.-S NE	Cu. W	9.7	Ω° p° a. ∞ p.
20	57.66	26.6	31.5	23.6	86.8	W, W by N	.2	7.3	Ci.-S.	Cu.-N. NW	2.3	Ω² ●a. ∞ Γϟ°d p.
21	58.82	26.8	31.1	23.2	86.8	NE	.1	4.3	Ci.	Cu.-N.	------	Ω² a. ∞ Ω° p.
22	58.93	26.8	30.9	23.1	84.1	ENE	.5	3.5	Ci.-S.	Cu. SE	------	Ω² a. ∞ Ω° p.
23	58.60	26.3	30.6	23.8	87.2	ENE, NEbyE	.2	5.7	Ci.-S. E	Variable NE	------	Ω² a. ∞ Ω° p.
24	58.39	26.3	31.2	23.4	86.7	ENE	.5	6.2	A.-Cu.	Cu. NE	5.1	Ω² a. p. ● p.
25	58.19	26.1	30.5	22.6	86.3	ENE	.7	5	Ci. W	Cu. NE	40.4	Ω² a. ● p.
26	58.02	24.7	26.7	23.2	93.5	Calm	--------	8.8	Ci., Ci.-S.	Fr.-N. NE	27.4	● a. p. Ω° p.
27	58.53	25.5	28.6	23.2	91.2	Calm	--------	9	A.-Cu. SE	Fr.-N E	10.2	●° a. p. Ω² a.
28	59.01	24.4	26	22.8	93.5	EbyN, ENE	.2	10	A.-Cu.	N. E	10.9	● a. p.
29	58.83	25.7	29.7	23.1	90.2	EbyN, NE	.3	6.7	Ci.-S. NE	Cu. E	31.8	○ a. Γϟ ●² p.
30	58.84	26.6	30.2	23.8	88.8	ENE	.7	6.3	A-Cu. E	N.-Cf. NE	9.7	● a. p. Ω² a.
Mean	757.68	26	29.9	23.3	87.8	------------	.4	7.2	------------	------------	------	
Total	--------	------	------	------	------	------------	--------	--------	------------	------------	465.9	

[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. 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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	758.42	27.2	30.8	24	73.8	E	7.8	7.2	A-Cu. E	Cu. E	7.4	≡° a. ○² ● ↯ p.
2	58.02	27	30.6	23.3	75.2	E	9	5.8	Ci.	Cu. ENE	------	≡° ⌓ a. ↯ p.
3	57.60	26.4	30.5	22.7	78.7	SE, S	4.8	5.8	Ci.	Cu., Cu.-N. N	15.2	⌓ ● a. ● ↯ p.
4	56.92	26	30.7	22.8	79.3	NE, NW	4	7.8	Ci.-S. SE	Cu., Cu.-N. N	4.1	≡° a. ●° ↯ p.
5	55.55	26.6	28.8	24.4	75.5	NE, NW	4.8	10	Ci.-S.	Cu.-N NE	52.3	d° a. p° ↯ p.
6	52.05	25.6	27.3	24.1	80.8	SW	18.7	10	Ci.-S.	N. WSW	89.7	●² a. p. ⟋ p.
7	55.96	27.1	31.1	23.5	78.2	SSW	12.3	8.8	Ci.-S.	Cu.-N. S	1.5	≡° a. d² ⊤ ↯ p.
8	57.19	26.8	31.5	23.4	78.4	S, WSW	5.5	5.8	Ci.	Cu. S	3	≡° ⌓ a. ●° ↯ p.
9	58.62	26.9	31.1	24.2	78.7	Variable	5.3	8	Ci. E	Cu. SW, S	6.1	●° ⌒° a. ○² ↯ p.
10	59.53	25.6	29.9	23	82.7	Variable	5.7	8.7	Ci.-Cu. E	Cu. S	26.9	● a. p.
11	59.70	24.7	28.2	22.6	85.3	SE, S	3.6	9.2	Ci.-S.	Cu.-N. E	16	● a. p. ↯ p.
12	59.23	26.3	30.5	23.3	80	E	7.6	7.2	Ci.	Cu. E	.5	≡° a. ●° ⌈↯ p.
13	58.52	26.2	30.2	23	78.8	E	5.4	7.8	Ci.-S.	Cu. NE	.8	⌓ ○° a. d p.
14	54.76	25.5	26.8	23.7	76.2	W	6.7	10	Ci.-S.	Cu.-N. NNW, NW	.5	d a. p.
15	54.84	26.7	30.5	25	72.7	SW	11.9	7	A.-Cu. S	Cu. SW	5.1	●° ↯ p.
16	56.74	26.8	30	24.4	78.3	SW	9.5	7.2	A.-Cu. W	Cu.-N. SW	------	● a.
17	56.92	26.8	30.3	24.6	80.5	S, WSW	4.8	5.2	A.-Cu. W	Cu. S	6.4	≡° ⌓ a. ↯ p.
18	57.20	26.3	30	23.1	77.2	SW quad.	8	5.8	A.-Cu. S, SW	Cu.-N SW	------	≡° ● a. ↯ p.
19	57.25	26.2	30.1	23.6	77.6	S, SW	6.9	5	Ci.-S.	Cu. SW	1.3	≡° ⌓ a. ●° p.
20	57.48	26.2	30.5	22.8	78.2	SSW, SW	6.4	5.5	A.-Cu. E	Cu. SSW	4.3	≡° ↯ a. ⌈↯ p.
21	58.71	26.3	31	23.5	80.9	S	5.3	4.3	Ci. NW	Cu.-N. ENE	------	≡° ● a. ⌈↯ a. p.
22	58.76	26.8	31.2	23	75.7	E	6.6	2.5	Ci.	Cu. ENE	------	≡° ⌓ a. ↯ p.
23	58.23	26.9	30.7	24.3	77	NE, E	7.8	3.5	Ci.	Cu. NE	------	≡° ⌓ a. ⌈↯ p.
24	58.12	26.6	30.5	24.5	77.8	NE quad.	9.9	3.2	A.-Cu. E	Cu. NE	1.5	≡° ⌓ a. ● p.
25	58.04	26.6	30.6	23.8	73	NE quad.	10.6	3.8	Ci.	Cu. ENE	------	≡° ⌓ a. ⌈↯ p.
26	57.76	26.9	30	24.4	71.8	NE quad.	12.2	4	Ci.	Cu. ENE	------	≡° ⌓ a.
27	58.20	26.1	28.9	23.2	78.5	ENE, E	7.5	5.2	A.-Cu. E	Cu., Cu.-N. NE	------	≡° ⌓ a. ↯ p.
28	58.73	25.1	28.4	22.7	80.3	E, NNW	6.4	7.2	Ci.-S. EbyS	Cu.-N. NE	7.1	≡° ⌓ a. ● ⌣ p.
29	58.80	25.7	29.1	22.2	76.8	NE	6.9	5.8	Ci.-S.	Cu. ENE	39.1	≡° ⌣ a. ○ p.
30	58.91	26.5	30	23	77.2	NE quad.	9.1	5	Ci.	Cu. NE	.5	●² ⌈↯ a. ⊤ a. p.
Mean	757.56	26.3	30	23.5	77.8	------	7.7	6.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	289.3	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	758.90	27	32.4	24.1	79.7	NE, N	9.4	7	Ci. NE	Cu. ENE	3.3	● p.
2	58.50	26.6	31	23.4	79.7	NE	10.9	5	Ci.-S. E	Cu. NE	------	d p.
3	58.08	26.4	31.4	23.1	81.8	N	6.3	4.8	A.-Cu. NE	Cu. NE	.8	⌓ d ● a. ⌈↯ ↯ p.
4	57.35	26.6	31.1	23.6	83.3	NE	8.2	6.8	Ci.-S., A.-Cu. NE	Cu. N	.3	●° p.
5	56.70	25.3	29.4	23,1	89.5	NE, N	6.5	8.8	A.-Cu. NE	Cu.-N.	22.1	d a. ● ⌈↯ p.
6	53.39	24.7	26.8	23.2	95.2	SW quad.	17.4	10	Ci.-S.	Cu. NW	130.7	● a. ⟋° ● p.
7	55.06	25.3	27.2	22.2	91.8	S	19.9	9.3	Ci.-S.	Cu., N SW	43.2	⟋° ● a. ↯ p.
8	57.34	26.2	30.1	23.5	87.3	SW	8.1	7.5	A.-Cu.	Cu. SW, S	4.1	⌈↯ ↯ ● p.
9	58.86	26	29.6	24.1	88.2	SW, SE	5	7.8	A.-Cu. E	Cu.	6.1	● p.
10	59.79	26	29.4	23.4	85.2	SW	7.3	7	A.-Cu. N	Cu. SW	19	● a. p. ↯ p.
11	60.05	26	29.5	23.4	85.2	NW	5.5	7.2	A.-Cu. E	Cu. NE	------	● a. d p.
12	59.62	26.2	30.6	23.6	84.5	NE, E	10.5	7	Ci.S. E	Cu., Cu.-N. NE	4.3	● a. ↯ p.
13	59.25	25.6	31.6	23.5	87	NE	8.5	7	Ci.-S.	Cu. N	9.4	● p.
14	56.10	24.9	26.6	23.4	89.2	NE	6.2	9.8	Ci.-S.	Cu.	4.7	● d p.
15	54.59	26.4	28.7	23.8	78.8	SW	25.4	6	A.-Cu. S	Cu. WSW, SW	5.3	d ⌒ ● p.
16	56.21	25.3	28.1	23.5	92.2	SW	12.9	8.7	A.-Cu.	Cu.-N. SW	30	● a. p.
17	57.02	26	29.5	23	87.8	SW	8.4	9	A.-Cu. SW	Cu.	6.4	d a. ↯ ● p.
18	57.44	26	28.9	23.5	86.2	SW	------	9.5	A.-Cu. E	Cu.-N. SW	26.5	d a. ● p.
19	57.48	26.4	29.1	23.5	88	SW	------	8.3	A.-Cu.	Cu. SW	6.9	● a.
20	57.78	26.4	29.9	24.5	84.8	SW	------	7.2	A.-Cu. WNW	Cu. SSW	------	⊤ ↯ p.
21	58.66	26.3	30	24	85.8	SW, SE	------	7	A.-Cu. NE, E	Cu.	9.4	d ● ⊤ ⌈↯ ↯ p.
22	59.02	27	32.2	22.6	80.5	Variable	------	3.3	Ci.	Cu.	16.8	⌈↯ ● p.
23	58.38	27	31.5	23.5	82.7	NE	------	6.3	Ci.	Cu. NE	.3	●° ⊤ ↯ p.
24	58.37	27.1	31.5	24	77.6	NE	------	3.2	Ci.	Cu. NE, NE, ENE	------	↯ ⌈↯ p.
25	58.40	26.6	30.9	23.5	80	N, NE	------	5.3	Ci.	Cu. NE	9.9	↯ ⌈↯ ● p.
26	58.10	26.4	30.5	23.4	82.3	N	------	6	A.-Cu. ENE	Cu. NE, ENE	------	⌒ a.
27	58.80	24.4	26.5	23.4	93.2	N	------	9	A.-Cu.	N. NE	19	● a. p.
28	58.94	26	29.6	23.4	85.8	N	------	8.7	A.-Cu. E	Cu. NE	------	⌒ a.
29	59.19	26.5	31.4	23.6	81.2	NE, N	------	7.7	A.-Cu.	Cu. NE	------	
30	59.16	26.9	31.1	24	80.7	N	------	6.7	A.-Cu. E	Cu. ENE	1.3	d a. p. ↯ ⊤ ● p.
Mean	757.88	26.1	29.9	23.5	85.2	------	------	7.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	379.8	

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.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	758.57	24.8	31.4	22.4	89.3	SW, SE	0.3	5.3	A.-Cu.	Cu. ENE	7.1	⛈ ϟ ●° ⊕° ≡ p.
2	58.17	24.8	31	20.4	86	Variable	.3	5.8	Ci.-S. E	Cu. NE	2	Ω ≡° a. d ⊕ p.
3	57.66	24.8	30.5	21.2	88.9	NW, SSE	.2	6	Ci.-S. SE	Cu.-N. NE	1.3	Ω ≡° d ⛈ ⌒ ϟ
4	56.89	25.6	31.3	21.7	85.5	N quad.	.2	8	A.-Cu. EbyN	Cu.-N. NE	1.5	Ω ≡° a. d ϟ p.
5	55.30	24.2	25.6	23.1	95.5	N	.5	10	Ci.-S.	Cu.-N. NE quad.	80.5	≡° d a. ϟ ●^{2} p.
6	50.15	------	------	------	------	N, SSE	2.8	10	Ci.-S.	N. S	138.9	↙° a. ●^{2}a. p. ↙ p.
7	56.35	[1]27.9	32.5	23	[1]78.8	S	.8	5.3	Ci. ENE	Cu.	------	≡° ●° a. ϟ p.
8	57.34	26.6	32.4	22.2	83.5	SSE	.3	3.5	A.-Cu. E	Cu.	------	≡° a. ϟ p.
9	58.84	26.1	30.3	23.2	85.8	N, SSE	.2	6.5	A.-Cu. E	Cu. E	6.6	≡° ● a. ⊤ p. ϟ
10	59.60	25.5	31	22.3	87.7	Variable	.3	5.3	Ci.-S., A.-Cu.	Cu.-N. E	10.9	Ω ≡° a. ● ⛈ p. ϟ
11	59.80	25.3	29.4	22.4	90	E	0	7.3	A.-Cu. NE	Cu.-N. E	10.2	≡° ● a. ⛈° ● ϟ p.
12	59.39	25	31	21.6	89.5	Variable	.2	7	Ci.-S.	Cu.-N. NE	9.1	Ω ≡° a. ⛈ ● p.
13	58.69	24.9	29.4	20.7	86.5	N	0	8.2	Ci.-S. E	Cu.-N. E	9.7	Ω° ≡° a. d p.
14	54.43	23.5	24.8	22.5	97	NW quad.	1	10	------	N. NW, WNW	100.3	●^{2} a. p.
15	55.13	27	29.4	23.4	79.7	S quad.	2	8.8	A.-Cu., Ci.-S.	Cu.-N. SW	8.4	ϟ ● p.
16	56.82	26.2	29.2	23.1	86	SSE	.2	8.5	Ci.-S.	Cu.-N. SbyW	------	≡° a. ϟ a. p.
17	57.05	26.9	32.6	23	81.2	SE quad.	0	6.7	A.-Cu. S	Cu.-N. SW	------	≡° ⛈ a. ϟ p.
18	57.42	25.9	31.2	22.7	86.5	SSE	.3	6.8	Ci. E	Cu.-N. S, SW	6.4	≡° d° a. ●° ϟ p.
19	57.49	25.8	29.4	23.1	87	Variable	.3	7	Ci. ESE	Cu.-N. S	------	≡° a. ϟ ⊕° p.
20	57.73	25.4	30.3	22.6	86	SSE, NE	0	6.2	A.-Cu. E	Cu.-N. E	------	≡° a. ϟ p.
21	58.88	25.2	29.6	21.8	89.2	S quad.	.2	4.8	A.-Cu. E	Cu.-N. E	4.8	⛈ d a. ⊤ ϟ p. ≡°
22	58.90	25.8	32.9	21.2	81.9	Variable	.2	5.3	A.-Cu. E	Cu.-N. E	.8	Ω a. ⛈ ⌒ d ϟ p.
23	58.54	25.5	31	21.2	84	Variable	.2	4.5	A.-Cu. SE	Cu.-N. E, ENE	1.5	Ω ≡° ●° a. ⛈ ϟ p.
24	58.45	25.6	32.2	20.4	78.8	SSW	.3	3.3	A.-Cu. E	Cu. E	------	Ω ≡° a. ϟ p.
25	58.38	24.8	32	20.6	84.5	Variable	.2	5.5	Ci.	Cu. E	13	⛈ ● ⊕ d p. ≡°
26	57.94	25.7	30	20.5	77.7	Variable	.5	7.5	Ci. W	Cu.-N. E	2.8	Ω ≡° ●° a. ⊤ ϟ p.
27	58.61	24.3	27.1	22.6	93.3	W quad.	0	8	Ci.-S.	Cu.-N., S.-Cu. E	2.5	●° a. ≡° a. p.
28	59.01	24.3	27.3	21.2	85.2	E quad.	0	8.2	Ci.-S.	Cu. ENE	------	Ω ≡° a. ⌒ d p.
29	59.05	25.1	30.9	20.5	85.2	Variable	.2	6.3	Ci. E	Cu.-N. E	1	Ω ≡° a. ⌒ p.
30	59.06	25.9	30.6	22.2	82.7	Variable	.2	5.8	Ci.	Cu.-N. ENE, NE	5.3	d Ω a. ●° ⊤ ϟ p.
Mean	757.65	25.5	30.2	22	86	------	.4	6.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	424.6	

[1] From five observations.

TACLOBAN[1].

[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.	Maximum.	Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Force (mean).	Clouds. Amount (mean).	Upper.	Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	758.89	------	------	------	------	W quad.	0.8	4.5	------	Cu., Cu.-N. ENE	5.1	d a. d ● p.
2	58.37	------	------	------	------	WNW	.8	6.2	Ci.-Cu SW	Cu.-N. ENE	6.5	● p.
3	57.78	------	------	------	------	WNW, NW	1.2	4	Ci.	Cu.-N. NE	8.9	Ω ● a.
4	57.03	------	------	------	------	WNW, N	1.5	8.3	Ci. SW	Cu.-N. NNE	3.6	⊕^{2} ○^{2} a.
5	55.10	------	------	------	------	WNW	2	9.8	------	N. NNE, N	61.7	● a. ●^{2} p.
6	48.29	------	------	------	------	SE quad.	5.3	9.7	------	N. N, E	62.2	●^{2} ↙^{2} a. ↙ p.
7	57.10	------	------	------	------	SE	1.8	8.2	Ci., Cu., Ci.-S.	Cu.-N. ESE	3.3	●° a. p.
8	57.80	------	------	------	------	S quad.	.5	5.3	Ci.	Cu. SSE	41.4	● p.
9	59.21	------	------	------	------	SSW	.3	8.3	Ci.	Cu.-N. S	.5	●^{2} a. d p.
10	59.69	------	------	------	------	WNW, ENE	.7	7.2	------	Cu.-N. E	2.8	●° p.
11	59.92	------	------	------	------	WNW	.7	7.8	Ci.-S. WNW	Cu.-N. ESE	7.9	● a. p.
12	59.70	------	------	------	------	NW	.7	5.5	Ci. W	Cu. ESE	------	
13	58.96	------	------	------	------	NW quad.	1	7.5	Ci.	Cu.-N. E, ENE	45	Ω^2 a. d ● p.
14	53.10	------	------	------	------	WNW	3	10	------	N. WNW	53.6	●^{2} a. p. ↙ p.
15	55.12	------	------	------	------	S, SSE	.7	6	Ci.-Cu. E	Cu. SW	------	
16	56.70	------	------	------	------	SE	.5	6.7	Ci.-S. E	Cu.-N. SW	------	Ω^2 a.
17	57.09	------	------	------	------	S, quad	.7	6	Ci.-S. E	Cu. SSW	------	d ⌒^{2} p.
18	57.25	------	------	------	------	SSE, SSW	.3	5.3	Ci.	Cu.-N. SSW	1.3	Ω a. ●° p.
19	57.32	------	------	------	------	Variable	.7	8.2	Ci.-S. ENE	Cu. SW	19.1	● ⌒° p.
20	57.76	------	------	------	------	Variable	.5	6.7	Ci.-Cu. NE	Cu.-N. SW	------	ϟ a.
21	59.01	------	------	------	------	WNW	.2	4.3	Ci.	S.-Cu.	------	d ⊤ p.
22	59.24	------	------	------	------	E, ESE	.3	2.5	------	S.-Cu.	------	Ω^2 a.
23	58.95	------	------	------	------	SE	.5	4	Ci.-S.	Variable ESE	------	Ω^2 a.
24	58.77	------	------	------	------	NE	.5	4	Ci.-S.	Cu. E, ENE	1.3	Ω^2 a. ●° p.
25	58.73	------	------	------	------	N quad	.2	6	Ci.-S.	Variable ENE	4	⌒° a. ●° a. p.
26	58.34	------	------	------	------	WNW	.2	7	Ci.	N. E	17	● a. p.
27	59.06	------	------	------	------	NNW, WNW	.7	9.3	Ci.	N. NE by E	6.8	● a.
28	59.83	------	------	------	------	ENE	1.2	9.2	Ci., Ci.-Cu.	N., Cu.-N. ENE	9.4	● a. d p.
29	59.35	------	------	------	------	NW quad	.5	5.8	Ci.-S. WNW	Cu. E	2.5	⊍^{2} a.
30	59.31	------	------	------	------	Variable	.3	5.3	Ci.-S.	Cu. E	6.1	⊍^{2} ⌒ a. ● a. p.
Mean	757.76	------	------	------	------	------	.9	6.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	370	

[1] The thermometers of this station were broken during the typhoon of the 6th.

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	--------	27.2	30.5	------	87.8	N quad.	0.7	5.7	Ci.-S.	Cu. E	5.6	● p.
2	--------	26.9	29.7	------	87.3	NNE	.8	7.5	Ci.-S.	Cu.-N. NE	------	
3	--------	27.6	30.9	------	86.3	N	.8	5.8	Ci.-S.	Cu.-N. NE	------	
4	--------	27.1	30.6	------	87.3	NE, N	.8	7	Ci.-S.	Cu.-N. NE	9.7	● p.
5	--------	27.5	29.5	------	84.3	N, NW	1.5	9.5	Ci.-S. SE	Cu.-N. NE	20.8	● a. ⊤ ≺° p.
6	--------	[1]25.9	27.8	------	[1]88.2	NW quad.	4.3	10	------	N. NW	([2])	● a. ●² ↙ p.
7	--------	[1]23.5	26.2	------	[1]88.2	Variable	.5	9	Ci.-S.	N.	------	● a. p.
8	--------	26	31.4	------	91.7	SE, W	.3	6.5	Ci.-S.	Cu.-N. S	------	≺° p.
9	--------	25.8	30.1	------	92.5	SE	.3	7.5	Ci.-S.	Cu.-N. S	------	
10	--------	26.2	29.6	------	90.3	Variable	.5	7.5	Ci.-S. NE	Cu.-N. NE	------	●² p. d° a. p.
11	--------	26.2	29.3	------	89.8	S, NE	.8	8	Ci.-S.	Cu.-N. E	------	●² a.
12	--------	27.3	30	------	87.5	NE	.8	6.7	Ci.-S.	Cu.-N. Variable	------	Ω a.
13	--------	26.6	29.5	------	91.8	NE	.8	8.5	Ci.-S.	N.	------	● p.
14	--------	25	27.1	------	92	Variable	2.5	10	------	N.	------	●² a. p.
15	--------	24.6	29.4	------	93.5	Variable	.5	7.3	Ci.-S., Ci.	N.	------	● a.
16	--------	26.1	30.9	------	89.2	SE, S	1	6.2	Ci.-Cu. SE	Cu. S.	------	≡ a. d p.
17	--------	26.8	32	------	87.3	SSE, S	.3	5.8	Ci.-S.	Cu. SE, SW	------	≡° a.
18	--------	26	31.8	------	88	S	.8	6.8	Ci.-S. SE	Cu.-N. SE	------	≡° a.
19	--------	27.1	30.5	------	84.8	Variable	.5	6.2	Ci., Ci.-S.	Cu.-N. SW	------	≡° a.
20	--------	26.4	30.2	------	88.5	S, NE	.3	6.7	Ci.-S.	Cu.,Cu.-N.W, SE	------	⊏ ● p.
21	--------	25.7	30.5	------	90.3	NE, SE	.5	6	Ci.-S., Ci.-Cu.	Cu.-N. SE, SW	------	⊤° p.
22	--------	26.3	30.2	------	90.7	NE	.3	4.3	Ci.	Cu. E	------	⊍ p.
23	--------	27.2	29.9	------	89.2	NE	.3	5.8	Ci.-S., Ci.	Cu. E	------	● a. ⊏ p.
24	--------	27.2	30.9	------	90.3	NE	.7	4.7	Ci.-S.	Cu.-N. E	------	
25	--------	26.8	29.8	------	88.5	NE	1.5	6.5	Ci.-S.	Cu.-N. NE	------	● p p.
26	--------	26.9	29.9	------	90.5	NE quad.	1.3	7	Ci.-S.	Cu.-N. NE	------	⌒ p° a. d p.
27	--------	26.2	28.5	------	91.2	NE E	1.2	8.7	Ci.-S.	Cu.-N. NE	------	●² a.
28	--------	26.8	29.4	------	88.7	NE, NN	1.2	8.8	Ci.-S.	Cu.-N. NE	------	d a. ⊍ p.
29	--------	26.9	30.2	------	88.8	NE	1	6.2	Ci.-S. NE	Cu. E	------	● p.
30	--------	26.6	29.6	------	88.7	NE	1.7	7.7	Ci.-S. SE	Cu.-N. NE	------	p p.
Mean	--------	26.4	29.9	------	89.1	------------	1	7.1	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	------	

[1] From five observations.
[2] The rain gauge of this station was destroyed during the typhoon of the 6th.

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.23	26.4	33.1	22.6	86	NE	1.2	4.5	Ci.	S.-Cu. ENE	------	≡ a.
2	58.78	25.4	30.7	21.7	88.8	NE	1.2	5.8	A.-Cu.	S.-Cu. E, NE	3.3	≡° d° a. p° p.
3	58.09	25.8	30.6	22.4	89.3	N, NE	1	4	A.-Cu.	S.-Cu. NE	4.8	Ω d a. p° p.
4	57.43	26.2	30.6	23	86.7	NE	1	7	Ci.-S.	S.-Cu. NE	.8	≡ d a.
5	55.92	25.2	27.5	23.9	91.7	N quad.	1	9.3	A.-Cu.	Fr.-N. NE	14	●° a. p. ≺ p.
6	52.12	24.8	25.7	24	90.3	NE quad.	3.7	10	A.-Cu.	N. E quad.	38.6	↙ ●° a. p. ≺ p.
7	56.84	26.4	30.6	23.6	87.5	SE quad.	1.7	7.2	A.-Cu. S	S.-Cu. S	------	● a.
8	57.62	26.7	31.6	23.4	87.1	Variable	1	2.8	Ci.-S.	Cu.	2	Ω a. ≺ p.
9	59.30	25.8	30	23.3	89.8	N	.8	8	A.-Cu. SE	Cu.-N. E	4.3	⊤ ●° a. p.
10	59.92	26	31.1	23.6	87.6	N	1	6.5	A.-Cu.	S.-Cu. E	1.3	d a. ⊤ d ≺ p.
11	60.13	25	30.7	22.4	92.4	N	1	6.7	A.-Cu.	S.-Cu. E	40.9	Ω a. ●² ⊤ d ≺ p.
12	59.92	26.3	31	22.9	85.8	NE	1.5	4.8	Ci.-S.	S.-Cu. NE	4.1	p° a. ≺ p.
13	59.40	25	29.2	22.5	91	N	1	7.5	A.-Cu.	Fr.-N, S-Cu. NE	69.1	Ω a. d ● p.
14	52.74	24.4	26	22.3	96.2	WNW	1.8	10	A.-Cu.	N. NW	141.7	●² a. ● ⊤ ≺ ↙ p.
15	54.64	27.4	30.5	24.2	83.1	S	3.2	8.2	A.-Cu. SW	S.-Cu. SW	------	↙° ● a.
16	56.74	27	30.7	23.9	83.7	SE quad.	1.5	6.8	A.-Cu. S	S.-Cu. SW	------	d ≺ p.
17	57.28	26.9	31.7	23.1	86.2	N	1.2	6.7	A.-Cu. SW	S.-Cu. SW	.5	≺ d ⊤ p.
18	57.48	27	30.5	23.8	85.3	Variable	1.2	7.5	A.-Cu. S	S.-Cu. SW	------	d° a. ≺ p.
19	57.62	27.2	31.6	24	83.8	NNW	1.2	7.5	A.-Cu. SW	S.-Cu. SW	------	≺ ⊕ p.
20	57.96	26.5	31.5	23.2	87.7	N	1.2	6.8	Ci.-S.	Cu.-N. E	1	≺ ⊤ Ω a. d ⌒°
21	59.26	26	31.6	23.3	88	N	1	4.8	A.-Cu.	S.-Cu. ENE	1	≺ ⊤ d ⊍ ⊕
22	59.53	26.1	31.5	21.9	86.3	N	1	1.8	Ci.-S.	Cu. E	9.4	Ω a. ● ⊕ p.
23	59.12	25.2	30.5	22.1	90.8	N	1	4	A.-Cu., Ci.-S.	S.-Cu. NE	9.4	Ω d ● ⊤° ≺ ⊕
24	58.97	26.2	32.7	21.6	82.8	N	1.2	3.2	A.-Cu. E	Cu., S.-Cu. NE	------	Ω² a. ≺ ⊕ p.
25	59	25.1	31.4	21.8	87.8	N, NE	1.3	4	A.-Cu.	Variable NE	6.1	Ω² a. p° ⊕ p.
26	58.81	25.2	30.7	21.2	88.7	NE	1	6.5	A.-Cu.	S.-Cu. NE	12.4	Ω d. a. ≺ ⊍ d p.
27	59.21	23.8	25.2	22.9	95.7	NE, N	1	9.7	A.-Cu.	Fr.-N. NE	18	● a. p. ⊍ p.
28	59.66	24.5	27.7	22.6	91.8	NE	.8	9.7	Ci.-S.	Fr.-N. ENE	1	⊕ a. p. d p.
29	59.72	24.6	29.7	21.6	90.2	N	1	5.7	A.-Cu., Ci.-S.	S.-Cu. ENE	7.1	⊍ a. p° ⊤° d p.
30	59.74	25.2	31.1	22.4	90.2	N	.8	4.8	Ci.-S.	S.-Cu. ENE	8.9	⊍ Ω p° a. ⊤ ≺ p.
Mean	758.07	25.8	30.2	22.8	88.4	------------	1.3	6.4	------------	------------	------	
Total	--------	------	------	------	------	------------	------	------	------------	------------	399.7	

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.			Rain, 24 hours beginning 6 a. m.	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	759.27	27.4	31	24	83.2	E	10.4	3	Ci.	Cu. E	2.3	d a. ● d p.
2	58.69	27	31.5	22.9	82.2	NE	7	2.8	A.-Cu. NE	Cu.	------	d° a.
3	58.05	26.7	32.8	22.8	84.3	ENE	7.5	4	Ci.-S. SSE	Cu.-N. ENE	32.3	●° a. ● p.
4	57.59	26.7	32	23.6	87.5	E	10.7	5.7	Ci., Ci.-S.	Cu.-N., Fr.-Cu. ENE	1.5	● a. p.
5	56.50	28.1	31.2	24.9	78	NE	18.7	6.7	Ci.-S.	Fr.-Cu. NE	51.6	○ a. d ● ⚡ ⊤ p.
6	53.99	26	27.6	23.5	90	NE	32.2	10	Ci.-S.	Fr-N. NE, ENE	53	● ↙° ⊤ a. ● ↙² p.
7	56.01	27.4	30.8	24.5	81.8	ESE	10.4	9.3	Ci.-S.	Fr.-N. SE	------	● d. a ⚡ p.
8	57.14	27.6	31.6	24.2	84.8	E	3.9	3.2	Ci.	Cu. SSE, S	1.5	● a.
9	58.92	26.8	31.8	23.5	86.8	ENE	6.1	2.8	Ci.	Cu. SE, ESE	4.5	≡° a.
10	59.81	27	30.9	23.7	85	E	7.9	3.5	A.-Cu.	Cu.	61.5	● a. d. p.
11	60.05	26.5	30.9	23	87.2	E quad.	9.2	6.7	Ci.	Cu.-N. NE	67.6	● a. d. ● ⚡ p.
12	59.94	27.1	31.6	23.5	82.8	NE	12.4	6.3	------	Cu.-N. NE	5.7	● a. p.
13	59.39	25.9	30.5	23.3	89.5	NNE	9.4	7.3	Ci.-S.	Cu. NE	18.3	d² a. ● p.
14	54.32	25	26.3	22	93.3	N quad.	19.1	10	Ci.-S.	Fr.-N. N, NE	85.1	●² a. ● ↙° p.
15	53.16	25.3	28	23.4	93.7	S	12.9	9.8	Ci.-S.	Fr.-N. S	11	● a p.
16	55.95	26.5	32.1	23	84	SSW	5.9	5.3	Ci.	Fr.-Cu. S	4.6	● ⚡ p.
17	56.62	26.6	32	23.4	84.8	S, SW	4.4	5	A.-Cu. S	Variable S, SW	14.8	● d° ⚡ p.
18	56.96	26	32	23	85.5	SW	4.5	7	Ci.-S.	Cu.-N. SSW	------	⚡° p.
19	56.97	26.8	32.2	22.7	80.7	SW, WSW	4.9	3.7	A.-Cu.	Cu. SW	------	⚡° p.
20	57.20	26.8	33.6	21.5	81.3	SW	3.4	2.8	A.-Cu.	Cu. SSW	------	≡° a.
21	58.86	26.8	31.9	21.8	82	ESE	3.7	2.3	Ci.	Cu. SW	------	⚡ p.
22	59.30	27	31.8	22.8	80.8	E	5.1	1.3	------	Cu.	.5	≡° a. ●° p.
23	58.97	27	31.9	22.7	81.5	NE	6.2	3.5	Ci.	Cu. ENE	2.8	● a.
24	59.02	27.1	31.1	23	82	E quad.	7.7	3.5	------	Cu. NE	1.6	● d a.
25	59.14	27.5	32	21.5	76.8	NE	14.7	5	Ci.	Cu.-N. NE	16.5	d a. ● d p.
26	59.01	26.4	29.4	23	83.8	NE	16.2	7.5	------	Fr.-N. ENE	26.7	d ● a. d p.
27	59.58	24.5	26.1	22.6	92.1	NE	10.1	9.5	Ci.-S.	Fr.-N. NE	18.1	d ● a, d p.
28	59.75	24.7	25.9	23	89.5	NE	12.3	10	Ci.-S.	Fr.-N. NE	42.5	● d a. p. ⌣ p.
29	59.87	26	29.7	24.4	86.4	NE	10.9	6.2	Ci., Ci.-S.	Cu.-N. ENE	22.8	● a. ● d p.
30	60.18	25.2	26.3	23.9	88.2	NE	15.9	9.5	Ci.-S.	Fr.-N. ENE	19.3	d ● a. ● p.
Mean	758.01	26.5	30.6	23.2	85	------	10.1	5.8	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	566.1	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4 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.	Rain.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		Km. p. h.	0-10.			mm.	
1	759.43	26.9	31.3	23	83.5	N	8.1	6.3	Ci. NE, E	S.-Cu. NE	8.4	ϖ Ω a. d p.
2	59.10	27.6	31	25.2	81.8	N, NE	11.2	6.7	A.-Cu. NE	S.-Cu. NE	19.5	● ⌒² d a. p p.
3	58.47	26.5	29	23.5	88.2	NE	------	8.8	A.-Cu. NE	N. NE	37.1	● d a. ● p.
4	57.95	27.5	30.3	24.9	83.5	N quad.	15.2	8	Ci.	S.-Cu. NE	1.3	d° ä. p.
5	57.54	27.6	29.9	24.8	80.3	NE	15.8	8	Ci.	S.-Cu. NE	15.5	d a. ● d p.
6	56.20	26.1	28.2	24	88.7	NE quad.	18.3	10	Ci.-S.	N. NE	27.1	● a. p.
7	54.57	25.9	26.8	24.9	87.2	SE, ENE	15.8	10	Ci -S.	N., S.-Cu. NE, ENE	15.5	d² a. p.
8	56.68	26.8	31.7	24.4	83	SE, S	7.7	9.3	Ci.-Cu. S	S.-Cu. SE, S	.8	● a. d. ∞ ⌒ ⚡° p.
9	58.55	26	31.2	23.7	90.3	Variable	6.1	8	Ci. SE	S.-Cu. SE, S	3.6	⚡ d a. p. ⌈⚡ p.
10	59.72	26.3	29.2	23.6	89.2	NW, NE	9	7	Ci.-Cu. E	S.-Cu. NE, SE	------	● d ∞ a. d p.
11	60.20	27.2	31	24.5	85.8	NE	9	5.3	A.-Cu. NE	S.-Cu. NE	1.3	⌈⚡ d ⚡ p.
12	60.42	27	29.8	25	84.8	NE	15.8	6.5	Ci.-Cu. ENE	N. S.-Cu. NE	32.8	⌒² a. ●° a. p.
13	60.12	26.2	29.4	24	87	N	14.5	8.8	Variable	N. NNE, NE	4.1	●² d a. d p.
14	56.87	25.7	26.9	23.6	89.8	N	16.8	10	Ci.-S.	N. N	91.1	● a. p.
15	51.83	25.7	26.8	24.5	91.2	NNE, SE	13.2	9	Ci.-S.	N. NE	6.4	d ● a. d ⚡° p.
16	54.16	27.2	30.7	25.1	80.2	S, SE	13	8.7	A.-Cu. S	S.-Cu. S	------	
17	55.46	26.9	31	25.1	82.2	S	9.4	9.2	A.-Cu. SbyE, S	S.-Cu. S	------	⌒° d° a. d p.
18	56.15	26.5	30.6	24.2	83.5	S	5.8	8	A.-Cu. SE, S	S.-Cu. S	1	d° a. d ⚡ p.
19	56.47	26.2	31.7	22.9	83.9	SW	------	4.3	Ci.-Cu. SEbyS	Cu. SSW, SW	------	d Ω² ≡ a. ϖ° ⚡ p.
20	57.07	26.2	31.4	22.3	86	SW	6.3	2.7	Ci.	Cu. SE, S	------	Ω² ≡ a. ϖ° p.
21	58.47	26.1	30.7	22.6	89	SW	5.7	4.2	A.-Cu. S	Cu. S	------	Ω² a. ⚡ ϖ p.
22	58.97	26.4	32.4	22.7	89	SW	6.6	2.2	Ci.	Cu., Cu.-N. SE	------	Ω²≡°a. ⌈⚡ϖ² ⚡°p.
23	59.02	26.7	30.4	22.9	86	Variable	10.2	3.5	Ci.	Cu. SE, NE	------	⌣° p.
24	59.22	26.8	28.9	25.1	86.3	NNW, NE	15.2	6.8	Variable NE	S.-Cu. NE	29.2	●° a. ⌈⚡° d ϖ² p.
25	59.82	25.9	27.5	23.4	86.7	NE	------	9.5	Variable	N. NE	29.2	● a. d ϖ° p.
26	59.91	24.7	26	23.5	91.7	NE	21.9	9.3	Ci.	N. NE	56.4	● d p. ϖ° p.
27	59.80	24.8	26.4	22.4	91.3	NE	20.9	9.8	Ci., Ci.-Cu.	N. NE	21	● d a. ● ϖ² p.
28	59.86	25.2	28.4	23.4	91.2	N, NE	14.6	10	Ci.-S.	S.-Cu. NE	26.4	d a. ●² p. ϖ a. p.
29	60.26	25.9	29.1	24.8	87.9	NE	20.6	9	Ci.-Cu. ENE	S.-Cu. NE	7.6	⌒ ●° a. ● ϖ² p.
30	60.79	26.6	28.3	24.4	82.2	NE	28.2	10	A.-Cu. NE	S.-Cu. NE	.3	●° a.
Mean	758.10	26.4	29.5	23.9	86.4	------	13.1	7.6	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	435.6	

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.			Rain, 24 hours beginning 6 a. m.	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	759.33	27.2	32.9	22.5	83.2	NNE	1.5	7.8	Ci., Ci.-S.	Cu. E	0.1	Ω a. ●° ⌒² p.
2	58.95	27	33.4	22	80	NE quad.	1.3	5.7	Ci.	Cu. E	------	Ω a.
3	58.76	26.8	33.5	21.8	83.8	NNE, WbyN	1.1	5.2	Ci.	Cu. NE	------	Ω² a.
4	58.11	26.9	33.3	23.1	80.8	NNE	1.3	5.7	Ci.	Cu. NEbyE	------	Ω a. d° p.
5	57.91	25.9	33.8	21.4	78.5	NNE	1.2	7.2	Ci.	Cu. NEbyE	------	Ω² a.
6	56.92	26.7	32.9	22.2	74.2	NE quad.	1.8	9	Ci.-S.	Cu. NEbyE	12.7	Ω ◯° a. d° p° p.
7	52.99	25	27.3	22.7	85.9	NNE	3.8	10	Ci.-S.	N.	48.8	● ↙ a. ↙ ●² p.
8	55.32	27	31.3	24.5	81.7	NE quad.	2.3	9.2	Ci.-S.	Cu.-N. SSE	------	●° d° a.
9	58.12	26.5	31	24.5	88	NNE, NE	1.6	8.2	Ci.-S.	Cu., Cu.-N.	6.8	d ⛈ p.
10	59.66	26	29.3	23.8	88.2	NE quad.	1.3	7.5	Ci.-S.	Cu.-N. SE	------	d° a. p.
11	60.21	26	33.1	22.8	84.5	NNE, E	1.3	6.5	Ci.-S.	Cu., Cu.-N EbyN	------	Ω ⌒ ◯ a. ⚡ p. ⛈
12	60.37	26.4	32.4	22.3	76.6	NNE	1.3	2.3	A.-Cu., Ci.	Cu.	------	Ω a.
13	60.16	26	33	21.2	80.8	N, NNE	1.2	6.3	A.-Cu. ESE	Cu. NEbyE	------	Ω ≡° a.
14	57.72	25.9	32.2	21.6	86	NE quad.	1.2	9.5	Ci.-S. EbyS	Cu. NNE	4.9	Ω ≡° ◯° a. d p.
15	52.56	24.8	25.9	22.7	91	N quad.	1.6	10	Ci.-S.	Cu.-N. NEbyE	16	⛈ p p. ●° a. p.
16	53.16	26.9	30.3	24.5	85.7	ENE	2	9.3	A.-Cu.	Cu.-N. SSE	8.1	d a. ●° a. p.
17	54.62	27	31.7	24.7	84.2	E, ENE	2.2	9.3	A.-Cu.	Cu.-N. S	14.4	p. p. d a. p.
18	55.98	25.8	30.8	23.6	89	NNE	1.5	9.8	A.-Cu., Ci.-S.	Cu.-N. S	12.4	p. ≡ p. d a. p.
19	56.40	25.8	30.4	22.7	87.8	NNE	1.2	6.8	Ci.-S.	Cu., Cu.-N. S	1.5	≡° a. p.
20	56.73	26.2	32.6	23.1	84.3	NE quad.	1.4	6.3	Ci., A.-Cu.	Cu. S	2.8	●° a. p p. ≡° a. p.
21	58.17	26.2	31.3	22	87.2	NNE, SSW	1.2	6.2	Ci.-S.	Cu.-N. S	------	Ω ⛈ ◯° a. ≡ a. p.
22	58.97	26.6	31.2	23.5	87.8	NNE, SW	1.2	4.5	Ci.-S.	Cu., Cu.-N. S	------	⌒ a. ⛈ p. Ω ≡°
23	58.97	26.6	32.7	22.4	84.3	NNE	1.3	5	Ci.-S.	Cu. EbyN	------	Ω² a. ⚡² p. ≡° a. p.
24	58.88	27.4	33	23.6	78.3	NE quad.	1.4	5.3	Ci., Ci.-S.	Cu. EbyN	------	Ω² a. ⚡ ⛈ p. ≡°
25	59.34	25.5	31.3	21.9	79.8	NNE, NE	1.2	5.3	Ci.-S., A.-Cu.	Cu. NEbyE	.8	Ω ≡° a. d a. p.
26	59.47	24.9	29.7	21.6	76	NNE, NE	1.5	6.7	A.-Cu.	Cu.-N. ENE	------	Ω a. d° p.
27	59.44	26.2	32.3	21.3	72	NE	1.3	7.3	A.-Cu.	Cu.	------	≡° a. p.
28	59.93	25.1	29.1	23.3	83.7	NE quad.	1.3	9.5	A.-Cu., Ci-S.	Cu.-N. ENE	1.4	d² a. ψ p.
29	59.95	26	30.6	22.5	80.5	NNE	1.5	8.8	A.-Cu., Ci-S.	Cu. ENE	------	d° ⚡ ≡ p.
30	60.15	26.4	31.3	23.5	63.8	NE	2	5	A.-Cu.	Cu.	------	
Mean	757.91	26.2	31.5	22.8	82.3	------------	1.5	7.2	----------------	----------------	------	
Total	--------	------	------	------	------	------------	--------	--------	----------------	----------------	130.7	

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.	Rain.	Miscellaneous.
	mm.	°C.	°C.	°C.	P. ct.		0-12.	0-10.			mm.	
1	759.73	------	------	------	------	ENE	0.8	5.7	A.-Cu. SE	Cu. E	2.8	ϖ² Ω a. ●° p.
2	59.24	------	------	------	------	ESE, ENE	.8	4.3	Ci. SE	Cu. E	------	Ω ≡ a.
3	58.79	------	------	------	------	ENE	.9	5.3	A.-Cu. E	Cu., S.-Cu.	------	Ω a.
4	58.25	------	------	------	------	ESE	.8	6	Ci. SE	Cu. NE	.5	≡ a. d° p.
5	58.02	------	------	------	------	Variable	.8	5	Ci. SE, S	N., Fr.-Cu. NE	------	Ω a.
6	57.22	------	------	------	------	NE quad.	2.6	7.8	Ci.-S. SE	Cu. NE	4.1	Ω a ●° p.
7	54.60	------	------	------	------	NE quad.	2.3	10	A.-S.	N. E quad.	38.3	●² a. p.
8	55.93	------	------	------	------	SE	.8	9.2	Ci.-S.	N. SE	3.8	●° p.
9	58.26	------	------	------	------	Variable	.5	7.3	Ci.-S. ESE	N. SE	4.3	Ω ≡ a. ⚡ d² p.
10	59.82	------	------	------	------	NE	.5	7.5	Ci.-S., Ci.	N. E	3.8	● a. ⚡ p.
11	60.44	------	------	------	------	E quad.	.8	6.8	A.-Cu. SE	S.-Cu. E	3.6	●° a. ⚡ p.
12	60.58	------	------	------	------	NE	.9	4.2	Ci.	S.-Cu.	------	Ω a. p.
13	60.29	------	------	------	------	NE, ESE	.9	5.5	Ci. SE	S.-Cu. E	------	Ω a.
14	57.73	------	------	------	------	NW	.8	7.8	Ci.-S. SE	N., S.-Cu.	------	Ω ◯ a. ⊕ d° p.
15	52.71	------	------	------	------	N quad.	2.8	10	A.-S.	N. NE	11.2	d° ● a. p.
16	53.59	------	------	------	------	Variable	.7	7.3	A.-Cu. SW, S	S.-Cu. SSE, SE	17	● ⚡ ⌒ p.
17	54.89	------	------	------	------	S quad.	1.6	7	Ci.-S.	Cu. S	6.9	Ω a. ⛈ ⚡ ● p.
18	56.06	------	------	------	------	S quad.	.7	7.8	A.-Cu. SW, SE	S.-Cu. S	------	⊕ ⚡ p.
19	56.59	------	------	------	------	SSW	.8	4.5	Ci. SE	S.-Cu. S	------	Ω a. p.
20	56.76	------	------	------	------	S quad.	.9	3	Ci. SE	S.-Cu., Cu.-N.	------	Ω a p. ⚡ p.
21	58.16	------	------	------	------	S quad.	.9	3.8	Ci., Ci.-S.	Cu.-N. SSW	------	Ω a. ⚡ ⊤ p.
22	58.88	------	------	------	------	S quad.	.8	4.2	Ci. SE	S.-Cu.	------	Ω a. ⚡ p.
23	59.02	------	------	------	------	NW	1.1	6.5	Ci.	Cu.-N. ENE, NE	2.3	≡ Ω ⚡ ⊤ ● ϖ
24	59.17	------	------	------	------	NW quad.	1.1	5.8	Ci.	Cu.-N. NNE, ENE	------	Ω ≡ a. ⚡ p.
25	59.53	------	------	------	------	Variable	1.4	5.2	A.-Cu. SE	Cu. ENE	1.8	Ω a. ●° ϖ p.
26	59.88	------	------	------	------	NE quad.	.9	7	A.-Cu. ESE	Cu. Variable	.5	Ω a. d ⊕ ϖ p.
27	59.80	------	------	------	------	Variable	1.3	6.8	A.-Cu. E	S.-Cu. E quad.	------	Ω a. ϖ p.
28	60.08	------	------	------	------	Variable	.7	9.3	Variable	N. E	3.3	d a. p.
29	60.29	------	------	------	------	NE quad.	.7	9.7	Ci.-S. SE	N. E	7.1	d° a. ● p.
30	60.81	------	------	------	------	SSW, NNW	.9	4.8	Ci. SE	Cu. E	------	ψ ϖ a. Ω a. p.
Mean	758.17	------	------	------	------	------------	1	6.5	----------------	----------------	------	
Total	--------	------	------	------	------	------------	--------	--------	----------------	----------------	111.3	

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.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	759.35	27.8	34.4	23.5	78.3	SE	11.7	6	Ci.	S.-Cu.	------	⊍ p.
2	59.08	27.5	33.8	22.8	80.2	Variable	8.3	4.2	Ci.-S.	Cu.	------	⊕ a.
3	58.88	27.3	32.5	23.4	85	NW quad.	7	4.3	Ci.-S.	S.-Cu.	------	⊕° a.
4	58.07	27.6	33.4	24.3	83.5	Variable	7	3.7	Ci.	S.-Cu. E	------	
5	57.96	27.4	33.8	23	83	SE, N	7.3	3.8	Ci.-S.	S.-Cu. ENE	------	
6	57.28	27.6	33.8	23.4	85.5	N, SE	5.9	7.5	Ci.-S.	S.-Cu. E	.3	
7	54.90	24.6	27.1	23.1	95	S, SE	8.4	10	------	N. SE	16	d ⌒ a. d ● p.
8	54.96	26.8	31.8	23.2	86	SE	25.3	9.8	Ci.-S.	S.-Cu. SE	2.6	d ⊕ ⌒ a. ● ⌒ p.
9	57.96	27.6	33.6	24.5	86.3	SE	11.8	8.5	Ci.-S., Ci.	S.-Cu. SE	------	ϟ² ⊤ d° p.
10	59.74	26.7	31.6	24	90.3	SE	8.2	7.3	A.-Cu.	S.-Cu. SE	------	ϟ p.
11	60.22	27	33.7	23.6	89.2	SSE, SE	8.3	6.5	A.-Cu. E	S.-Cu. SSE	2	ϟ ⊤ p p.
12	60.54	26.8	32.3	22.4	85.2	Variable	6.6	.7	Ci.	S.-Cu., Cu.	------	
13	60.38	26.6	32.2	21.9	84.5	Variable	6	2.2	A.-Cu., Ci.	S.-Cu.	------	
14	57.72	26.6	31.4	22.7	90	Variable	6.2	9.7	A.-Cu.	S.-Cu. SE	.3	
15	52.77	26.2	28.5	24.2	89.7	NW	9	10	A.-Cu.	S.-Cu. E	3	d a. p.
16	52.90	27.2	32.7	24	86.6	SE	16.7	9.2	A.-Cu.	S.-Cu. SE	5.8	d a. ϟ p p.
17	54.18	27	32.8	24.1	85.9	SE	19.5	8.8	A.-Cu.	S.-Cu. SE, S	.5	d ϟ p.
18	55.60	26.4	31.1	23.3	89	SE	14.6	8.3	A.-Cu.	S.-Cu. S	11.9	ϟ p p.
19	56.10	26	32.4	21.5	86.3	SE	12.5	5.3	A.-Cu., Ci.	S.-Cu. SE	------	≡° a. ⊕ p.
20	56.46	26.3	32.6	22.4	86.5	SE	11.2	3.8	A.-Cu.	S.-Cu. SE, S	------	⊕ p.
21	57.65	26.9	32.9	22.7	85	SE	11.8	4.2	A.-Cu.	S.-Cu. SE	------	⌒ a. ϟ ⊕ p.
22	58.70	26.3	32.4	22.8	91.8	SE, S	7.4	5.5	Ci.	S.-Cu. SE	.8	ϟ a. [ϟ d° ≡° ⊕ p.
23	59.16	26.7	30.5	23.9	90.5	NW	11.9	6.3	Ci.	S.-Cu. NW	1.3	≡° p° a. ⊕ ϟ p.
24	59.31	26.9	30.2	24	90.5	N, NW	13.3	7.2	Ci.	S.-Cu. NW	------	⊤° ϟ ⊕ p.
25	59.42	26.1	32.3	22.2	86.9	S, N	8.1	1.7	Ci.-S.	S.-Cu.	------	Ω a.
26	59.48	26.2	33	21.4	79.7	S quad.	7.7	5	A.-Cu.	S.-Cu. S	------	
27	59.64	26.4	33.6	21	82	S	6.9	5.2	A.-Cu.	S.-Cu.	------	
28	59.66	26.4	32.6	22.9	86.5	SSE, S	7.6	9.5	A.-Cu.	S.-Cu. NE	------	d° p.
29	60.10	26.4	32.7	23	88	Variable	8.8	9.2	A.-Cu.	S.-Cu. SE, E	------	⊕ ⌒ p.
30	60.55	26.5	33.4	22.7	78.8	Variable	10.7	1	Ci.-S.	S.-Cu., Cu.	------	⊕ p.
Mean	757.96	26.7	32.3	23.1	86.2	------	10.2	6.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	44.5	

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 8.5 meters; gravity correction not applied, —1.65 mm.]

Day.	Pressure (mean).	Temp. mean.	Maximum.	Minimum.	Relative humidity (mean).	Wind, prevailing direction.	Force (mean).	Cloud amount (mean).	Upper.	Lower.	Rain.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*P. ct.*		*0–12.*	*0–10.*			*mm.*	
1	759.20	27.2	31.6	24.3	78.8	SE quad.	2.7	10	Ci.-S.	Cu.-N., Cu.	28.2	⊍² ≡° Ω a. [ϟ² p.
2	58.98	26.9	30.8	23	81.2	Variable	2.2	6.2	Ci.-S.	S.-Cu., Cu.	------	≡° Ω a.
3	58.74	26.9	30.7	23.3	81.5	N quad.	1.5	6.2	Ci.-S.	Cu., S.-Cu.	------	≡° Ω² a.
4	57.92	26.9	30.6	22.9	80.2	Variable	2	5.5	Ci.	Cu.	------	≡° Ω² a.
5	57.81	27.3	30.7	23.5	79	Variable	1.5	5.5	Ci.-S.	Cu., S.-Cu.	------	≡° Ω² a.
6	57.07	27.8	30.1	24.9	80	NNE	1.8	10	Ci.-S.	Cu.	.8	≡° a. d p.
7	54.74	26.4	29.3	24.7	87	SE	1.2	10	------	Cu.-N.	3.6	●° a. p.
8	54.36	27.5	31.4	24.7	79.8	SE	4.5	10	Ci.-S.	Cu.-N.	.8	↙° a. ●° ⌒² p.
9	57.76	27.6	31.9	24.4	81.5	SE quad.	2.7	9.8	Ci.-S.	Cu.-N.	25.1	≡° a. [ϟ ●° ϟ p.
10	59.52	26.2	29.9	23.1	87.5	E quad.	1.5	9.7	Ci.-S.	Cu.-N.	1	≡° Ω a. d ⌒ ϟ p.
11	60.10	27.4	30.9	24.4	82.8	SE quad.	2	9.8	Ci.-S.	Cu.-N.	------	●° ≡° Ω a. d ⊤ p.
12	60.41	26.5	30.2	23.5	82.9	SSE, NNE	2	6.3	Ci.-S.	Cu.	------	Ω² ≡° a.
13	60.27	26.1	29.9	22.8	82	S, SSE	1.7	6.8	Ci.-S.	Cu.	------	Ω² ≡° a.
14	57.64	26.9	29.9	23.5	81.2	S, NNE	2.3	10	Ci.-S.	Cu.-N.	------	Ω ≡°
15	52.98	27.4	28.5	26.5	83.2	NE quad.	4.7	10	------	Cu.-N.	.3	d a. p. ●° p.
16	52.79	27.8	31.2	25.5	80.8	SE	3.3	10	Ci.-S.	Cu.-N.	------	≡° d a. ϟ p.
17	53.62	27.2	31	25.2	80.8	SE	4.3	10	Ci.-S.	Cu.-N.	9.2	● ϟ p.
18	55.18	26.4	29.8	23.9	83.8	SE quad.	2.7	10	Ci.-S.	Cu.-N.	.3	● ⌒ a. [ϟ ●° ϟ p.
19	55.80	25.6	29	23.7	85.1	SE quad.	2.2	8.8	Ci.-S.	S.-Cu.	1.8	≡° a. ●° p.
20	56.20	25.4	28.1	23.7	87.3	S quad.	1.8	9.2	Ci.-S.	S.-Cu.	2.3	≡° Ω a. ● p.
21	57.41	26.6	31	23.8	81.8	S quad.	2.8	9.3	Ci.-S.	Cu.-N.	------	≡° Ω d° a.
22	58.56	26.9	31.9	22.9	80.8	SSE, SSW	2	8.2	Ci.-S.	Cu.-N.	------	≡ Ω² a. ⊍° ϟ p.
23	59.19	26.8	29.9	23.7	81.8	N quad.	2.2	9.8	Ci.-S.	Cu.-N.	------	≡° Ω a. ⊍° p.
24	59.23	27.2	29.7	25.6	80.5	NNE	3.2	9.7	Ci.-S., Ci.	Cu. NE	------	≡° a.
25	59.28	26.4	29.6	22.7	79.7	NNE	2.7	5.5	Ci.-S.	S.-Cu., Cu.-N.	------	≡ Ω² a.
26	59.37	25.9	29.5	22	78.8	Variable	1.7	4.3	Ci.-S., A.-Cu.	Variable	------	≡ Ω² a.
27	59.50	26	30.8	21.8	78.5	SE, NNE	1.8	5.8	Ci.-S.	Variable	------	≡ Ω² a.
28	59.53	26.4	30.6	22.9	80.6	Variable	1.5	10	Ci.-S.	Cu.-N.	------	≡ Ω² a. d° p.
29	59.94	26.9	30.7	23.6	81.5	SE	1.5	9.7	A.-Cu.	Cu.-N.	------	≡° Ω° a. [ϟ p.
30	60.40	26.5	30.7	22.5	78.7	SE quad.	1.8	6	A.-Cu., Ci.-S.	S.-Cu.	------	≡ Ω² a.
Mean	757.78	26.8	30.3	23.8	81.6	------	2.3	8.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	73.4	

METEOROLOGICAL DATA, ETC.—Continued.

BAGUIO.

[ϕ=16° 25′ N; λ=120° 36′ E; barometer above sea, 1512.5 meters; gravity correction not applied, —1.65 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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*Km. p. h.*	*0-10.*			*mm.*	
1	637.31	18	23	15.3	91.5	E	17.2	8	Ci. SE	Fr.-N. E, NE	1.5	Ω a. ≡ ● p.
2	37.05	18.3	22.9	14.7	85	E, SE	12	8.5	Ci. NE	Fr.-Cu. SSW, NE	------	Ω a. ≡° p.
3	36.89	18.8	23.2	15.9	81.2	E, WSW	11.4	6.5	Ci.	Fr.-Cu. NE	------	Ω ≡° a. ≡ p.
4	36.52	18.5	------	15.1	87	Variable	8.2	6.5	Ci.	S.-Cu. ENE	------	Ω ≡° a. ≡ p.
5	36.23	18.2	------	14.6	92	Variable	7.5	7.8	Ci.	S.-Cu. NE	------	Ω² a. ≡ p.
6	35.72	18.4	24.2	15.2	78.2	E	19.2	8	Ci.-S.	Cu. ENE	2.3	Ω a.
7	33.10	16.4	18.1	15	93.2	E	52.8	10	A.-S.	Fr.-N., N. E	24.4	● ↙° a. p. ⊕
8	33.48	18	21.9	16.4	90.8	E	49.2	9	Ci.-Cu. SSW	S.-cf. SE	------	↙° a. p.
9	36.22	18.7	------	16.4	91.3	ESE	17.4	9.8	Ci.-S., Ci.	S.-Cu. SSE	2.8	⊕ a. ● ⛈ ≡ p.
10	37.49	17.7	22.3	16.2	93.8	E	15.1	9	A.-Cu.	S.-Cu. SEbyS	------	d ≡ p.
11	37.93	18	------	15.2	90.5	SE quad.	12.7	7	A.-Cu.	Fr.-N. E	------	d T° ≡ p.
12	38.18	18	------	15	84.7	Variable	9.3	2.2	Ci.	Cu.	------	Ω² a.
13	38.06	17.8	23.5	14.4	84.8	W	9.5	6	Ci.	Cu., Fr.-N.	------	Ω a. ≡° p.
14	35.96	18.9	------	15.6	78.3	E	8.7	8.5	Ci.-S. SE	S.-Cu., Cu. NE	1	Ω a. ≡° p.
15	32.10	18.2	22.1	16.4	82.3	E	20.3	10	Ci.-S., A.-S.	S.-Cu. ENE	6.6	●° a. p.
16	32.05	18.2	22	16.5	96	ESE	24.2	9.5	Ci.-S. NE	Fr.-N. SE	7.6	≡ d a. ● ≡° p.
17	33.07	17.6	21.6	16	91.3	E	24.9	8.8	A.-Cu. SbyW	Cu., Fr.-N. SSE	3.6	●° ⛈ p.
18	33.98	17.4	20	15.6	96.2	E, S	17.5	9 8	A.-Cu. SW	Fr.-N. S	.3	d ⛈ p.
19	34.38	17.1	22.5	14.5	82.3	SE quad.	17.7	4.2	A.-Cu. SW	Cu. S	------	Ω a.
20	34.60	17.2	23.8	14	82.2	SE quad.	18.3	5.8	A.-Cu. SSW	Cu. SSE	------	Ω a. ≡ p.
21	35.84	17.3	22.4	15	87.5	S, SE	18.6	3.8	A.-Cu. S	Fr.-Cu. S	------	Ω a.
22	36.68	18	------	15.6	91.6	SE	12.5	7	Ci.	S.-Cu. SSW	------	Ω² ≡° a. ≡ T° p.
23	36.94	18.3	------	15.9	93.5	Variable	7.1	7.5	Ci.	Cu. S	------	Ω² a. ≡ p.
24	37.06	17.6	23.2	14.9	93.7	Variable	10.9	7.8	Ci.	S.-Cu. NE	31.2	≡° Ω² a. ⛈° ●² p.
25	37.03	17.2	------	14	81	E	17.4	3.5	A.-Cu. S	Cu. E	------	
26	36.93	16.8	22.7	13.5	78.2	ESE	19.9	4	A.-Cu. SSW	Cu.	------	
27	37.30	18	24	14.7	66.5	E	18.2	4.5	Ci.-Cu. SEbyE	Cu.	------	
28	37.42	17.7	21.4	15.6	77.8	E	14.6	9.5	Ci.-S.	S.-Cu., Cu.	------	
29	37.59	17.2	22.3	14.6	82.8	E	15.2	9.2	A.-Cu.	S.-Cu. NE	------	≡ p.
30	37.94	16.5	22.1	13.6	76.2	E	21.7	1.2	Ci.	Cu.	------	≡ p.
Mean	636.04	17.8	22.3	15.2	86		17.6	7.1				
Total											81.3	

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.	Rain, 24 hours beginning 6 a.m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*0-12.*	*0-10.*			*mm.*	
1	759.49	27.8	32	24.2	75.1	Variable	1	1.3	Ci.	Cu.	------	≡° a. Φ p.
2	59.27	27	31.9	23	80.8	Variable	.8	0	Ci.	Cu.	------	Ω ≡° a.
3	58.93	27	31.5	23.3	83.8	NW quad.	.7	2.3	Ci., A.-Cu.	Cu. NE	------	Φ Ω² ≡° a.
4	58.11	27.8	32.9	23	77.8	NNW	.7	0	Ci.	Cu.	------	Ω ≡° a.
5	58.04	27.9	32.5	24	70.3	N quad.	1.5	2.2	Ci., A.-Cu.	Cu.	------	Φ ≡° a.
6	57.49	28.6	34.3	24.1	63.6	NE	2.3	2.7	Ci.-S.	S.-Cu.	------	Φ a.
7	55.15	27.5	30.6	26	67.9	NNE	2.3	9.5	Ci.-S.	S.-Cu.	------	d p.
8	54.67	30.2	35.6	26.5	65.2	ENE	1.7	8.3	Ci.-S.	S.-Cu.	------	d° a. ϟ° p.
9	58.14	27.6	32	25.6	86.2	Variable	.7	9.5	Ci.-S.	Cu.-N. NWbyN	.3	d a. p.
10	59.96	26.4	31.3	24	86.9	Variable	.8	5.7	Ci.-S.	Cu.-N. N	------	d° ⛈ p.
11	60.38	26	31.9	22.6	85.8	SE quad.	.8	3.2	Ci.-S.	Cu.	8.1	⛈ ● p.
12	60.63	26.9	32	22.4	80.2	Variable	.8	0	Ci.	Cu.	------	
13	60.43	27.6	32.7	22.4	68.2	Variable	.7	0	Ci., Ci.-S.	Cu.	------	≡° a.
14	58.13	26.8	30.9	24	69	N, NNE	1.5	6.3	Ci.-S.	Cu., S.-Cu.	------	
15	54.14	25.4	29	23.4	82	NE quad.	2.8	9	Ci.-S.	N.	.5	d a. p. ⌒ a.
16	53.20	26.8	31	24	83.5	Variable	1.2	8.8	Ci.-S., A.-Cu.	Variable	25.5	● ⛈° p.
17	53.98	27	31.7	23.5	83	Variable	.7	2.3	Ci.-S.	Cu.	------	Φ ϟ° p.
18	55.54	26.6	30.3	23.2	87	N	1	8	Ci.-S., A.-Cu.	Cu.	9.9	⛈ ● p.
19	56.24	26.1	30	22.6	[1] 84.2	N quad.	.8	3.5	Ci.-S.	Cu.	------	≡° a. d p.
20	56.60	25.9	31	22.2	85.5	Variable	1	3.8	Ci.-S.	S.-Cu.	------	≡° a. d Φ p.
21	57.67	26.7	31.3	23	82.7	Variable	.8	3.8	Ci.-S., A.-Cu.	Cu., S.-Cu.	------	≡° a. d Φ p.
22	58.79	27	30.4	24	83.3	SW quad.	1.2	4	Ci.-S., A.-Cu.	Cu. SSW	------	d ϟ° p.
23	59.62	26	29.5	23.6	87.2	Variable	1.2	6.2	Ci.	Cu.-N., Cu.	------	d a. ϟ° p.
24	59.62	25.8	29.8	22.4	83.8	N	1.5	.5	Ci.	Cu.	------	≡° a. ϟ° p.
25	60.05	26.4	31.3	22	82.6	NE quad.	1.5	0	Ci.,A.-Cu.	Cu. ENE	------	
26	59.80	27.8	31.9	24	48.4	NE quad.	1.3	0	Ci.	Cu.	------	Φ p.
27	59.94	26.7	31.7	22.6	65.1	N quad.	1	.7	A.-Cu., Ci.	Cu.	------	≡° a. Φ p.
28	59.81	26.3	31.3	22.4	79.2	Variable	.8	2.5	Ci.-S.	Cu., S.-Cu.	------	≡° a. Φ p.
29	60.09	26.9	30.5	24.4	70.5	NE	1.3	6.7	Ci.-S., A.-Cu.	S.-Cu.	------	d a. Φ p.
30	60.56	27.8	32.9	24.3	55	NE	1.3	0	A.-Cu.	Cu.	------	
Mean	758.15	27	31.5	23.6	76.1		1.2	3.7				
Total											44.3	

[1] From five observations.

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*0-12.*	*0-10.*			*mm.*	
1	760.56	26.5	33.4	23	84.5	SE	0.3	6.5	Ci.	Cu., Cu.-N. E, SE	------	Ω² a.
2	59.99	26.3	33	22	82.7	NW	.5	4.7	Ci.	Cu. SE, NE	------	Ω² ≡ a.
3	59.63	26.6	32.5	21.5	81.7	NW	.3	5.2	Ci.-Cu.	Cu.-N., Cu. E	------	Ω² a.
4	59.05	26.9	33.2	22.3	79.8	NW	.5	5.3	------	Cu.-N. ENE	------	Ω² a. d p.
5	59.20	26.2	31.5	22.2	84.7	NW	.7	6.3	Ci.	Cu.-N., Cu. NE	------	d p.
6	59.30	26.5	32.3	22.6	86.3	NW	.5	8	Ci.-S.	Cu.-N. ESE	13.5	⌓ a. d p.
7	58.16	24.4	25.8	23.1	95.5	NW	.2	9.7	------	N.	55.3	● a. p. d a.
8	57.50	26.2	31.9	22.6	90.5	NW	.2	8.8	Ci.-S.	Cu.-N. E	26.4	● a. p. ⛈° ⚡ p.
9	58.50	27.6	33.8	23.5	84.8	SW	.2	8.5	Ci.-Cu.	Cu.-N.	------	● a.
10	60.06	27	32	23.6	86.7	SE	.2	6.2	Ci.	Cu.-N. SE	------	d a.
11	61.02	26.9	32.7	23.5	85	S, W	.3	6.2	------	Cu.-N. SE	------	d° a.
12	61.85	25.9	31.3	21.5	83.1	N, NW	.3	5.3	------	S.-Cu. NE	------	Ω² ≡ a.
13	61.71	25.5	31.5	20.6	83.4	NE	.7	6.3	Ci.-S.	Cu.,Cu.-N.NW,N	4.6	Ω² a. ∞ d p.
14	59.55	24.7	27.3	22	90.2	NE, NW	1.2	8.5	Ci.	Cu.-N. N	10.9	● a. d a. p.
15	55.68	24.5	25.4	23	92.4	NW	2.3	9.7	------	N. N	67.6	● d a. ●² p.
16	54.79	26.4	31.6	22.9	90.2	NW	.7	8.2	Ci.	Cu.-N. SE	11.4	● a p. d p.
17	55.34	26.1	31.1	23.5	88.2	SE	.8	7.3	Ci.-S.	N. SE	4.6	Ω ≡° a. ● d p.
18	55.70	26	34.	22.5	87.2	SW	.7	7.8	Ci., Ci.-S.	Variable	25.4	● a. p.
19	56.61	24.5	26.7	22.3	94.7	NW	.3	9.3	Ci.-S.	N. NW	24.1	● d a. ●² p.
20	57.24	24.6	30.7	22.2	89.7	Calm.	------	6.7	Ci.-S.	Cu.-N NE	------	
21	57.90	26.1	33.3	21.2	84	SE	.5	4.3	Ci.-S., Ci.-Cu.	Variable SE, S	------	⚡ Ω² ≡ a.
22	58.38	27.4	34.3	22.2	81.8	SE, N	.3	4	Ci.	S.-Cu. N	------	Ω² ≡° a. ○ p.
23	58.88	27.3	33.5	23.5	85.8	NW, N	.5	4.3	Ci., Ci.-S.	N.-cf. SW	------	Ω² ≡ a. ⌓ p.
24	60.22	26	31	22.7	83.5	NE	1.3	7	Ci.-Cu.	Cu.-N. SE	------	Ω² a. ⊤ d² p.
25	62.37	23.4	25.8	21.4	80.3	NE	2.3	7.8	------	S.-Cu. NE	------	
26	62.69	23.8	27.7	20.2	77.8	NE	1.3	8	Ci.-Cu., A.-Cu.	S.-Cu. NE quad	------	
27	62.23	24.2	28.7	20.6	84.2	NW	.3	6.3	Ci.	S.-Cu. SE, E	2	Ω a. ⌔ p.
28	61.89	24.4	28.2	21.3	90.1	SE	.2	9.3	------	Cu.-N. N, SE	37.8	● d a. p.
29	62.50	22.8	26	21.3	90.7	NW	.7	9.2	------	Cu.-N. N	19.1	●² a. ● d p.
30	63.27	23.5	27.1	20.4	85	NW	.5	8.8	Ci.-S.	Cu.-N. N	3.6	d a. ● d p.
Mean	759.39	25.6	30.6	22.2	86.2	------	.6	7.1	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	306.3	

APARRI.

[ϕ=18° 22′ N; λ=121° 34′ 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	760.92	26	31	22.8	81.8	Variable	6.1	1.8	A.-Cu.	Cu.,Cu.-N. SE, E	1	Ω a. ●° p.
2	60.48	26.3	29.4	22.6	81.5	ENE, S	7.4	0	------	------	------	Ω a.
3	60.14	26.2	30	22.9	84.5	NE	4.9	1.8	------	Cu.-N. E	------	Ω a.
4	59.79	26.4	29.9	23.2	84.8	NE	6.1	.2	------	Cu.-N.	------	Ω a.
5	60.03	26	29.8	23.1	84.5	NE, ENE	11	2.2	------	Cu.-N. E	16	Ω ≡° a. ● p.
6	60.20	25.2	29	22.1	88.8	ENE	20.7	9.5	------	N., Cu.-N. ENE	41.7	● ⌒ a.
7	58.72	25.3	27.5	22.5	89.3	ENE, SE	12.6	10	------	S.-Cu., N. E	27	● a. p.
8	57.83	25.5	29	23.1	87	Variable	7.3	9.2	A.-Cu. SE	S.-Cu. E	23.4	● a. p.
9	58.81	25.4	30.8	23	90.7	S	5.6	9.8	Ci.-S. W	S.-Cu., N.	3.3	● a.
10	60.37	26.6	31.9	23.8	84.7	NE, SE	------	4.5	Ci.-Cu. E	S.-Cu., Cu.-N.	------	
11	61.32	26.1	29.8	23.5	85	NE	3.7	2.3	Ci. E	Cu.-N. SE	18.5	Ω ● a. ⚡ p.
12	62.31	25.8	29	23	84.7	NE, E	6	3.3	------	S.-Cu., Cu.-N E	------	Ω a.
13	62.36	25.6	29	22.4	84.2	NE quad.	9.2	5	------	Cu.-N. E	5.1	●° p.
14	60.36	26.3	27.5	23.6	75.7	NE	------	9.7	------	Cu.-N. NE	6.9	●° a. p.
15	57.20	25.2	26.7	23.2	92.4	ENE	20.2	10	------	N. ENE	91.1	● a. p.
16	55.45	25.7	28.7	23.5	90	ENE	18.5	8.5	A.-Cu. S	S.-Cu. SE	1.8	● a. ⚡ p.
17	55.34	26	30.7	23.9	86.7	SE, E	6.4	7.3	A.-Cu. S	S.-Cu. S	2	Ω ≡° a. ● p.
18	55.91	26.1	32.5	23.2	85.2	SE	10.6	6.8	Ci. S	S.-Cu., Cu.-N S	110.6	● ⚡ p.
19	56.98	24.2	25.5	22.5	89.2	NE	21.6	10	------	N. NE	91.2	●² a. p.
20	57.62	24.7	26.5	22.4	89	NE	------	9.8	A.-Cu. S	N. NE	49.5	● a. p.
21	58.14	25.4	31.2	22	86.5	S	9.8	1	------	Cu. S	------	Ω a. ≡° a. p.
22	58.75	26.2	31	22.6	86.7	Variable	6.2	0	------	------	------	Ω a. ∞ ⚡ p.
23	59.38	26.6	29.5	24.4	85.2	NW quad.	9.1	2.8	A.-Cu. S	Cu.-N. S	------	Ω ≡° a. ⛈° p.
24	60.96	24.7	27.5	22	85.2	NE, NW	14	8.7	A.-Cu. E	N. NE	60	⛈° a. ● p.
25	63.42	23.9	25.4	21.6	75.2	NE	22.8	10	------	Cu.-N. NE	1.6	● a. p a. p.
26	63.27	24.4	26.9	21.6	73	NE	14.5	9	------	S.-Cu., Cu.-N E	------	●° p.
27	62.62	24.7	27.5	21.5	78.7	NE, ENE	11.8	5.5	A.-Cu.	S.-Cu. E	------	∞ p.
28	62.24	25	28.3	23.1	83.7	Variable	8	7.7	------	S.-Cu., Cu.-N. E	29.3	●° a. ● p.
29	63.07	23.4	25.4	21.6	90.2	Variable	3.4	10	------	S.-Cu. N. E	6.8	● a. ●° p.
30	63.79	23.8	26.4	21.4	83.5	ENE	12.8	10	------	S.-Cu. E	16.9	● a. p.
Mean	759.93	25.4	28.8	22.7	84.9	------	10.8	6.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	603.7	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.
[$\phi=6°\ 03'$ N; $\lambda=121°\ 00'$ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	23.1	88	76	8	7	------	
2	31.3	22.5	96	91	7	10	17.8	Ω ≡ a. ● p.
3	32.2	22.9	91	70	8	8	------	● a.
4	32.4	22.3	97	87	8	9	3.3	Ω² a. ● p.
5	30	22.6	95	81	9	10	14.2	● d p.
6	31.5	23.6	93	73	9	9	14	● p.
7	32	22.8	92	67	8	7	------	< p.
8	29.4	22.3	92	93	7	10	19	Ω a. ● a. p.
9	31.6	22.1	92	66	8	9	4.1	⊤ ● a.
10	28	23	92	88	9	10	27.4	Ω a. ● a. p. d² p.
11	29.5	22.1	97	87	9	10	31.2	Ω [< a. ● d p.
12	30.4	22.4	97	79	10	8	------	● a. d a. p.
13	31.3	22.1	96	81	9	9	7.6	Ω ≡ a. ● a. p.
14	29.9	22.4	97	88	9	10	17	● a. p. d p.
15	32	23.3	84	81	10	9	3.8	d² ● p.
16	31.6	23.5	94	74	8	8	1.5	● a. < p.
17	31.1	25.1	87	73	8	7	2.8	● a. < p.
18	30.4	22.5	91	75	9	9	5.3	Ω ≡ a. ● p.
19	30.8	21.7	95	69	9	9	------	Ω ≡ a.
20	29	21.1	94	81	7	10	6.1	Ω ● a. d p.
21	31.8	22.1	94	66	7	7	6.1	Ω a. ● p.
22	31.8	22.6	97	71	9	9	------	● a.
23	31.8	20.5	92	86	6	10	41.7	Ω d a. ● d p.
24	31.5	20.9	97	76	8	9	5.8	Ω a. ● ⌒ p.
25	31.6	21.8	94	70	8	6	2	Ω ● a.
26	31.2	21.6	96	71	7	6	2.5	Ω ● a.
27	30.5	21.1	96	73	8	9	17.5	Ω ≡ a. ● a. p.
28	31.3	21.1	97	68	8	7	------	Ω ≡ a.
29	32.9	22.1	97	43	7	9	------	Ω ≡ a. d p.
30	32.6	22.2	93	65	9	8	------	Ω ≡ a.
Mean	31.1	22.3	93.8	75.6	8.2	8.6	------	
Total	------	------	------	------	------	------	250.7	

ISABELA, BASILAN.
[$\phi=6°\ 22'$ N; $\lambda=121°\ 58'$ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	29.3	22.5	97	80	6	6	1.5	Ω ● a.
2	31.3	23.2	93	74	10	9	2	Ω a. p p.
3	30.3	23	96	73	10	6	------	d a.
4	29.8	23.2	97	75	10	9	3.8	Ω a. p p.
5	28.8	23	92	81	10	10	12.4	● a. d a. p.
6	28.3	22.5	94	92	10	10	14.7	● d a. p.
7	31.9	22.5	91	71	10	10	1.5	d p a.
8	31	22	97	87	10	10	16.5	Ω ● a. ↙° d p.
9	30.1	21.7	96	86	10	10	5.6	Ω a. ● d p.
10	30.9	22.5	96	92	10	10	4.6	d a. p. ● p.
11	28.8	22.7	96	79	10	10	22.9	Ω ●² a. d p.
12	30.3	22.5	100	75	10	10	------	Ω a.
13	29.9	23	98	78	10	10	2.5	Ω a. p p.
14	29.3	23	96	94	10	10	36.6	Ω p a. ↙° ● p.
15	29.8	23	92	88	10	10	2.3	p a. ● a. p.
16	31.1	22	97	68	5	9	------	Ω a. < p.
17	31.8	22.4	96	67	3	7	------	Ω a. < p.
18	29.1	22.5	91	79	3	10	------	≡° Ω a.
19	30.8	22.5	99	81	10	10	12.2	Ω a. ● ⌒ p.
20	30.3	21.5	97	74	4	9	------	Ω a.
21	30.8	22.3	97	82	10	10	3.8	Ω ⌒ a. p [< p.
22	32.3	22	96	73	3	8	------	≡° Ω a. ⊤ p.
23	30.8	21.4	96	71	1	9	------	≡° Ω a.
24	30.8	22.2	96	80	8	10	------	Ω a. < p.
25	30.3	21.5	91	88	10	10	.8	≡ Ω° a. p p.
26	32.7	21.5	96	69	10	5	------	Ω a.
27	29.8	21.5	96	96	6	10	34.5	Ω a. ●² ⊤ p.
28	30.6	21.8	98	84	10	10	------	d a. ⊤ p.
29	30.8	21.5	96	78	10	10	------	Ω a.
30	32.6	21.5	96	60	10	4	------	≡ Ω a.
Mean	30.5	22.3	95.6	79.2	8.3	9	------	
Total	------	------	------	------	------	------	178.1	

ZAMBOANGA.
[$\phi=6°\ 54'$ N; $\lambda=122°\ 05'$ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	23.4	89	83	6	8	8.6	Ω ≡ ● a.
2	31.1	23.2	95	83	9	8	8.9	⊖ Ω ≡° a. ● p.
3	30	21.8	88	77	7	7	------	Ω ≡ a. d° < p.
4	28.9	22.9	90	77	8	9	1.3	○ a. p. d° p.
5	27.5	24	89	89	9	10	2.3	●° a. p.
6	27.8	22.7	86	98	10	10	19.6	≡° a. p d p.
7	29.4	22.4	95	87	10	9	1	●° a. d p.
8	29.7	23.3	91	99	7	10	3.8	Ω ≡ ○ a. ↙° ● d
9	30.2	22.4	90	84	3	10	2.3	d° p.
10	30.5	23.2	97	92	10	10	2.3	●° ≡ a. ● p.
11	29	21.2	89	80	9	9	------	≡° a. d° a. p.
12	29.7	22.8	90	72	2	6	------	Ω ≡ a. ○ p.
13	29.7	22.9	87	79	3	8	2.5	Ω ≡ a. < p.
14	27.9	22	89	94	9	10	18.5	●° a. p p.
15	27.9	20.1	98	93	9	9	40.4	p ⌒ a. p ○ p.
16	30	23.1	97	76	3	8	------	≡ a. ○ ⌒ [< p.
17	30.4	23.5	92	66	3	7	------	Ω ≡ a. [< p.
18	28.3	24	82	83	8	10	6.1	Ω° ≡° ● a. d p.
19	29.8	22.8	88	68	10	9	3.6	≡° a. ● ⊤ < p.
20	29.5	22.4	91	73	3	8	------	Ω ≡ a. ○ < p.
21	29.7	22.4	93	78	8	9	.8	⊤ Ω° a. d ○° ⊖ <
22	29.7	22.5	93	76	4	6	------	Ω ≡ a. ○° p.
23	29.4	22.5	91	66	3	3	------	Ω ≡ a. < p.
24	30.1	23.2	89	80	7	8	------	Ω° ≡° a. ○° ⊍ < p.
25	30	22.5	84	87	8	9	3.6	≡° a. ● ⊍° p.
26	30.6	22.7	84	65	8	5	------	Ω° ≡° a. d° p.
27	29.1	22.4	95	80	7	8	------	Ω ≡ a. ⊍ p.
28	30.8	21.9	90	77	9	9	------	Ω ≡ a. d° ⊍ p.
29	29.4	23	88	73	4	7	------	Ω a. d° ○ p.
30	31.8	22.5	86	74	4	6	------	Ω ≡ a.
Mean	29.6	22.7	90.2	80.3	6.7	8.2	------	
Total	------	------	------	------	------	------	125.6	

DAVAO.
[$\phi=7°\ 01'$ N; $\lambda=125°\ 35'$ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	96	71	8	7	------	⊤ d p.
2	31.2	22.7	96	76	8	7	13	●° a. ⊤² p.
3	32.1	22	99	71	7	7	18.5	⊤² ●° p.
4	30.6	21.9	97	76	8	8	14.2	●° p.
5	31.5	22.5	97	75	9	9	------	⊤ p.
6	31.2	22.6	97	75	8	8	10.9	●° a.
7	31.2	22.9	98	76	8	7	------	
8	31.3	22.5	97	72	6	5	------	
9	32.1	23	98	69	5	6	21.8	●² p.
10	29.7	22.5	98	82	8	8	------	
11	29.9	21.6	96	70	5	8	------	
12	32.2	22	98	60	7	8	------	
13	30.1	21.9	99	70	8	6	------	
14	32.2	22	97	72	5	5	------	
15	31.6	23.2	96	71	6	6	------	
16	32.9	22.2	97	69	5	6	------	
17	32.5	22.5	97	64	5	5	------	
18	31.7	22.8	95	66	7	7	------	
19	32.8	21.8	96	64	8	8	26.7	●² [< p.
20	32.4	21.2	96	63	7	6	50	●² [< p.
21	32.1	21.7	96	62	7	8	13.5	●° ⊤² p.
22	31.5	21.7	96	65	6	7	------	
23	32.2	21.9	97	64	5	6	------	⊤ p.
24	32.6	21.7	96	62	6	5	------	
25	32.7	22.9	96	62	6	7	------	
26	32.7	21	94	65	6	6	------	
27	32.2	21.7	96	61	5	7	------	
28	28.4	21.6	96	94	8	8	------	
29	31.2	21.7	87	69	9	7	------	⌒ d p.
30	33.2	22.5	95	68	8	8	17	⊤ ●° p.
Mean	31.7	22.2	96.3	69.5	6.8	6.9	------	
Total	------	------	------	------	------	------	185.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	22.1	93	75	10	10	2.5	● p.
2	31	24	95	71	10	10	5.1	● p.
3	30.6	22.6	93	70	4	8	3	● < p.
4	30.2	21.4	93	73	10	4	------	⌒ d p.
5	27	23.2	93	77	6	10	86.4	● d p.
6	27	------	95	90	10	10	40.6	●² a. p.
7	28	23.2	94	77	9	4	10.2	d a. ● a. p.
8	30.2	22	96	72	5	6	------	d a. ● < p.
9	30.5	21.6	93	66	8	6	2.5	≡ a. ● p.
10	30	23.2	93	70	10	6	7.6	d a. ● p.
11	29.2	21	93	72	8	9	2	● p.
12	30	20.1	92	75	4	6	------	≡ a. d < p.
13	30.8	22	93	70	4	6	10.2	Ω ≡ a. d p.
14	29.2	22.5	93	79	10	10	9.7	●² a. ● d < a. p.
15	30.2	22.6	93	78	10	4	39.4	d ● a. ●² p.
16	30	21.3	93	75	8	6	------	≡ a. d a. p.
17	30.1	22.1	93	66	9	10	------	●° < p.
18	29	21.6	93	83	3	10	7.6	Ω ≡ ⊤ a. ● < p.
19	28.1	21.6	93	82	6	4	1.3	● a. p.
20	30	21.6	91	72	5	9	------	
21	31.3	21.2	94	65	7	6	17.8	d a. ⌈K ●² p.
22	31	20	93	59	10	6	------	≡ a. ⊍ p p.
23	31.6	21.8	87	60	3	4	2	≡ a. ● ⌈K p.
24	32.4	21.4	93	59	4	5	7.6	Ω ≡ a. d ● < p.
25	31	20.5	93	60	3	3	------	Ω a. ⊍² p.
26	31.6	20	93	66	4	5	------	Ω ≡ a. ⊍ p.
27	31.2	22.3	93	71	2	3	------	Ω ≡ a. ⊤ p.
28	30.3	21.8	93	74	6	7	2	≡ a. ⌈K ● p.
29	31	21.5	93	65	9	9	------	< p.
30	32.6	20.6	93	59	4	3	------	Ω ≡ a. ⊤ p.
Mean	30.2	21.8	93	71	6.7	6.6	------	
Total	------	------	------	------	------	------	257.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.2	22	89	69	9	8	15.2	Ω² ≡° a. ⌈K p.
2	31.1	22.7	94	72	10	8	------	● a. ⊍ p.
3	31.5	21.7	95	65	8	8	------	Ω² ≡² a. d° ⌈K p.
4	31.1	23.2	93	76	10	10	21.8	d ⌈K p.
5	25.1	23	97	96	10	10	70.1	● d a. p. < p.
6	25.3	21.7	97	96	10	10	9.4	● a. p. <² p.
7	31.9	21.8	96	73	8	7	.1	d a. < p.
8	32.4	22.4	93	66	7	7	10.2	Ω° ≡° a. ⊕ < ● p.
9	31.8	22.8	96	79	7	10	1.8	⊤° < ● p.
10	31	22.2	96	70	10	7	6.6	⌈K ● p.
11	29.2	21.5	97	77	10	9	2.5	d a. < p.
12	31.3	23.3	94	72	7	5	------	Ω° ≡° a. < p.
13	31.2	21.8	95	71	7	7	13.2	Ω² ≡ a. ⌈K ● p.
14	30.2	22.4	97	69	10	7	.1	d° < p.
15	33.2	22.3	96	70	6	7	3.8	⌈K ● p.
16	33.6	22.9	94	68	8	7	.8	< d p.
17	33.1	22.8	93	80	9	9	.5	d p.
18	32.2	22.7	94	76	10	9	14.5	●° a. ⌈K ↙° ●² p.
19	31.8	22.4	96	74	9	10	.1	< d p.
20	32.4	22.4	96	66	9	8	------	⊤° <° d° p.
21	31.7	22.2	96	72	4	7	1.3	Ω² ≡ a. ↀ p < p.
22	31	20.7	95	70	2	4	------	ↀ² < p.
23	31.6	21.2	95	70	1	5	------	Ω² ≡ a. < ↀ p.
24	31.6	21.1	96	65	1	4	------	Ω² ≡ a. < ↀ° p.
25	31.7	22.3	97	66	9	5	------	Ω ≡° ◯ a.
26	31.5	19.7	87	65	3	3	------	Ω² ≡ a. < p.
27	31	21	95	71	2	6	2.5	Ω² ≡° a. ● ⊍ p.
28	29.8	22.1	96	79	9	9	------	◯ p.
29	30.6	22	94	74	9	9	------	⊕ < p.
30	32	21.1	93	64	2	3	------	Ω² ≡ a. ↀ p.
Mean	31.1	22	94.7	72.7	7.2	7.3	------	
Total	------	------	------	------	------	------	174.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.1	22.4	91	69	9	7	2.3	Ω ≡ a.
2	30.9	22.5	91	68	10	8	19.8	● a. p. < p.
3	32.4	22.7	90	63	10	4	49.5	● a.
4	32.1	23.4	91	83	10	10	43.9	● d a. ◯ p.
5	30.8	22.6	97	74	10	10	60.7	● d a.
6	27	22.6	93	86	10	10	54.4	● a. p.
7	------	21	93	69	7	6	------	◯ p.
8	31.9	22.6	95	70	8	10	------	⊤ p.
9	33	23.5	95	69	9	9	1.8	⊤ ● p.
10	33.9	22.6	96	68	10	9	1	● p.
11	31.7	23	97	85	10	10	45.2	● a. p.
12	------	21.4	93	62	9	6	12.4	● ⌒ a. ◯ < ● p.
13	32	22.5	92	67	2	7	1.8	≡ a. ◯ < ● p.
14	32.4	22.1	88	71	5	8	------	≡ a.
15	31	22.3	92	76	10	10	8.6	d ● p.
16	------	21.4	90	72	7	10	1.8	● p.
17	33.4	22.7	92	74	8	10	36.6	● p.
18	33	19.7	97	68	8	9	------	● a. d p.
19	32.1	22.1	89	59	8	6	3.6	● a. p.
20	33.2	22.5	90	62	5	6	1.5	Ω a. ⊤ ● ⊍ p.
21	33.9	22.7	87	69	7	5	------	≡ a. ⊍ ↀ < p.
22	33	22.3	92	70	5	7	3.3	⊍ p.
23	32.8	22.8	85	63	9	5	2.3	● a. p.
24	32.3	21.9	90	64	10	9	15	● p.
25	31.8	22.6	80	67	9	5	1.0	● ≡ ⊤ a. ● < p.
26	31	24	80	66	9	6	2.5	
27	30.4	23.4	91	83	7	10	29	● a. p. ⊤ < p.
28	31.6	22.4	90	64	7	8	2.8	< p.
29	31.3	22.1	83	75	10	9	------	● ≡ a.
30	30.2	22.6	89	70	6	10	28.4	● p.
Mean	31.9	22.4	90.6	70.2	8.1	8	------	
Total	------	------	------	------	------	------	429.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	23.3	96	75	7	9	32.8	Ω a. ● a. p. ●² p.
2	28.8	22.9	94	75	7	7	------	● d a.
3	28.3	23.1	96	75	4	8	2.3	Ω ≡ d a.
4	26.4	22.4	97	90	10	10	40.6	● d a. ● ⌈K p.
5	24	21.9	97	94	10	10	244.9	●² ⊤ a. p.
6	26.5	22.5	96	93	10	10	29.5	●² a. d p p.
7	30	23.5	95	74	10	7	21.3	Ω a. ⌈K ● p.
8	29.6	22.8	96	74	10	4	81.3	⌒ a. ⌈K ●² p.
9	29.1	22.7	97	77	7	10	.8	⊤ ●° p.
10	28.3	23	97	84	9	9	15.2	Ω d a. ⌈K p° p.
11	27	22.8	97	81	10	8	1.8	● p° a. ●° p.
12	27.4	23	97	90	7	8	1	Ω ≡ a. ⌈K p p.
13	28	23	99	81	8	10	35.8	Ω ≡² a. ⌈K ●² p.
14	29.7	22.4	97	76	10	10	1.5	⊕ ● p.
15	29.6	23	96	71	4	8	.8	Ω ≡ a. ●° p.
16	30.5	23.3	96	73	8	8	17.5	Ω ≡² a. ⌈K ● p.
17	29.3	23	96	76	10	7	.3	Ω ≡ a. d p.
18	28.9	23.5	93	74	7	8	------	Ω ≡ a. ⊤ p.
19	29.3	23.2	95	78	8	8	.3	d a. p.
20	29.6	23.4	93	61	7	7	1.8	Ω ≡ a. ⌈K ●° p.
21	29.6	22.9	96	73	5	7	7.4	⊤ ● a. ⌈K ● p.
22	30.5	22.8	92	71	2	7	------	Ω ≡² a. p < p.
23	28.2	22.6	97	84	3	7	8.4	Ω ≡² ● a. ● ⊤ p.
24	28.9	23.1	96	83	6	7	6.6	Ω ≡² a. ● a. p.
25	29.5	22	99	71	7	8	3.3	≡ a. ● ⊤ p.
26	29.1	22.5	96	75	9	7	29.7	Ω d a. ● a. p.
27	28.6	22.4	97	77	6	7	------	Ω ≡ a. < p.
28	26.6	22.6	97	86	10	10	.3	Ω ≡ a. d a. p.
29	28.1	22.7	95	77	10	10	------	Ω ≡ a.
30	29.5	22.4	93	69	5	5	------	Ω ≡² a.
Mean	28.6	22.8	95.9	77.9	7.5	8	------	
Total	------	------	------	------	------	------	585.2	

[1] 28 days of observation.

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	Per ct.	0–10.	0–10.	mm.	
1	29.7	23.2	97	96	10	10	11.7	●° a. ● p.
2	30	23.5	86	81	10	9	3.8	● a. d p.
3	29.2	23.2	89	100	10	10	83.3	● a. p. ⊤ p.
4	30.6	21.5	98	96	10	9	8.6	d a. ● p.
5	30.3	22.4	95	8[illegible]	9	9	------	●° a. ⌒° <° p.
6	31.8	24.7	96	73	7	5	1	⊍ a. <° a. p. ●° p.
7	31.2	24.8	97	78	8	6	21.1	⊍² <° d° a. ●² <
8	31.6	23.8	98	78	8	.9	.5	p° <° p.
9	31.5	24.3	92	95	3	10	26.9	● ⊤ a. ●² p.
10	31.7	22.3	98	86	6	10	7.9	●° a ● p.
11	31.4	23.8	93	91	8	9	54.6	●² a. p.
12	27.5	22.8	98	90	10	9	7.9	● a. d p.
13	29.8	24.2	91	94	8	10	11.4	p a. ● p.
14	30.4	24.2	92	79	9	8	.3	d p.
15	30.8	23.7	96	82	6	9	22.1	● a. p.
16	30.9	23.3	96	81	5	5	29.5	●° ○² a. ● p.
17	30.6	23.5	93	82	10	4	.5	d° ●° p.
18	31.2	25.5	90	92	8	5	7.6	●° a. ● p.
19	31.2	24.4	93	76	2	3	------	⊕° p° ⊖° p.
20	31.2	24.9	89	75	5	3	1.5	● a. ⊤° d° ⌒° p.
21	32.5	23.5	95	74	2	7	11.2	p° a. ⌒ ● p.
22	32	22.8	92	73	7	7	7.4	⊖° p.
23	31.9	23.1	98	76	7	8	.8	● a. p. ○² ⊖ p.
24	32.2	22.4	91	78	6	5	1	Ω a. ⊍° ⊖ <° ● p.
25	31.7	23.5	96	74	7	7	3.8	p a. ⌒° d° ●° ⊖ p.
26	32	23.8	97	80	8	7	4.8	⌒° a. p. ● p.
27	31.3	23.7	93	75	9	8	1.8	p° a. p p.
28	31.1	24.2	92	81	8	9	1.8	d° a. ⌒ ● a. p.
29	31.9	24	90	73	6	8	.8	● a. p° <° p.
30	32.2	24.6	88	73	9	8	.8	●° a.
Meam	31	23.7	93.6	82.1	7.4	7.5	------	
Total	------	------	------	------	------	------	334.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	23.1	91	81	10	10	7.1	● p.
2	29.8	22.6	86	80	10	10	------	d p.
3	29.6	22.6	91	90	2	9	10.9	p d p.
4	30.1	23.2	95	83	10	10	14.2	d a. p. ⊏ p.
5	29.8	23.9	95	81	10	10	97.3	● a. ↙° ● p.
6	27	25.1	92	90	10	10	142.5	● a. ↙° ●² ⊏² p.
7	28.2	24.7	96	79	10	8	------	
8	29.6	24.4	88	78	10	3	------	
9	29.6	23.5	93	85	10	10	------	⊤² d° p.
10	29.2	23.8	95	75	10	5	9.7	d° a.
11	28.6	23	95	86	10	10	16.3	d² ●° a.
12	29	23	94	82	10	10	8.4	⊤° p p.
13	28.9	23	95	79	10	10	------	
14	29.4	23.1	91	88	10	10	7.1	d² a. p.
15	------	24.8	89	80	10	7	------	
16	28.9	24.5	92	78	10	10	------	d° a.
17	29.4	24.3	92	84	10	10	9.1	⊏ p.
18	29	24.1	92	79	10	10	------	● a.
19	29.4	24.8	93	80	10	10	------	
20	29.6	24.2	95	81	10	5	------	⊍ < p.
21	30	24	92	84	8	7	4.6	d ⊤² a. ⊖ p.
22	29.4	23.4	93	77	3	6	------	
23	30	22.8	91	78	10	8	------	
24	30.6	24.8	88	71	10	4	------	
25	30.5	22	89	76	10	6	5.1	d² a.
26	29.4	22	91	79	10	8	------	⊤ d a. p.
27	29.6	23	95	73	10	10	------	Ω² a. ⊍ <² p.
28	30	22.4	91	88	10	10	------	d ∞² p.
29	29.4	22	91	72	10	10	------	Ω a.
30	30.6	------	95	80	10	10	11.7	Ω a. d ● ⊍ < p.
Mean	29.4	23.5	92.2	80.6	9.4	8.5	------	
Total	------	------	------	------	------	------	344	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.6	22.3	89	73	6	10	2	⊤ ●° <° p.
2	31	22	93	69	1	7	------	
3	30.9	22.2	90	76	4	10	------	d < p.
4	30.5	23.2	91	88	10	10	2	● p.
5	28	21.6	90	84	3	10	2	●° a. p.
6	27	24.2	88	95	10	10	155.4	d ●² a. ↙ ●²
7	26.9	23.3	97	96	10	10	19.6	● a. p.
8	30.4	24.1	95	78	10	10	1.3	p a. p. < p.
9	31.2	23.2	95	79	10	10	6.1	● p.
10	30	23.4	96	80	10	3	31	● p.
11	29.9	22.5	96	85	10	10	1.8	● a. p. d < p.
12	30.5	22.7	96	87	3	10	5.8	● < p.
13	30	22.1	93	81	2	10	10.7	⊤ ● p.
14	28.6	22.6	96	88	10	10	33.5	● d a. p.
15	26.7	22.7	88	81	10	10	13.2	● a. p. < p.
16	27.8	23.6	89	97	3	10	49	● a. p.
17	30	23.3	96	84	10	10	34.8	● a. p. ⊤ p.
18	28	22	93	85	10	10	13.7	● a.
19	30.8	23.4	99	79	10	8	9.9	● a.
20	30.9	22.6	91	76	2	4	------	Ω a.
21	31	23.2	90	87	10	10	1.3	d ⊤ p.
22	30.1	22.3	91	78	0	10	------	< d° p.
23	30.9	22	91	76	0	8	------	⊤ p.
24	31.3	22	91	72	0	6	.8	d ⊤ p.
25	31.4	21	93	65	3	2	------	
26	31.9	20.8	92	69	3	4	------	
27	27.9	21	91	92	4	10	5.3	d a. p. ● p.
28	30	22.7	91	79	10	10	------	⊤ d p.
29	30.5	21.8	92	77	6	10	------	Ω a.
30	31.5	21.4	93	70	3	3	------	
Mean	29.9	22.5	92.5	80.9	6.1	8.5	------	
Total	------	------	------	------	------	------	399.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.		mm.	
1	30.9	22.6	97	72	2	6	12.2	≡ a. ● a. p.
2	30.6	22.4	96	74	10	9	2.8	≡ ● a.
3	30.7	22.4	96	73	8	9	25.1	≡ a. ● a. p.
4	29.9	23.4	97	80	10	9	43.7	● ○ a. ●² p.
5	27.7	23.4	97	91	10	10	90.2	⊤ a ●² a. p.
6	26.8	21.3	97	79	10	10	127.3	↙ ●² a. p.
7	30.2	23.5	97	71	10	5	17.3	● a. p.
8	30.4	22.6	96	75	8	7	35.6	≡ ● a. ⊤ p.
9	29.3	23.8	97	77	6	9	30.2	≡ ●² a. ● p.
10	30.6	22.9	96	70	7	4	9.7	≡ a. ● a. p.
11	30.7	23.2	96	70	9	6	7.4	● a. p.
12	30.1	23	96	75	10	6	6.9	● a. p.
13	26.1	22.5	98	96	10	10	80.8	≡ a. ● a. p.
14	25.2	22.2	97	94	10	10	107.9	↙° a. ●² a. p. ↙ p.
15	31.7	22.3	97	65	5	8	------	≡ a.
16	31.1	22.2	97	73	5	8	------	Ω ≡ a.
17	30.3	23.3	96	88	10	9	1.5	Ω ≡ a. ⊏ ●° p.
18	30.1	23.3	96	92	5	9	15	Ω ≡ a. ⊏ ●² p.
19	32.3	23.1	97	75	7	10	------	Ω ≡ a. ⊏ p.
20	29.3	24	97	88	8	9	------	Ω ≡ ○ a.
21	30.8	22.3	97	72	4	4	------	Ω ≡ a.
22	31.5	22.4	97	66	2	5	4.8	Ω ≡ a.
23	30.6	23.1	97	90	9	9	8.1	≡ a. ● a. p. ⊍ p.
24	30.2	21.9	97	85	6	10	7.1	≡ a. ● a. p.
25	30.1	22.8	97	82	9	8	7.4	● a. p.
26	29.2	22.9	86	92	8	9	96.3	● ⌒ a. ●² p.
27	26.9	21.9	97	83	10	10	34.5	●² a. ● p.
28	25.2	23	97	95	10	10	31	≡ ●° a. ● p.
29	------	21.1	98	72	8	5	17	Ω ≡ a. ● a. p.
30	30.1	23.1	97	83	8	6	15.5	● a. p.
Mean	29.6	22.7	96.4	79.9	7.8	8	------	
Total	------	------	------	------	------	------	835.3	

METEOROLOGICAL DATA, ETC.—Continued.

PALANOC.

[ϕ=12° 22′ N; λ=123° 36′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	24.2	99	------	6	4	------	
2	31	25.5	96	76	6	8	------	
3	------	------	------	------	------	------	------	
4	------	------	------	------	------	------	------	
5	------	------	------	------	------	------	30.5	↙$^{\circ}$ ● ⚡ p.
6	------	24.5	97	------	10	10	108.7	↙$^{\circ}$ ● a. ↙ ● p.
7	29.6	18 ?	96	79	10	10	2.8	
8	31.2	24.2	98	78	8	6	.5	
9	32.6	24.5	89	94	8	9	.3	
10	30.2	24.2	98	81	10	7	------	⊤ p.
11	32.2	24.5	96	68	8	9	5.6	
12	31.5	23.6	96	68	9	7	------	
13	29.2	25.2	95	90	8	10	7.9	
14	24.8	23.6	93	99	10	10	50.5	● a. ↙ ● p.
15	28.2	22.4	98	85	10	8	31	
16	31	23.2	84	78	8	8	2.5	
17	31.5	23.8	98	------	8	8	14.7	
18	30.4	24.2	98	89	10	8	8.4	
19	31	23.4	97	------	7	8	------	
20	32.4	24.2	97	------	8	9	------	
21	30	24.5	98	89	7	6	3.3	⊤ p.
22	31.6	24.5	------	71	8	6	------	⊤ p.
23	32.2	24.4	98	72	6	6	------	
24	32.2	24.5	96	66	6	4	------	
25	32.2	24.8	92	72	9	7	6.6	
26	31.2	24	97	76	4	8	20.6	
27	25.8	23.4	100?	93	10	10	1.8	
28	30.5	24	96	78	9	8	------	
29	32.2	24	98	75	8	8	1.8	
30	------	23.2	------	------	7	------	10.9	●$^{\circ}$ a.
Mean	30.7	23.9	96	79.9	8.1	7.8	------	
Total	------	------	------	------	------	------	------	

ROMBLON.

[ϕ=12° 35′ N; λ=122° 16′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	------	25.8	83	70	6	7	12.4	● ⊤ p.
2	------	23.4	96	73	6	6	.3	p p.
3	------	24.2	89	74	5	6	50.3	● ⊤ ⚡ p
4	------	24.3	97	70	6	7	3	
5	------	23.5	89	84	6	10	2.3	● p.
6	------	24.2	87	86	10	10	117.6	↙$^{\circ}$ ●^{2} a. p. ↙^{2} p.
7	------	24.4	89	86	10	10	3.8	↙ ● a. ↙$^{\circ}$ ●$^{\circ}$ p.
8	------	24.2	88	70	10	7	1.8	●$^{\circ}$ a. p$^{\circ}$ p.
9	------	24	97	72	10	7	1	p a. ⚡ p.
10	------	23.8	97	74	10	5	61.2	● a. ●^{2} p.
11	------	23.7	94	76	10	7	1.5	● ⌒ a. ●$^{\circ}$ a. p. ⚡
12	------	24.8	88	71	10	3	------	⛈ p.
13	------	24.5	86	76	7	7	.8	d a. p. ● p.
14	------	24.8	87	87	10	10	130.8	●$^{\circ}$ a. ↙$^{\circ}$ ● p.
15	------	23	96	87	10	10	11.7	↙ ● a. p$^{\circ}$ ↙$^{\circ}$ ⌒ p.
16	------	22.8	83	75	7	10	4.6	●$^{\circ}$ ↙$^{\circ}$ p.
17	------	24.8	81	63	10	3	5.1	● ⚡ p.
18	------	23.5	86	74	10	10	16.5	d a. ● ⌒ p.
19	------	23.4	91	71	8	5	------	p^{2} a.
20	------	24	92	62	10	3	------	∞ a.
21	------	24.2	90	69	4	6	------	∞ a. ⚡ p.
22	------	22.5	96	82	7	6	------	∞ d a. ⚡ p.
23	------	23.4	91	70	7	6	------	∞ a. ⚡ p.
24	------	24.6	92	85	8	6	52.6	∞ ●^{2} a. p^{2} p.
25	------	24	91	69	8	4	27.9	p a. ⛈ ●^{2} p.
26	------	23.2	84	85	10	9	31	●$^{\circ}$ a. ⛈ ●^{2} p.
27	------	22.6	92	94	10	10	39.1	●^{2} a. p.
28	------	23.6	87	88	10	10	23.9	● a. d p.
29	------	24.3	92	78	10	7	6.8	● a. p ⚡ p.
30	------	24.1	89	80	8	10	31.2	● a. ●^{2} p.
Mean	------	23.9	90	76.7	8.4	7.2	------	
Total	------	------	------	------	------	------	637.2	

LAOANG.

[ϕ=12° 35′ N; λ=125° 01′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	30.1	22.3	90	74	8	8	9.1	● p.
2	29.4	22.4	97	74	7	9	5.1	● p.
3	29.6	22.5	97	79	7	6	3.6	● a.
4	30.2	24.2	96	78	9	8	5.8	
5	28	23.8	98	94	9	10	41.1	↙$^{\circ}$ ● a. p. ⛈ p.
6	27.6	23.5	86	97	10	10	83.8	↙$^{\circ}$ ● a. ↙ ● p.
7	31.1	23.5	95	71	10	6	.8	
8	31.4	23.6	97	72	6	8	18.5	● p.
9	31.4	23.2	97	71	8	6	14.5	● p.
10	30.7	23.3	93	81	7	5	8.4	
11	29.8	22.5	98	93	7	8	14.2	● a. p.
12	29.7	23.4	97	76	7	8	8.9	● a. p.
13	27.8	23	99	96	7	10	66.8	●^{2} a. p.
14	27	22.8	97	94	10	10	94.2	↙ ●^{2} a. p.
15	31.9	23.2	92	70	9	7	------	
16	32.7	23.1	94	79	6	8	------	
17	31.5	22.8	97	79	9	9	3	● p.
18	30.6	23.5	97	96	4	10	15.7	● a. p.
19	30.4	22.6	97	78	9	8	.3	
20	30.2	22.7	98	89	4	9	.8	
21	31.6	22.7	97	75	5	7	------	
22	30.6	22.3	97	74	4	5	------	
23	30.2	22.5	98	87	4	9	.5	
24	30.2	22.2	97	71	5	9	6.6	● a.
25	29.6	23.4	95	92	8	9	7.6	● a. p.
26	30.1	23.1	98	81	8	9	52.6	● a. p.
27	29.4	21.6	99	98	10	10	122.7	●^{2} a. p.
28	26.3	21.8	98	93	10	10	6.4	● a. p.
29	30.1	21.6	97	78	6	7	11.7	● a. p.
30	29.6	23	88	86	8	9	24.6	● a. p.
Mean	30	22.9	95.9	82.5	7.4	8.2	------	
Total	------	------	------	------	------	------	627.3	

GUBAT.

[ϕ=12° 55′ N; λ=124° 08′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	91	68	6	5	2.5	p a. ● p.
2	------	21.8	91	75	7	5	6.1	d p a.
3	------	22	95	76	7	7	5.1	d a. ● a. p.
4	------	21.9	96	72	10	6	8.9	● p.
5	------	21.5	90	72	10	10	15.5	p a. ● p.
6	------	21.8	98	81	10	10	22.4	↙$^{\circ}$ a. ● a. p. ↙ p.
7	------	21.8	91	75	10	7	4.6	d ● p.
8	------	21.9	98	80	7	5	------	p p.
9	------	22	98	81	6	5	5.6	
10	------	22	96	82	10	5	3.8	● a.
11	------	21.9	98	81	4	10	3.3	●$^{\circ}$ p.
12	------	21	98	77	5	6	------	⌒ a. d p.
13	------	21	97	89	5	10	11.4	● a. p p.
14	------	21.2	98	89	10	10	26.9	● a. p. ↙ p.
15	------	21	92	81	10	7	1.8	p p.
16	------	20.8	89	78	5	6	.8	●$^{\circ}$ p.
17	------	20.9	90	80	4	4	.3	⌒ ●$^{\circ}$ p.
18	------	21	90	83	6	7	.3	⛈ d p p.
19	------	21.2	90	69	6	7	.5	●$^{\circ}$ p.
20	------	21	96	90	7	7	------	d p.
21	------	21.8	98	74	5	3	------	
22	------	21.8	97	69	3	4	------	
23	------	22	97	75	7	7	1.8	d ● p.
24	------	21.8	90	69	6	4	1	● a.
25	------	21	98	84	7	6	4.1	d ● p.
26	------	20.9	84	83	7	7	13.7	● p.
27	------	20.8	90	81	10	10	27.2	● a. p.
28	------	19.9	98	89	10	10	21.1	● a. p.
29	------	21	93	78	5	7	2.3	● a.
30	------	19.8	98	93	7	10	13.7	d a. ● a. p.
Mean	------	21.4	94.2	79.1	7.1	6.9	------	
Total	------	------	------	------	------	------	204.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30	25.6	89	70	2	7	------	
2	29.8	24.8	87	80	8	10	1.3	
3	29	25.4	86	77	1	5	5.6	
4	29	22.8	92	77	0	10	35.6	
5	26.4	22.4	84	87	6	10	20.3	
6	28	25.4	89	89	10	10	16.5	
7	30	26	89	78	6	8	1.5	
8	28.6	26	84	84	4	7	5.1	
9	29.4	24	87	71	7	4	1.5	
10	29.4	25.4	84	71	4	7	6.4	
11	28.4	24.4	92	77	10	10	3	
12	28	22.4	89	90	10	10	36.8	
13	30	25	84	71	8	5	1.3	
14	30	25.4	84	84	2	10	16.5	
15	29.6	25	84	73	6	5	6.4	
16	29	23.4	85	70	10	4	4.3	
17	30	24.6	92	68	6	5	2.5	
18	30	25.4	85	73	6	6	------	
19	28.4	24	92	73	10	10	2.5	
20	28.4	22.4	84	70	6	10	------	
21	29.4	20.8	90	61	10	6	------	
22	29.6	23	84	64	1	3	2.5	
23	28.8	23.4	84	73	2	8	------	
24	28.4	25.2	87	80	4	9	5.6	
25	28.2	23.6	84	84	2	10	10.2	
26	28.4	24	88	73	10	8	2.5	
27	29.4	25.6	92	77	10	4	2.5	
28	28.4	25.6	84	73	2	4	------	
29	29	25.4	79	76	3	9	5.1	
30	30	25	84	70	4	7	1.3	
Mean	29	24.4	86.6	75.5	5.7	7.4	------	
Total	------	------	------	------	------	------	196.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.2	22.8	94	70	8	8	------	
2	31.5	24.1	96	65	7	5	------	
3	31	24	93	73	10	4	0.8	p° d° a. ●° p.
4	31.2	24.5	96	73	8	7	------	⊖ p.
5	31.5	23.7	82	68	9	9	3.3	↙° ● p.
6	27	23.5	88	93	10	10	50.8	d ⊤ ● a. ↙° ● p.
7	26.1	------	99	95	10	10	51.3	↙ ● a. p.
8	30.4	24	92	83	10	10	3.8	d° ●° p.
9	31	23.2	100?	83	9	10	------	≡ a. ⊤ a. p.
10	29.1	23.1	97	79	10	8	93.2	d a. ●° a. p.
11	31.2	22.8	98	69	10	5	3.3	≡ p° a.
12	31.2	22.6	90	78	5	9	------	d° a.
13	30.1	24.1	81	88	10	9	1	⊤ d a. p° a. p.
14	27	24	94	92	10	10	167.9	d° a. ↙° ● p.
15	26	------	95	93	10	10	15.7	↙° ● a. ● d p.
16	29.9	23	98	82	10	10	.8	p a.
17	28.5	22.8	97	84	10	10	2.8	d ⌒ a. ●° d p.
18	30.4	22.2	99	83	10	10	1.5	d° a. ●° p.
19	30	22.2	97	75	7	8	------	
20	30.4	22	93	75	4	5	1	●° ⌒° p.
21	30	21.6	96	74	4	4	------	⊤ p ⩽ p.
22	30.2	22.3	97	80	4	4	------	⌓ a. ⩽ p.
23	30.8	21.9	96	67	4	3	------	⌓ a. ⊖ p.
24	30.7	23.1	97	75	7	10	3.3	⌒° a. p. ⊤ ⊖ ∪ p.
25	29	23.6	92	77	10	9	7.4	d° a. ● a. p.
26	29	23	95	82	10	10	38.1	●^{2} a. ● p.
27	28.7	24	89	85	10	10	42.2	d° a. ● a. p.
28	26.1	23	97	92	10	9	92.2	●^{2} a. p.
29	29.5	22.5	96	81	10	10	4.1	≡ a.
30	28.4	24.2	92	73	10	10	2.3	● a.
Mean	29.5	23.1	94.2	79.6	8.5	8.2	------	
Total	------	------	------	------	------	------	586.8	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	------	------	------	------	------	------	
2	------	------	------	------	------	------	------	
3	------	------	------	------	------	------	------	
4	------	------	------	------	------	------	26.7?	
5	33.5	22.4	77	63	7	8	6.4	d° ⌒ a. ⊕ ⊏◁ ●
6	29	20.9	83	81	10	10	80.5	⊤° a. ● a. p.
7	31.7	22.5	86	83	10	9	1.8	●^{2} d a. ●° ⩽ p.
8	30.8	25.9	90	77	7	7	------	⌒ a. ⩽ p.
9	30.2	24.5	90	78	8	9	48.8	d ●° ⌒ ⩽ p.
10	30.8	23.1	96	69	10	4	6.6	⌒ ● a. ●° p.
11	31.4	23.6	95	74	3	7	17.5	⌒ ∞ a. ● a. p.
12	32.1	23.5	91	69	9	6	3.3	● ⌒ a. p d° p.
13	31.2	23	95	81	7	10	15.2	● ⌒ a. p. d p.
14	33.5	23.9	92	75	10	10	62	d a. ● a. p. ↙° p.
15	31.5	23.8	89	86	10	10	12.4	↙° ● a. ≡ d° ● p.
16	30.3	24.3	86	78	8	7	3	● a. d° ●° ⩽ p.
17	31	24.6	90	75	8	5	60.7	⊤ ●^{2} ⊏◁^{2} p.
18	30.5	23.9	94	73	9	8	1.5	●° a.
19	31.4	24	97	69	8	8	------	⊕ ∞ d° a. ⩽ p.
20	30.9	22	96	66	1	2	------	⌓ a. ⩽ p.
21	30.9	23.5	96	77	3	4	------	⊤ ⩽ p.
22	31	23.4	95	76	4	2	.3	d^2 p.
23	31.7	23	95	66	2	8	6.1	●° a. ⩽ p.
24	31.3	23	98	71	3	8	.8	●° ⌒ a.
25	32.8	23	96	66	4	7	.3	●° a. p. d ⌒^{2} p.
26	32.5	24.4	80	73	5	8	22.6	d° ●° ⌒ a. ● p.
27	26.8	23.3	83	97	9	10	31.2	● a. ●° a. p.
28	29	23.3	93	95	9	10	44.7	d ● a. ●° a. p.
29	30.6	22.4	89	69	8	8	18	d ⌒ a. ● d° ⊖ p.
30	29.5	23.9	92	71	10	9	14.5	● a. p. d° ⌒ p.
Mean	31	23.4	90.9	75.3	7	7.5	------	
Total	------	------	------	------	------	------	484.9?	

NUEVA CACERES.
[ϕ=13° 37′ N; λ=123° 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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.3	22	98	87	7	10	37.6	p° ●^{2} p.
2	30.9	21.2	98	80	3	10	19.2	● p.
3	31	23	98	85	6	8	3.6	●° p.
4	31.6	22.2	98	70	3	8	6.9	
5	31.4	23.6	93	75	8	7	19.6	p° a.
6	26.2	23.6	95	87	10	10	47.2	● a. p. p p.
7	30.2	23.2	93	75	10	10	.5	●° d a.
8	33.1	22.8	98	57	9	7	1.3	
9	33.5	23	97	84	5	10	1.3	p° a. ⊤° p.
10	33.5	22.5	97	69	10	6	------	d a.
11	32.2	21.8	98	72	5	7	------	
12	32.3	21.9	97	83	6	8	9.9	
13	29.9	22.8	97	78	8	9	8.4	p d a.
14	25.7	22.4	95	97	10	10	80.5	●° d a. ● p.
15	27.5	19.7	85	94	9	10	6.6	● a. d p.
16	31.5	22.6	97	69	7	6	------	●° a.
17	31	23	95	69	10	5	31.7	●° d a. p. ●^{2} p.
18	31	22.3	98	73	7	6	2.3	p a. p.
19	31.5	22	98	71	8	8	------	
20	32.6	21.6	98	69	5	5	------	
21	33.5	22	98	67	4	8	------	≡° a.
22	33.7	21.7	97	68	4	7	------	
23	31.5	21.2	98	85	4	9	------	∞ a. ⊤° p.
24	33.2	21	98	75	2	9	------	≡° a.
25	32	20.1	98	73	4	8	3.3	p° p.
26	31.1	22	95	77	7	9	1.3	p° p.
27	27.4	22.5	95	98	8	10	15.7	d a. ●^{2} p.
28	26.6	21.7	98	89	10	10	1.3	●° a. p° p.
29	30.5	21.4	97	79	7	9	1	d p.
30	29	22	97	90	10	10	23.4	● a. ●^{2} p.
Mean	30.9	22.1	96.5	78.2	6.9	8.3	------	
Total	------	------	------	------	------	------	322.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	33.2	22.1	97	62	5	6	------	
2	33.7	20.5	95	80	6	9	0.8	d p.
3	31.8	20.3	96	78	7	6	------	
4	31	21.9	97	80	6	9	.3	d p.
5	31.6	20.2	96	70	5	6	.3	
6	28	21.2	97	86	10	9	50.3	d a. ● a. p.
7	26.9	21.6	92	83	10	10	21.3	↙° ● a. p.
8	31.6	23.1	82	82	7	9	6.9	p a.
9	32.9	21.9	97	63	8	7	.5	● a. ●° p.
10	30.8	22	97	69	7	6	38.6	●² a.
11	31.3	21	95	66	7	7	.5	p p.
12	31.4	21.4	87	66	6	6	3	● a. d p.
13	30.7	21.6	97	87	7	9	3.6	● a. ⊤ d p.
14	27.8	21.4	96	85	7	10	38.9	● p.
15	24.7	21	97	97	10	10	83.3	● a. p.
16	31	21.1	97	71	7	7	------	
17	32.2	22.5	93	75	6	7	2.5	⌒ a.
18	30.6	21.6	97	70	7	7	------	● a.
19	31.6	21.2	96	65	5	3	------	
20	31.8	20	96	65	3	3	------	Ω a.
21	32	21.2	97	65	1	3	------	
22	31.8	21.5	96	67	1	5	------	
23	32.4	20.6	96	59	3	5	------	
24	31.4	20.9	96	84	6	10	8.4	d a. ⊤ ● p.
25	30.4	20.8	96	73	6	6	1.3	⌒ a.
26	28.8	21.1	96	86	10	7	2.8	d a. ⌒ a.p.
27	30.3	20.9	95	71	7	7	1.8	d a. p.
28	30.6	21.1	96	84	7	9	2.5	d p.
29	31.4	21.1	95	77	5	7	1	d a.
30	30.4	21.4	97	64	9	7	------	d a.
Mean	30.8	21.3	95.2	74.3	6.4	7.1	------	
Total	------	------	------	------	------	------	268.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.3	22	97	66	7	5	------	
2	30	21.7	98	66	10	7	------	p° p.
3	30.2	21.6	98	65	6	3	------	Ω ≡ a.
4	29.4	21.4	98	71	8	7	3.8	Ω ≡ d a.
5	28.3	21	98	72	10	8	10.4	● p.
6	27	20.2	98	77	7	10	86.6	● a. p.
7	26.8	19.8	98	74	10	10	53.3	● a. ●² p.
8	27.6	20.3	98	73	10	8	2.5	d a. ●° p.
9	28.2	21	97	72	7	4	------	
10	29.4	22	98	67	10	8	------	p° a.
11	30.3	22.3	98	66	2	7	------	
12	30	22.5	99	66	7	5	------	≡ a.
13	30.1	22	98	65	4	8	38.6	Ω ≡ a. ● p.
14	29.2	21.4	98	68	8	9	62	Ω ≡ a. ● p.
15	26.6	19	97	75	10	10	11.7	● a. p.
16	28.1	21.8	98	68	7	5	------	≡ a.
17	29.5	22	97	64	5	8	9.1	⊤° ● p.
18	31	22.2	98	64	7	8	------	p° p.
19	31	22.2	98	62	5	7	------	Ω ≡ a.
20	31.6	22.4	98	61	7	8	------	≡ a.
21	31.1	21.9	98	61	5	7	------	
22	31.4	22	97	61	2	8	------	d p.
23	30.6	21.5	97	63	3	6	------	Ω ≡ a.
24	30.8	21.6	98	63	7	8	19.8	● p.
25	30.7	22	98	64	2	4	------	≡ a.
26	31	22	98	63	3	6	------	Ω ≡ a.
27	29.2	21.5	98	69	6	8	16	≡ a. ● p.
28	29.8	21	98	65	8	9	9.1	● a. p.
29	28.4	20	98	72	10	7	------	●° a.
30	28	19.1	98	68	3	3	------	Ω ≡ a.
Mean	29.5	21.4	97.8	67	6.5	7	------	
Total	------	------	------	------	------	------	322.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	21.3	97	77	8	7	------	● a. ⌒ p.
2	29.5	21.4	92	69	9	6	1.5	
3	28	21.2	88	85	8	6	27.7	p a ⌒ ● p.
4	28.5	20.4	96	74	8	8	5.1	● a.
5	28.2	21.4	90	87	7	8	14.2	● a. p.
6	26.7	20.6	89	91	8	10	121.2	p a. p. ●² p.
7	23.8	20	96	96	10	10	49.5	● a. p p.
8	28.9	19.5	95	82	9	6	------	⌒ p.
9	30.8	21.8	90	71	9	9	6.4	
10	29.5	20.4	98	81	6	6	7.9	● a.
11	30.3	20.6	98	77	8	4	6.6	p ⌒ a.
12	27.9	21.6	90	82	7	7	4.6	⌒ a. ● a. p.
13	28.5	21.3	96	84	10	6	18.3	p ⌒ a. ● p.
14	24.3	20.9	89	90	8	9	74.7	● a. ●² p.
15	25.2	------	91	95	10	8	27.2	● a. p.
16	28.7	20.8	90	85	8	9	1.5	p a. ⌒ a. p. ● p.
17	29.7	21.3	93	80	6	9	7.1	⌒ ● p.
18	28	20.3	96	82	7	8	1	p p.
19	29.3	18.2	99	62	10	6	------	
20	30.4	16.6	99	70	5	7	1	⌒ p p.
21	30	18.2	99	63	8	6	------	
22	30.8	18.1	98	64	7	8	2.3	⌒ p p.
23	30.7	18.9	98	65	10	6	------	
24	29.3	18.2	99	72	9	6	11.7	● p.
25	26	19.6	93	80	8	7	32.8	⌒ a. ● a. p.
26	22.8	------	89	96	10	10	27.2	p a. ● p.
27	24.3	------	94	86	8	9	41.1	p a. ● p.
28	27.3	19.8	96	84	9	6	7.1	p a. p. ⌒ p.
29	26.3	20.3	96	93	7	9	32.8	p ⌒ a. ● p.
30	26.5	------	89	88	9	6	3	p a. p. ⌒ p.
Mean	28	20.1	94.1	80.4	8.2	7.4	------	
Total	------	------	------	------	------	------	533.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.9	21.8	95	80	8	10	------	Ω a. d° a. p.
2	33.6	21.1	96	48	9	8	------	Ω a.
3	34.1	21.2	95	53	10	7	------	Ω a.
4	32.2	22.9	93	58	9	8	------	Ω a.
5	33.1	20.6	96	52	9	8	------	Ω ≡ a.
6	33.4	21.8	95	60	9	9	11.2	Ω a. d° ● p.
7	26.8	23	91	94	10	10	38.4	● a. p.
8	32.4	23.2	91	77	9	9	37.1	d° ⌜ϟ ● p.
9	32.9	23.2	98	72	9	7	12.4	Ω ≡ a. ⌜ϟ ● p.
10	30.1	23.6	98	73	8	10	------	Ω ≡ d° a.
11	30.6	22.2	97	77	10	8	6.6	Ω d° a. ● d° p.
12	32.8	20.8	95	49	9	3	------	Ω a.
13	33.2	20.2	95	54	4	8	------	Ω a.
14	32.5	21	96	55	9	9	2.5	Ω a. ● p.
15	27.4	23	96	85	10	9	12.2	● a. p. ⋖ p.
16	32.2	23.4	97	70	10	9	------	Ω ≡ a. ⊤ d° ⋖ p.
17	31.3	23.4	96	65	9	9	6.4	Ω a. d° ⊤ ⋖ p.
18	30.7	22.2	97	76	8	9	21.6	d° a. ● p.
19	31.5	20.4	99	62	10	3	------	Ω ≡ a.
20	32.3	20.5	96	54	9	4	------	Ω a. ⊍ ⊤ p.
21	32.6	20.8	95	77	8	9	------	Ω a. ⊤ p.
22	32.7	21.8	87	60	8	8	------	Ω a.
23	33	21.8	98	59	10	4	------	Ω ≡ a. ⌜ϟ p.
24	33.4	23.4	98	56	5	4	8.1	Ω a. ● ⌜ϟ p.
25	32.5	23	98	55	9	5	------	Ω a.
26	30	20.1	78	61	10	10	------	Ω a.
27	32.6	20.1	91	58	10	8	------	Ω a. d° p.
28	30.7	21.9	90	64	10	9	------	d° a. d p.
29	32.8	22.2	92	85	9	10	11.9	Ω a. ●² ⌜ϟ p.
30	31.4	20.1	77	49	10	3	------	Ω a.
Mean	31.9	21.8	93.9	64.6	8.9	7.6	------	
Total	------	------	------	------	------	------	168.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	29	23.3	88	78	10	10	29.2	
2	29.7	21.1	95	67	10	10	------	
3	30.7	22.2	94	64	10	10	------	
4	30.6	24.1	93	68	10	10	------	
5	30.8	21.7	96	64	10	10	------	
6	27.9	22.7	92	98	10	10	34.5	
7	28	23.3	------	96	10	10	79.5	
8	29	24.1	84	81	10	10	24.9	
9	28.6	24.1	96	82	10	10	19	
10	27	23.7	96	94	10	10	25.9	
11	27.5	23.6	97	84	10	7	24.4	
12	30.1	21.6	96	70	10	10	------	
13	30.6	21.9	91	63	10	10	------	
14	29.8	22	95	82	10	10	9.1	
15	26.9	23	93	87	10	10	66.5	
16	28.5	24.5	------	85	10	10	57.7	
17	29	23.7	96	77	10	9	89.9	
18	28.2	22.8	97	83	10	9	------	
19	31	22.4	96	62	10	4	------	
20	30	20.8	95	66	10	2	------	
21	29	21.5	95	78	10	7	------	
22	29.5	23.6	94	78	10	5	------	
23	29.8	23.3	96	70	10	5	------	
24	29.9	22.2	96	74	10	5	------	
25	26.6	24.5	------	82	10	10	1	
26	27.6	22.1	82	73	10	10	------	
27	29.3	22	80.	65	10	10	14.5	
28	27.3	22.4	91	80	10	10	7.4	
29	27.3	22.4	91	82	10	10	5.8	
30	28.2	20.4	94	71	10	10	------	
Mean	28.9	22.7	92.9	77.1	10	8.8	------	
Total	------	------	------	------	------	------	489.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.7	22.4	95	73	2	5	------	Ω a. d$^{\circ}$ ⌒$^{\circ}$ p.
2	31.1	22.6	96	69	3	2	------	Ω a.
3	31.4	22.3	93	74	2	2	------	Ω a.
4	31.6	21.9	93	65	1	2	------	Ω a.
5	31.7	23	94	69	5	4	------	Ω a.
6	31.8	21.5	93	72	2	6	------	Ω a.
7	28.5	23.6	93	85	9	10	15.2	Ω a. ● p.
8	31.2	23	92	77	10	5	------	Ω a.
9	31.9	23.6	94	66	6	3	10.9	Ω a. ● p.
10	30	23.2	95	79	8	5	8.1	Ω a. d$^{\circ}$ ⌒$^{\circ}$ ● p.
11	31	22.9	93	78	2	6	3	Ω a. ⊤$^{\circ}$ ●$^{\circ}$ p.
12	30.4	22.7	96	68	2	2	------	Ω^2 a.
13	30.4	21.1	95	63	1	3	------	Ω a.
14	30.4	21.6	95	78	5	8	.5	Ω a.
15	28.9	23.3	85	------	10	10	.8	●$^{\circ}$ a. p.
16	30.1	23.6	96	93	6	5	21.8	Ω a. ●^{2} <$^{\circ}$ p.
17	32.8	23.4	96	59	3	6	------	Ω a. d$^{\circ}$ p.
18	32.2	24.6	76	66	8	9	------	Ω a. [Z$^{\circ}$ p.
19	31.9	22.3	94	65	2	4	------	Ω a.
20	31	21.4	92	70	2	8	------	Ω^2 a.
21	32	20.6	95	65	3	3	------	Ω^2 a.
22	31.8	22.7	84	65	2	2	22.9	Ω a.
23	29.7	23.4	96	76	6	5	------	●^{2} [Z^2 a.
24	29.7	23.7	85	74	1	3	------	Ω^2 a. Ѱ^2 p.
25	30.5	21.4	92	65	3	3	------	Ω a.
26	30	20.9	95	71	2	3	------	Ω^2 a.
27	30	21	96	70	2	2	------	Ω^2 a. d$^{\circ}$ p.
28	31	21.8	93	63	5	6	------	Ω a.
29	31.3	23	94	72	9	8	------	Ω a.
30	30.7	22	95	65	2	5	------	Ω^2 a.
Mean	30.9	22.5	92.7	70.9	4.1	4.8	------	
Total	------	------	------	------	------	------	83.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31	------	97	90	10	9	5.8	d^2 a. [Z d ● p.
2	32.1	------	98	64	9	8	1	○a. [Z d^2 ⌒$^{\circ}$ Φ^2
3	31.4	------	97	71	10	10	3.3	d^2 p.
4	32.5	------	97	60	10	9	------	[Z p.
5	31.7	------	96	63	10	4	.5	Ω^{2}d$^{\circ}$a. [Z^{2}d$^{\circ}$⌒$^{\circ}$
6	29.4	------	97	94	10	10	27.7	● a. p. ⊤$^{\circ}$ p.
7	24.3	------	99	97	10	10	30	● ⊤$^{\circ}$ a. ●$^{\circ}$ p.
8	29.5	------	98	76	10	9	4.8	● d^2 a. d$^{\circ}$ p.
9	32.3	------	98	67	8	8	------	≡^{2} a. [Z ⌒ p.
10	31.1	------	97	67	10	7	.5	Ω^2 d^2 a. [Z d$^{\circ}$p.
11	31.5	------	97	66	10	8	------	d$^{\circ}$ a. p. [Z^2 p.
12	31.3	------	99	63	10	4	------	Ω^2 a. [Z p.
13	31.2	------	98	64	10	9	.5	Ω^2∞^{2}d$^{\circ}$a. [Z○$^{\circ}$
14	27.8	------	97	86	9	10	13.5	d$^{\circ}$●$^{\circ}$a. d^2 [Z^{2}p.
15	25.5	------	97	97	10	10	47.5	d●$^{\circ}$ a. p. [Z$^{\circ}$ ↙$^{\circ}$
16	31.8	------	99	76	10	6	4.3	↙ a. [Z a. p ●$^{\circ}$
17	26.9	------	99	93	10	10	13	●$^{\circ}$ d^2 a. p. [Z p.
18	31.4	------	98	65	9	8	.3	⌒$^{\circ}$ ○a. [Z ⊕^{2} d$^{\circ}$
19	32.3	------	99	59	9	3	------	≡^{2} ○$^{\circ}$ a. [Z p.
20	31.6	------	97	55	10	2	4.6	d a. <$^{\circ}$ p.
21	32.4	------	98	61	8	3	------	Φ p.
22	32.6	------	96	57	7	7	------	Ω^2 a. ○$^{\circ}$ [Z p.
23	34.1	------	96	58	2	3	------	Ω^{2}a. [Z^2⌒$^{\circ}$Ѱ$^{\circ}$Φ$^{\circ}$
24	32.9	------	97	61	10	7	2.8	d^2 a. [Z Φ ●$^{\circ}$ p.
25	24.5	------	94	92	10	10	3.8	d^2 a. p.
26	28.6	------	94	76	9	9	.3	d^2 [Z^2 p.
27	28.4	------	97	70	10	9	4.1	Ω^2 d$^{\circ}$ a. [Z d^{2}p.
28	27.8	------	97	81	10	9	14.7	d^2 a. [Z d$^{\circ}$ ●$^{\circ}$ p.
29	24.4	------	97	82	10	10	3.6	d a. p.
30	28	------	96	71	9	9	1.5	d$^{\circ}$ a. p. [Z p.
Mean	30	------	97.2	72.7	9.3	7.7	------	
Total	------	------	------	------	------	------	188.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	30.5	23.8	84	68	2	4	1.3	Ω^2 ≡^{2} a. p p.
2	30	23.9	86	71	3	1	------	Ω^2 ≡^{2} a.
3	30.5	23.5	87	73	3	2	------	Ω^2 ≡^{2} a.
4	31.4	24.1	86	72	3	4	------	Ω^2 ≡^{2} a.
5	31.4	24.1	86	68	2	4	------	Ω^2 ≡^{2} a.
6	32.4	23.1	82	64	2	8	------	Ω^2 ≡^{2} a.
7	29.1	25.5	80	75	9	10	------	⌒^{2} d a.
8	31.2	25.1	84	71	9	7	------	Ω ≡ a. < p.
9	30.5	25.5	88	75	9	8	2.5	Ω^2 ≡^{2} a. p [Zp.
10	29.7	25.4	88	78	10	9	2.5	d ⊤$^{\circ}$ p p.
11	29.9	23.9	89	78	3	8	2.3	p ≡ a. d ⊤$^{\circ}$ pp.
12	30.2	23	87	74	2	3	------	p ≡ a.
13	30.7	22.4	80	68	2	5	------	Ω^2 ≡^{2} a.
14	31	23	84	69	9	6	------	Ω^2 ≡^{2} a.
15	28.7	25	76	76	10	10	------	d a.
16	29.5	25.2	88	81	10	10	27.4	⌒$^{\circ}$ d a. ● [Z p.
17	29.8	23.9	91	81	6	7	------	≡ a. Φ$^{\circ}$ < d p.
18	29.7	24.8	90	76	9	9	6.6	Ω^2 ≡^{2} a. d● [Z$^{\circ}$
19	29.2	23.5	88	81	5	6	------	≡ a.
20	29.2	22.7	90	71	7	8	------	Ω^2 ≡^{2} a. d p.
21	29.9	23	89	71	1	4	------	Ω^2 ≡^{2} a.
22	30.3	24.5	87	72	2	7	31.7	Ω^2≡^{2}a. ⊤$^{\circ}$[Z^{2}p.
23	28.6	25.5	87	79	10	8	------	●^{2} d ⊤$^{\circ}$ a. < p.
24	29.3	23.5	87	79	4	3	------	Ω^2 ≡^{2} a. ⊤$^{\circ}$dp.
25	30.1	22.5	83	58	1	4	------	Ω^2 ≡^{2} a.
26	30.4	21.9	76	59	0	1	------	Ω ≡ a.
27	29.9	21.8	74	65	4	3	------	Ω$^{\circ}$ ≡$^{\circ}$ a. Φ^2 p.
28	29.9	22.1	79	70	8	5	------	Ω^2 ≡^{2} a.
29	30.2	24.5	84	75	10	9	------	d a. p.
30	30	22	81	67	3	1	------	Ω^2 ≡^{2} a.
Mean	30.1	23.8	84.7	72.2	5.3	5.8	------	
Total	------	------	------	------	------	------	74.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	21.3	95	51	0	1	------	≡ a.
2	31.4	21.8	94	59	0	1	------	Ω² a.
3	32.3	22	96	55	0	2	------	Ω² ≡ a.
4	35.7	22	96	50	1	0	------	Ω² ≡ a.
5	31.9	23.1	80	60	9	6	------	
6	33	23.6	92	46	10	7	------	d a.
7	28.3	24.4	93	84	10	10	3.3	d a. ● p.
8	32.2	24.8	------	63	10	10	------	
9	30	23.9	94	78	10	10	3	≡ a. T ● p.
10	30.9	23.7	96	72	10	7	19	● p.
11	31.3	22.5	97	66	6	7	3.8	Ω² ≡ a. ● p.
12	33.9	21.7	99	53	3	2	------	Ω² ≡² a.
13	33.8	20.4	95	50	1	2	------	Ω ≡ a.
14	30.3	22.7	70	62	9	8	------	↙° p.
15	27.3	23	78	79	10	10	20.1	⌒² a. ↙° d a. p. ●
16	30.9	23.4	76	70	10	9	12.7	● p.
17	32	23.5	99	61	4	7	2	Ω² ≡ a. T ● d p.
18	29.9	23.8	94	71	10	10	1.5	d a. ⌐ζ ● p.
19	29.6	22.6	90	70	10	10	13.2	d a. ● p.
20	32	21.7	99	60	4	9	14	Ω² ≡² a. ● p.
21	30.8	21.8	97	73	6	4	------	Ω² ≡ a.
22	31.8	23.4	97	70	3	4	9.9	Ω² ≡ a. ● p.
23	27.8	24.2	96	76	10	10	2	d a. ● a. p.
24	31.5	23.4	96	65	9	4	------	⌒ d p.
25	29	22.5	73	54	2	2	------	⊕° p.
26	31.3	19.1	88	41	0	0	------	≡² a.
27	33.1	17.3	91	43	1	0	------	Ω ≡² a.
28	33.4	19.2	95	44	1	4	------	Ω ≡² a.
29	29.8	22.3	82	56	10	10	------	d a.
30	31.8	21.2	79	55	4	3	------	
Mean	31.3	22.3	90.6	61.2	5.8	5.6	------	
Total	------	------	------	------	------	------	104.5	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.2	24.8	88	68	5	5	4.6	● a. p.
2	30.6	24.9	92	71	4	3	------	● a. Ω° p.
3	31.4	23.5	85	71	3	5	------	Ω² p.
4	29.2	23.1	91	77	3	4	35.6	●° a.
5	26	22.8	93	79	10	10	34.1	●² a. d a. p.
6	26.6	22.7	84	81	10	10	13	●² ⌒° d a.
7	29.3	23.8	92	76	10	10	3.6	● a. ●° p.
8	29.6	24.8	76	72	9	4	7.9	↙° a. p. ● p.
9	27.5	24	------	90	10	10	62	↙° ●² d a. ●° p.
10	29.5	25.4	87	76	7	3	9.7	● p.
11	29.5	24.2	87	87	9	10	55.9	● a. ●° p.
12	26.2	23.1	91	90	10	10	30.5	d a. ● a. p.
13	27.2	23.5	90	85	9	10	3	d° ⌒° a. d ⌒² p.
14	26.4	23.4	82	80	10	9	4.1	d a. ● p.
15	26.4	23.4	82	88	10	10	58.9	↙° ● d a. ●° p.
16	25.2	22.4	97	95	10	10	113	↙° ● d a. ↙° ●² p
17	28	23.1	85	92	10	10	69.1	●² p.
18	23.9	21.6	95	93	10	10	128.5	● a. p.
19	24.3	21	80	88	10	10	19.6	●° a. d a. p.
20	24.9	21.3	84	80	10	9	6.9	↙° a. d p.
21	27.9	22.8	91	86	10	10	3	d ● a. T° Ω° p.
22	28.9	25	92	83	3	7	------	d° v a. <² Ω p.
23	28.6	23	94	77	3	3	25.7	d a. Ω p.
24	25.4	22	90	82	10	9	16.5	●² d a.
25	23.3	21.4	------	61	6	6	2	● a. d p.
26	24.4	20.5	------	64	7	9	1	d Ω p.
27	26.9	21.3	63	62	9	5	------	
28	27.4	22.8	72	70	3	9	------	d p.
29	27.1	23.7	76	70	10	10	2.5	
30	24.3	22.1	76	70	8	10	------	● d° a.
Mean	27.2	23	85.7	78.8	7.9	8	------	
Total	------	------	------	------	------	------	710.7	

SEISMOLOGICAL BULLETIN FOR NOVEMBER, 1909.

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

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

7, 20^h 3^m. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction NE-SW, intensity III.

8, 19^h 36^m. **Butuan** (N of Mindanao). Earthquake of intensity II and direction NE-SW. The origin of these two earthquakes lay probably in the southeastern part of Butuan Bay.

9, 19^h 47^m 3^s.* **Southeastern Luzon.** Earthquake of force IV, which was felt in the whole southeast of Luzon, comprising the Provinces of Catanduanes, Sorsogon, Albay, Camarines and the eastern portion of Tayabas, and measuring more than 300 kilometers in the direction WNW-ESE. The disturbance originated at a distance of some 350 kilometers from Manila, probably a little over 100 kilometers from the northern coasts of Camarines and Catanduanes, in the Pacific Ocean. In this region is found the great trough discovered by the German survey ship *Planet.* This depression runs east of Mindanao and the Visayas and, curving toward northwest, passes along southeastern Luzon. It seems that this earthquake has not been registered in the nearest foreign observatories, viz, those of Batavia, Zikawei, and Osaka. At Manila the agitation of the microseismographs lasted only about twenty minutes. This points to the conclusion that the cause of the disturbance can not have been deep seated, but was probably a landslide on the western border of the trough mentioned. In the region in question the latter runs almost parallel and close to the Camarines coasts and shows depths of 3,000 to 4,000 meters.

21, 5^h 30^m 45^s.* **Baguio** (Benguet, Central Luzon). Earthquake of intensity III, having its center at a distance from Manila slightly in excess of 200 kilometers, probably in Nueva Vizcaya.

27, 1^h 27^m 54^s.* **Cavite** (SW of Luzon). Earthquake of intensity III, which was felt in the Province of Cavite and on Corregidor Island. Its center must be sought in the China Sea, a little over 100 kilometers to the southwest of Manila and some 40 kilometers from the west coast of Cavite.

29, 8^h 57^m. **Butuan** (N of Mindanao). Oscillatory earthquake. Direction NE-SW; intensity III; duration 8 seconds. Origin in the southeastern part of Butuan Bay.

[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.		
198	1	NNW-SSE	16 18 07	----------	16 18 16	16 18 17	.09	1.2	16 22	V. M.	Vertical Component 0.02 mm.
		WSW-ENE	16 18 07	----------	16 18 16	16 18 17	.11	2	16 22	V. M.	
199	6	NNW-SSE	14 41 46	----------	14 42 16	14 43 21	.05	2.4	15 02	V. M.	V. C. 0.01 mm.
		WSW-ENE	14 41 46	----------	14 42 17	14 43 32	.03	2.4	15 02	V. M.	
200	7	NNW-SSE	12 06 46	----------	12 07 05	12 07 07	.11	2.2	12 12	V. M.	V. C. 0.02 mm.
		WSW-ENE	12 06 46	----------	12 07 07	12 07 10	.14	2.4	12 12	V. M.	
201	9	NNW-SSE	19 47 03	----------	19 47 53	19 48 06	.76	2.4	20 07	V. M.	V. C. 0.19 mm. Earthquake, IV in the southeastern part of Luzon.
		NNW-SSE	19 47 10	----------	19 47 55	19 48 55	.19	7.2	20 05	H. P.	
		WSW-ENE	19 47 03	----------	19 47 53	19 49 29	.89	2.4	20 07	V. M.	
		WSW-ENE	19 47 10	----------	19 47 54	19 48 49	.24	6.6	20 05	H. P.	
202	10	NNW-SSE	14 17 52	----------	14 21 29	14 22 43	.70	2.4	15 41	V. M.	V. C. 0.27 mm.
		NNW-SSE	14 17 53	----------	14 21 16	14 23 13	2.80	9	15 38	H. P.	
		WSW-ENE	14 17 52	----------	----------	14 22 44	.44	2.4	15 41	V. M.	
		WSW-ENE	14 17 53	----------	14 21 17	14 23 44	5.07	9	15 38	H. P.	
203	13	WSW-ENE	----------	----------	21 16 20	21 16 56	.02	2	21 20	V. M.	V. C. 0.01 mm.
204	19	NNW-SSE	8 23 05	----------	8 23 20	8 23 51	.22	2.4	8 27	V. M.	V. C. 0.12 mm.
		WSW-ENE	8 23 05	----------	8 23 18	8 23 35	.16	2.4	8 27	V. M.	
205	20	NNW-SSE	20 42 28	----------	----------	----------	------	------	21 16	V. M.	
		NNW-SSE	20 42 31	----------	----------	----------	------	------	21 11	H. P.	
		WSW-ENE	20 42 28	----------	----------	----------	------	------	21 16	V. M.	
		WSW-ENE	20 42 31	----------	----------	----------	------	------	21 11	H. P.	
206	21	NNW-SSE	5 30 45	----------	5 31 14	5 31 22	.12	2.4	5 36	V. M.	V. C. 0.04 mm. Earthquake, III at Baguio (Central Luzon).
		WSW-ENE	5 30 45	----------	5 31 12	5 31 30	.08	2.4	5 36	V. M.	
207	21	NNW-SSE	15 38 22	15 43 28	15 46 34	15 50 41	.02	12.8	16 26	V. M.	V. C. 0.01 mm.
		NNW-SSE	15 38 29	15 43 26	15 46 14	15 50 51	.15	12	16 26	H. P.	
		WSW-ENE	15 38 22	15 44 01	15 46 47	----------	------	------	16 26	V. M.	
		WSW-ENE	15 38 29	15 44 02	15 46 17	15 52 45	.75	12	16 26	H. P.	
208	22	NNW-SSE	16 09 52	----------	16 10 18	16 10 24	.13	2.4	16 15	V. M.	V. C. 0.11 mm.
		WSW-ENE	16 09 52	----------	16 10 17	16 10 23	.15	2.4	16 15	V. M.	
209	26	WSW-ENE	----------	----------	0 35 09	0 35 25	.04	2.4	0 38	V. M.	V. C. 0.01 mm.
210	27	NNW-SSE	1 27 54	----------	1 28 09	1 28 50	1.38	2.4	1 34	V. M.	V. C. 0.92 mm. Earthquake, III at Cavite (SW of Luzon.)
		NNW-SSE	1 27 58	----------	1 28 14	----------	------	------	1 34	H. P.	
		WSW-ENE	1 27 54	----------	1 28 08	1 28 50	1.52	2.4	1 34	V. M.	
		WSW-ENE	1 27 58	----------	1 28 13	----------	------	------	1 34	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=9.6 seconds; WSW–ENE pendulum, T=9.9 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]

7, 20^h 03^m. **Butúan** (N. de Mindanao). Temblor oscilatorio, dirección NE-SW, intensidad III.

8, 19^h 36^m. **Butúan** (N de Mindanao). Temblor de tierra de intensidad II, dirección NE-SW. El origen de estos dos temblores de tierra probablemente se hallaba en la parte SE de la bahía de Butúan.

9, 19^h 47^m 03^s.* **SE de Luzón.** Temblor de tierra de intensidad IV: sintióse en toda la parte SE de Luzón que comprende las Provincias de Catanduanes, Sorsogón, Albay, Camarines y la parte oriental de Tayabas, y tiene una extensión de más de 300 Kms. en la dirección WNW-ESE. El origen de este terremoto se hallaba á unos 350 Kms. de Manila, probablemente en el Pacífico á poco más de 100 Kms. de distancia de las costas N de Camarines y Catanduanes, hasta donde se extiende, recurvando hacia el NW, la gran fosa del *Planet* que se abre al E de Mindanao, Visayas y parte SE de Luzón. No parece haber sido este terremoto registrado en los Observatorios más próximos, Batavia, Zikawei y Osaka; la perturbación producida en los microseismógrafos de Manila duró solo unos 20 minutos. Todo induce á suponer que su causa, debió ser muy superficial, probablemente algún derrumbamiento en el borde occidental de la mencionada fosa, que en esta parte corre casi paralelo y á poca distancia de las costas de Camarines con profundidades de 3,000 y 4,000 metros.

21, 5^h 30^m 45^s.* **Baguio** (Benguet, Centro de Luzón). Temblor de tierra de intensidad III. El origen de este temblor se hallaba á muy poco más de 200 Kms. de distancia de Manila, probablemente en Nueva Vizcaya.

27, 1^h 27^m 54^s.* **Cavite** (SW de Luzón). Temblor de tierra de intensidad III. Este temblor que fué perceptible en la Provincia de Cavite y en la Isla de Corregidor tuvo su origen en el Mar de China á poco más de 100 Kms. al SW de Manila y á unos 40 de la costa occidental de Cavite.

29, 8^h 57^m. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección NE-SW, intensidad III, duración 8 segundos. Origen en la parte SE de la bahía de Butúan.

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.

DEPARTMENT OF THE INTERIOR

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

BULLETIN FOR DECEMBER, 1909

PREPARED UNDER THE DIRECTION OF

REV. JOSÉ ALGUÉ, S. J.
DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
1910

94494

BULLETIN FOR DECEMBER, 1909.

METEOROLOGICAL BULLETIN FOR DECEMBER, 1909.

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

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure of this month was higher than the monthly mean for December of the preceding year in all the stations of central and northern Luzon, but slightly lower in the stations situated in southeastern Luzon, the Visayas, and Mindanao. Compared with the normal for December, however, it is found lower than the latter throughout the Archipelago, with the only exception of the stations in northern Luzon. For central and southern Luzon and the northern Visayas the differences are even quite noticeable. Thus, for instance, for Manila we find a difference of —0.83 millimeters.

The mean monthly temperature was lower than the corresponding value for December, 1908, especially on Luzon Island. At Manila it differed from the normal for this month by —1.0° C. The extremes of temperature registered at Manila Observatory were: 30.9° C. and 18.2° C., corresponding to the 1st and 6th, respectively.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS, DECEMBER, 1909.

Station.	Pressure.						Temperature.					
	Mean.	Departure from December 1908.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from December 1908.	Highest.	Day.	Lowest.	Day.
	mm.	*mm.*	*mm.*		*mm.*		°*C.*	°*C.*	°*C.*		°*C.*	
Tagbilaran							26.1	—0.1	32.2	3	20.7	15
Surigao	757.90	—0.14	761.20	27	754.01	19	25.4	— .3	31.2	23	21.5	15
Cebu	57.95	— .26	61.24	27	55.14	4	25.9	— .2	31.2	4	21.3	19
Iloilo	58.54	+ .36	61.88	27	55.89	4	25.4	— .6	31.6	1	20	20
Ormoc	58.14	— .15	61.58	27	55.26	4	24.9	— .4	33	15	20	6
Tacloban	58.33	— .34	62.12	27	55.45	20						
Calbayog	58.69	— .11	62.60	27	55.68	20	25.1	— .1	31.7	3,28	21.3	15
Legaspi	58.88	— .23	62.85	27	56.28	4	25.7	— .5	31.4	16	21.5	9,15
Atimonan	59.65	+ .22	64.03	27	57.29	4	25	—1.1	29.9	10	21.9	20
Manila	59.62	+ .30	63.68	27	57.07	4	24.2	— .8	30.9	1	18.2	6
Olongapo	59.36	+ .37	63.27	27	56.90	4	25.2	— .9	33.4	2	17.2	20
San Isidro	59.71	+ .36	64.02	27	57.16	4						
Dagupan	59.50	+ .32	63.50	28	56.92	4	25.2	— .7	34.6	31	18.4	20,28
Bolinao	59.40	+ .66	63.42	28	56.90	4	25.7	— .8	31.2	5	18.6	20
Baguio	636.78[1]		640.10[1]	28	634.58[1]	5	16.6		24.7	1	11	20
Vigan	759.76	+ .48	763.63	28	757.16	10	25.5	—1	32.2	1	18.7	19,20
Tuguegarao	61.67	+ .89	66.54	27	58.28	9	23.2	—1.7	32.5	31	17.7	27
Aparri	62.31	+ .99	67.14	26	58.52	9	23.4		31	31	18.6	26

[1] Not reduced to sea level.

Precipitation.—An examination of the following table will show that the number of stations which reported a total rainfall in excess of that during December of the preceding year is about equal to that of such stations as registered a smaller quantity. We call attention to the extraordinary amounts of rain measured by the rain gauges of Butuan and Surigao during the space of twenty-four hours on the occasion of the second typhoon of the month, to be discussed presently, viz, 316.7 millimeters at Butuan on the 18th, and 307.2 millimeters in Surigao on the 19th.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF DECEMBER, 1909.

Station.	Total.	Departure from December, 1908.	Rainy days.	Departure from December, 1908.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*	
Jolo	119.5	—141.3	17	— 6	23.9	6
Isabela, Basilan	59.7	—219.5	12	— 5	11.2	14
Davao	166.3	—328	12	— 5	32	30
Cotabato	121	—141.4	12	— 6	45.7	14
Cagayan, Misamis	438.7	+360.8	14	— 7	123.2	18
Dapitan	390.9	+172.1	23	+ 3	54.9	20
Butuan	636.6	+165.8	18	— 7	316.7	18
Yap, W. Carolines	257.9	-------	24	------	56.9	17
Tagbilaran	382.5	+222.8	19	— 5	99.1	7
Surigao	949.5	+166.6	19	— 9	307.2	19
Maasin	688.1	+202.2	14	— 6	153.2	19
Cebu	351.7	+262.8	21	+ 1	114.8	7
Iloilo	245	+ 97.6	22	+ 2	75.4	15
San Jose Buenavista	194	+140.3	15	+ 4	57.9	22
Ormoc	315.3	— 28.7	21	+ 1	85.6	19
Tacloban	422	—152.6	25	— 2	104.3	7
Capiz	270.4	+ 11.5	19	0	60.7	22
Borongan	888.6	— 23.4	29	+ 1	208	19
Calbayog	378.5	— 32	28	+ 2	51.1	20
Palanoc, Masbate	308.3?	—137	19	— 5	50.8	17
Romblon	271.4	—222.6	28	+ 5	35.3	19
Laoang	858	+156	28	0	156.5	26
Gubat	415.7	— 393.4	25	0	71.1	26
Legaspi	648.9	+ 2.4	23	— 5	81.5	22

Station.	Total.	Departure from December, 1908.	Rainy days.	Departure from December, 1908.	Greatest rainfall in a single day.	Day.
	mm.	*mm.*			*mm.*	
Sumay, Guam	254.2	+163.8	22	+ 2	48.3	30
Calapan	327.6	--------	27	------	48.8	9
Virac	709.6	+316.4	25	— 4	144.8	20
Nueva Caceres	797.2	--------	25	------	152.4	24
Batangas	120.2	— 93	14	— 6	24.1	12
Atimonan	513.9	+ 51.2	28	+ 7	70.8	20
Silang	135.1	— 80.8	12	— 1	60.7	17
San Antonio, Laguna	269.2	—263.4	23	— 3	38.1	17
Manila	124.9	+ 8.8	10	— 1	51.5	12
Olongapo	34.4	— 58.6	11	+ 4	17.4	12
San Isidro	45.1	+ 5.9	10	+ 3	27.2	12
Tarlac	134	+ 52.4	5	+ 1	116.8	12
Baler	504.4	--------	15	------	108.7	17
Dagupan	10.9	— 35.4	5	+ 1	2.8	11,17
Bolinao	49.2	+ 33.7	4	0	37.1	12
Baguio	97.5	+ 16.7	10	+ 4	44.2	11
San Fernando, Union	7.3	— 1.3	4	+ 1	3.8	11
Echagüe	276.6	+114.2	23	+ 5	68.6	17
Candon	6.1	— 46.5	1	— 3	6.1	11
Vigan	13.3	— 4	3	— 1	6.6	11
Tuguegarao	186.2	— 33.9	13	+ 1	75.3	15
Laoag	54.6	+ 9.4	3	— 2	34.8	9
Aparri	324	+ 89.8	22	+ 3	115.5	15
Sto. Domingo, Botanes Is.	217.9	—334.4	26	+ 4	30	16

DEPRESSIONS AND TYPHOONS.

During this month two typhoons appeared in the Pacific Ocean to the east of the Philippines. Of these only one became of some importance to the Archipelago, as the other recurved toward north and northeast when still far from the Islands.

THE TYPHOON OF DECEMBER 1 TO 6, 1909.

The following table contains the observations made on the Islands of Guam (Marianas Islands) and Yap (Western Carolines) during the first seven days of the month. These data, together with those obtained in Mindanao and the eastern Visayas on December 3, 4, and 5, indicate with sufficient clearness the existence of a typhoon which, after forming south of the Carolines on the 1st, advanced first toward northwest and then recurved on the 3d and 4th while about half way between the Carolines and the Philippines. After December 7, the barometers rose decidedly, not only in our Archipelago, but likewise in the Carolines and Marianas. This leads us to suspect that the typhoon most probably filled up shortly after recurving.

METEOROLOGICAL OBSERVATIONS FOR DECEMBER 1 TO 7, 1909.

Date and hour.	Yap, Western Carolines.									Sumay, Guam, Ladrones Islands.					
	Pressure.	Wind.		Clouds.		Weather.	Sea.		Rainfall (daily total).	Pressure.	Wind.		Weather.	State of sea.	Rainfall (daily total).
		Direction.	Force.	Form.	Direction.		State.	Direction.			Direction.	Force.			
December 1:	mm.		0-12.						mm.	mm.		0-12			mm.
6 a. m	756.54	NNE	4	Fr.-N.	ENE	o, q	C			757.80	ENE	3	o	S	
2 p. m	55.73	NNE	1	Fr.-N.	ENE	o	B			56.78	E	4	o	S	8.9
6 p. m	56.19	NE	1	Fr.-N.	ENE	o	C	NE	4.6						
December 2:															
6 a. m	55.28	NNE	1	Fr.-N.	NEbyE	o	B			57.55	E	3	o	M	
10 a. m	56.09	NNE	2	Fr.-N.	E	o, d	B								
2 p. m	54.34	Calm		Cu.-N.	SEbyE	o	C			56.37	SE	3	o	M.	34.3
6 p. m	54.69	ENE	1	N.		o, r	C	ENE							
10 p. m	55.35	ENE	1	Cu.-N.					23.9						
December 3:															
6 a. m	54.13	ESE	3	S.-Cu.	SSE	o, d, p	B			57.22	E	3	c	M	
10 a. m	55.73	SE	3	Cu.		o	C								
2 p. m	53.61	S	4	Cu.-N.	SSW	o	H			55.38	E	5	c	M	10.2
4 p. m	53.25	SE	3	Cu.-N.	SSE	o	H	SSE							
6 p. m	54.17	S	3	Fr.-N.	SSW	o	H	SE	1.8						
December 4:															
4 a. m	53.43	S	4	Fr.-Cu.	SSW		B	SSE							
6 a. m	54.16	S	3	S.-Cu.	SSW	c	B			56.17	ESE	3	o	M	
2 p. m	53.55	SSE	1	Fr.-Cu.		c	B			55.50	SE	3	o	M	25.4
6 p. m	53.92	SEbyS	2	Cu.	SSE	c	B	SE	23.1						
December 5:															
6 a. m	54.69	Calm		N.	SSE	o	S			56.32	ESE	2	b	S	
2 p. m	53.55	SEbyS	2	S.-Cu.	SEbyS	c	L			55.05	ESE	3	c	S	
8 p. m	55.60	SbyE	3	Cu.		c			2.8						
December 6:															
6 a. m	54.94	S	2	Cu.	SEbyS	c	T			57.25	Calm		c	S	
2 p. m	53.90	SE	2	S.-Cu.		b	L		5.6	55.25	E	3	c	S	0.8
December 7:															
6 a. m	56.24	NE	1	Cu.	ENE	c	B			57.95	ESE	3	c	S	

THE TYPHOON OF DECEMBER 15 TO 21, 1909.

On December 15 the behavior of the barometers and the winds at Guam and Yap revealed the fact that a new typhoon was in the process of formation to the south of the Western Carolines, in the neighborhood of 5° latitude north and 144° longitude east. In the following table may be seen the observations made at the two stations during the period from December 15 to 18, both dates included.

METEOROLOGICAL OBSERVATIONS FOR DECEMBER 15 TO 18, 1909.

Date and hour.	Yap, Western Carolines.									Sumay, Guam, Ladrones Islands.					
	Pressure.	Wind.		Clouds.		Weather.	Sea.		Rainfall (daily total).	Pressure.	Wind.		Weather.	State of sea.	Rainfall (daily total).
		Direction.	Force	Form.	Direction.		State.	Direction.			Direction.	Force			
December 15:	mm.		0-12.						mm.	mm.		0-12.			mm.
6 a. m	756.72	NNE	4	S.-Cu.	ENE	o	T			759.02	ENE	8	o	M	
2 p. m	55.96	N	4	N.-cf.	SE	o, q	L		10.9	58.33	E	3	c	M	1.5
December 16:															
6 a. m	55.78	N	4	S.-Cu.	NE	o, d	B			58.85	ENE	4	c	M	
2 p. m	54.06	NE	4	Fr.-N.	ENE	o, q, l, t	L			57.10	E	5	o	M	3.8
4 p. m	54.06	NE	3	Cu.-N.	ENE	o	L	NE							
6 p. m	55.19	NE	4	N.		o, q	L								
10 p. m	55.71	NE	5	Fr.-N.	ENE	l									
Midnight	55.09	NE	5	Fr.-N.		l			23.9						
December 17:															
2 a. m	54.69	NE	5	N., Fr.-N		l, q									
6 a. m	54.37	NE	6	Fr.-N.	ENE	o	B			59.07	E	2	c	M	
10 a. m	56.29	NE	4	N.	ENE	o, q, l, t	B	NE							
Noon	56.33	NEbyE	2	N.	ENE	o, q	H	NE							
2 p. m	54.75	ENE	5	Fr.-N.	SEbyE	o	H			57.65	E	3	o	M	30.5
3 p. m	54.45	ENE	5	N.	ENE	o, q	H	NbyE							
4 p. m	54.45	NEbyE-E	5	Fr.-N.		o	H	ENE							
7 p. m	55.38	ESE	5	Cu.-N.	SEbyS	o	H	E	56.9						
December 18:															
6 a. m	55.80	SE	1	Fr.-N.	SSW	o	T			59.37	ENE	5	o	M	
8 a. m	56.92	SSE-S	2	N.	SSE, SbyW	r, t, l	C	NE							
2 p. m	55.13	SSE	2	Fr.-Cu.	E, SSW	c	B			58.27	ENE	3	o, r	M	47.0
4 p. m	55.52	SSE	2	Cu.		o	B	NE	27.7						

Up to December 18, the storm moved in a decidedly westerly direction; but beginning with this date, it inclined rapidly toward north and during the 19th and 20th accomplished a complete recurval east of the Visayas and southern Luzon. On the 21st it was already moving northeast, but seems to have filled up shortly afterward, at a distance of some 500 miles east of Luzon. The track thus briefly indicated is shown in Plate XXXI.

On the occasion of this typhoon the following warnings were cabled to Hongkong and the other meteorological centers of the Far East:

December 18, 10 a. m.: Typhoon near or over the Pelew Islands, moving west or west-northwest.

December 19, 2 p. m.: Typhoon east of the Visayas Islands, moving west-northwest.

December 20, 10 a. m.: Typhoon east of the Visayas Islands, inclining northward.

December 21, noon: Typhoon east of the northern Visayas or southeastern Luzon, moving north-northwest or north.

December 21, 4 p. m.: Typhoon east of the northern Visayas or southeastern Luzon, recurving northeastward.

The most remarkable phenomenon in connection with this typhoon was the secondary whirl which separated from the principal center, or perhaps formed on its left side. Its presence is so clearly shown by the barograph curves of Butuan, Tagbilaran, Maasin, Cebu, and Iloilo that it would be difficult to controvert it. From these curves, reproduced in Plate XXXII, it follows, that this secondary center attained its least distances from the five stations mentioned, respectively, at 3 p. m., 5.15 p. m., 6.30 p. m., 8 p. m., and 10.20 p. m. of December 19. It appears to have filled up over Negros Island. This secondary whirl was of very small diameter, but produced sad effects wherever it crossed, as is shown by the following extracts from letters and reports which we received from Baganga, Butuan, Tagbilaran, and Cebu.

Rev. Thomas Barber, S. J., missionary at Baganga, writes the following under date of January 3, 1910:

During the night of December 18–19 Our Lord gave us a taste of the typhoon scourge. It seems that the storm passed close to Baganga. In many places the wind threw down the abacá plants and those owners who could not secure labor had to look on sorrowfully while the precious fiber rotted. In Caisan, a village not far from here, the tempest destroyed a house whose timbers crushed Mr. Hipolito Tamoy and his son Isaac. On our property fell a cocoanut tree, one of those lining the street, and many banana and papaya plants in the garden. The wind likewise began to unroof the church; the wind vane was wrenched off and was later found in the street by the lay brother.

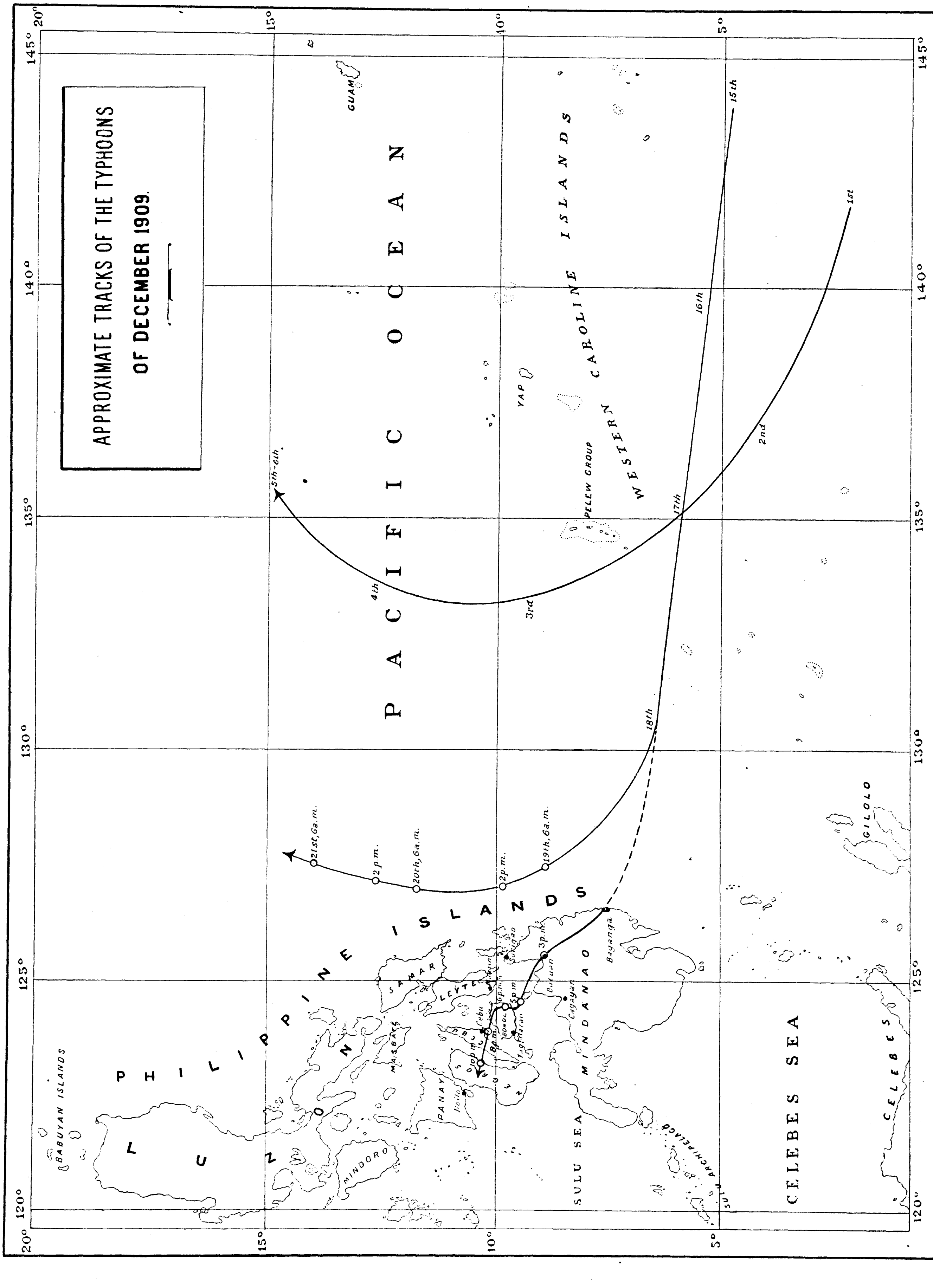
The observer at Butuan closes his long report on this typhoon as follows:

This typhoon has been most terrible for Butuan. The roaring of the sea could be heard in the town, apparently coming from northwest, although the latter is some 6 miles from the beach in that direction. The oldest people of this town aver that they have never witnessed a storm equal to this in producing inundations. They say that they have indeed heard their forefathers speak of a typhoon which occurred when the town was still close to the sea; but inundations like the present were unknown.

Mr. Flores, municipal president, narrates that in the villages in the neighborhood of Esperanza many houses have been carried away by the rushing waters, three carabaos have been killed, and a very large number of hogs and chickens lost. In Magallanes the church and two houses in course of construction collapsed; the church of Masao has been rent into three parts by the violence of the wind; and at Buenavista seven houses have been swept away by the flood.

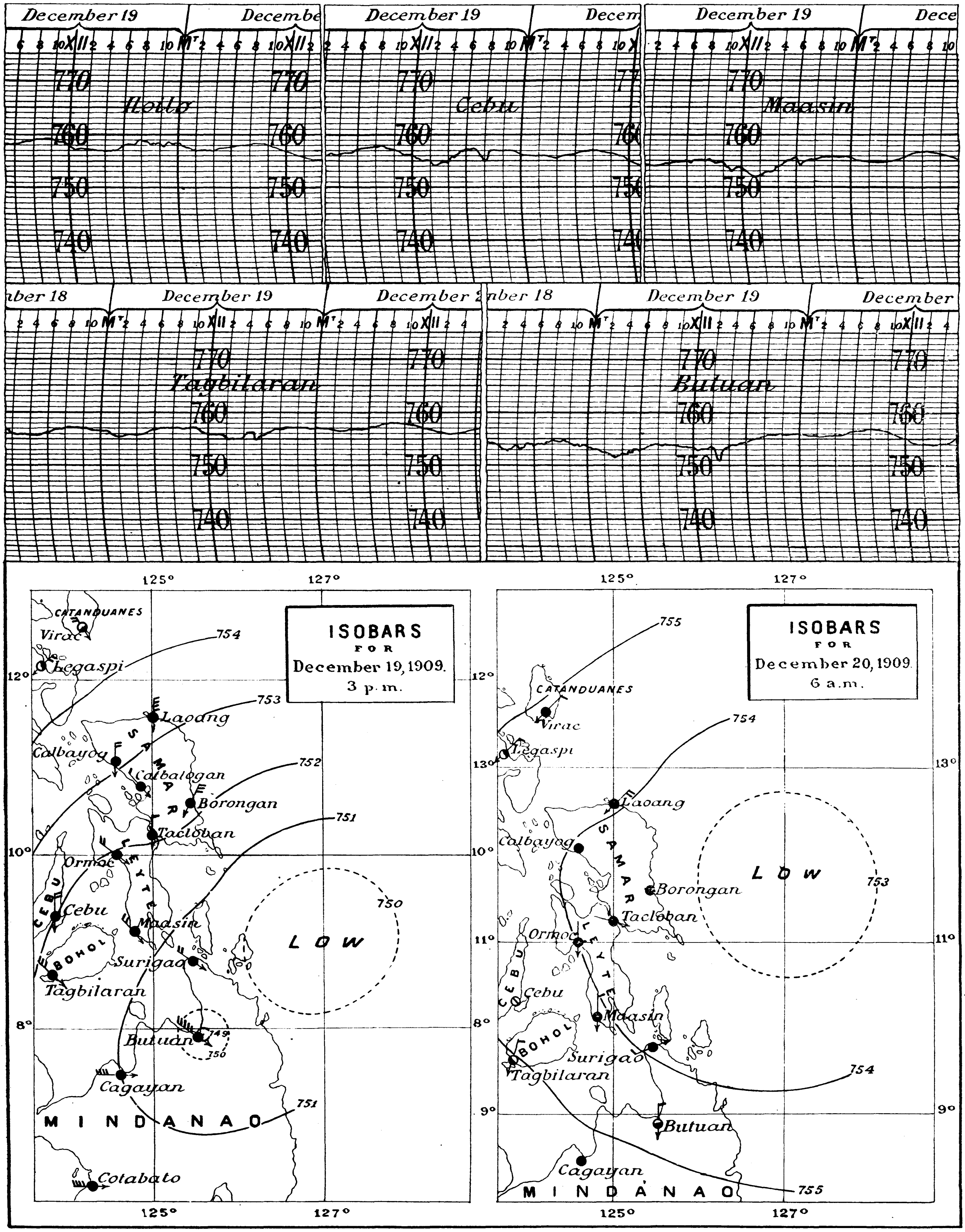
In the following table we publish the observations made at Butuan, December 18 to 21. Comparing these with the barograph curve of the same station, shown in Plate XXXII, we find that the violent winds experienced at Butuan were due partly to the principal cyclonic center in the Pacific Ocean and partly to the secondary vortex which passed north of, and close to, Butuan at about 3 p. m. of the 19th.

Plate XXXI.


APPROXIMATE TRACKS OF THE TYPHOONS
OF DECEMBER 1909.
PACIFIC OCEAN
WESTERN CAROLINE ISLANDS
GUAM
YAP
PELEW GROUP
PHILIPPINE ISLANDS
LUZON
MINDORO
PANAY
MASBATE
SAMAR
LEYTE
Cebu
Iloilo
MINDANAO
Cagayan
Butuan
Bayanga
SULU SEA
SULU ARCHIPELAGO
CELEBES SEA
CELEBES
GILOLO
BABUYAN ISLANDS
1st
2nd
3rd
4th
5th-6th
15th
16th
17th
18th
19th, 6a.m.
2p.m.
20th, 6a.m.
2p.m.
21st, 6a.m.
3p.m.
120°
125°
130°
135°
140°
145°
5°
10°
15°
20°

BAROGRAPHIC RECORDS AND ISOBARS
FOR THE TYPHOONS OF DECEMBER 15 TO 21, 1909.

Plate XXXII.



NB - The barometric readings have been reduced to standard gravity.

METEOROLOGICAL OBSERVATIONS MADE AT BUTUAN, DECEMBER 18 TO 21, 1909.

Date and hour.	Pressure.	Wind. Direction.	Wind. Force.	Weather.	Rainfall (daily total.)	Remarks.
December 18:	*mm.*		*0-12.*		*mm.*	
6 a. m	757.13	Variable	2	o, r		Rain and slight drizzle at times early in the morning; squalls with gusty NW wind during the morning.
2 p. m	54.19	NW, WNW	6	o, q		Strong breeze with heavy rain.
4 p. m	54.20	NNW, NW	7	o, q		Squalls with fresh gale.
6 p. m	54.24	NNW	7	o, q		Do.
8 p. m	55.30	NW	8	o, q		Do.
10 p. m	55.20	NW	7	o, q	316.7	Squalls with strong gale till midnight.
December 19:						
2 a. m	53.80	N	8	o, r		Stormy wind with slight rain.
4 a. m	52.79	NNW	8	o, r		Do.
6 a. m	53.21	NW, WNW	8	o, q		Stormy winds with squalls at intervals.
8 a. m	54.57	NW	8	o		Whole gale.
10 a. m	54.16	WNW	10	o		Stormy wind backing to WbyS.
Noon	53.61	WNW, W	6	o		Whole gale; clearing up slightly.
2 p. m	53.61	SW	3	o, r		Rain of short duration.
3 p. m	50.93	WNW	9	o		Whole gale; from 3.30 to 4 p. m. relative calm with slight W wind; drizzle at intervals; weather looking again dull.
4 p. m	53.86	W	3	o, d		Drizzling.
6 p. m	54.58	WNW	3	o, d		Moderate breeze with passing drizzle.
8 p. m	55.31	WNW	4	o, d		Do.
10 p. m	55.81	WNW	3	o	205.5	Overcast.
December 20:						
6 a. m	56.48	N	1	o		
2 p. m	54.99	NNE	3	o		
4 p. m	55.12	NNE	3	o, d		Slight passing drizzle.
6 p. m	56.25	NNW	1	o		Lunar corona; 7 p. m. convergence of Ci.-S. toward NNE.
December 21:						
6 a. m	56.87	ESE	1	c		
2 p. m	55.08	N	2	c		
4 p. m	55.66	W	1	o		

The honorable governor of Bohol, Fernando Rocha, wrote to the Director of the Weather Bureau on January 20, 1910:

According to official reports and private information, violent wind squalls were felt in the towns of Garcia Hernandez and Duero in the evening of December 19. They lasted only two to three hours. Hundreds of cocoanut trees and a vast number of banana plants have been brought to the ground. In Garcia Hernandez several partition walls of the recently constructed municipal building have been blown out. In Duero some houses collapsed, while others were torn to pieces. In the last-named town, the damage is estimated at over ₱7,000.

The observer at Cebu makes the following pertinent remark concerning the abrupt fall of his barometer, which took place at about 8 p. m. of the 19th:

My suspicion is, that the abrupt fall of the barometer during the night must be due to some atmospheric whirl which likewise caused the freshening of the winds from the first and fourth quadrants ever since the morning of the 19th.

We conclude this discussion by giving the amount of rain collected in the rain gauges of the stations which came to lie closest to the cyclonic center in question:

RAINFALL FROM 6 A. M. OF DECEMBER 18 TO 6 A. M. OF DECEMBER 20, 1909.

Station.	Millimeters.	Station.	Millimeters.
Butuan	522.2	Cagayan, Misamis	217.9
Surigao	502.0	Tagbilaran	51.9
Maasin	265.5	Cebu	47.5

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes es superior á la media mensual del año pasado en todas las estaciones del centro y norte de Luzón, y ligeramente inferior en las estaciones del sudeste de Luzón, de Visayas y Mindanao. Comparada con la normal de Diciembre, resulta dicha media inferior en todo el Archipiélago, á execpción únicamente de las estaciones del norte de Luzón. Las diferencias son algo notables en el centro y sur de Luzón y en las Visayas septentrionales: así para Manila, por ejemplo, tenemos una diferencia de —0.83 mm.

La temperatura media mensual es inferior á la de 1908, especialmente en la Isla de Luzón. La de Manila difiere de la normal de este mes en —1.0° C. Los valores extremos registrados en el Observatorio han sido 30.9° C. y 18.2° C. y corresponden á los días 1 y 6 respectivamente.

Precipitación acuosa.—Examinando el cuadro de lluvias que acompaña el texto inglés, se verá ser casi iguales en número las estaciones que dan un total de lluvia mayor que el año pasado y las que lo dan menor. Es notable la cantidad extraordinaria de agua recogida en los pluviómetros de Butúan y Surigao en el intervalo de 24 horas durante el segundo baguio de este mes de que hablaremos luego: 316.7 mm. en Butuan el día 18, y 307.2 mm. en Surigao el 19.

DEPRESIONES Y TIFONES.

Dos tifones se presentaron durante este mes en el Pacífico al este de Filipinas, si bien solo el segundo llegó á ser de alguna importancia para el Archipiélago. El primero se hallaba aún bastante lejos cuando recurvó al N y NE.

TIFÓN DE 1 Á 6 DE DICIEMBRE.

En el texto inglés incluímos en una tabla algunas de las observaciones hechas en Guam, Islas Marianas, y Yap, Carolinas Occidentales, durante los siete primeros días del mes. Estas observaciones juntamente con las de Mindanao y Visayas orientales de los días 3, 4 y 5 indican con bastante claridad la existencia de un tifón que, formado el día 1 al Sur de las Carolinas, y habiéndose movido primero al NW, vino á recurvar durante los días 3 y 4 casi á la mitad de camino entre las Carolinas y Filipinas.

Después del día 6 los barómetros subieron francamente, no solo en nuestro Archipiélago, sino también en Carolinas y Marianas, lo cual nos hace suponer con mucha probabilidad que el tifón se deshizo poco después de verificada la recurva.

TIFÓN DE 15 Á 21 DE DICIEMBRE.

El día 15 el barómetro y los vientos de Guam y Yap revelaban la formación de otro baguio al Sur de las Carolinas Occidentales en los alrededores de 5° Lat. N y 144° Long. E. En el texto inglés damos las observaciones hechas en ambas estaciones desde el 15 al 18 ambos inclusive.

Hasta el 18 el tifón se movió muy inclinado al oeste; pero desde dicho día se inclinó rápidamente al norte, verificando una completa recurva al E de Visayas y del Sur de Luzón durante los días 19 y 20. El 21 se dirigió ya al nordeste deshaciéndose probablemente poco después al este de Luzón y á la distancia de unas 500 millas. Véase esta trayectoria, tal como la acabamos de indicar brevemente, en la lámina XXXI.

Á Hongkong y demás Observatorios del Extremo Oriente se enviaron con motivo de este baguio los siguientes telegramas:

Día 18, 10 a. m.: Tifón en, ó cerca de, las Islas Palaos, moviéndose al W ó WNW.

Día 19, 2 p. m.: Tifón al E de las Islas Visayas, moviéndose al WNW.

Día 20, 10 a. m.: Tifón al E de las Islas Visayas, inclinándose al norte.

Día 21, mediodía: Tifón al E de las Visayas septentrionales ó de la parte sudeste de Luzón, moviéndose al NNW ó N.

Día 21, 4 p. m.: Tifón al E de las Visayas septentrionales ó de la parte sudeste de Luzón, recurvando al NE.

Lo más notable en este baguio fué el remolino secundario que se desprendió de él ó se formó acaso al lado izquierdo del mismo. Su presencia se echa de ver tan claramente en las curvas barográficas de Butúan, Tagbilaran, Maasin, Cebú é Iloílo que apenas cabe dudar de él. Reproducimos dichas curvas en la lámina XXXII. De ellas se deduce que este centro ciclónico secundario se halló á la menor distancia de aquellas cinco estaciones á 3 p. m., 5.15 p. m., 6.30 p. m., 8 p. m. y 10.20 p. m. del 19 respectivamente. Probablemente se deshizo en la Isla Negros.

Este remolino secundario era de muy reducido diámetro, pero dejó sentir bien sus efectos por donde pasaba. Bastará para convencernos de ello que citemos aquí parte de algunas cartas ó reports de Baganga, Butúan, Tagbilaran y Cebú.

El P. Barber, S. J. Misionero de Baganga, decía lo siguiente en carta de 3 de Enero, 1910.

En la noche del 18 al 19 del pasado Diciembre nos enseñó el Señor el azote del baguio: parece que no pasó lejos de Baganga. Ha tumbado el abacá en muchas partes y los que no tienen brazeros, con gran sentimiento suyo han visto podrírseles tan apreciada fibra. En Caisan, barrio no muy distante de Baganga, el vendabal derribó una casa, y las maderas aplastaron á Hipólito Tamoy y á Isaac su hijo. En casa tumbó un cocotero de los de la calzada, y muchos plátanos y papayeras muchas de la huerta. Había empezado á destechar la Iglesia. La veleta se rompió y fué recogida por el Hermano en la calzada.

El observador de Butúan termina su largo report sobre este baguio con estas palabras:

Este ha sido para Butúan un baguio horrorosísimo. Los bramidos del mar se oían distintamente desde el pueblo hacia el NW y esto que dista de la playa unas 6 millas. Los más ancianos de este pueblo dicen que no han presenciado baguio igual á este que haya producido inundaciones tan grandes. Dicen que sus antepasados hablaban de un baguio cuando el pueblo estaba aún cerca del mar; pero inundación parecida á esta era cosa desconocida.

Cuenta el Sr. Presidente Flores que muchas casas en los pueblos de la parte de Esperanza fueron llevadas por la corriente, tres carabaos muertos, y una infinidad de cerdos y gallinas perdidas. En el barrio de Magallanes cayó la Iglesia y dos casas en construcción; la Iglesia de Masao fué dividida por el viento en tres partes; en Buenavista siete casas fueron llevadas por la corriente.

En el texto inglés publicamos una tabla de observaciones hechas en Butúan del 18 al 21 ambos inclusive. Comparando estas observaciones con la curva barográfica de aquella estación (lámina XXXII) se echará de ver que parte de los vientos violentos que allí soplaron fueron debidos al centro ciclónico principal del Pacífico y parte al centro secundario que pasó cerca por el norte de Butúan á eso de 3 p. m. del 19.

El Gobernador de Bohol D. Fernando Rocha escribía al Director de este Observatorio con fecha 20 de Enero, 1910.

Según partes oficiales y noticias particulares, el día 19 de Diciembre en las primeras horas de la noche se sintieron en los pueblos de García Hernandez y Duero violentas rachas de viento que duraron solamente de dos á tres horas. Se cayeron centenares de troncos de los cocoteros y muchísimos platanales. En García Hernandez cayeron algunos tabiques de la Casa-Municipal de reciente construcción. En Duero varias casas se vinieron al suelo y otras fueron destruídas. En este último pueblo las pérdidas se calculan en más de ₱7,000.

El observador de Cebú hace la siguiente observación, por cierto bastante acertada, sobre la brusca bajada del barómetro que tuvo lugar á eso de 8 p. m. del 19.

Mi sospecha es que aquel descenso brusco de la noche debe de ser *algún remolino* que desde la madrugada del 19 hacía refrescar los vientos del 1° y 4° cuadrantes.

Terminamos esta discusión con la siguiente nota en que damos la cantidad de agua recogida en los pluviómetros de las estaciones que se hallaron más cercanas al centro ciclónico de que acabamos de hablar.

LLUVIA DE 6 A. M. DEL 18 Á 6 A. M. DEL 20 DE DICIEMBRE, 1909.

Estación.	Milímetros.	Estación.	Milímetros.
Butúan	522.2	Cagayán	217.9
Surigao	502.0	Tagbilaran	51.9
Maasin	265.5	Cebú	47.5

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.	Air temperature.[2]			Underground temperature.						Relative humidity, mean.	Vapor pressure, mean.	Evaporation.[2]	
		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	760.63	25.4	30.9	21.4	26.8	28	27.6	27.7	28	28.1	78 9	18.8	--------	2
2	59.74	25.4	29.5	22	26.9	27.7	27.6	27.8	28	28.1	78.6	18.8	--------	2.9
3	58.55	24.6	27.8	22.8	26.9	27.5	27.6	27.7	28	28	91	20.9	--------	.8
4	57.07	25.2	29.5	22.3	26.7	27.4	27.6	27.7	28	28.1	78.1	18.5	--------	2.4
5	57.66	24.4	30.5	20.1	26.6	28	27.5	27.8	28	28.2	75	16.8	--------	2.5
6	58.37	23.2	28.2	18.2	26	27.1	27.3	27.4	28	28	74.4	15.5	--------	2.2
7	58.48	23.9	30.1	20	25.8	26.9	27.2	27.4	27.9	28	77.7	17.1	--------	2.1
8	57.67	23.4	28.1	19	25.8	26.8	26.9	27.2	27.8	28	85	18.1	--------	1.7
9	57.68	24.5	29.3	20.6	25.9	27.2	27	27	27.9	28	82.4	18.7	--------	1.5
10	57.47	24.4	29.1	22.3	26.6	27.3	27	27.2	27.9	28	89	20.1	--------	.8
11	57.76	24.3	27.7	21.7	26.2	26.8	26.8	27	27.8	28	90.2	20.3	--------	.2
12	57.98	24.8	30	21.5	26.1	27.2	26.9	27.2	27.8	28	88.8	20.5	--------	1.7
13	58.93	24.2	29.2	22.7	26.2	26.8	26.9	26.9	27.8	28	93.3	20.9	--------	.8
14	59.32	23.8	28.4	21.6	26.2	26.7	26.9	26.9	27.8	28	92.1	20.1	--------	.8
15	60.32	24.9	30.6	21.4	26.1	27.5	26.8	26.9	27.7	28	87.3	20.3	--------	1.6
16	60.28	24.8	29.6	21.1	26.5	27.5	26.9	27.1	27.7	28	85.5	19.8	--------	1.5
17	60.29	24.3	29.2	22	26.8	27.1	27	27.1	27.8	28	90.3	20.3	--------	.9
18	60.45	23.2	27.1	21	26.2	26.5	26.9	27.1	27.7	28	91.7	19.4	--------	.7
19	60.23	23	27.6	19.9	25.8	26.4	26.8	26.8	27.5	27.9	77.1	15.9	--------	2.4
20	59.15	21.9	24.8	18.5	25	25.1	26.4	26.4	27.4	28	81.2	15.9	--------	2.1
21	58.41	24.4	28.8	21.3	25	25.6	26.3	26.3	27.6	28	72.2	16.2	--------	3.1
22	58.65	23.9	28.6	20.3	25	25.4	26.1	26.3	27.5	28	77.6	17	--------	2.4
23	59.42	24.7	29.8	21.7	25.3	26.2	26.2	26.2	27.6	28	81.7	18.8	--------	2.6
24	60.66	23.4	26.4	21.7	25.7	26	26.3	26.4	27.5	28	82.2	17.6	--------	1.5
25	61.75	24.3	29.8	20.7	25.3	26.2	26.2	26.4	27.5	28	76.5	17.2	--------	2.8
26	62.50	24.4	29.4	21.1	25.5	26.4	26.3	26.3	27.2	28	70.6	15.9	--------	3.1
27	63.68	23.8	30	20	25.3	26.2	26.3	26.4	27.4	27.9	71.5	15.6	--------	2.7
28	63.55	23.6	27.9	20	25.2	26	26.2	26.2	27.4	28	79.3	17.1	--------	1.9
29	62	24.7	30.5	20.5	25.3	26.1	26.2	26.5	27.3	28	80.4	18.4	--------	2.5
30	60.27	25.1	30	20.9	25.5	26.5	26.3	26.4	27.4	27.9	82.4	19.4	--------	1.7
31	59.36	25.4	30.6	21.8	25.9	27	26.3	26.5	27.3	28	82.6	19.7	--------	1.4
Mean	759.62	24.2	29	21	25.9	26.7	26.8	26.9	27.7	28	82.1	18.4	--------	1.8
Total														57.3
Departure from normal	— .83	— 1	— .7	— .2	--------	--------	--------	--------	--------	--------	+ .9	— .8	--------	--------

Date.	Wind.				Clouds.					Sunshine.	Rain, 24 hours beginning midnight.	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	NNE	144	13	ENE	7.8	A.-Cu	ENE, E	S.-Cu	ENE	5 05	--------	≡° a.
2	NE quad.	313	29	NE	7.6	A.-Cu	E	S.-Cu	ENE	2 00	--------	≡ a. ↗° p.
3	Variable	62	6.5	SE	9.8	Ci.-S		Fr.-N	NE	0 00	1.3	≡° ●° a. d p.
4	NNE	220.5	24	NNE	7.2	A.-Cu	ENE	Cu	NE	4 15	--------	≡° a. d° p.
5	N quad.	123.5	17	NNE	3.2	A.-Cu		Cu	NNE	7 55	--------	≡° a.
6	N	165	20	NEbyN	9.1	Ci.-S	E	S.-Cu	E	4 10	--------	≡° ◯ a.
7	NE quad.	123	13	NNE	6.8	Ci.-S		Cu	NE	5 30	--------	≡ a.
8	W quad.	105.5	11.5	W	7.6	Ci.-S	EbyS	Cu		2 30	--------	≡° ◯° a.
9	NW quad.	86	14	NW	8.1	A.-Cu	SE	S.-Cu	SE	3 05	--------	≡ a. p. d ●° p.
10	NE	79	10.5	NE	8.4	Ci.-S		S.-Cu	E	2 10	24.9	≡ a. ●² ⊤ p.
11	SE	66.5	9	SE	9.4	Ci.-S	SbyE	S.-Cu		0 05	--------	≡ Ω a.
12	NNW	107.5	22.5	NNW	8.4	A.-Cu	SE	Cu.-N		4 25	51.5	≡ Ω ⌈ζ° a. ●² p.
13	N quad.	96.5	12	NW	9.3	A.-Cu		Cu.-N	E	2 35	14.5	≡ d a. ⌈ζ ● p.
14	NE	127	14	NNE	9.1	Ci		N	E	2 20	4.2	≡ a. ⌒ a. p. ● p.
15	N quad.	150	14.5	WSW	3.5	Ci		Cu	E	8 35	.6	≡ d a.
16	ENE, WSW	104.5	11.5	W	3.5	Ci		Cu	NE	7 30	--------	≡ a.
17	NE quad.	116	17	E	8.7	A.-Cu	NbyE	S.-Cu		1 35	7.2	≡ a. ● p.
18	N quad.	127	12	ENE	9.2	Ci.-S	SE	N	NEbyN	0 45	17.4	≡ a. ● a. p.
19	NE	178	16	NE	8.3	Ci.-S	E	Cu	N	2 40	--------	≡° a. ⩛ p.
20	N	236	18.5	NE	10	Ci.-S		S.-Cu	EbyN	0 00	.8	≡ ● p a. d p.
21	NNE, ENE	317	30	NNE	9.6	A.-Cu		S.-Cu	NE	0 15	--------	≡ a.
22	N	190.5	18	NNE	9.5	Ci.-S		S.-Cu	E	0 20	--------	≡ a. d p.
23	N	216.5	26	N	9.4	Ci.-S		N.-cf	E	1 45	--------	≡ a.
24	N	136.5	22	NbyW	10	Ci.-S		S.-Cu	E	0 00	2.5	≡° a. d ● p.
25	NNE	160	19.5	NNE	7.9	A.-Cu		Cu	NEbyE	4 15	--------	≡° a. ⩛ p.
26	NE quad.	194	21	NE	6.2	A.-Cu	ENE	S.-Cu	EbyN	6 30	--------	≡° ↗° a.
27	N quad.	98	9	WNW	3.5	Ci		Cu	E	7 40	--------	≡° a.
28	N	147	19	N	9.1	Ci.-S		S.-Cu	E, ESE	0 50	--------	≡ d° a.
29	Variable	112	18	EbyN	6.6	A.-Cu	E	Cu	E	5 45	--------	≡ ⌒² a.
30	N quad.	117	14	W, SE	5.2	Ci.-S		Cu	ESE	7 25	--------	≡° a.
31	Variable	89.5	13	W	5.6	A.-Cu	E	Cu	ESE	6 15	--------	≡ d a.
Mean	------------	145.4	16.6	------------	7.7	------------		------------		3 29	--------	
Total	------------	------	------	------------	------	------------		------------		108 10	124.9	
Departure from normal	------------	—10.8	------	------------	+ 1.7	------------		------------		—52 50	+63.5	

[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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	----	27.4	31.5	23.3	78	N quad.	1.3	7.7	Ci.-S.	Cu.-N. E	----	
2	----	27.2	31.5	23.5	79.8	Variable	1.3	7.5	Ci.-S.	Cu. NE, E	----	
3	----	27.6	32.2	23.8	77.3	Variable	1.2	8.2	Ci.-S.	Cu.-N. E, NE	----	
4	----	27	31.4	23.6	80.7	NNE, SE	1.8	9	Ci.-S.	Cu.-N. E	8.9	● ⊤ ϟ p.
5	----	26.7	30.7	23.8	75.5	N, NNE	1.7	9.7	Ci.-S.	Cu.-N. ENE, E	----	
6	----	26.1	29.1	22.8	77	NNE	1.5	9.5	Ci.-S.	Cu.-N. NW, NNW	----	
7	----	24.6	26.1	22.7	88.3	WNW	1.3	10	Ci.-S.	N. NNW	99.1	●² a p.
8	----	26	29.9	22.6	81.2	SE	1.7	10	A.-Cu. SE	Cu.-N. SSW	.8	d° a.
9	----	26.7	31.1	22.7	80.8	SE	1.3	7.8	Ci.-S. SE	Cu.-N. SSW, ENE	----	d a.
10	----	26.9	30	22.3	82.7	SE	2	7.8	Ci.-S. E, SSW	Cu.-N. SSW, ENE	1.3	
11	----	26.3	30.1	23.1	84.2	Variable	1.2	9.5	Ci.-S.	N. SSW, SE	6.1	d a. p. ⊤ p.
12	----	25.8	28.8	23.2	84.7	SE	1.5	9.2	Ci.-S.	Cu.-N. SE, SW	6.5	d a. ●² Γϟ p.
13	----	26.6	31.3	22.3	81.8	Variable	1.5	9.5	Ci.-S.	Cu.-N. SW	----	ϟ p.
14	----	26.2	30.5	22.6	84.3	Variable	1.3	7.5	Ci.-S. E	Cu.-N. SSW, SW	3.3	d ϟ p.
15	----	26.1	31.6	20.7	80.8	Variable	1.7	7.7	Ci.-S. E, SE	Cu.-N. ENE	15.7	●° a. p.
16	----	26.4	30.5	23.1	84	NNE, SE	2	9.7	Ci.-S.	Cu.-N. NE quad.	----	● a.
17	----	26.5	31.5	21.6	79.2	WNW, NNE	1.5	9.3	Ci.-S.	Cu.-N. E, ENE	34	● p.
18	----	24.6	26	21.2	86.8	NW quad.	2.5	10	Ci.-S.	N. Variable	5.3	● d a.
19	----	23.3	24.5	21	86.7	NW	5.2	10	----	N. NNW	42.2	● a. p.
20	----	24	26.7	21	85.2	SSW	2.5	10	Ci.-S.	Cu.-N. WNW, NNW	47.2	● a.
21	----	25.2	26.9	22.8	89.5	SE, SSW	1.8	10	----	Cu.-N. SSW	20.3	●² a. d p.
22	----	26.7	30	23.5	86.2	SE	2	8.8	----	Cu. S, SW	18.8	● a.
23	----	26.6	30	22.1	85.2	SSW, SE	1.8	7	Ci.-S. NNE	Cu. SW	----	● a.
24	----	26.4	32.1	22.1	83.5	NNW	1.5	7.8	Ci.-S.	Cu., Cu.-N SW	----	
25	----	26.4	30.4	23	84.2	NNE	1.7	7.2	Ci.-S.	Cu., Cu.-N NE	----	
26	----	26.1	30.4	23.5	84.8	N quad.	1.2	7.8	Ci.-S.	Cu.-N. E	1.8	d p.
27	----	25.5	28.4	22.6	83.8	NNW	1.3	9.2	Ci.-S.	Cu.-N. ENE, NE	7.4	● a. d p.
28	----	26.5	30.7	22.6	79.2	NNW, NNE	1.8	8	Ci.-S.	Cu.-N. NE, E	----	ϟ p.
29	----	26.4	31.3	22	81.7	NNE	1.5	6.5	Ci.-S.	Cu.-N. E	----	⊕° p.
30	----	26.6	30	22.8	80.8	NNE, SE	1.8	7	Ci.-S.	Cu.-N. E	----	
31	----	26.1	30	22	82.2	N quad.	1.3	8.3	Ci.-S.	Cu. NE	5.3	● p.
Mean	----	26.1	29.8	22.6	82.6	----	1.7	8.6	----	----	----	
Total	----	----	----	----	----	----	----	----	----	----	382.5	

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.	Per ct.		0-12.	0-10.			mm.	
1	758.37	27	30.1	23.5	85.7	NE quad.	1	5	Ci.	Cu., N.-cf. E	1.5	Ω² a.
2	57.64	26	30.5	23.3	87.7	NE, NNE	.7	8.2	Ci.-S. N	N.-cf. NE	5.8	d a. ●° p.
3	56.52	25.8	29.1	23	90	NW	.3	6.8	Ci.-S. N	Cu. NE	----	Ω² ᴗ a. Ω° p.
4	55.20	25.9	27.5	23.7	88.8	NW quad.	.9	9.7	----	Fr.-N. N	24.4	●² p.
5	55.88	26.3	27.6	23.9	84.3	NW, NEbyE	1.8	9.5	Ci.-S.	Fr.-N. N	5.1	d° a. ●° p.
6	56.33	26	26.8	25.4	83.7	NW	2.5	9.8	Ci.-S.	Fr.-N. N	31	
7	56.16	24.5	26.1	23.5	94.8	NNW	.9	10	----	Fr.-N. E	70.6	●² a. ●° p.
8	56.66	25.9	29.1	23.9	81.2	NW quad.	1	9.2	A.-Cu. SE	S.-Cu.	----	Ω² p.
9	57.20	25.7	29.4	22.8	89.8	NW	.1	6.8	Ci.-S. E	Cu. W	----	Ω² a. d° Ω² p.
10	57.46	25.4	30.2	23	91.5	NW	.1	5.3	Ci. E	Cu. NE	32.3	Ω² ●° a. ●² p.
11	57.90	25.1	28.8	22.5	90.2	Calm	----	6.8	A.-Cu. E	Cu. NE	3	Ω² a. p.
12	58.04	25	28.2	22.7	91.7	WbyN	.1	7.7	A.-Cu. E	Cu. NE	----	Ω² ●° a. Ω² p.
13	58.52	25.2	29.3	22.5	88.7	WSW	.2	7	A.-Cu. N	Cu. W	3.8	Ω² a. p.
14	58.78	24.8	29	22.9	91.3	ENE	.2	8.2	A.-Cu. NE	N.-cf. E	15.3	● Ω² a. p.
15	59.38	25.4	29.4	21.5	89.3	NW	.1	4.3	A.-Cu. NE	Cu.	----	Ω² a. p.
16	59.26	25.7	28.7	22.8	89.8	NW	.2	7.2	Ci. NE	Cu., N.-cf. W	10.2	Ω² a. ○ p.
17	58.54	24.2	27.4	22.5	94.3	NW	.1	10	Ci.-S.	Fr.-N. NE	55.9	● a. p.
18	55.99	23.8	24.9	22.4	91.3	NW quad.	3.7	10	----	N.	194.8	↙° p. ●² a. p.
19	54.01	23.7	24.8	22.1	94.5	NW quad.	5.3	10	----	Fr.-N. N	307.2	●² a. p ↙ a.
20	55.60	24	26.3	22.7	89.3	SW	1.5	9.3	A.-Cu.	Fr.-N. SW	2.5	●° a.
21	56.15	26	30	23.5	85	SW	.3	9.2	A.C-u. NE	S.-Cu., cu. SW	12.2	Ω° ⊕ p.
22	56.88	26	31	23.6	87.2	WSW	.2	7	A.-Cu. E	Cu. SW	2.5	● a. Ω° p.
23	58.44	26.8	31.2	23.8	83.2	WSW	.3	5.3	A.-Cu. NE	Cu. SW	----	●° a. Ω° p.
24	58.88	26	30.5	23.1	86.5	W, WSW	.3	7.3	Ci.-S. N	Cu. SW, WSW	4.1	●° Ω² ⊕ p.
25	59.84	25.4	28.4	22.7	89.3	NW	.4	5.3	Ci.-S. N	Cu. WSW	----	Ω² a.
26	60.37	26.4	29.2	23.5	85.7	Variable	.8	6.5	Ci.,Ci-.S. N	Cu. E, NE	50.8	Ω² a.
27	61.20	25.5	28.6	23.1	90.7	NNW	.1	9.5	Ci.-S. NE	Fr.-N. E	59.6	●² a. p.
28	61.18	25.2	28.7	23	91.8	ENE	.5	9	Ci. N	Fr.-N. E	22.8	● a. p.
29	60.67	25.4	30	22.4	89.2	Variable	.4	5.7	Ci. SW	Cu. E	----	Ω² a. Ω° p.
30	59.46	25	30.5	22.8	90	ENE, NNE	.2	8.5	Ci. NE	Cu. E	26.7	Ω² a. ● a. p.
31	58.42	25	27.7	22.4	91.3	NE	.2	9.8	A.-Cu.	S.-Cu. E	7.4	● a. p.
Mean	757.90	25.4	28.7	23	89	----	.8	7.9	----	----	----	
Total	----	----	----	----	----	----	----	----	----	----	949.5	

[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.	Rain, 24hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	758.31	27.2	30.5	24.1	74.2	NE quad.	9.4	4.2	Ci.	Cu., Cu.-N. ENE	0.8	≡° Ω d ⌒ a. ☈ p.
2	57.50	27.3	31	24	72	NE	10	3.5	Ci.	Cu. ENE		≡° Ω a. ☈ p.
3	56.40	26.8	30.7	22.6	74.8	E	9.5	5	Ci.-S.	Cu. NE	.8	≡° a. ● ○ p.
4	55.14	26.8	31.2	22.5	72.6	NE	9	7.3	Ci.-S.	Cu. NE	2.3	≡° ⊍ a. d p. ○
5	55.78	26.6	30	23.9	69.1	NE	10.3	6.3	Ci.-S. SSE	Cu. NE		≡° ⊍ a.
6	56.41	26.2	29.5	23.6	68.8	N	8.2	6.7	Ci.-S.	Cu. NE	3	≡° Ω ○ a.
7	56.45	24.2	25.7	21.7	84	NE, SW	8.5	9.7		N. ENE	114.8	≡° ● a. ●² p.
8	56.43	25.6	29	21.9	73.2	SE	5.4	6.5	Ci.-S. E	Cu. NE	1	Ω d a.
9	57.13	25.9	29.8	22.5	76.7	SE	4.4	5.5	Ci.	Cu. E	.5	≡° d a.
10	57.21	26.5	31.1	23	75	E	4.8	4.8	Ci.-S., Ci.	Cu. ESE	.3	≡° Ω d a. ☈ p.
11	57.64	25.9	30	23.8	76.5	SW, S	5	6.2	Ci.-S. E	Cu.-N. SSW	30.4	≡° Ω ● a. ☈ p.
12	57.98	25.7	29.9	22	75.8	SSW, SE	5.8	7.5	A.-Cu.	Cu. SSW	4.3	≡° ●² ☈ a ⚡ p.
13	58.46	24.8	28.9	22.8	79.3	E, N	5.7	6.2	Ci.-S. SE	Cu.-N. ENE	17.5	≡° Ω a. ● a. p. ⊤
14	58.58	26.4	29.6	22.6	70.5	E, NE	7.8	4	Ci.	Cu. E		≡° Ω² a. ⚡ p.
15	59.34	26.7	31	23.1	71.5	S	4.7	2.5	Ci. NE	Cu. ENE		≡° Ω a. ☈ p.
16	59.19	26.3	30.1	22.9	72.1	E	9	4	Ci.	Cu. NNE		≡° Ω a. ☈ p.
17	58.40	26.5	30.5	23.6	71.4	NE, ENE	6.9	7.7	Ci.-S. E	Cu. NNE	2.8	≡° Ω a. ○ ● ☈ p.
18	57.54	24.1	25.9	22.9		NE	6.6	9.7		Cu.-N. N	9.7	≡° a. ●° a. p.
19	56.13	23.4?	25.5	21.3	82.8?	N quad.	16.3	10		Cu.-N. N	42.2	≡° ●° a. ●² p.
20	55.79	23.6	26	22	84.7	SW	8.6	8.8	A.-Cu.	N. W	38.4	● a. p.
21	55.87	24.6	29.2	22.4	84	SW	6.2	8.7	Ci.-S.	N. NW	39.1	●² a. p. ☈ p.
22	56.69	26.1	29	23.9	77.7	SW	6.8	6.7	A.-Cu.	Cu.-N WSW	7.4	≡° ● a.
23	58.40	26.4	29.4	23.9	77.4	SW quad.	7.6	5.7	Ci., A.-Cu.	Cu. W	9.9	≡° ● a.
24	59.06	26	29.8	23	74.1	NE	5.6	6	Ci.-S.	Cu.-N. NW		≡° Ω a. ⊍ p.
25	59.67	26.3	30	22.8	72.7	Variable	6.8	5	Ci.	Cu. N		≡° Ω a.
26	60.30	26	30	23.3	72	N, E	11.7	4	A.-Cu.	Cu. E	14.5	≡° Ω a. ● ⚡ p.
27	61.24	25.8	28	23.7	70.3	NE	10.1	5.5	Ci.-S.	Cu.-N. ENE		≡° Ω a.
28	61.21	25.8	29.3	24	73.5	NE	11.9	5.2	Ci.	Cu. ENE	.3	≡° Ω a. d p.
29	60.55	26.6	30	22.4	72.3	NE, E	9.8	4.2	Ci.	Cu. NE		≡° Ω a. d ⚡ ⊤ p.
30	59.35	26.2	29.5	22.9	75.4	E	9.7	5	Ci.	Cu. ENE	11.7	≡° Ω a. ● ⚡ p.
31	58.21	26.1	29	23	74.6	NE quad.	8.2	6.8	A.-Cu. E.	S.-Cu. E.		Ω ● a.
Mean	757.95	25.9	29.3	23	75		8.1	6.1				
Total											351.7	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	*°C.*	*°C.*	*°C.*	*Per ct.*		*0–12.*	*0–10.*			*mm.*	
1	758.91	26.1	31.6	23.5	85.3	N	1.8	5.3	Ci.	Cu. N		d ⚡ p.
2	58.12	26.7	30.8	24	83.5	N	1.7	6.8	Ci.-S.	Cu. N		
3	57.08	26.3	31	23.5	83.5	N	1	6.8	Ci. ESE	Cu. NE	2.3	Ω² d a. ●° a. p.
4	55.89	26.2	30.8	23.8	82.8	N	1.3	6.3	Ci.	Cu. NE	.6	d a. ●° p.
5	56.43	25.9	30.2	23	76	NE	2.5	5.8	Ci.-S.	Cu. NE, N		○° a.
6	57.04	24.9	30	21.1	78.5	NE	2	7	Ci.-S. E	Cu.		
7	57.36	25	27.4	23.5	86.5	NE	1	9.2	A.-Cu.	Cu.	3.8	● p.
8	56.89	25.3	29.4	23.1	84.5	NE	1	9	Ci.-S.	Cu.	.3	d ●° p.
9	57.36	25.7	30	23	85	NE	.8	8.3	A.-Cu.	Cu. NE	5.1	⊤ d ● ⚡ p.
10	57.49	26.2	31.1	22.6	84	NE, SW	.3	6.5	A.-Cu. E	Cu. NE	18.8	⚡ ☈ ● p.
11	57.95	25.3	29.6	22.5	88.7	SW, SE	.7	7.8	A.-Cu. E	Cu.	10.7	d a. ● ⚡ p.
12	58.26	25.5	28.8	23	87.3	SW	.5	8.3	A.-Cu.	Cu.		d a.
13	58.85	24.8	29.1	22.6	84.5	W	.3	7	A.-Cu.	Cu.	1.6	Ω ● a.
14	58.70	26.2	30.5	22.6	78.6	NE	1.5	4.8	Ci.	Cu. NE		●° d a. ⚡ p.
15	59.85	25.4	31.1	22.1	82.8	NE	.7	5.7	A.-Cu. E	Cu.	75.4	● ⊤ ☈ p.
16	59.71	25.8	31	22.4	84.5	N	.8	5	A.-Cu. ENE	Cu. N		⚡ p.
17	59.27	25.9	31	23.5	85.5	NE	.8	6.5	Ci.-S.	Cu. NE, NW	8.6	● p.
18	58.82	24.3	27.3	23	90	N	1.2	9.7	Ci.-S.	Cu.-N. NNE	3.6	● a. p. ⚡ p.
19	58.38	22.6	25	20.4	87.8	NE, N	1.	9.8	Ci.-S.	Cu. NW	29.2	d a. d ● p.
20	56.92	22.8	25.3	20	93.3	SW	.3	10	Ci.-S.	Cu.-N.	5.9	d ● a. p.
21	56.61	24.7	27.8	23.1	93.8	NE	.1	9.7	Ci.-S.	Cu.	4.8	d a. ● ⊤ p.
22	57.51	24.3	28.1	22.2	94.8	NE	.5	9.3	A.-Cu.	Cu.	57.9	⚡ ● a. p.
23	58.92	25.6	29.1	23	88.2	SW	.5	7.5	A.-Cu. E	Cu. N	6.9	d° ⊤ ⚡ p.
24	59.58	25.4	29.5	23	85.4	NE	1.3	8.2	A.-Cu.	Cu. N		○ a.
25	60.34	25.5	30.6	22.6	85.5	NE	1.5	7.3	A.-Cu.	Cu. N	1.3	⚡ ● p.
26	60.68	25.3	29.6	23.4	84.9	NE	1.5	7	Ci., A.-Cu.	Cu. NE	5.3	d a. ● p.
27	61.88	24.4	27.5	22.5	89.3	NE	.5	8.8	A.-Cu.	Cu. NE	.9	●° a. p.
28	61.38	26.2	30.5	23.5	80	NE	.5	6.7	Ci. E	Cu. ENE, NE		d p.
29	60.78	26.4	30.9	23.1	81.9	NE	.3	6	Ci.	Cu. ENE	2	Ω a. ☈ p.
30	59.39	26.4	30.7	23.9	82.8	NE	1	4.8	Ci., Ci.-S. E	Cu.		
31	58.32	25.8	29	23.5	84.1	NE, N	1.5	6.7	A.-Cu. E	Cu. NE		d a. ⚡ p.
Mean	758.54	25.4	29.5	22.8	85.3		1	7.3				
Total											245	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	758.65	26.2	32.9	22.2	80.3	N	0.5	5.7	Ci., Ci.-S.	Cu.-N. ENE	0.8	Ω ≡° a. p ⊕° p.
2	57.78	25.7	32.2	21.9	82.5	N, W	.3	6.5	Ci.	Cu.-N. NE	------	Ω ≡° a. ⊤ ⚡ p.
3	56.66	25	31.3	20.9	84.8	Variable	.2	6.2	Ci.	Cu. ENE	1.5	⊤ d ⚡ p.
4	55.26	26.2	30.9	21.5	83.7	NNW	.3	7	Ci.-S. E	Cu.-N. NNE	------	Ω a. ⊤ ⚡ p.
5	55.90	25.1	30.4	21.7	76.2	N quad.	.5	8.5	Ci.-S. SE	Cu.-N. NNE, NE	------	
6	56.57	24.3	29.2	20	84.7	N	.5	9.3	Ci.-S.	Cu.-N.	.8	Ω a.
7	56.81	23.3	26.2	21	94.2	N	.8	9.5	Ci.-S.	Cu.-N. NE	82.6	d a. ● a. p.
8	56.63	24.4	29.2	20.3	84.3	S	.3	9.2	Ci.-S. SE	Cu.-N.	------	● a.
9	57.40	25	30.8	21.8	85.5	Variable	.5	7.2	Ci. SE	Cu.-N.	------	⊤ d° p.
10	57.40	24.7	30.4	20.4	85.7	N, SSW	.3	5	Ci., Ci.-S. SE	Cu.-N.	1	Ω a. ⚡ d° p.
11	57.97	25	30	21.9	87.8	Variable	.5	7	A.-Cu. SE	Cu.-N.	15.7	⚡ p.
12	58.17	25.2	31.2	21.8	84	SW quad.	.2	6.7	Ci.-S. SE	Cu.-N.	------	⛈ ● ≡° a ⊤ ⚡ p.
13	58.80	25.2	30.5	21.6	88.7	Variable	0	6.5	A.-Cu. NE	Cu.-N.	1	Ω a. ◯ ⊤ d ⚡ p.
14	58.66	25.7	32	21.2	80.2	Variable	.3	5.7	Ci.-Cu. EbyS	Cu. E	------	d° a. ⚡ p.
15	59.50	25.7	33	20.1	77.8	NW quad.	.3	4	Ci.	Cu. E	------	⚡ p.
16	59.46	25.2	31	20.4	81.7	Variable	.3	4.3	Ci.	Cu.-N. ENE	------	Ω a. ⊕ ⚡ p.
17	58.84	24.5	29.7	22	88	NW quad.	.2	8.2	Ci.-S., A.-Cu. E	Cu.-N. N	12.7	● ⊤ d ⚡ p.
18	57.33	23.1	24.4	21.9	94	NW quad.	.8	10	Ci.-S.	Cu.-N. NNE	26.7	●° a. p.
19	55.71	21.9	23.6	20.5	94.5	NNW	1.8	10	------	N. N	85.6	d ● a. p.
20	55.71	23.6	26.5	21.2	93.5	Variable	1	10	Ci.-S.	Cu.-N. N	25.7	≡° a. d² a. p.
21	56.08	24.6	27.5	23.1	93.2	SE quad.	1	9.7	Ci.-S.	N.	16.8	● a. p. ⚡ ⊤ p.
22	56.94	24.6	27.8	22.2	95.2	SE quad.	1.3	9.5	Ci.-S.	N. ESE	23.6	● a. p. ⚡ p.
23	58.72	25.6	31.2	22.1	85.7	Variable	.3	7.7	A.-Cu., Ci. E	Cu. W	------	● a. ⛈ ⚡ p.
24	59.17	25.2	29	23.1	89	NW quad.	.5	9.2	Ci.-S.	Cu.-N. Variable	.3	⚡ d a.
25	59.87	25.5	30.1	22.5	87.7	NW quad.	.5	8.5	Ci.-S.	Cu.-N. N, E	.5	p p.
26	60.63	24.9	30	22	86.7	NW quad.	.3	6.7	Ci.-S. SE	Cu.-N. E	------	Ω a. ⊕ p.
27	61.58	25.2	29	22.8	82.2	Variable	.3	8.5	Ci.-S.	Cu.-N. E	5.6	● ⊕° p.
28	61.49	25	28.7	22.2	85.1	W	.2	7.8	Ci.-S.	Cu.-N. E	1.5	d a. p.
29	60.75	25.2	30.1	21.4	86	W quad.	.5	6.7	A.-Cu.	Cu.-N. E	4.8	Ω p° a. d p.
30	59.47	25.6	30.7	21.4	83.9	Variable	.2	8.3	A.-Cu.	Cu.-N. E	5.1	d ≡° ⌒ p a.
31	58.42	25.8	29.2	22.9	82.2	Variable	.3	8.8	A.-Cu. ESE	Cu.-N. E	3	⛈ ●° a.
Mean	758.14	24.9	29.6	21.6	86.1	------	.5	7.7	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	315.3	

TACLOBAN.[1]

[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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0–12.	0–10.			mm.	
1	758.83	------	------	------	------	N	0.5	3.3	Ci.	Cu. E	1.3	● a. p.
2	58.22	------	------	------	------	N quad.	.8	6	Ci.-S. SW	Cu. E	1	● a.
3	56.84	------	------	------	------	NW quad.	.7	6.7	Ci. SW	Cu.-N., Cu. NE	------	⋓² ⊕² a.
4	55.62	------	------	------	------	NW quad.	1	7.8	Ci. SW	Cu.-N. NNE	12.2	⋓² ⊕² d a. ● p.
5	56.44	------	------	------	------	N	1.5	5.7	Ci., Ci.-S.	Cu.-N. NNE	3.8	⊕² a ● a. p.
6	56.91	------	------	------	------	N	.7	6.5	Ci. SW	Cu.-N. NNE	2.3	◯² a. d p.
7	56.88	------	------	------	------	Variable	.8	10	------	N. NE by N	104.3	● a. ●² p.
8	56.66?	------	------	------	------	NE quad.	.7	8.7	Ci. SW, S	Cu.-N. NE	------	●² ↙ a.
9	57.45	------	------	------	------	Variable	.2	7.3	Ci. WbyN	Cu. E	------	
10	57.73	------	------	------	------	SSE, SE	.3	6	Ci.-S. S	Cu. NNE	4.8	Ω² a. ● p.
11	58.01	------	------	------	------	SE	.5	6.5	Ci.-Cu. SW	Cu.-N. E	16.3	● a.
12	58.26	------	------	------	------	Variable	.2	6	Ci.-S. S	Cu. NE	3.8	Ω² a. ● p.
13	58.85	------	------	------	------	NW	.2	6.8	Ci.-S. SSW	Cu.-N. NNE	12.2	● p.
14	59.04	------	------	------	------	Variable	.5	5.7	Ci. WSW	Cu. E, ENE	------	
15	59.66	------			------	NW quad.	.5	3.2	Ci. W	Fr.-Cu. E	------	Ωa.
16	59.70	------	31.7	24.2	------	N quad.	.8	6.5	Ci.-S. W	Cu.-N. NE	12.7	Ω≡°a.⌒² ●⛈°p.
17	58.97	------	30.9	24.8	------	NW quad.	.5	8.7	Ci. S	Cu.-N. NEbyE	30.3	● ⊤ p.
18	57.46	------	26.2	22.8	------	N quad.	1.7	10	------	N. NE	34.3	●² a. ● p.
19	55.63	------	26	22.7	------	N quad.	2.8	10	------	N. NNE, N	47.3	● a. p.
20	55.45	------	28	23	------	WNW	.3	9	------	N., Cu.-N. N	5.1	d a. ● a. p.
21	55.83	------	28.8	24.3	------	NE	.5	9.5	------	Cu.-N. WSW	38.6	⌒² a.
22	56.86	------	28.2	24.6	------	Variable	.3	9.2	------	Cu.-N. S	12.7	●² a. ● p.
23	58.50	------	30.5	23.5	------	NNE, NW	.7	7.3	Ci.-S. W	Fr.-Cu. W	.8	● a. p ⛈° a. ⚡ p.
24	58.98	------	29.6	23.8	------	N quad.	.5	8.3	Ci.	Cu.-N. NW	10.2	● ⋓² ⊕² p.
25	60.19	------	28.2	23.9	------	N, NNW	.8	9	Ci. SW	Cu.-N. N	5.6	● a.
26	61.20	------	29.3	24.4	------	NE quad.	.7	7	Ci., Ci.-S.	Cu.-N. E	4.1	● p.
27	62.12	------	29.5	24.2	------	N	.8	9.7	------	N. ENE	26.2	●² ⊤ a. p.
28	61.95	------	29.5	24.2	------	N quad.	.7	8.8	Ci.-S. SW	N. ENE	5.2	● a. p.
29	61.22	------	30.4	23.4	------	NW, NE	.7	7	Ci., Ci.-S.	Cu.-N. E	15.5	⊕² ⋓² ≡ a. ● a. p.
30	59.90	------	30	24.5	------	E	.3	6.8	Ci. W	Cu.-N. E	------	● a.
31	58.84	------	28.5	24	------	E quad.	.7	7	Ci. NW	N., Cu.-N. E	11.4	⋓² ⊕² a. ● a. p.
Mean	758.33	------	------	------	------	------	.7	7.4	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	422	

[1] The thermometers of this station were broken during the typhoon of November 6, 1909.

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	------	26.1	------	------	91.3	NE	1.5	6.5	Ci.-S. NE	Cu.-N. NE quad.	------	
2	------	27.1	------	------	90	NE	1	6.7	Ci.-S. SE	Cu.-N. NE	.5	p° p.
3	------	26.8	------	------	91.9	NE	1.3	6.2	Ci.-S. NE	Cu.-N. E, N	------	d° a. p.
4	------	26.9	------	------	88	NE	1.3	6.8	Ci.-S.	Cu.-N. NE	------	
5	------	26.4	------	------	84.8	NE	1.5	7.5	Ci.-S. NE	Cu.-N. NE	------	
6	------	26.2	------	------	87.2	NE	2.2	8.7	Ci.-S. NE	Cu. N	1.3	
7	------	26.2	------	------	90	N quad.	1.5	9.5	Ci.-S. NE	Cu.-N. NE	------	●° a.
8	------	26	------	------	88.2	N quad.	1.3	9.2	Ci.-S.	Cu.-N. NE	2.3	
9	------	26.2	------	------	90	NE	.7	7.8	Ci.-S.	Cu.-N. NE, E	------	●° a. ↯ p.
10	------	26.2	------	------	89.8	SE, NE	.3	7.8	Ci.-S.	Cu.-N. SW, NE	14	Ω ≡° ●° a. ⌈↯ ● p.
11	------	25.3	------	------	91.8	SW, E	.3	8.3	Ci.-S.	Cu.-N. NE	2.8	⊤ p.
12	------	25.4	------	------	90.7	ESE, N	.3	8.3	Ci.-S. NE	Cu.-N. NE	16.5	● a. p ↯ p.
13	------	24.9	------	------	92.2	N quad.	.5	8.2	Ci.-S.	Cu.-N. NE	20.6	● a. p ⊤ p.
14	------	25.6	------	------	89.2	NE, ESE	.3	6.2	Ci.-S.	Cu.-N. NE	------	d. a.
15	------	25.8	------	------	87.7	N quad.	.5	4.2	Ci., Ci.-Cu.	Cu.-N. E	28.7	≡° Ω a.
16	------	25.8	------	------	89.8	NW quad.	.7	4.7	Ci.	Cu.-N. E	------	● a.
17	------	26.6	------	------	87.8	NW	.7	7	Ci.-S. SE	Cu.-N. NE	6.4	● p.
18	------	25.5	------	------	88.8	NE quad.	1.3	10		N.	5.1	● a. p.
19	------	25.2	------	------	90.3	NE	2.8	10	Ci.-S.	N. NE	27.2	p a. ●² p.
20	------	24.1	------	------	95.7	NW quad.	2.5	10		N.	23.1?	● a.
21	------	26.2	------	------	90.7	N quad.	1.8	9.8	Ci.-S.	Cu.-N. E	------	
22	------	25.6	------	------	92.8	NW quad.	2.2	10	Ci.-S.	Cu.-N. NE	60.7	● a. ●² p.
23	------	25.7	------	------	93	Variable	.7	7.7	Ci.-S.	Cu.-N. NE, N	30.5	● a. ↯° p.
24	------	25	------	------	91.7	NE	1.5	9.8	Ci.-S.	Cu.-N. NE	2	●² a. d p.
25	------	25.9	------	------	89.2	N quad.	1.8	8	Ci.-S.	Cu.-N. N	------	● a.
26	------	25.1	------	------	89.8	NE	1.8	9.2	Ci.-S.	N. NE	12.7	● a. d p.
27	------	24.5	------	------	93.2	NE	1.7	9.7	Ci.-S.	N. NE	15.2	● a. p p.
28	------	25.7	------	------	90.3	NE	1	8.5	Ci. NE	Cu.-N. NE	.8	●° p.
29	------	26.2	------	------	88.7	NE	.7	5.2	Ci. NE	Cu.-N. NE	------	Ω° ≡° a.
30	------	26.5	------	------	89	NE	.8	6	Ci.-S.	Cu.-N. E	------	Ω° ≡° a.
31	------	26	------	------	91.3	NE	.7	6.7	Ci.-S. NE	Cu.-N. E	------	⌒° p.
Mean	------	25.8	------	------	90.2	------	1.2	7.9	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	270.4	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	759.42	25.1	30.7	23	91.7	N	1.2	5.7	Ci.-S.	S.-Cu. ENE	9.4	Ω d a. p° ⊤° ↯ p.
2	58.61	26	31.5	22.5	87.2	N	1.3	4.8	Ci.-S.	S.-Cu. ENE, NE	2.8	Ω ≡° p a. ⌒° d p.
3	57.18	26	31.7	22.4	86.7	N	1.5	5.8	Ci.-S.	S.-Cu. ENE	.8	d a. p ↯ p.
4	56.01	25.7	30.1	22.6	85.8	NE	1.3	7.7	Ci.-S.	S.-Cu. NE	1.5	≡ ⌒ a.
5	56.84	25.6	30	22.8	78.3	NE	1.5	5.2	Ci.-S.	S.-Cu. NE	.3	≡ a. p.
6	57.22	24.5	28.8	21.4	88.7	N, NE	1.2	8.7	Ci.-S.	Fr.-N. NE	3.6	d a. p ≡° a.
7	57.09	26	30.1	23.7	83.6	NE, N	1.7	9	Ci.-S.	S.-Cu. NE	21.8	d a. p ● p.
8	57.32	24.5	27.7	22.4	91	N	.5	9.3	Ci.-S.	S.-Cu.	.5	● a. d a. p.
9	57.66	25.5	29.9	22.6	88.6	N	1	7.3	Ci.-S.	S.-Cu. ENE, E	2.8	≡° a. ⊤° ↯ ●° p.
10	57.91	25.4	30.2	22.2	88.8	N	.8	6	Ci.-S.	S.-Cu. E	3	p ↯ p.
11	58.33	25	29.5	22.8	90.5	N	1	6.7	A.-Cu. E	S.-Cu. E, SE	27.4	● p.
12	58.42	25.3	29.5	22.4	88.3	Variable	1.2	7.2	Ci.-S., A.-Cu.	S.-Cu. E	------	d a. ⊤ ↯ p.
13	59.18	25.4	30.2	22.6	88.2	N	1	5.8	A.-Cu., Ci.-S.	S.-Cu. NE	.5	d° a. ⊤ p° ↯ p.
14	59.26	25.5	30.6	21.5	85.6	N	1.3	4.3	Ci.-S.	S.-Cu. ENE	------	Ω a.
15	59.96	25.8	31.5	21.3	87	N	1	3.3	Ci.-S., Ci.	S.-Cu. ENE	8.9	Ω a. p ↯ p.
16	60.11	25.4	30.7	21.7	87.3	N	1.2	2.8	Ci., Ci.-S	S.-Cu. ENE	------	Ω a. d ⊤° ⌒ ↯ p.
17	59.41	24.7	31.5	21.6	89.5	N, NE	1.2	7.8	Ci.-S. SE	S.-Cu. NE	27.9	Ω ≡° a. p° ●° p.
18	58.37	23.8	26	21.9	90.5	NE	1.7	10	A.-Cu.	N. NE	8.6	● a. p° p.
19	56.81	22.9	24.5	21.7	89.5	N	1.8	10	A.-Cu.	N. NE, N	49	d a. p. ● p.
20	55.68	24.7	28.8	22.5	92.7	Variable	.5	9.3	A.-Cu.	S.-Cu., N. E, NE	51.1	● a. ψ ●² p.
21	55.88	24.9	27.7	23.8	94.2	NW quad.	.8	10	A.-Cu.	N. N	32.3	● a. p. ⊤° ↯ p.
22	56.96	25.5	29.4	22.8	91.3	Variable	.7	7.7	A.-Cu.	S.-Cu. SE	15.2	⌈↯ ● p.
23	58.75	25.6	29.5	23.6	91.7	W, NW	1	8.7	Ci.-S.	S.-Cu. NWquad.	6.9	d a. ↯ p.
24	59.33	25	29.2	23.5	92	N quad.	1	9.2	A.-Cu.	S.-Cu. N	15.5	↯ ⊤ ● a. d ψ p.
25	60.58	24.8	28.7	22.6	92	Variable	.8	8.2	Ci.-S., A.-Cu.	S.-Cu. N	17	⊕ ● a. p. ⌈↯° p.
26	61.58	23.8	27.7	22.2	92.8	N	1	7.5	A.-Cu. E	S.-Cu., N. NE	21.8	ψ p ⊤° ● ⌒ ⊕
27	62.60	23.4	24.9	22.7	94.5	NE	1.2	9.2	A.-Cu.	N. NE	30	⊕ ●° a. ● ↯ p.
28	62.28	25.8	31.7	22.5	86.8	E, N	1.2	7.5	Ci.-S.	S.-Cu. E	------	● a. ⊕ p.
29	61.37	25.8	31.2	21.8	85.2	NE quad.	1.3	4	A.-Cu.	S.-Cu. ENE	1.3	Ω ≡° a. ●° ψ ↯ p.
30	60.17	25.2	29.4	22.7	90.7	Variable	.8	8	A.-Cu.	S.-Cu. E	17.8	⊕ a. ● a. p ⌈↯ p.
31	59.08	24.9	29.2	22.4	92.7	N	1	6.7	A.-Cu. SE	S.-Cu. ESE	.8	ψ a. d a. p.
Mean	758.69	25.1	29.4	22.5	89.1	------	1.1	7.2	------	------	------	
Total	------	------	------	------	------	------	------	------	------	------	378.5	

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.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	759.92	24.6	26.7	22.8	91.8	NE	18.7	9.7	Ci.-S.	Fr.-N. ENE, NE	58.2	● a. ●² p.
2	58.79	26.8	30.5	24.7	82.8	NE, NNE	14.4	6.5	Ci.	Cu.-N. NE	7.1	d a. p. ● p.
3	57.55	25.4	27	23.4	89.7	NE	12.4	8.2	Ci.-S.	Fr.-N. NE	25.2	● a. p.
4	56.28	26.3	29.6	23.8	82.7	NE	17.8	6.7	Ci. SE, SSE	Cu.-N. NE	11	d a. p. ● p.
5	57.08	25.7	29	23.2	69	NE	20.1	5.2	Ci., Ci.-S.	Cu. NE	------	d° a.
6	57.48	25.8	29.2	22.5	74.4	NE	16.8	4.3	Ci.-S. S	Cu. NE	.3	d° a. ●° p.
7	57.54	26.5	29.8	24.6	75.3	NE	18	6	Ci.-S.	Cu., Cu.-N. NE	------	d° p.
8	57.05	25.3	28.3	22.1	80.8	NNE	8.9	9.2	Ci.-S.	Fr.-N. NE	------	d° a.
9	57.56	25	31	21.5	88.2	ENE	4.6	7.3	Ci.-S.	N.	------	☇° p.
10	57.54	26.5	31.1	22.6	86	NE, E	7.4	7.5	Ci.-S. SE	Fr.-N. E	------	☇ d° p.
11	57.97	26	30	23.4	86.2	E quad.	5.7	8.7	Ci.-S.	Fr.-N. ESE	.3	d a. p.
12	58.19	25.9	30.4	22.5	85	E	----------	6.8	Ci.-S. S	Cu. E	------	≡° a.
13	58.99	26.7	30.5	23.4	79	ENE, NE	7.1	5.3	Ci.-S. S	Cu.	------	☇ p.
14	59.24	26.6	30.4	24.5	79.5	NE, ENE	10.7	6.7	Ci.-S.	Cu.-N. ENE	3.9	⌒ ● a. ● ☇ p.
15	60.03	26.2	31	21.5	82.3	ENE, NE	8	4	A.-Cu. SE	Cu. SE	------	d a. ☇ p.
16	60.06	26.5	31.4	21.6	79.5	NE	8	4.3	A.-Cu. NE	Cu.	------	≡ a.
17	59.75	25.4	30	22.5	84.9	NE	8.8	8	Ci.-S.	Fr.-N. NE	69.3	d a. d ●² p.
18	59.22	25.3	26.9	23	81.5	NE	18.7	10	Ci.-S.	Fr.-N. NNE	4.6	● a. p.
19	58.21	24.5	25.9	22.7	73.5	NE	24.9	10	Ci.-S.	Fr.-N. NNE	42.4	d² a. d° p.
20	56.34	24.2	25	22.1	94.2	NE	18.4	10	Ci.-S.	Fr.-N. NE	64.8	● a. p.
21	56.36	25.8	28.3	24.2	87.5	NE	20.2	10	Ci.-S.	Fr.-N. NNE	6.6	d a. p. ● p.
22	56.87	25.3	27.3	23.4	90.8	NE	9.7	10	Ci.-S.	N. NE, SE	81.5	●² ⊤ a. ● p.
23	58.75	25.4	28	23.5	90.3	ENE, NE	10	10	Ci.-S.	N. NNE	71.8	● a. p. ⌈☇ p.
24	59.51	24.6	26.1	22.8	89.8	NE	14.1	10	Ci.-S.	Fr.-N. NNE	21.4	● a. ◡ p. d a. p.
25	60.64	26.2	30.4	22.9	80.3	NE	16.7	6.2	Ci., Ci.-S.	Fr.-N. NE	34.8	≡ a. d² p.
26	61.80	24.3	25.1	22.4	89	NE	23.1	10	Ci.-S.	N. NE	6.4	● a. p. ⌒ p.
27	62.85	24.6	26.8	23.1	87.3	NE	17.7	9.3	A.-Cu. ENE	Cu.-N. NNE	70.9	d a. ● ⊤ p.
28	62.66	25.2	27.9	22.9	87.8	NE	16.7	9.5	Ci. SE	N. NE	17.5	●² a. ● p.
29	61.72	26.2	29	23.7	85.8	NE	10	7.7	Ci.-S.	Cu.-N. ENE	13.5	● a. p.
30	60.28	26.3	29.7	24.4	87	NE, ENE	10	6.7	Ci.	Cu.-N. E	20.4	● a. p.
31	59.12	26.3	29.9	23.5	86.7	NE, ENE	8.4	6.3	Ci., Ci.-S.	Cu.-N. NE, ENE	17	● a. p.
Mean	758.88	25.7	28.8	23.1	84.1	----------	13.5	7.7	----------	----------	------	
Total	----------	------	------	------	------	----------	----------	----------	----------	----------	648.9	

ATIMONAN.

[ϕ=14° 00′ N; λ=121° 55′ E; barometer above sea, 4 meters; gravity correction not applied, —1.74 mm.]

	mm.	°*C.*	°*C.*	°*C.*	*Per ct.*		*Km. p. h.*	*0–10.*			*mm.*	
1	760.44	26.9	28.6	25.6	76	NE	29.1	8.7	Ci.-S.	S.-Cu. NE	7.9	
2	59.55	25.7	27.4	24.1	89.7	NNE	25.7	10	Ci.-S.	N. NE	48	● a. p.
3	58.80	24.5	25.7	23.1	93.4	N quad.	21.6	10	Ci.-S.	N. NE	64.3	● a. p.
4	57.29	25.3	27.5	23.7	85.3	N quad.	27.6	8.8	A.-Cu. NE	N. NE	6.2	⊕° ● a. d a. p.
5	57.91	25.4	27	23.4	74.7	NE	30.5	8.3	A.-Cu. NE	S.-Cu. NNE, NE	.3	d a. p.
6	58.41	25	26.5	24.1	80.2	N quad.	29.8	8.7	Ci.	N., S.-Cu. NE	2.3	⊕ a. d a. p.
7	58.54	25.2	27.4	23.3	80.7	NE	29.2	9.7	A.-Cu. ENE	S.-Cu., N. NE	9.2	d a. ●° p.
8	57.72	25.6	26.7	23.7	81.5	N	24.3	9.8	Ci.-S.	S.-Cu. NE	1	⊕° a. d a. p.
9	57.49	26	29.2	23.2	85.7	NE, NW	6.7	9	Ci. SE	S.-Cu. SE	------	d° p.
10	57.47	26	29.9	23.6	87.2	Variable	7.9	7	Ci. ESE, SE	S.-Cu. E, SE	.8	d° ☇ p.
11	57.98	24.6	26.6	22.9	94.1	Variable	10.5	7.8	Ci.	N. NE, ESE	51.6	☇ a. ● a. p. ⌈☇° p.
12	57.98	25.3	29.7	23.1	91	Variable	6.8	8.5	A.-Cu. SE	S.-Cu. SE	3.5	○° a. d ⊤° p.
13	58.87	25.3	27.5	23.1	89.7	N quad.	14.2	9.5	Ci.-Cu. ESE	S.-Cu. NE	11.2	d ⌒ a. ● p.
14	59.08	25.4	28.7	23	90.2	NE	14.9	9	Ci.	N., S.-Cu. NE	26.7	⌒ a. ● p. d a. p.
15	60.28	25.3	27.3	22.1	89	N	16.6	7.3	A.-Cu. NE	S.-Cu. N, NE	8.1	d ● ⌒² a. ☇° p.
16	60.14	25.4	26.9	23.7	90.2	N	17.7	7.2	Ci., A.-Cu. SSE, NE	S.-Cu. N, NE	6.4	d² a. ● p.
17	60.16	24.9	26.9	23.5	90	N	18.1	9.5	A.-Cu. E	Fr.-N NE, N	6.3	d a. p. ● p.
18	60.09	24.9	26.6	22.9	84.8	NE	24.9	9	A.-Cu. ENE	N., S.-Cu. NE	3.8	d a. p.
19	59.98	24.7	25.9	22.4	76.2	N	31.1	8.5	Ci.-S.	S.-Cu. N	.8	◡° d p.
20	58.49	24.1	26	21.9	86.2	N	26.9	10	Ci.-S.	N. N	70.8	● a. p.
21	58.15	24.5	25.7	23.5	90.3	N	27.4	10	Ci.-S.	N. NE	2.6	d° a. p.
22	58.73	24.1	25.3	23	90.2	N	27.9	10	Ci.-S.	N. N	41.9	d² a. ● p.
23	59.48	24.4	25.6	22.4	93.7	N	27.1	10	Ci.-S.	N. NE	61.2	● a. p. ⌈☇° p.
24	60.93	24	25.2	22.5	86.8	N	26.2	10	Ci.	N. N, NNE	34.3	● a. p.
25	62.20	24.1	25.3	22.8	88.3	N	25.2	10	Ci.	N. NNE	13.8	d a. ● p.
26	63.10	23.7	25.3	22.5	87.3	NE	29	10	Ci.-Cu. E	N. NNE	7.6	●° a. p.
27	64.03	24.2	25.7	22.3	79.7	NE quad.	28.1	10	Ci.	S.-Cu., N. NE	5.6	d° a. ●° p.
28	63.75	24.2	25	22.3	90.5	NNE	27.9	10	A.-Cu. EbyN	N. NE	16.4	● a. p.
29	62.17	25.1	26.4	23.3	89.2	NE quad.	24.8	10	Ci.-Cu. ENE	S.-Cu. ENE	.8	●° a.
30	60.42	26.2	29.3	24.3	87	N quad.	14.6	8.8	A.-Cu. E	S.-Cu. NE	.5	d a.
31	59.37	25.9	27.8	24.3	88.3	N	14.1	7.5	Ci., A.-Cu. E	S.-Cu. NE	------	d a.
Mean	759.65	25	26.9	23.2	86.7	----------	22.1	9.1	----------	----------	------	
Total	----------	------	------	------	------	----------	----------	----------	----------	----------	513.9	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	760.23	26.9	32.3	24.2	64.8	NNE	2	6.2	A.-Cu.	Cu., Cu.-N. ENE	------	d° ≡ p.
2	59.43	26.6	33.4	21.5	74.1	NNE	1.7	5.8	A.-Cu.	Cu. NE	------	≡° a.
3	58.32	26.1	31.5	23	81.2	NNE	1.2	9.2	A.-Cu. ESE	Cu.-N. NE	3	● ≡° ↯ p.
4	56.90	26.3	32.1	21.7	73.1	NNE	1.7	6.2	Ci.	Cu. NE	------	
5	57.22	24.9	31.1	20.6	70.7	NE	2.2	2.8	Ci.	Cu.	------	≡° a. p.
6	57.92	24.8	30	20	65.5	NE quad.	1.5	8.3	Ci.-S. SSE	Cu.	------	Ω° a. ◯° a. p.
7	58.25	24.9	31.3	19.6	74.5	NE quad.	1.3	7.3	Ci.-S.	Cu.	------	Ω ≡° a.
8	57.49	24.4	31.3	19.6	77.6	NE quad.	1.3	6.5	Ci.-S.	Cu.,	------	Ω°≡° ◯ a.
9	57.57	24.8	29.7	20.5	84	NE quad.	1.2	7.7	Ci.-S.	Cu., Cu.-N.	.9	Ω a. ●° p. ≡° a. p.
10	57.18	25.5	31.1	21.7	85.3	NNE, E	1.3	9.3	A.-Cu.	Cu.N. ENE	.5	Ω² ↯ a. d p.
11	57.35	26.4	31.2	24	81.3	NNE, ENE	1.8	9.5	Ci.-S.	Cu.	------	⌈↯ a. ≡ a. p.
12	57.72	26	31.8	23.4	84.7	NE quad.	1.2	9.2	Ci.-S.	Cu.-N.	17.4	◯² ⌈↯ a. ●° p.
13	58.61	25.7	30.3	22.9	85.8	NE quad.	1.5	9.2	Ci.-S.	Cu.-N.	.3	p° ≡ p. d a. p.
14	58.97	24.6	30	22	84.2	NE quad.	1.3	6.7	Ci.-S.	Cu. NEbyE	1.7	≡ a. d p.
15	60.10	25.8	32.1	21.5	79.6	NE quad.	1.3	5.5	Ci.-S.	Cu.	------	● a. ⌈↯ p.
16	60.14	26	32.8	21.2	81.8	NNE	1.2	4.3	Ci., Ci.-S.	Cu.	------	Ω ≡° a. ⌈↯ p.
17	60.16	25	32.7	21.9	87	NNE	1	8.2	Ci.-S.	Cu. NNE	7.4	Ω² a. d ● ⌈↯ p.
18	60.11	24.4	29.3	22.4	83.7	NE quad.	1.5	9.3	Ci.-S.	Cu.-N.	------	d° a. p.
19	60.04	23.4	27.9	20.3	78.3	NNE, NE	1.5	8.8	Ci.-S.	Cu. NNW	------	ψ° p. ◯° a. p.
20	59.16	21.7	25.4	17.2	86.3	NNE	1.2	10	Ci.-S.	Cu. NNE	------	Ω² a. ≡° a. p.
21	58.42	23.6	28.3	20.4	83.9	NNE	1.1	10	A.-Cu.	Cu.	------	d p. ≡° a. p.
22	58.42	24.6	30.3	19.5	74.5	NNE, NE	1.4	8.2	A.-Cu.	Cu.	------	Ω° ≡° a. ◯° p.
23	59.28	25.6	31.4	22.1	76.8	NNE, NE	1.2	9.8	Ci.-S.	Cu.-N. NE	------	≡ ⌒² d° ◯ a. ψ p.
24	60.59	23.2	25.8	20.8	84	NNE	1.3	9.2	Ci.-S.	Cu.-N.	3.1	●° p. d° a. p.
25	61.56	24.5	30.1	20	76.2	NNE, NE	1.3	7.8	Ci.-S., A.-Cu.	Cu. NE	------	⏀ p.
26	61.90	25	30.1	22.6	66	NNE	2.3	1.8	Ci.-S.	Cu.	------	∞ p.
27	63.27	25	29.9	21	63.5	NE quad.	2.7	3.3	Ci.-S.	Cu.	------	∞ p.
28	63.01	24.7	29.1	21.6	69.7	NNE, NE	2.6	8.2	A.-Cu.	Cu. NE	.1	d° p.
29	61.71	25.7	30.8	21.1	74.3	NE	2	5.2	Ci.-S.	Cu., Cu.-N. ENE	------	Ω° a.
30	59.93	27	32	24	75.9	NNE	1.5	5.2	A.-Cu.	Cu.-N. EbyN	------	d° ≡° p.
31	59.18	26.6	32.7	22.4	80.2	NNE, E	1.4	5	A.-Cu.	Cu. EbyN	------	Ω² a. ≡° a. p.
Mean	759.36	25.2	30.6	21.4	77.7	------------	1.5	7.2	------------	------------	------	
Total	------------	------	------	------	------	------------	------------	------------	------------	------------	34.4	

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. Prevailing form and its direction. Upper.	Clouds. Prevailing form and its direction. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	760.67	------	------	------	------	Variable	1.1	4.3	Ci.	S.-Cu. ENE	------	Ω² a.
2	59.78	------	------	------	------	Variable	1.4	4.7	A.-Cu. SE, E	Cu. E, NE	------	Ω² a.
3	58.48	------	------	------	------	NE, ESE	1.2	8	Ci.-S.	Variable NE	------	⏀² a. ↯ p.
4	57.16	------	------	------	------	NE quad.	1.4	4.3	Ci. SE	Cu., S.-Cu. NE	------	
5	57.77	------	------	------	------	Variable	1.8	3.7	Ci. SE	S.-Cu.	------	Ω² a. p.
6	58.32	------	------	------	------	E quad.	1.2	6	Ci. SE	Cu. NE	------	Ω² ◯° a. ◯² p.
7	58.56	------	------	------	------	Variable	1.5	4.3	Ci. SE	Cu. NE	------	Ω² a. ◯² p.
8	57.62	------	------	------	------	NE quad.	.6	5.3	Ci.-S. SE	Cu. E	------	Ω² a.
9	57.50	------	------	------	------	NNW, NW	.7	5.5	Ci.-S. SSE	N. NE	0.5	Ω² a. d ↯ p.
10	57.32	------	------	------	------	NW, SSE	1.1	8.7	Ci.-S.	N.-cf. SE	1.3	d° ⌒° p.
11	57.76	------	------	------	------	Variable	1.2	8	Ci.-S. SE	N., S.-Cu. E	.3	●° ◯² a. ⊕² d°p.
12	57.99	------	------	------	------	NW	.9	8	Ci.-S. SE	N. NNW	27.2	Ω ●² ⌈↯ p.
13	59.06	------	------	------	------	N quad.	.8	9.2	Ci.-S.	N. NE	2.1	p. ≡ a. d²p.
14	59.20	------	------	------	------	NW, ENE	2.2	6	Variable	N.-cf. NE	1	↙° p.
15	60.44	------	------	------	------	NE quad.	1.4	4.8	A.-Cu. SE	Cu.-N. E	------	
16	60.20	------	------	------	------	E, NNW	.8	3.7	Ci. SE	Cu.-N. NE	------	Ω² a.
17	60.46	------	------	------	------	Variable	1.2	6.8	Ci. SE	N. NE	8.4	Ω² a. ⌒° ● p.
18	60.37	------	------	------	------	Variable	1.1	8.5	Ci.-S.	N. NE	------	
19	60.27	------	------	------	------	NE	1.7	6.8	Ci.-S. SE	Cu. N, NE	------	Ω² a. ◯² ⏀² ψ° p.
20	59.36	------	------	------	------	NNW	1.2	8.8	Ci.-S.	N. NE	------	Ω² ⊕² a. ⏀² p.
21	58.49	------	------	------	------	Variable	1.9	9	A.-Cu. SE	N. NNE	------	d° a. ⏀² p.
22	58.86	------	------	------	------	NE quad.	1.8	7.5	Ci.-S.	N. ENE	.3	Ω² a.
23	59.61	------	------	------	------	NW, NE	.8	9.5	Ci.-S.	N. ENE	------	d° a.
24	60.71	------	------	------	------	N quad.	1.2	9	Ci.-S.	N. E quad.	.5	Ω° a. d° p.
25	61.96	------	------	------	------	NE quad.	1.6	7.3	Ci.-S.	Cu. N, NE	------	⏀²Ω°◯²a. ψ°⏀²p.
26	62.74	------	------	------	------	E, NW	2	3.3	Ci.	S.-Cu.	------	Ω² a.
27	64.02	------	------	------	------	ENE, NW	1.7	2.8	Ci.	S.-Cu.	------	Ω² a.
28	63.90	------	------	------	------	NE, NW	1.3	7.8	A.-Cu. E quad.	N. ENE	1	⏀² Ω² a. d p.
29	62.48	------	------	------	------	NW quad.	.8	7.7	Ci.-S.	N. NE	2.5	Ω° d a. ⌒° ⏀² p.
30	60.44	------	------	------	------	Variable	1.1	7.3	A.-Cu.	N.-cf. E	------	
31	59.46	------	------	------	------	NW, ESE	1.3	5.7	A.-Cu. E	Cu. NE	------	
Mean	759.71	------	------	------	------	------------	1.3	6.5	------------	------------	------	
Total	------------	------	------	------	------	------------	------------	------------	------------	------------	45.1	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	760.35	26.2	32.6	22.3	83.8	S, N	10.1	3		S.-Cu. E	------	⊕ a.
2	59.69	26.4	32.7	21.4	86.8	SE	7.6	2.5	Ci.-S.	S.-Cu.	------	⊕ a.
3	58.51	25.6	31.6	22.3	87.7	SE, NW	7	5	A.-Cu.	S.-Cu. WNW, SE	------	⊕ ≡° a.
4	56.92	25.7	31.4	21	84.8	S	10.4	2.8	Ci.	S.-Cu.	------	
5	57.32	25.4	32.4	21.2	80.5	SE	12.5	2.7	Ci.	S.-Cu. N	------	⊕ a.
6	58.10	24.5	31.1	20.4	83.5	S	9.7	5.2	Ci.	S.-Cu.	------	
7	58.42	24.6	30.6	19.4	86.3	Variable	8.1	4.3	Ci.	S.-Cu.	------	
8	57.66	24.9	29.9	19.8	85.8	Variable	9.6	3.8	Ci.-S.	S.-Cu.	------	
9	57.56	24.6	29.1	20.2	92	NW quad.	6.4	6.7	A.-Cu. SE	S.-Cu.	------	
10	57.02	25.9	31.9	22	90.2	E, SW	5.7	6.5	Ci.	S.-Cu. S	1.1	≡° a. d² ⚡ p.
11	57.39	26	31.5	23.1	91.2	S quad.	9.4	10	Ci.-S.	S.-Cu. SE	2.8	d² ⊤ ⚡ p.
12	57.86	25.1	30.1	21.6	93.5	SE	8.4	7.5	A.-Cu.	S.-Cu. NW	2.6	⚡ a. d p.
13	58.82	25.6	30.8	22.7	91.5	N	6.9	9.5	A.-Cu.	S.-Cu. E	------	⚡° p.
14	58.72	26.1	32.1	22.3	85.5	Variable	7.8	6.5	A.-Cu.	S.-Cu. E, SE	------	d° p.
15	60.31	25.4	30.6	22	89	Variable	8	6.5	A.-Cu.	S.-Cu. SE	------	⌒ d° a. ⚡° p.
16	60.29	25.6	30.8	21.2	89.8	SE	6.4	1.5	Ci.	Cu., S.-Cu.	------	
17	60.26	25.8	32	22.1	89.3	Variable	6.5	7.2	Variable	S.-Cu. E, N	2.8	d° p p.
18	60.27	25.2	30.6	22.3	89.3	SE	8.4	9.7	A.-Cu.	S.-Cu. E, ENE	------	ψ p.
19	60.02	24.7	29.9	21.3	82.2	S quad.	7.5	8.5	Ci.-S.	S.-Cu. N	------	ψ ⊕ p.
20	59.49	23.2	28.8	18.4	83.9	S	6.5	8	Ci.-Cu., Ci.-S.	S.-Cu.	------	≡° a. ψ° p.
21	58.42	25	31.4	21	80.6	Variable	6.1	7	Ci.	S.-Cu. S	------	ψ² ⊕ p.
22	58.60	25	31.6	19.1	73.3	S quad.	7.7	5.8	A.-Cu., Ci.	S.-Cu. S	------	ψ p.
23	59.45	25.7	32.4	21.5	78.3	Variable	6.7	9.5	A.-Cu.	S.-Cu.	------	
24	60.72	24	27.4	21.5	79.5	Variable	7.7	9.7	A.-Cu.	S.-Cu.	1.6	d p.
25	61.82	24	31.6	20	79.2	SE	7	6.7	A.-Cu.	S.-Cu.	------	
26	62.25	24.8	30.9	21	70.8	SE quad.	14.1	.8	Ci.	Cu., S.-Cu.	------	⊕² p.
27	63.47	24.8	31.8	20	68.3	S	13.9	.5	Ci.	Cu.	------	
28	63.50	24.7	33.1	18.4	73.7	SE, S	10.8	4.5	A.-Cu.	S.-Cu. E	------	d° p.
29	61.92	25	31.8	21.5	79.5	SE, S	14.2	6.7	A.-Cu.	S.-Cu. ESE	------	⊕ a. d° p.
30	60.22	25.9	30.7	21.1	80.5	Variable	8.9	1.8	------	S.-Cu. SE	------	
31	59.27	26.8	34.6	21.6	82.8	Variable	8.1	4.5	A.-Cu.	S.-Cu. SE	------	⊤ p.
Mean	759.50	25.2	31.2	21.1	83.6	------	8.6	5.6	------	------	------	------
Total	------	------	------	------	------	------	------	------	------	------	10.9	------

BOLINAO.

[ϕ=16° 24′ N; λ=119° 53′ E; barometer above sea, 8.5 meters; gravity correction not applied, —1.65 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.	Rain.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	760.25	26.2	30.3	21.7	77.6	SSE, NNE	2.2	3.8	Ci.-S., Ci.	S.-Cu.	------	Ω² ≡ a.
2	59.60	26.7	30.4	23.4	77.8	SE, NNE	2	7	Ci.-S.	Cu.	------	Ω² ≡ a.
3	58.42	26.4	29.9	22.2	79.2	NNE	2.3	7.8	Ci.-S.	Cu. NE	------	Ω² ≡ a.
4	56.90	26.2	29.7	21.4	77.6	SE quad.	2	6.3	Ci.-S., Ci.	S.-Cu., Cu.	------	≡ a.
5	57.12	26	31.2	21.7	75.6	SE quad.	2.2	5.8	Ci.-S., Ci.	S.-Cu., Cu.	------	Ω² ≡ a.
6	57.86	25.2	29.4	21.8	76.7	SE, SSE	2.5	9	Ci.-S.	S.-Cu., Cu.	------	Ω² ≡ a.
7	58.23	25.2	29.8	20.9	74.3	SE quad.	2.3	9.5	Ci.-S.	Cu.-N.	------	Ω² ≡ a.
8	57.55	24.7	28.9	18.8	77.3	NE	2	9.3	Ci.-S.	Cu.-N.	------	Ω² ≡ a.
9	57.40	25.9	30.6	19.8	81.7	SE quad.	2	8.7	Ci.-S., A.-Cu.	Cu.-N.	------	Ω² ≡ a.
10	57.01	26.4	30.4	21.9	82.8	SE quad.	1.3	10	Ci.-S.	Cu.	------	Ω² ≡ a. Γ⚡ d p.
11	57.27	25.9	30.4	23.9	83.1	SE	2	10	A.-Cu.	Cu.-N.	10.9	≡° a. ● Γ p.
12	57.65	26	29	23.4	85.4	SSE, NNE	2.3	10	Ci.-S., A.-Cu.	Cu.-N.	37.1	≡° a.
13	58.69	25.9	28.5	23.8	86.7	NNE	3.3	10	Ci.-S.	Cu.-N. NE	------	Γ⚡ ●² a.
14	58.76	26.2	29.6	23.2	80.5	N quad.	1.5	9.2	Ci.-S.	Cu.-N.	.8	≡° a.
15	60.16	25.5	28.1	23	83.6	E quad.	1.8	9.3	Ci.-S.	Cu.-N.	.1	●° a.
16	60.16	25.8	29.2	21.4	81.5	NE, NNE	2.2	6.7	Ci.-S.	Cu.	------	Ω² ≡ a.
17	60.08	26.4	29.4	23.8	82.2	NE quad.	1.2	9	Ci.-S.	Cu.-N.	.3	Ω² ≡° d a. ⌒² p.
18	60.02	25.9	28.5	23.7	80.8	SE quad.	2.2	10	Ci.-S.	Cu.-N.	------	Ω² ≡° ⌒ a. ψ° p.
19	59.85	24.8	27.6	21.4	77.4	NNE	2.8	10	Ci.-S.	Cu.-N.	------	Ω ≡° a. ◯² p.
20	59.25	24.5	28.1	18.6	78.5	NE quad.	1.8	10	Ci.-S.	Cu.-N.	------	Ω² ≡° a. ψ p.
21	58.33	25.8	28.5	23.2	78.4	NNE	2.8	10	Ci.-S.	Cu.-N.	------	Ω a. ψ p.
22	58.51	25.1	29.2	20.4	77	SSE, NE	2.2	9	Ci.-S.	Cu.-N.	------	Ω ≡ a.
23	59.38	25.7	28.8	22.4	79.2	N quad.	2	10	Ci.-S.	Cu.-N.	------	Ω ≡° a.
24	60.61	25	28.3	22.9	79.8	SE quad.	1.8	10	A.-Cu.	Cu.-N.	------	≡° a. d p.
25	61.76	25.5	28.5	21.8	78.5	NNE	2.7	9.8	Ci.-S.	Cu.-N.	------	Ω ≡° a.
26	62.27	25.1	29.2	20.8	76.2	S quad.	2.7	2.8	Ci.-S.	S.-Cu., Cu.	------	Ω² ≡ a.
27	63.38	24.6	29.9	20.1	74.9	SE quad.	2.5	2	Ci.-S.	S.-Cu.	------	Ω² ≡ a.
28	63.42	25.2	30.4	20.1	76.7	SE quad.	2.2	5.2	Ci.-S.	Cu.-N.	------	Ω² ≡ a. d p.
29	61.82	25.9	30.8	21	76.7	SSE	2.7	6.5	A.-Cu., Ci.-S.	Cu.-N.	------	Ω² ≡ a.
30	60.22	26	28.9	22.9	81.8	NE, NNE	2.5	1.5	Ci.-S.	S.-Cu.	------	Ω ≡° a.
31	59.37	26.3	30.3	22.1	81.7	ESE, NNE	2.2	5	Ci.-S.	S.-Cu.	------	Ω² ≡ a.
Mean	759.40	25.7	29.4	21.9	79.4	------	2.2	7.8	------	------	------	------
Total	------	------	------	------	------	------	------	------	------	------	49.2	------

METEOROLOGICAL DATA, ETC.—Continued.

BAGUIO.

[ϕ=16° 25′ N; λ=120° 23′ E; barometer above sea, 1,512.5 meters; gravity correction not applied, −1.65 mm.]

Day.	Pressure (mean).[1]	Temperature.			Relative humidity (mean).	Wind.		Clouds.			Rain, 24 hours beginning 6 a. m.	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	637.74	16.8	24.7	13.6	88.3	E	16.9	3.5		Cu.	--------	Ω a. $\equiv^2$ p.
2	37.35	17.3	23.7	14.7	88.7	E, SE	15.3	3.5	Ci.-S. SSW	S.-Cu. ESE	--------	⊤ ≡ p.
3	36.26	17.1	22.4	13.8	91	E	15.7	9	Ci.-S., A.-Cu.	Cu.	7.1	Ω a. ≡ ● ⌒ p.
4	34.77	16.6	23.2	13.8	84	E	17.5	6.2	Ci.	Cu. ENE	--------	Ω a. ≡ p.
5	34.58	15.5	21	12.8	88.5	E	14.5	7.2	Ci.-S., A.-Cu.	S.-cf. NW	--------	Ω a. ≡ a. p.
6	35.01	15	21.5	11.3	76	E, SE	18.6	7.5	Ci., Ci.-S.	Cu. EbyN	--------	Ω a. ○ p.
7	35.53	15.7	23.1	12.7	83.7	SE	16.4	7.5	Ci.-S.	Cu.	--------	≡ p.
8	35.10	16.2	22.5	12.8	79.7	E	14.5	7.2	Ci.-S.	Cu., S.-Cu. ESE	--------	
9	35.33	18	23.9	14.1	81.2	E	9.5	7.8	A.-Cu. SE	S.-Cu., Cu.	--------	Ω a. ≡ p.
10	35.43	18	24.3	14.7	91.1	E quad.	11.6	7.5	A.-Cu. SE	Cu., S.-Cu.	1	≡ ●° p.
11	35.30	17	22.5	15.4	95.3	SE	14.1	10	Ci.-S.	S.-Cu.	44.2	⊕° a. ≡° ● Γ∡ p.
12	35.51	16.5	19.9	15.2	97.8	Variable	10.1	9.5	Ci.-S., A.-S.	N.	11.2	≡ ● a. p.
13	36.23	16.8	21	14.6	92.5	Variable	8	9.8	A.-Cu. ENE	S.-Cu. E	8.1	● $\equiv^2$ p.
14	36.15	16.8	22.2	14.2	84.2	ESE	14.1	5	Ci., A.-Cu.	Cu. ENE	2	≡ p.
15	37.36	16.8	22.5	14.3	87	ESE	13.6	9.2	A.-Cu.	Cu. E	1.3	≡° ●° a. ≡ ϖ p.
16	37.66	17.2	22.8	14.3	92.2	Variable	10.8	5.2	Ci.	Cu. EbyS	--------	Ω ≡° a. ≡° d^2 p.
17	37.57	17.3	21.1	14.9	90	E quad.	8.9	9.8	A.-Cu.	Variable	1.3	Ω d a. ≡° d p.
18	37.34	16.5	22.1	13.7	93.2	E	6.8	8.5	A.-Cu. EbyN	S.-Cu. ENE	6.8	● ≡ p.
19	36.64	15.5	19.8	12.6	91.8	E, WSW	8.3	8	Ci. ESE	Cu.	--------	≡° a. $\equiv^2$ p.
20	36.19	16.2	21	11	71.8	E	14.8	10	Ci.-S. SE	Cu.	--------	⊕ ≡ p.
21	35.81	16.8	22.7	13.4	79.7	E	12.4	9	Variable	S.-Cu. SEbyE	--------	$\equiv^2$ ψ p.
22	36.10	16.8[2]	23.4	13.1	79.4[2]	E, SE	15.1	7	Ci.-S.	Cu.	--------	≡ $ψ^2$ p.
23	36.90	17.8[2]	23.4	14.6	84.2[2]	E, SE	12.8	9.5	Ci.-S. S	Fr.-N.	--------	○ a. ≡ ψ p.
24	37.60	15.2	20.2	13.1	92.8	E	12.7	10	Ci.-S.	S.-Cu.	13.5	⊕ a. ≡ ●° p.
25	38.32	15.7	20.8	12.8	87.6	SE	16.7	9.8	Ci.	Fr.-N. ESE	--------	≡° p.
26	38.64	14.5	19.2	12	79	E, SE	28.3	.8	Ci.	Cu.	--------	
27	39.63	14.8	20.1	11.8	79	E	22.9	.8	Ci.	Cu.	--------	
28	40.10	16.8	22	12.5	72.5	E	25.3	4.8	A.-Cu. SE	Cu. E	--------	
29	39.04	16.9	21.3	15	76.9	E	30.8	7.2	A.-Cu.	S.-Cu. E	--------	d p.
30	37.78	18.2	24.1	15.7	78.7	E	23.7	2.2	A.-Cu.	Cu. ESE	--------	≡ p.
31	37.22	17.7	24	14.7	87.2	E	10.4	5.8	A.-Cu.	S.-Cu.	1	Ω ≡° a. ● ≡ p.
Mean	636.78	16.6	22.1	13.7	85.3	------------	15.2	7.1	------------	------------	--------	
Total	--------	--------	--------	--------	--------	------------	--------	--------	------------	------------	97.5	

VIGAN.

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

Day.	Pressure (mean).[1]	Temperature. Mean.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity (mean).	Wind. Prevailing direction.	Wind. Force (mean).	Clouds. Amount (mean).	Clouds. Upper.	Clouds. Lower.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	760.37	26.4	32.2	22.4	72.2	N quad.	0.8	0	Ci.	Cu.	--------	≡° a.
2	59.90	26.7	31.4	22.1	70.7	Variable	.8	0	Ci.	Cu.	--------	≡° a.
3	58.71	26.5	31.2	21.7	65.3	N quad.	1.3	0	Ci.	Cu.	--------	
4	57.37	26.1	31.8	21.2	59.2	NE quad.	1.5	.3	Ci.	Cu.	--------	≡° a.
5	57.75	24.9	30.4	20.9	57.2	NE quad.	1.7	.2	Ci.	Cu., S.-Cu.	--------	≡° a.
6	58.31	26.4	31	22.5	49	NNE	1.7	0	Ci.	Cu.	--------	
7	58.67	25.8	31.5	22	57.6	NE	1.5	.7	Ci.-S.	Cu.	--------	≡° a.
8	57.76	25	30.4	20.1	71.9	N quad.	1	1.7	Ci.-S.	Cu.	--------	≡° a.
9	57.54	25.3	30.6	19.6	81.3	N quad.	1.2	3.2	Ci.-S.	Cu. N	4.6	≡° a. d° ● p.
10	57.16	26.4	31.5	22.3	84.6	N quad.	1	4.5	Ci.-S., A.-Cu.	S.-Cu., Cu.	--------	≺° p.
11	57.52	26.6	30.6	22.7	81.8	Variable	1	9.5	Ci.-S.	S.-Cu.	6.6	d ● p.
12	57.93	25.2	29.6	21.9	87.3	NE quad.	1.2	3.5	Ci.-S.	Cu.	--------	
13	59.23	24.7	28.7	22.1	79.6	N quad.	2	5.2	Ci.-S.	S.-Cu.	--------	
14	59.32	26	31.4	21.4	58.8	NE quad.	1.7	.7	A.-Cu.	S.-Cu.	1.8	
15	60.66	24.2	27.4	22	84.2	N	1	6.7	A.-Cu.	Cu.-N., S.-Cu.	.3	d ● a.
16	60.45	24.4	29.8	20.4	81.8	NNE	1.3	2.2	Ci.-S.	S.-Cu., Cu.	--------	≡° a.
17	60.47	25.4	30.1	23	75.3	N quad.	1.3	6.5	Ci.-S.	S.-Cu.	--------	
18	60.44	26	30.6	21.1	63.5	N	1.3	4	Ci.-S.	S.-Cu., Cu.	--------	ψ p.
19	60.56	23.2	29.5	18.7	65.5	NE quad.	.8	1.7	Ci.-S.	Cu.	--------	Ω a. ϖ p.
20	59.65	24.2	28.7	18.7	71.2	NE quad.	1.7	6.5	Ci.-S.	S.-Cu., Cu.	--------	Ω ≡° a. ϖ p.
21	58.83	25.8	31.4	20.7	56.9	N quad.	1.3	2.2	Ci.-S.	Cu.	--------	ψ p.
22	58.81	26.3	30.9	23	57.7	N quad.	1.5	.5	Ci.-S.	Cu.	--------	ψ p.
23	59.70	25.6	31.1	20.5	73.7	N quad.	1	4.7	Ci.-S.	Cu., S.-Cu.	--------	ψ p.
24	61.12	25.5	29.6	21.5	60.3	N quad.	1	7.3	Ci.-S., A.-Cu.	S.-Cu.	--------	≡° a. ψ p.
25	62.44	24.6	31.4	20.4	61.8	N quad.	1.5	4	A.-Cu.	Cu.	--------	
26	62.78	25.8	30.5	20.8	50.1	NE quad.	2.3	0	Ci.	Cu.	--------	
27	63.60	25.3	31.3	22.2	52.8	NE	1.3	0	Ci.	Cu.	--------	ϖ p.
28	63.63	24.8	31.3	19.6	68.3	Variable	1	1.7	Ci.	Cu.	--------	
29	62.04	26.4	31.1	22.5	79.2	WSW	.8	4.8	A -Cu.	Cu.	--------	ϖ p.
30	60.46	25.9	31.2	21.5	81.4	Variable	.7	1	Ci.-S.	S.-Cu., Cu.	--------	≡° a.
31	59.46	26.6	31.9	22.7	77.9	Variable	1	0	Ci.	Cu.	--------	
Mean	759.76	25.5	30.6	21.4	69	------------	1.3	2.7	------------	------------	--------	
Total	--------	--------	--------	--------	--------	------------	--------	--------	------------	------------	13.3	

[1] Not reduced to sea level.

[2] From five observations only.

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		0-12.	0-10.			mm.	
1	762.83	23.2	25.2	21.2	87.8	NW	0.7	9.2		Cu.-N. N	2.5	d a. p. ● a.
2	61.74	24.3	28.4	21.5	85	NW	.7	8.3		S.-Cu. NE		Ω a.
3	60.83	23.6	27.5	21.2	85.4	NW	1.3	8.2		N. N		d p.
4	59.62	22.6	26.1	19.8	84.5	N quad.	1.5	7.8	A.-S.	Cu.-N. NE, N		Ω² a.
5	60.04	22.7	25.6	20.5	75.8	NW	1.5	7.5		S.-Cu. N		
6	60.56	21.7	24.7	18.9	84.8	NW	.7	8.5		Cu.-N. NW	1.8	d ● a.
7	60.63	22.3	26.5	19.9	80.8	NE, NW	.3	7.3		S.-Cu.		Ω a.
8	59.28	23.9	29.1	19.8	82.8	NW	.5	7.7	Ci.	Cu.-N. NE		d a.
9	58.28	24.6	30.1	21.5	90.2	NE	.3	8.8	Ci.	N.	17.5	d ● a. p.
10	58.46	25	29.5	22.2	88.8	N	.5	8.8		N. N	25.1	● a. ●² p.
11	58.46	25	29.4	22.2	88	SE	.2	8.8	A.-Cu. SE	Variable SE	1.5	d a.
12	58.52	25.1	30.5	22	86	NW, SE	.3	9	A.-Cu.	S.-Cu.		● a.
13	60.40	23.6	26.4	21.1	91	N	2	8.3		N. N		d a. p.
14	62.19	22	25.4	19.8	86.4	NW	2.5	6.7	Ci.-S.	Cu. N	2.5	Ω a.
15	62.15	21.6	22.5	20.2	95	N	.3	9.7		N.	75.3	●² a. ● p.
16	61.69	22.7	25.8	21.1	95	NW	.7	9.7		N. N	29.9	● a. p.
17	62.22	22.2	23.8	21	93.5	N	1.7	10		N. N	17.2	● a. p.
18	62.60	22.8	26.4	20.6	85.3	N, NE	2.3	8.8	Ci.-S. N	Cu. NE		● a. ◯° p.
19	62.63	22.1	26	19.4	78.3	N	1.5	8.2	Ci.	S.-Cu., Cu. N	1.3	Ω a. d p.
20	61.06	23	29	19.4	86.5	Variable	.7	8.2	Ci.-S.	N. NE		● a. ⏀ p.
21	60.99	24.4	28.8	20.1	80.2	N	1.5	7.2	Ci.	S.-Cu.,Cu. N, NE		◯² a.
22	61.32	23.6	28.3	19.5	76.7	N	.8	6.5	Ci.	S.-Cu. N		Ω a. d p.
23	62.01	23.2	27	20.3	82.5	NE	1.7	8.5	A.-S.	S.-Cu. N		Ω a.
24	63.55	22.5	25.6	20	74.5	NE	1.5	8.5		S.-Cu. NE		Ω a.
25	64.78	21.8	25.4	19.9	82.4	NE	1.7	8.5	Ci.-S.	S.-Cu. NE		Ω a.
26	66.35	21.2	25.1	18.4	77.8	N	2.2	8.3	Ci.-S. ENE	S.-Cu. NE		Ω ⅄° a. ⏀ p.
27	66.54	21.7	28.3	17.7	78.7	Calm		6		Cu. NE, S		Ω a.
28	66.16	23.4	28.4	19.3	82.2	Variable	.5	7.3	Ci. E	Cu. S, SE	8.6	● p.
29	64.36?	22.5	25.3	21.1	93.8	SE	.5	9.3		N.	3	● a. p.
30	61.64	24.4	31	20.5	86.7	SE	.3	5.3		Cu. SE		d a.
31	59.78	25.7	32.5	21.9	85.2	SE, S	.3	5.8		Cu.-N. SE		
Mean	761.67	23.2	27.2	20.4	84.9		1	8.1				
Total											186.2	

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.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	mm.	°C.	°C.	°C.	Per ct.		Km. p. h.	0-10.			mm.	
1	763.27	24.3	25.6	21.6	77.2	ENE	13	10		S.-Cu. E	2.3	● a. p.
2	62.40	24.3	27.5	21.1	76.5	NE quad	10.3	9.5	A.-Cu. SE	S.-Cu. E		
3	61.51	24.6	26	23.1	71	NE	14.4	8.7		S.-Cu., Cu.-N. E	.5	
4	60.31	23.6	25	21.3	74.8	NE	18.8	10		S.-Cu., Cu.-N. ENE	4.3	●° a. p.
5	60.81	23.2	25	21.1	63.7	ENE	15.7	10		S.-Cu. E, ENE	2	
6	60.95	23.5	25.5	20	69	ENE	17.8	10		S.-Cu. ENE	.5	● a.
7	61.15	23.2	26	20.1	77.6	NE quad.	10.1	9.2	Ci. SE	Cu.-N. NE	3.6	● p.
8	59.82	23.9	27.4	20.5	81.4	NE quad.	8.8	9.5	Ci. SW	S.-Cu., N. ENE	1.5	Ω° a.
9	58.52	24.6	27	20	89.5	W, NE	10.5	9	A.-Cu. E	N. NE	53.6	ζ ⊤° ● a. ● p.
10	59.20	24.2	25.6	22.5	90.2	NE	20.4	10		N. ENE	32.8	● a. p.
11	58.72	24.6	28.7	22	87.2	E	5.6	9.5	Ci. E	S.-Cu. E		● a.
12	58.91	25.1	28.5	22	81.3	SE, NE	7.6	8.7	A.-Cu. SW	S.-Cu. E	5.6	
13	61.54	22.4	25	21.1	89.3	N, NE	17.3	10		N. NE	33.8	● a. p.
14	63.43	21	22.5	19.4	86.7	NE	20.5	10		N. NE	7.1	● a. p.
15	62.88	22.2	23.2	20.2	93	NE	16.9	10		N. NE	115.5	● a. ●² p.
16	62.62	23	24.7	21.3	91.7	NE	24.1	10		N. NE	26.4	● ² a. ● p.
17	63.16	23	23.9	21.1	85.5	NE	20.2	10		N. NE	10.1	●° a. p.
18	63.64	22.9	25.2	20.7	76.8	NE	18.4	9.5	Ci. E	N. NE		● a.
19	63.34	22.9	25.8	20.1	71.5	NE quad.	12.1	9.7	A.-Cu. NE	S.-Cu., Cu.-N. ENE	5.6	● a. p.
20	61.85	23.9	26.7	21.2	85	NE	8.8	9.7	Ci. E	Cu.-N. NE	1.3	●° a. p.
21	61.96	24.5	26.5	22.4	72.3	NE	11.8	4.5	Ci. E, SE	Cu.-N.	.5	
22	61.94	23.6	27	19.5	76.2	NE	10.2	7.7	A.-Cu. SE	Cu.-N. NE	.3	●° a.
23	62.93	23.5	26	21.2	72	NE	16.3	10		S.-Cu. ENE, NE	.5	●° a.
24	64.11	23.4	24.2	21.6	62	NE quad.	15.9	10		S.-Cu. ENE	3.5	● a.
25	65.77	21.5	23.7	19.1	78	NE		10		S.-Cu., N. ENE, E	9.9	●° a. p.
26	67.14	21.4	22.5	18.6	72	NE	21.7	10		S.-Cu., N. NE	1.5	●° a.
27	66.99	22.4	25.5	19.6	73	E, NE	12.5	6	A.-Cu. SE, E	S.-Cu. E		≡° a.
28	66.71	22.4	25.4	19.4	87.8	ENE, SW	6.8	9.5		S.-Cu. SE, ENE		≡° a.
29	64.28	23.3	27	21	89	Variable	4.9	9.5	A.-Cu. S	S.-Cu. Variable	1.3	≡° a.
30	61.82	24	29.5	21	87.3	E, SE	6.3	7.8	A.-Cu. S	S.-Cu. SE		●° a.
31	59.95	24.8	31	21.1	84.3	NE, S		.5		Cu.-N. S		Ω ∞ a. ⊤° p.
Mean	762.31	23.4	25.9	20.8	79.8		13.7	9				
Total											324	

METEOROLOGICAL DATA FOR THIRD AND FOURTH CLASS STATIONS.

JOLO.

[ϕ=6° 03′ N; λ=121° 00′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	32.6	21.8	97	75	7	6	------	Ω ≡ a. ϟ p.
2	32	24.7	86	68	8	9	------	Ω a. d p.
3	31.7	23	96	78	8	9	2.3	Ω ≡ a. ●° p.
4	32	22.7	97	71	6	6	------	Ω ≡ a. ϟ p.
5	31.5	21.8	97	72	9	9	------	Ω ≡ a.
6	31.9	22.1	96	65	9	8	23.9	Ω ≡ a. ● p.
7	29.6	21.6	97	81	9	9	------	Ω ≡^{2} a. d^{2} p.
8	31.5	21.8	94	76	9	9	1.3	Ω ≡ a. d ●° p.
9	31.7	21.2	95	69	9	8	------	Ω ≡ a.
10	31.2	21.6	95	76	7	8	------	Ω ≡ a. d p.
11	27.1	22.6	90	84	9	10	2.8	Ω ≡ ● a. d ●° p.
12	30.8	21.6	96	75	9	9	------	Ω ≡ ⌒ a. d ϟ p.
13	30.6	21.4	93	70	9	9	------	Ω ≡ a.
14	29	21	92	71	8	8	2.8	Ω ≡ a. ● d p.
15	30.9	23.5	92	78	8	10	4.8	Ω ≡ a. ● d p.
16	31.5	22.1	79	70	9	8	------	
17	28.6	22.9	94	82	9	10	4.6	● a. p. d p.
18	29	22.2	87	87	10	10	12.2	● a. p.
19	29.3	22.9	90	83	10	10	1.8	● a.
20	30.8	20.9	86	77	10	9	21.6	d ● a. ●^{2} p.
21	31.7	22.6	87	70	7	7	7.1	Ω ● a.
22	32	22.6	96	69	8	6	------	● a.
23	29.9	21.6	98	71	4	8	1.8	● ⊤ a.
24	31.8	21	97	71	8	7	4.3	Ω ≡ a.
25	32.4	22	97	74	8	9	2.8	● a. p.
26	32.5	24.1	89	71	8	7	4.3	Ω ≡ a. ϟ p.
27	31.7	21.1	91	64	9	8	2.8	● a. p.
28	31.6	22.2	95	75	8	8	------	d p.
29	31.7	21.4	96	86	8	9	5.1	Ω^{2} ≡^{2} a. ● d p.
30	31.9	21.1	96	68	8	9	13.2	Ω ≡ a.
31	31.7	21.8	97	63	8	7	------	● d a. ⊖ p.
Mean	31	22.1	93.2	73.9	8.3	8.4	------	
Total	------	------	------	------	------	------	119.5	

ISABELA, BASILAN.

[ϕ=6° 42′ N; λ=121° 58′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a.m.	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	96	75	0	4	------	Ω a.
2	30.3	22	96	67	2	4	------	Ω a.
3	33.3	22	96	71	10	9	------	Ω a.
4	31.5	21.8	96	70	5	6	------	≡° a.
5	29.3	22.5	95	89	10	10	1	Ω a. d p.
6	30.9	21.5	86	65	10	9	------	p a.
7	29.8	22	96	72	10	10	.5	Ω a.
8	29.3	22.2	93	69	10	5	------	d a.
9	31.8	21.5	97	60	4	5	.5	Ω a. ⌒ d p.
10	32.8	21.4	96	63	10	9	5.3	Ω a.
11	28.9	22.5	92	88	10	10	1.3	● a. d a. p.
12	30.3	22.5	96	73	10	9	------	Ω a.
13	30.8	22.5	96	87	10	10	5.8	Ω a. p^{2} p.
14	31.8	21.8	95	91	10	10	11.2	Ω a. ⊤ ● p.
15	31.8	22.5	96	84	10	10	4.1	Ω a. ↙° ● d p.
16	29.8	21.5	96	77	10	10	.8	d a.
17	28.5	22.5	91	75	10	8	3.8	d ⊤ a.
18	28.6	22.4	96	70	10	10	10.9	↙° ● p.
19	27.5	22.7	92	82	10	10	1.3	p a. d a. p.
20	28.9	23.5	96	77	10	9	.8	d a.
21	29.3	23	96	90	10	10	10.4	p a. d a. p.
22	30.8	23	95	67	10	6	.5	
23	29.5	22.5	97	82	4	10	1.5	d a. p. p p.
24	30.8	20.6	95	75	1	5	------	
25	30	21.5	96	67	4	5	------	
26	31.9	21.5	91	76	8	6	------	⊤ p.
27	31.9	21.6	96	78	10	8	------	ϟ p.
28	32.3	22.4	98	68	3	4	------	Ω a.
29	32.3	22.3	92	60	1	4	------	Ω a.
30	32.9	21.8	95	81	1	8	------	Ω a.
31	32.3	22.4	98	70	1	5	------	Ω a.
Mean	30.7	22.1	94.9	74.8	7.2	7.7	------	
Total	------	------	------	------	------	------	59.7	

ZAMBOANGA.

[ϕ=6° 54′ N; λ=122° 05′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	22.6	91	74	2	4	------	Ω ≡ a. ∞ ⊤ ϟ p.
2	31	22.2	84	73	2	5	------	Ω ≡ a. ◯° ϟ p.
3	------	------	89	------	8	------	------	Ω ≡ a.
4	------	------	------	------	------	------	------	
5	------	------	------	------	------	------	------	
6	------	------	------	------	------	------	------	
7	------	------	------	------	------	------	------	
8	------	------	------	------	------	------	------	
9	------	------	------	------	------	------	------	
10	------	------	------	------	------	------	------	
11	------	------	------	------	------	------	------	
12	30	22	93	69	9	8	------	≡° a.
13	29.7	23.3	89	82	9	10	------	≡° a. ⊏ϟ d ∞ p.
14	30.1	22.3	89	95	5	10	12.4	Ω ≡ a. ⊏ϟ d p.
15	30.5	22.6	90	73	8	8	5.1	Ω° ≡ a. ● p.
16	29.1	21.1	96	75	10	10	------	d a. p.
17	28.4	21.9	88	81	10	8	------	
18	28	23.4	90	81	10	10	6.9	≡ a. d a. p.
19	27.8	22.4	82	74	10	10	1.8	Ω° ≡ a. ●° a. p.
20	29.2	22.9	80	69	10	10	1.5	Ω° ≡ a.
21	27.9	23.9	87	83	10	10	1	● a. d p.
22	28.6	22.6	95	78	8	1	------	≡ a.
23	29	22	89	78	1	2	------	Ω ≡ a. ⊏ϟ p.
24	29.9	21	93	72	8	9	------	Ω ≡ a. d p.
25	31	22.5	87	77	8	8	------	Ω ≡° a.
26	31.1	22.5	90	65	3	3	2.5	Ω° a.
27	31.1	22.2	92	75	10	9	------	⊏ϟ ● a. ⊤ p.
28	30.9	22.2	96	69	2	3	------	Ω ≡° a.
29	31	22.4	92	76	3	1	------	Ω a.
30	31.6	22.3	94	59	7	9	.3	≡° d ⌒ a. ⊏ϟ p.
31	31.7	22.4	96	57	7	7	------	●° ≡° a.
Mean	30	22.4	90.1	74.3	7	7	------	
Total	------	------	------	------	------	------	------	

DAVAO.

[ϕ=7° 01′ N; λ=125° 35′ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	33.2	20.9	96	72	6	6	10.9	●° ⊤^{2} p.
2	31.2	21.5	98	69	5	7	------	
3	31.3	22.7	96	76	7	7	------	≡ a.
4	29.2	21.2	96	82	5	8	------	
5	26.3	22.1	96	91	8	9	13.5	●^{2} a. d p.
6	27.2	21.4	97	87	10	9	------	d a.
7	28.1	21.7	96	83	10	10	14.7	● a.
8	31.8	22.1	96	69	8	8	------	
9	30.7	21.8	97	82	6	7	------	
10	31.6	21.9	98	66	6	6	------	≡ a.
11	31.7	22	96	70	5	6	8.6	≡ a. ●° ϟ p.
12	28.1	22.4	96	86	7	7	10.4	● ⊏ϟ p.
13	30.6	22.5	92	71	8	7	5.6	⊤^{2} ●° p.
14	32.3	21.6	97	68	7	5	7.9	●° ⊏ϟ p.
15	31	21.3	96	72	7	6	------	
16	30.4	21.5	94	73	8	7	------	
17	29.7	21.9	95	72	8	8	------	
18	24.2	21.9	98	94	10	10	19.3	●° a. p.
19	26.2	20.8	82	82	10	9	3.8	●° a.
20	29.2	19	95	69	7	7	------	
21	29.6	19.4	96	68	5	7	------	
22	30.7	20.3	96	62	6	5	------	
23	31.7	20.8	95	62	5	5	------	≡ a.
24	31.3	20.3	96	63	5	6	------	
25	32.9	20.9	96	62	5	6	------	
26	32.2	21.6	93	62	5	6	18.5	● ⊤ p.
27	31.2	21.2	96	68	8	7	21.1	● p.
28	31.4	20.1	88	64	5	6	------	
29	31.7	20.5	96	74	5	9	------	
30	29.9	21.5	97	71	7	8	32	●^{2} p.
31	30.2	22	99	74	7	7	------	
Mean	30.2	21.3	95.3	73	6.8	7.1	------	
Total	------	------	------	------	------	------	166.3	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.1	20.2	91	70	2	8	------	Ω ≡ a. d p.
2	31.6	21.2	88	68	1	3	3.8	≡° a. d ● ϟ p.
3	31	21.6	97	71	10	4	------	≡² a. d p.
4	30.6	21.4	97	68	9	10	------	Ω ≡² a. ϟ p.
5	29.5	21.8	93	74	4	10	------	≡ a. ●° d p.
6	28	21.2	93	80	10	10	------	Ω ≡² a.
7	28.5	21.2	97	73	10	9	------	d a. ϟ p.
8	31	21.4	93	82	2	9	------	Ω a. d p.
9	31	20.1	97	77	4	10	------	Ω ≡² a. d p.
10	31.8	21.8	95	73	6	4	------	≡² a. d p.
11	29	21.6	85	70	10	9	7.6	≡° a. ● p.
12	29.2	20.7	97	76	8	9	------	Ω ≡ a.
13	31	19.2	93	64	6	5	------	≡° a. ϟ p.
14	32	21	92	63	6	4	45.7	≡² a. ϟ ●² p.
15	32	21.4	93	60	4	3	------	≡° a. d p.
16	29.4	20.2	93	71	8	7	------	Ω ≡ a.
17	30.3	21.8	95	68	6	10	4.3	Ω ≡ a. ● p.
18	26	21.6	92	87	10	10	7.6	d a. ●° p.
19	25	22	77	79	10	10	------	↙° d a. p.
20	27	21.8	95	67	6	5	------	↙° a. p.
21	27.2	19.8	93	84	8	10	11.4	d ● p.
22	30.6	21.2	93	71	6	4	------	≡² a.
23	32	19.8	92	62	3	2	------	Ω ≡ a. d p.
24	31	------	87	61	2	4	------	Ω ≡° a.
25	31.4	20.6	93	67	1	2	------	Ω a. ⌈ϟ p.
26	32.4	20.9	95	61	4	2	3	⊤ ● p.
27	32	21.2	95	63	3	3	22.9	Ω ≡² a. ⊤ ● p.
28	33	21.2	93	61	5	3	10.2	Ω a. ● p.
29	32	19	93	54	2	7	2	Ω a. ●° p.
30	33	22.6	93	65	6	5	------	d ϟ p.
31	32	22	93	65	9	5	2.5	d a. ● ϟ p.
Mean	30.4	21	92.7	69.5	5.8	6.3	------	
Total	------	------	------	------	------	------	121	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	31.9	19.7	91	71	1	7	------	Ω² ≡ a.
2	31.6	21.4	95	69	3	9	------	
3	31.1	22.8	95	73	8	9	------	
4	31	20.3	94	69	7	9	55.9	
5	28.1	22.7	96	88	10	10	9.4	●² a. d p.
6	28.1	22.7	96	71	10	9	32.5	
7	28.7	21.4	98	83	10	10	16.5	●² a. d p.
8	30.3	21.7	99	79	9	9	24.1	d° p.
9	30	21.2	97	77	1	9	1.3	● a. d p.
10	31.4	20.6	95	74	2	7	2.5	⊤ ⊕ d p.
11	31.8	22	98	72	10	8	37.3	⌈ϟ ● p.
12	30.4	21.3	99	74	10	9	2.5	d p.
13	29.9	21.8	97	74	9	9	------	⊕ p.
14	31.3	21.7	96	71	7	9	1.3	● p.
15	30.5	21.2	95	70	8	3	18.3	ϟ p.
16	29.5	22.2	96	78	10	10	------	● a. ϟ p.
17	28	22.6	97	77	10	10	17.8	● ϟ p.
18	24.2	22.6	100	95	10	10	123.2	● a. ●² p.
19	22.9	20.6	98	98	10	10	94.7	↙° ●² a. p.
20	25.4	20.2	100	80	10	9	.8	d a. Φ° p.
21	29.8	20.7	96	75	7	10	------	Ω° a. d° ψ p.
22	32.3	21.3	95	70	4	5	------	Ω° a. ϟ° Φ² p.
23	32.4	20.6	92	69	2	4	.3	Ω a. d ϟ° ψ p.
24	31.3	20.4	94	67	8	8	------	Ω² a. ⊕ Φ° p.
25	30.8	20.4	96	68	2	3	.3	Ω² ≡ a. ● p.
26	31	21.5	96	79	2	5	------	d° ψ p.
27	31.7	21.3	95	76	2	9	------	Ω ≡° a.
28	31.1	21.2	95	67	2	4	------	Ω ≡ a. ϟ ψ p.
29	31	20.2	92	65	4	4	------	Ω² ≡² a. ϟ p.
30	31.7	21.2	95	68	4	8	------	Ω ≡° a. ϟ° p.
31	30.3	22.4	94	72	9	8	------	Ω° ≡° a. ψ ϟ p.
Mean	30	21.4	95.9	74.8	6.5	7.8	------	
Total	------	------	------	------	------	------	438.7	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	------	23.7?	92	62	9	7	46.5	● a. p. ○ p.
2	------	24	83	87	8	9	3.6	● a. p. ○ p.
3	------	23.3	88	69	10	8	1.8	● a.
4	------	23.6	89	67	9	7	1.3	● a. p. ϟ p.
5	------	22.6	86	73	8	5	------	Ω a.
6	------	23.3	92	72	8	4	2.3	Ω a. ⊤ ● p.
7	------	22.1	85	74	6	5	3	● a. p. ⊤ p.
8	------	21.7	92	77	7	9	.8	● ϟ p.
9	------	22.7	92	74	8	10	2.5	Ω a. ⌈ϟ ● p.
10	------	22.4	89	67	10	7	22.1	Ω a. ϟ p.
11	------	22.6	83	70	8	6	1	ϟ ● p.
12	------	22.3	87	69	4	9	1	○ p.
13	------	22.1	88	77	8	7	------	●° a.
14	------	22.6	85	66	8	6	1.8	ϟ ● p.
15	------	22.8	86	75	10	10	16.3	● a. p. ϟ p.
16	------	22.3	89	78	9	10	1.8	○ ● p.
17	------	22.7	90	77	10	10	3.6	○ ● p.
18	------	22.6	83	77	10	10	49	● a. p.
19	------	21.6	86	90	10	10	52.8	● a. p.
20	------	19.7	91	82	10	10	54.9	● a. p.
21	------	21.7?	82	66	10	9	------	● a. ϟ p.
22	------	22.6	93	78	8	6	------	⊤ a.
23	------	23.4	97	67	9	7	------	ϟ p.
24	------	22.8	98	68	4	10	------	ϟ p.
25	------	22.6	91	70	9	6	------	⌈ϟ p.
26	------	23.4	86	76	7	10	44.7	Ω a. ● p.
27	------	23	88	73	10	10	------	● a. ○ p.
28	------	22.9	90	79	6	8	------	⊤ p.
29	------	23.8	86	76	9	10	2.3	○ ⌈ϟ p.
30	------	24.1	93	64	10	10	48.8	● a. p.
31	------	23.7?	86	72	10	7	29	● a. ↙° ϟ p.
Mean	------	22.7	88.6	73.3	8.5	8.1	------	
Total	------	------	------	------	------	------	390.9	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	28.8	22.7	95	81	5	8	18.5	Ω ≡ a. ● p.
2	28.4	23.2	97	83	6	9	2	Ω ≡ d° a. ●° p.
3	28	21.6	98	77	8	9	------	Ω ≡ a.
4	26	21.6	98	87	7	10	2.3	Ω ≡² a. p a. p.
5	27	22.3	97	87	10	10	2.3	Ω a. d ● p.
6	26.5	22.4	95	82	10	10	22.4	Ω ≡ a. ● d p.
7	27.1	22.9	97	78	10	10	13.2	● a. p. d p.
8	28.3	22.7	97	77	10	8	1.8	● d a. p. ⌈ϟ p.
9	28.3	22.6	99	81	7	8	------	Ω ≡ a. ϟ p.
10	29.6	22.6	96	73	6	5	9.1	Ω ≡² a. ⌈ϟ ● p.
11	28.6	22.6	95	71	9	10	.3	Ω a. ● p.
12	28	22.4	98	76	9	10	------	Ω ≡² a. d p.
13	28.3	22.5	96	67	9	9	------	Ω ≡² a. ϟ p.
14	28.5	21.5	97	87	8	10	4.1	Ω a. ● p.
15	28.7	21.1	96	68	5	7	------	d ≡² a. p° p.
16	28	22.9	97	77	9	9	3.8	Ω ≡² a. ϟ p.
17	26.6	22.6	97	85	10	10	9.9	≡² a. ● a. p. d p.
18	23.5	21.5	93	95	10	10	316.7	↙° ●² a. p.
19	23	21.6	97	96	10	10	205.5	↙² a. ● a. p. ↙ p.
20	26	21.6	88	80	10	8	------	d Φ p.
21	28.5	22	96	69	6	7	------	Ω a.
22	29.8	23	96	72	6	6	------	Ω a. ⌈ϟ p.
23	28.8	22.8	97	71	7	4	------	Ω a.
24	28.3	21.9	96	70	7	8	------	Ω ≡ a. ϟ ψ p.
25	28.2	22	96	71	6	3	1	Ω ≡ a. ● ϟ p.
26	29.5	22.1	97	79	6	6	2.3	Ω ≡ a.
27	27	22.5	91	88	9	8	3.8	● d a. p.
28	28.7	22.3	96	89	6	7	5.1	≡ a. ● ⊤ ⌒ p.
29	29.2	22.4	96	77	7	8	------	Ω² ≡ a. ⊤ p.
30	29.8	22.8	94	73	8	7	7.4	Ω² a. ● a. p. ↙° p.
31	28.3	22.5	92	81	10	8	5.1	d a. ● a. p.
Mean	27.8	22.3	95.8	79	7.9	8.1	------	
Total	------	------	------	------	------	------	636.6	

METEOROLOGICAL DATA, ETC.—Continued.

YAP (WESTERN CAROLINES).

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

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	29.8	24	96	89	10	9	4.6	d° a. ● a. p.
2	27.7	23.6	96	90	10	10	23.9	● a. p. d° p.
3	29.3	23.2	88	77	8	8	1.8	d° p a.
4	31.1	25.9	91	73	7	4	23.1	d° p.
5	29.8	22.8	97	80	9	7	2.8	●^{2} ◯ a.
6	30.8	25.5	88	78	6	3	5.6	● p.
7	31.3	23.2	96	74	5	8	1	● p.
8	31.2	23.2	97	82	6	5	3.8	⊍° d a. ● p.
9	30.1	23.3	96	83	10	9	1	d° p p.
10	32.2	22.9	87	76	9	7	8.9	↯° a. ● p.
11	30.8	23.8	97	80	9	8	.5	↯° a. p.
12	29.7	22.1	97	86	9	9	1.3	●° a. p.
13	30.7	23.3	92	77	8	8	3.8	d° ●° p.
14	30.8	24.2	94	75	6	8	.3	●° a. p.
15	28.7	24.8	89	88	9	9	10.9	●° a. p. d° p.
16	30.5	23.2	95	82	8	10	23.9	● a. p. ⛈ p.
17	26.2	22.9	92	96	10	10	56.9	⛈° a. ↙° ● a. p.
18	29.5	22.8	93	77	8	7	27.7	⛈^{2} ●° a ◯^{2} ●° p.
19	26.1	21.6	98	97	10	10	11.7	●° a. ↯° p.
20	30.5	22.7	93	78	9	5	------	⊍ ⏀^{2} p.
21	31.4	24.2	97	75	4	3	------	Ω^{2} a. ⏀° p.
22	31.5	23.3	96	74	3	6	------	Ω^{2} a. ⊍^{2} ⏀ p.
23	33.2	23.4	96	77	5	7	------	Ω a. p. ⏀^{2} p.
24	31.7	22.4	91	73	4	7	------	Ω a. p ⊍ ⏀^{2} ↯ p.
25	31.4	22.8	90	82	5	9	37.3	Ω° ●° a. ⛈ ● p.
26	31.9	21.8	98	80	6	4	.5	p a. d° p.
27	31.7	23.5	92	75	6	4	1.5	◯ a. ⊍° ⏀^{2} ● p.
28	31.2	23.2	91	78	9	8	.3	●° p.
29	31.5	23.8	87	75	9	9	.5	↙° d° a. p. ●° p.
30	31.9	23.9	90	78	3	8	3.3	● a. p.
31	32.3	23.8	91	64	6	5	1	⌒° ●° p.
Mean	30.5	23.4	93.3	79.6	7.3	7.2	------	
Total	------	------	------	------	------	------	257.9	

MAASIN.

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

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	30.5	22.6	95	79	8	5	------	⊍ ⏀ ↯ p.
2	30.5	22.9	89	77	10	7	------	
3	30	22.5	86	77	10	10	------	Ω a.
4	30	21.4	93	83	10	10	7.9	●° ↯^{2} p.
5	29.6	22.3	95	74	10	10	------	
6	29.5	21.7	91	78	10	10	35.1	
7	28.8	22.4	93	97	10	10	116.3	●^{2} a. p. d p.
8	28.4	21.4	91	73	10	10	------	
9	28.6	23	93	80	10	10	------	
10	28.8	22.8	87	83	10	5	------	
11	29	23.5	95	80	10	8	------	
12	29.2	23.3	91	77	10	10	------	
13	28.9	22.6	95	78	10	10	------	
14	29.4	22.8	89	70	10	7	------	
15	30.6	22.8	90	77	10	3	------	
16	29	22.6	86	79	10	8	------	d p.
17	29.5	23	90	76	10	10	27.9	d a. p. ● p.
18	------	22.4	90	95	10	10	112.3	●^{2} a. p.
19	27.2	21.4	93	96	10	10	153.2	↙° ●^{2} a. p.
20	------	21.8	97	93	10	10	48.5	d^{2} a. ↙° ● p.
21	25.5	22.8	92	92	10	10	22.4	↙° d^{2} a. ⊍ p p.
22	------	23.6	95	85	10	8	25.1	d ● a. p. ↙° ↯ p.
23	29	23.6	95	79	7	6	------	⏀ ⊍ ↯ d p.
24	29	23.2	96	77	10	10	------	⊍ ⏀ p.
25	29.7	22.4	96	81	10	9	20.8	⌒° a. p ↯^{2} ⊍ p.
26	28.9	22	91	76	10	10	13.2	Ω a. p d ↯ ⊍ p.
27	29.8	22.6	97	93	10	10	38.6	d a. p ⌒° p.
28	28.6	22.1	96	77	8	9	15.2	d a. p ⌒ p.
29	29.5	22.4	95	71	10	5	19.6	d a. p. p p.
30	30	23	93	73	10	8	32	●^{2} d ↯ p.
31	29.6	22.4	97	70	10	10	------	d ↯^{2} p.
Mean	29.2	22.6	92.6	80.5	9.8	8.6	------	
Total	------	------	------	------	------	------	688.1	

SAN JOSÉ BUENAVISTA.

[$\phi=10°\ 44'$ N; $\lambda=121°\ 55'$ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	21.7	95	77	3	2	------	Ω a. d° p.
2	31.4	22.4	92	65	4	4	------	
3	31.1	22	90	70	2	4	------	
4	30.1	22.7	95	78	3	10	1	d a. ●° p.
5	30.8	22.7	95	62	8	9	------	
6	29.9	19.9	87	74	8	10	------	
7	27.8	22	88	82	10	10	.5	d p.
8	28.6	22	90	74	10	10	------	
9	30	23.6	88	73	10	8	------	d° a. p. ⊤ p.
10	32.6	21.8	94	66	8	3	.3	↯ d p.
11	29	23.1	90	78	10	8	12.2	Ω ⊤ a. ● ⛈° p.
12	29	22.7	95	82	10	10	11.7	d p.
13	29	22.4	94	78	10	10	3.6	● a.
14	30.1	21.2	91	68	4	8	------	Ω a.
15	30.1	21.6	91	74	4	10	10.2	● p.
16	29.8	21.7	92	77	7	3	------	⊤ ↯ p.
17	30.2	22	89	74	10	10	.8	⊍ ↯ ●° p.
18	26.8	22	92	83	10	10	.5	d a. ●° p.
19	26.6	22.2	91	74	10	10	24.4	d a. ● p.
20	24.7	19	93	91	10	10	42.4	●° a. ● p.
21	26.8	24	97	96	10	10	23.9	● a. p. ⊍ p.
22	27.4	22.8	96	94	10	10	57.9	● ⊤ p.
23	29.4	22.6	96	80	10	10	.8	● p.
24	28.6	23.3	96	79	8	10	------	● a.
25	29	21.6	94	79	3	10	------	
26	30.2	21.6	96	72	2	6	------	
27	29	21.5	91	85	8	8	3.8	● a. p. ⊤ p.
28	30.2	21.3	96	70	1	3	------	d p.
29	30.2	20.8	92	69	2	2	------	
30	31	21.9	92	71	2	3	------	
31	29.9	21.6	91	75	10	8	------	
Mean	29.3	22	92.5	76.5	7	7.7	------	
Total	------	------	------	------	------	------	194	

BORONGAN.

[$\phi=11°\ 37'$ N; $\lambda=125°\ 26'$ E]

Day.	Temperature.		Relative humidity.		Cloudiness.		Rain, 24 hrs. beginning 6 a. m.	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	23.2	97	75	9	7	24.9	● a. p.
2	30.1	23.5	96	71	8	6	4.3	≡ a. ● a. p.
3	29.8	23.1	97	81	9	8	3	● a.
4	26.2	22.8	94	91	6	10	20.6	◯ a. ● a. p.
5	29.6	23.3	96	68	9	6	6.4	● a.
6	27.9	22.5	95	85	10	10	28.7	Ω ≡ a. ● p.
7	28.3	23.9	95	88	10	10	115.6	● a. ●^{2} p.
8	28.8	21	96	79	10	4	4.6	●^{2} ≡ a. ◯ ⛈ p.
9	29.5	23.2	98	82	6	8	------	● ≡ ◯° a.
10	30.1	22	97	84	4	8	35.1	≡ a.
11	30.3	23	96	84	9	8	7.6	●^{2} ≡ a. ● p.
12	29.4	22.1	97	78	4	9	.8	Ω ≡ a. ● p.
13	29.8	22.5	97	77	6	9	1.8	Ω ≡ a. ● p.
14	30.1	22.2	97	72	8	6	.8	Ω ≡ a. ● p.
15	30.4	21.9	97	72	4	5	------	Ω ≡ a.
16	30.1	22.6	97	73	7	6	3.6	Ω ≡ a. ● p.
17	28.4	23.2	97	90	9	10	63.2	≡ a. ● a. p.
18	27.6	20.7	97	85	10	10	52.8	● a p. ↙° p.
19	24.7	21.7	90	97	10	10	208	●^{2} a. p ↙° p.
20	29.6	22.3	97	76	10	8	36.8	●^{2} a. ⛈ p.
21	31.1	23.4	94	69	10	8	4.6	⛈ ● ≡ a.
22	28.7	23.7	98	80	9	8	5.8	● a. p.
23	29.9	22.1	97	76	8	9	51.6	Ω ≡ a. ⛈ ● p.
24	28.3	23.6	97	84	10	10	13.2	⛈ ● a. p. ⊍ p.
25	27.7	23.1	97	84	10	10	5.1	● a. p.
26	28.7	23.7	97	80	10	9	19.3	● a. ●^{2} p.
27	27.6	23.5	89	86	9	10	76.2	●^{2} a. p. ⛈ p.
28	28.8	21.4	97	92	8	10	31	≡ a. ● a. p.
29	29.2	22.3	98	80	9	7	30.7	● a. p.
30	27.6	23.3	98	84	10	10	18.3	●^{2} a. ● a. p.
31	29.9	23.5	97	77	10	5	14.2	● a.
Mean	29	22.7	96.2	80.6	8.4	8.2	------	
Total	------	------	------	------	------	------	888.6	

METEOROLOGICAL DATA, ETC.—Continued.

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	26.4	22.6	96	96	10	9	21.3	● p.
2	30.5	24	98	80	7	8	------	
3	29	25	97	98	9	8	15.2	
4	28.8	23.6	95	91	9	9	.8	
5	29.4	24.6	99	94	8	9	------	
6	27.4	24.2	97	90	9	10	1.5	
7	30	24.6	88	79	10	9	------	
8	28	23.8	84	84	10	9	------	
9	29.8	23.2	91	83	9	8	------	
10	31	23.6	98	95	9	9	2.8	⊤ p.
11	29.2	22.2	94	88	9	9	24.6	⊤ p.
12	29.8	22.4	------	------	10	9	5.1	
13	30	23.6	93	85	9	8	------	
14	31	23.4	99	72	7	6	------	
15	31.5	23.2	------	74	4	4	------	
16	30.5	23.4	98	83	7	7	------	
17	29.8	24.4	98	------	9	9	50.8	
18	27.6	21.2	100	92	10	10	1.8	
19	25.6	23.4	------	------	10	10	12.7	↙° a. ↙ p.
20	26.2	21.8	100	------	10	10	1.3	● a. ↙° p.
21	28	24.5	98	94	10	10	14.7	⊤ p.
22	27.5	23.6	99	95	10	9	5.8	
23	29 8	23.8	100	85	10	9	28.2	
24	25.2	22.6	100	96	10	10	17.5	● a.
25	------	------	------	------	------	------	------	
26	------	------	------	------	------	------	42.9?	
27	25.2	21.2	98	100	10	10	48.5	⊤ p.
28	29.2	23.2	98	83	10	8	6.4	● a.
29	30	22.4	98	84	9	8	------	
30	------	------	------	------	------	------	------	
31	31	23.4	99	98	7	10	6.4	●° p.
Mean	28.8	23.3	96.6	88.3	9	8.7	------	
Total	------	------	------	------	------	------	308.3?	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.4	23	88	85	10	10	4.6	↙° a. ●° a. p.
2	29	24.4	92	78	10	10	2.5	
3	28.6	24.7	92	88	10	10	3.6	●° a. p.
4	28	24	87	81	10	8	5.1	d a. ● a. p. ⌒ p.
5	28.8	23.2	80	62	10	6	2	● a.
6	27.7	23.5	75	70	10	10	1	● p.
7	28.5	24.3	80	73	10	10	.3	p° p.
8	27.2	24.2	79	82	10	10	24.4	d° a. p ● p.
9	29.5	23.3	95	75	10	8	10.4	● p a. ς p.
10	29.5	23.7	92	85	9	8	5.1	●° a. p ς p.
11	29	23	96	83	10	9	4.1	p a. p.
12	29.2	23.3	96	91	10	8	8.4	● a. p.
13	28.7	23.4	97	84	10	8	5.3	p^2 a. ●° p.
14	28.8	22.8	92	77	8	6	------	
15	30	22.4	96	78	8	5	------	
16	29	22.8	97	71	6	7	1.3	ς p p.
17	28.5	23.7	96	72	7	8	24.4	p a. ● p.
18	27.7	23	89	75	10	10	4.8	● a. ↙° ●° p.
19	27.9	23	77	68	10	10	35.3	↙° ● a. p.
20	25.5	21.8	88	94	10	10	19	↙° ● a. p.
21	26.2	24	92	88	10	10	6.4	↙° a. p. d p.
22	25.5	23.3	91	89	10	10	9.4	↙° ● a. ●° p.
23	27.2	24	91	86	10	10	32	● a. p.
24	24.7	23.1	94	87	10	10	5.8	● a. p. ↙° p.
25	28.3	23.1	91	77	4	10	.3	●° p.
26	26.4	23.3	83	81	10	10	3.3	↙° p^2 a. ●° p.
27	26.3	23.4	86	86	8	10	25.4	d° a. ● p.
28	26.6	22.5	88	85	7	10	14.5	●° a. p p.
29	28.6	23.8	93	78	7	5	1.5	d a. ς° p p.
30	28.8	24.8	90	75	9	7	7.1	p° a.
31	28.5	22.3	91	79	10	7	4.1	●° ⌒ a. p a. p.
Mean	27.9	23.4	89.5	80.1	9.1	8.7	------	
Total	------	------	------	------	------	------	271.4	

LAVANG.

[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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	29	23.6	93	91	8	10	14.2	● p.
2	29.6	23.4	97	79	7	6	11.4	●° a. ●² p.
3	29.7	23.5	91	83	8	7	9.1	● p.
4	28.8	23.2	85	82	7	8	4.8	● a. p. ↙° p.
5	28.9	24.1	77	63	6	4	1.5	● a. p.
6	27	23.4	90	92	10	10	14.5	● a. p.
7	28.8	23.8	84	77	10	8	45.7	● a. ↙° ●² p.
8	27.4	21.4	97	80	10	8	24.6	● a. p.
9	28.8	22.8	98	89	8	8	2	● a. p.
10	30.1	22.7	99	88	9	9	1.5	●° p.
11	28.9	23.4	97	77	7	9	.5	d a.
12	28.9	21.7	97	79	6	9	1.8	●° p.
13	28.8	21.8	98	83	7	8	.5	
14	29.7	21.7	93	80	7	6	2.8	●° p.
15	32.3	22.2	97	79	7	8	.5	● p.
16	30.7	22.2	98	79	5	6	.5	●° a. p.
17	29.8	23.7	94	90	6	10	55.9	● a. ●² p.
18	26.4	21.1	87	81	10	10	50.3	●² a. ↙° a. p. ● p.
19	25.5	23.2	75	77	10	10	28.7	↙ ● a. p.
20	27.2	23	98	88	10	9	67.6	●² a. ● p.
21	27.4	24.2	95	96	10	10	45.2	● a. ●² p.
22	29.2	23.4	91	84	9	8	50	● a. p.
23	28.2	23.5	99	87	9	8	26.9	● a. p.
24	26.4	22.1	98	88	10	10	9.1	● a. p.
25	27.1	23.6	92	89	9	10	15.5	● a. p. ↙° p.
26	26.3	21.7	93	98	10	10	156.5	●² a. p. ↙° p.
27	26.9	22.2	97	94	10	10	148.6	●² a. p.
28	29	21.4	97	84	8	7	25.4	● a. p.
29	28.7	22.6	97	87	8	7	7.6	● a. p.
30	29.7	24.5	98	79	8	9	20.1	● a. p. ↙° p.
31	28.3	22.5	99	90	4	9	14.7	● a. p.
Mean	28.5	22.8	93.6	84.3	8.2	8.4	------	
T0tal	------	------	------	------	------	------	858	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	------	------	96	80	10	10	24.6	p a. ● p.
2	------	------	92	83	7	6	3.6	● a. p.
3	------	------	88	81	7	7	20.1	● a. p.
4	------	------	81	83	10	9	2.5	● a.
5	------	------	95	76	7	4	------	
6	------	------	92	82	10	10	3.3	●° p.
7	------	------	88	77	10	9	1.3	p p.
8	------	------	92	75	10	10	.5	p a.
9	------	------	99	83	10	6	------	d a.
10	------	------	96	78	10	7	1	● p.
11	------	------	95	83	7	9	1.8	● a.
12	------	------	98	76	4	6	1.3	p p.
13	------	------	95	75	7	6	------	
14	------	------	83	72	5	4	------	
15	------	------	93	74	7	5	------	
16	------	------	96	75	6	4	.5	
17	------	------	91	70	6	7	12.2	● a. p.
18	------	------	81	75	10	10	15.5	● a. p.
19	------	------	74	71	10	10	27.9	● a. p.
20	------	------	------	98	10	10	43.2	● a. p.
21	------	------	95	89	10	10	34.8	● a. p.
22	------	------	90	------	10	9	15.7	● a. p. ◪ p.
23	------	------	90	87	10	10	37.6	d a. ● p.
24	------	------	98	90	10	10	7.4	● a.
25	------	------	91	84	7	9	11.7	● p.
26	------	------	97	90	10	10	71.1	● a. p.
27	------	------	90	89	10	10	31	● a. p.
28	------	------	98	91	10	5	22.9	d a. ● p.
29	------	------	98	79	4	5	11.2	● a. p.
30	------	------	90	89	4	6	6.9	p a. ● p.
31	------	------	97	95	8	10	6.1	● a. p p.
Mean	------	------	92	81.7	8.3	7.8	------	
Total	------	------	------	------	------	------	415.7	

METEOROLOGICAL DATA.—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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.8	25.2	84	77	10	10	8.9	↙° ● p.
2	27	22.4	89	93	10	10	34.3	p a.
3	29	24.4	92	77	7	6	10.2	↙° p.
4	27.6	24	90	90	10	10	25.4	
5	29.2	23.6	84	66	2	4	------	
6	29	23	95	77	6	6	.8	
7	29	25	81	73	5	5	------	
8	28.6	24.4	84	77	6	8	2.5	p° a. p.
9	28.6	25	84	70	10	9	------	
10	28.4	22.4	87	84	6	8	------	
11	28.6	24.6	79	66	10	10	------	
12	27.6	24.6	84	85	8	8	10.2	● a.
13	29	24.2	84	69	4	7	10.2	
14	29.2	23.8	84	71	10	10	1.3	
15	29	25.4	84	74	10	7	1.5	p° p.
16	28.6	26	84	75	7	10	3.8	↙° p.
17	29.4	25	84	68	4	10	30.5	●^{2} p.
18	25.6	22.8	98	97	10	8	47	↙° a. ● a. p.
19	29	24	84	70	8	8	------	
20	28.6	22.6	90	69	10	5	1.5	
21	29	24.8	87	70	4	5	.8	
22	29.4	23.8	87	68	1	3	------	
23	29	21.2	85	63	1	2	------	
24	29	23	85	66	1	1	------	
25	29.4	23.8	84	68	2	3	2	
26	29.4	22.6	84	70	6	3	1.3	
27	29	24.8	88	73	10	8	3	
28	29.4	24.8	85	70	6	7	3.8	↙° p.
29	28	24.8	83	74	10	10	3.3	
30	27.4	24.6	87	91	3	10	48.3	●^{2} p.
31	28	22.6	84	73	7	3	3.6	
Mean	28.6	24	85.9	74.6	6.6	6.9	------	
Total	------	------	------	------	------	------	254.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.3	22.6	91	72	10	10	3	● p.
2	28.6	23.9	83	81	10	10	9.7	●° a. d° a. p.
3	26.5	23.8	92	92	10	10	17.3	● a. d p.
4	29	23.6	80	74	10	8	18.5	p° a. ● p.
5	27.5	22.2	90	67	10	10	3	● a. ↙° p p.
6	28.5	18.6	93	74	10	10	15.2	≡ p° a. ● p.
7	28.3	22.1	86	73	10	10	1.5	p a. d° p.
8	28.7	22.1	96	75	10	10	1.3	d a. p a. p.
9	30.5	22.8	92	70	10	10	48.8	d° p a. ●^{2} p.
10	29	22.5	98	84	10	8	.8	
11	27.8	23	97	97	10	10	21.6	⊤●a.●∞⌒°p.
12	28.5	22.4	97	93	10	10	18.8	d° a. p.
13	28	22.6	98	81	10	8	29.2	d a. ●^{2} p.
14	29.5	22.8	97	79	10	8	3.3	d ● a.
15	28	22	97	77	10	3	10.4	● a. ⌈↯ p.
16	29.6	21	96	76	5	8	11.2	⌂ a. ● p.
17	29.6	21.4	99	76	10	10	5.1	⌈↯ p.
18	28.3	23.5	92	83	10	10	18.3	● a. d p.
19	26.6	22.5	81	65	10	10	2.8	p° p.
20	24.7	20.4	84	82	10	10	15.7	● a. p. d p.
21	25.1	21.8	98	97	10	10	4.6	d a. p.
22	26	22.1	94	96	10	10	2.3	d a. p.
23	28.5	22	91	76	10	10	5.8	p a. ● p.
24	25.4	21.2	85	90	10	10	44.7	●^{2} ⊤° a. ● p.
25	28	21	98	72	10	10	------	● a.
26	26	21.5	83	85	10	10	1.3	p° a.
27	26.9	22.8	85	65	10	9	------	
28	27.8	22.2	90	87	10	10	3.3	p d° a.
29	28.4	24	92	82	10	8	4.3	p ⌒° a. ● ⌣ ⌓p.
30	29.2	23.6	97	75	10	5	.5	p° a. ⊤ p.
31	29.7	24	89	74	6	3	5.3	
Mean	28	22.3	91.6	79.7	9.7	9	------	
Total	------	------	------	------	------	------	327.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.9	23.5	83	93	9	10	83.6	⌒ a. ● a. p. ⌈↯ p.
2	31.2	22.9	88	68	9	8	5.6	⌒ a. ●° a. p.
3	29.5	23.8	88	88	8	10	30	⌒ a. ● a. p.
4	31.5	23.2	92	76	9	10	1.5	⌒^{2} d ●° a. p.
5	29.2	24.5	76	68	7	7	------	⌒ a.
6	30	24.4	75	67	10	9	1.3	≡ a. d° a. p.
7	30.1	23.4	85	77	9	9	------	●° ⌒ d° a.
8	26.2	23.5	91	84	10	10	1.8	● a. ⟨ p.
9	29.8	20.6	95	76	10	8	13.7	⟨ p.
10	30.5	23.5	96	87	10	9	46.2	⌒ a. ● a. p. d p.
11	29.4	23.3	97	81	10	8	23.1	●° a.
12	29	22.5	98	79	8	6	------	● a. ⊕ ◯ ⟨ p
13	30.4	20.6	95	68	7	8	------	⊕ ◯ a. ⟨ p.
14	31.5	21.8	96	72	6	8	5.8	d a. ●° a. p. ⌒ p.
15	27	22.4	98	94	8	10	21.8	⊤ a. ●° a. p. ⌒^{2} p.
16	29.5	21.5	97	84	8	9	4.8	● a. ●° p.
17	31	22.4	96	96	9	10	39.9	d ●° a. ● p.
18	28.5	22.4	84	79	10	10	2	⌒ ●° a. d p.
19	31.7	23	67	61	10	10	22.9	d a. p.
20	28.4	22.9	88	96	10	10	144.8	⊤ ● a. ⌈↯ ● p.
21	29.5	22.6	87	81	10	10	33	d° ●° p.
22	28.4	23.6	96	82	9	9	18.8	●≡ a. ⌈↯ ●° p.
23	28.2	23.4	95	91	9	10	47.8	●° a. d ⌈↯ ● p.
24	29.2	23.5	93	93	10	10	33.8	⌈↯ a. ● a. p. d p.
25	30	22.5	96	89	9	10	19.6	⊤° a. ●° a. p. ⌒ p.
26	25.8	22.8	83	82	10	10	10.9	●° a. d a. p.
27	30.7	24	78	77	9	9	39.6	● ⌒ a. ●° p.
28	30.2	23.4	86	76	10	8	21.3	● a. p. ⌒ p.
29	30.5	22.5	91	70	8	8	8.4	d^2 a. ●° a. p. ⌒ p.
30	29.5	24	86	81	6	8	24.6	●° a. ● p.
31	31.7	23.7	85	70	6	8	3	≡ a. d ⌒ ● p.
Mean	29.5	23	89.1	80.2	8.8	9	------	
Total	------	------	------	------	------	------	709.6	

NUEVA CACERES.

[$\phi=13°\ 37'$ N; $\lambda=123°\ 11'$ E]

Day.	Temperature. Maximum.	Temperature. Minimum.	Relative humidity. 6 a. m.	Relative humidity. 2 p. m.	Cloudiness. 6 a. m.	Cloudiness. 2 p. m.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.2	21.9	91	95	10	10	13.3	●° a. p.
2	29.2	22.6	97	82	10	7	11.4	●° d a.
3	25.3	23	97	97	10	10	100.1	●° a. ● p.
4	28.2	22.5	97	86	7	10	6.1	● a. d a. p.
5	29.8	22	97	69	8	7	------	
6	28	20	93	84	9	10	10	● a.
7	29	22.1	97	80	10	10	.8	d ●° a.
8	29	21.7	97	83	8	10	------	
9	29.7	22.3	97	89	10	10	6.9	●° p.
10	29.5	22	99	89	10	8	1.8	≡^{2} a. ⊤° ●° p.
11	29.9	21.7	98	86	10	10	12.2	≡° a. ●° p.
12	31.7	21.3	98	74	10	8	16.5	≡° a. ●° p.
13	30.6	21.6	99	74	7	7	------	
14	31.7	21	100	82	3	9	.4	≡^{2} a. d p.
15	30.3	20.1	98	86	8	9	------	≡° a.
16	30.5	21	100	81	5	7	------	≡° a.
17	31	21	100	93	6	9	24.9	≡° a. d ●° p.
18	27.9	22	95	97	10	10	4.6	●° p.
19	27.9	21.5	77	76	10	10	29.9	●° a.
20	28	21.1	96	97	10	10	40.6	● a. p.
21	26.7	23	98	95	10	10	10.4	●° a. d p.
22	24.3	22.3	98	97	10	10	130.3	●^{2} a. p.
23	28.7	23.2	97	86	10	10	72.4	●° a. ⌈↯ ●^{2} p.
24	23.7	22.3	98	97	10	10	152.4	●^{2} a. p.
25	24.6	21.6	97	95	9	10	65	●^{2} p.
26	26	21.8	98	88	10	10	.5	d° ⌒ a.
27	26.5	21.3	96	90	9	10	60.5	⌒ a. d ●^{2} p.
28	28.2	21.8	97	88	10	9	13.7	● d p.
29	28.9	21.8	98	89	8	8	1.8	
30	30	21.5	100?	88	7	8	------	
31	30	21.8	98	91	7	9	10.7	●° p.
Mean	28.5	21.8	96.7	87.2	8.7	9.2	------	
Total	------	------	------	------	------	------	797.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32	20.8	89	61	6	7	------	
2	30.5	20.3	91	72	6	7	7.6	● a. p.
3	26.8	21.2	96	93	10	10	18.8	d a. ● a. p.
4	30.1	20.6	96	69	9	7	------	
5	30.4	21	96	72	9	9	------	
6	29.3	16.7	95	69	6	9	------	≡° a.
7	29.6	17.9	96	76	4	7	------	
8	30	17.8	95	73	6	9	------	
9	30.3	21.1	93	70	7	7	3	
10	32.1	21.2	96	60	7	6	.5	● a.
11	29.6	21.5	97	83	10	9	2.8	d a.
12	29.8	21.1	95	82	9	9	24.1	●² a. p.
13	30	21.2	96	74	10	7	10.2	d a. ● p.
14	30.2	19.9	96	86	7	6	11.7	● a. p.
15	31.8	20.2	96	63	5	6	------	
16	30.8	19	96	70	4	5	9.4	● p.
17	31.8	20.4	96	90	5	10	9.9	● ⊤ p.
18	28.6	20.5	95	88	7	10	2.3	● p.
19	29	19	97	58	6	7	------	⊍ p.
20	24.4	17.2	91	87	10	9	14.7	● a. p.
21	28	20.4	93	74	9	10	------	
22	27	21	89	76	9	9	------	
23	30.4	20.3	96	83	9	9	3.6	● a. p.
24	25.4	20.8	92	85	9	10	------	
25	29.4	19.8	95	65	9	7	------	
26	29.9	20.9	87	74	6	7	------	
27	28.4	20.2	88	65	7	6	------	
28	30.3	20.4	91	74	9	6	1.3	d a. p.
29	30.6	20.9	95	74	6	7	.3	d° a. p p.
30	32	20.7	95	60	5	4	------	
31	32	20.9	96	63	3	6	------	
Mean	29.7	20.2	94	73.8	7.2	7.6	------	
Total	------	------	------	------	------	------	120.2	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.8	19.4	98	68	2	5	------	≡ a.
2	28.1	19.7	98	70	6	8	------	≡ a. d p.
3	27.5	19.4	98	68	3	7	------	
4	28.4	19.3	99	66	7	8	1.3	≡ a. p° p.
5	27.8	19.2	98	68	5	7	------	Ω ≡ a.
6	27.3	19	98	70	3	9	------	≡ a.
7	29.6	20.2	98	63	3	3	------	Ω ≡ a.
8	30.2	20.4	97	64	7	8	2	≡ a. ●° p.
9	30.6	20.5	98	64	9	9	3.3	Ω ≡ a. ●° p.
10	28.5	20.8	98	66	6	8	------	Ω ≡ a.
11	29	20.9	97	64	9	8	6.1	d p° a.
12	28.7	20.7	98	65	5	8	34.3	≡ a. ●² p.
13	29.3	20.4	98	65	10	7	------	●° a. ⊤° p.
14	29.5	20.5	98	64	7	8	18.5	≡ a. ●² p.
15	29.6	21.1	98	65	3	2	------	Ω ≡ a.
16	28.6	21.5	98	66	7	8	------	≡ a.
17	28	20.8	97	68	5	8	60.7	Ω ≡ a. ●² ⊤° p.
18	27.5	20	98	69	10	8	------	●² a. ⊤° p.
19	28.1	19.9	98	68	6	8	------	Ω ≡ a.
20	27	19.3	98	71	10	9	4.6	●° p.
21	26.8	19.4	97	71	7	8	2.5	Ω ≡ a. ●° p.
22	26.6	19.6	98	71	5	8	------	≡ a.
23	26.8	19.4	98	70	3	3	------	
24	26.9	19.6	98	70	5	7	1.8	Ω ≡ a. ●° p.
25	26.5	19.5	97	70	7	8	------	
26	27.4	19.8	98	71	6	6	------	Ω ≡ a.
27	27.5	20	97	71	2	7	------	≡ a.
28	26.6	19.5	98	73	9	9	------	d p.
29	27.3	19.9	97	72	5	5	------	Ω ≡ a.
30	27.8	20.2	98	70	7	6	------	≡ a.
31	27.5	19.8	98	70	8	8	------	Ω ≡ a. d p.
Mean	28	20	97.8	68.1	6	7.1	------	
Total	------	------	------	------	------	------	135.1	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	27.3	------	88	85	9	7	4.6	p a. p. ⌒ p.
2	26.3	------	89	80	10	9	31.2	p a. ● p.
3	26.2	------	87	94	9	10	14.5	● a. p p.
4	25.3	------	90	86	9	7	10.7	● p.
5	25	------	88	80	9	6	------	⌒ a.
6	25.5	------	85	87	10	8	------	
7	25.9	------	91	71	6	6	1.3	p a.
8	25.5	------	90	88	7	6	------	
9	30.7	------	97	65	8	6	1	p p.
10	28.3	------	96	81	9	6	3	⌒ a. p p.
11	24.4	------	98	90	10	9	15.7	● a.
12	27.7	------	96	81	7	8	7.1	● p.
13	25.7	------	97	83	7	8	3.3	p p.
14	26.3	------	95	87	9	6	22.9	⌒ a. ● a. p.
15	28	------	99	73	9	4	------	
16	28.8	------	------	79	7	6	------	
17	27.3	------	96	82	6	6	38.1	● p.
18	23.7	------	93	92	9	10	24.4	● a. p.
19	24.1	------	80	69	7	6	------	
20	23.3	------	94	89	9	9	20.1	p a.
21	24.4	------	88	91	9	8	1	● a.
22	23.3	------	90	95	8	6	1.3	● a.
23	25.3	------	95	96	8	9	4.8	p a. p.
24	22.5	------	85	97	7	6	------	
25	24	------	89	87	8	6	6.9	● p.
26	22.2	------	93	85	9	6	7.1	⌒ ↙° a. ● p.
27	24.2	------	87	75	9	6	7.6	⌒ ↙° a. ● p.
28	24	------	95	83	7	6	15.7	p a. p.
29	25	------	96	92	8	9	8.4	⌒ p a. ● ⌒ p.
30	27	------	97	93	6	7	18.5	p p.
31	27.5	------	98	84	8	6	------	⌒ a.
Mean	25.6	------	92.1	84.5	8.2	7	------	
Tota	------	------	------	------	------	------	269.2	

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	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0–10.	0–10.	mm.	
1	32.4	20.1	92	56	10	9	------	Ω a.
2	33.1	20.3	94	52	10	4	------	d a.
3	32.4	21.7	93	56	9	9	8.1	Ω a. ● p.
4	32	19.4	96	50	10	3	------	Ω a.
5	30.6	18.9	94	55	10	3	------	Ω a.
6	30.4	16.9	92	50	10	9	------	Ω a.
7	32	18.7	91	51	10	4	------	Ω a.
8	32.4	18.2	93	52	10	9	------	Ω a.
9	31.6	18.4	92	56	10	9	------	Ω a. d p.
10	33.2	21.4	97	62	9	9	------	Ω a. d° p.
11	31	22.6	97	65	10	10	------	Ω a. d p.
12	32.4	------	99	61	10	10	116.8	Ω a. ●² p.
13	29	20.7	97	82	10	10	------	●² a. d a. p.
14	31	20.7	96	63	10	10	.5	Ω a.
15	32.5	21.4	95	51	9	4	------	d a. p° p.
16	32.5	20	95	59	10	4	------	Ω a. d p.
17	31	20.9	95	84	9	10	8.6	Ω a. ● d p.
18	30.2	21.4	96	62	10	8	------	≡ Ω a.
19	30	19	91	46	10	9	------	
20	27	17	95	68	10	10	------	Ω a.
21	31.2	20.2	91	51	10	10	------	⊕ p.
22	31.8	18.3	94	50	10	9	------	⊕ p.
23	32.4	20.6	91	55	10	10	------	
24	29.6	20.4	88	59	10	10	------	Ω a. d° ⊕ p.
25	30.7	19.6	90	48	10	9	------	Ω a.
26	30.6	20.5	67	49	10	3	------	
27	30.6	19.5	75	47	9	2	------	∞ p.
28	31.2	18.2	86	59	5	10	------	Ω a. d° p.
29	28.5	20.4	88	72	10	9	------	Ω a. d° a. p.
30	32.6	20	89	58	9	7	------	Ω a.
31	33.4	20.5	95	54	10	5	------	Ω a. ⊍ p.
Mean	31.3	19.9	91.7	57.5	9.6	7.6	------	
Total	------	------	------	------	------	------	134	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	27.5	20.9	93	73	10	10	------	d° p.
2	29.4	22	95	68	10	5	------	⊕ p.
3	28.5	23.9	83	73	10	10	------	⊕ ϖ p.
4	28.5	21.4	89	70	10	9	0.5	⊕ ϖ p.
5	27.3	21.5	93	67	10	8	------	⊕ p.
6	27.8	19.7	81	60	10	10	------	⊕ p.
7	28.7	20.4	89	59	10	10	------	⊕ p.
8	28 8	19.4	87	60	10	9	------	⊕ p.
9	29.7	20.4	90	61	10	9	------	⊕ d p.
10	27.5	22.1	93	85	10	10	101.1	● p.
11	24.7	22.2	92	91	10	10	9.4	● a. d a. p.
12	27.6	22.2	96	77	10	10	86.6	d° ●° p.
13	26	20.5	95	88	10	10	8.9	● a. d p.
14	25.5	23.2	------	80	10	10	46.2	● a. p. d p.
15	28	21	95	77	10	10	.5	⊕ p.
16	28	20.5	95	77	10	9	12.7	● ⌒ p.
17	24.7	22.4	91	95	10	10	108.7	● p.
18	25.3	------	96	79	10	10	8.6	● p.
19	26.2	------	93	58	10	9	------	⊕ ϖ p.
20	26.5	18.8	------	75	10	10	------	d° ϖ p.
21	28.7	------	78	61	10	10	------	⊕ p.
22	27.8	------	83	64	10	10	.3	d° p.
23	25.5	20.3	91	85	10	10	3.6	d a. p. ● p.
24	26.7	20.2	90	70	10	10	.5	⊕ ϖ p.
25	27.2	20.4	------	65	10	10	------	⊕ ϖ p.
26	26	23	------	68	10	10	------	d° ϖ p.
27	26.5	------	------	84	10	4	------	ϖ p.
28	26	21	91	81	10	10	17.3	
29	24.2	------	96	91	10	10	68.8	● a. p.
30	27.5	21.5	92	86	10	10	28.2	
31	27.5	23	97	81	10	3	2.5	● a. ⊕ ψ p.
Mean	27.1	21.3	90.9	74.5	10	9.2	------	
Total	------	------	------	------	------	------	504.4	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	30.7	20.4	94	64	2	4	------	Ω^2 a.
2	30.4	21.3	95	70	3	2	------	Ω^2 a.
3	30.6	21.5	93	62	2	3	------	Ω^2 a.
4	30.1	20.5	96	64	3	3	------	Ω^2 a.
5	30.3	20.3	94	61	3	2	------	Ω^2 a.
6	28.9	19.5	94	62	2	4	------	Ω^2 a.
7	29.4	18.9	92	65	5	3	------	Ω^2 a.
8	30	18.4	94	57	5	3	------	Ω^2 a.
9	29.6	18.4	95	72	3	6	------	Ω^2 a.
10	31.6	20.6	95	72	2	5	0.5	Ω^{2}a.d°Γ↯°●°p.
11	30.3	23.1	95	73	10	9	3.8	Ω^2 a. ● p.
12	29.5	21.6	96	75	8	9	2.5	Ω a. ●° p.
13	29.2	22	97	80	9	9	------	Ω d° a.
14	30	22.4	97	68	7	3	------	Ω a.
15	28.4	22.7	93	70	10	5	------	Ω a.
16	30.1	20.9	96	72	2	2	------	Ω a.
17	30	21.7	94	84	10	10	.5	Ω a. ⌒^{2} ●° p.
18	28.6	22.8	95	76	10	5	------	Ω^2 a. ψ^2 p.
19	28.2	21	95	70	5	7	------	Ω a.
20	28.4	18.4	92	70	10	8	------	Ω a.
21	29.7	19.4	92	70	3	6	------	Ω^2 a.
22	29.4	19.6	94	69	3	4	------	Ω^2 a.
23	29.9	21.4	93	70	9	6	------	Ω^2 a.
24	28	23	89	75	10	10	------	Ω a. d° p.
25	29.6	21.3	92	67	10	3	------	Ω a.
26	29.6	20.2	94	59	2	1	------	Ω^2 a.
27	29	19.1	92	62	2	2	------	Ω^2 a.
28	30.6	------	94	59	2	4	------	Ω^2 a.
29	30.7	20.6	94	64	1	5	------	Ω^2 a.
30	30.5	------	96	68	1	1	------	Ω^2 a.
31	31.1	20.3	94	66	1	3	------	Ω^2 a.
Mean	29.8	20.7	94.1	68.3	5	4.7	------	
Total	------	------	------	------	------	------	7.3	

ECHAGÜE.[1]

[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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	26.7	20.1	98	77	10	10	------	d^2 a. Γ↯ p.
2	28.4	20.4	97	79	9	9	2.3	d^2 Γ↯ p.
3	27	20.3	95	89	10	10	6.1	d^2 a. p. Γ↯ p.
4	25.5	19.7	96	93	10	10	9.1	● a. p^2 Γ↯ d p.
5	23.5	18.5	94	82	10	10	4.3	p^2 a. d a. p. Γ↯
6	24.7	17.3	98	77	6	10	3.6	d^2 p.
7	26.8	18.3	96	67	10	9	.3	d a. p. Γ↯ p.
8	27.3	19.1	98	73	10	8	------	Γ↯ d° p.
9	27.9	18.5	95	70	9	9	1.5	∞^{2}a.⊕^{2}a.p.d°p.
10	28.4	21.6	96	79	10	10	33.5	d^2 a. Γ↯ ● p.
11	27.4	20.7	98	78	10	10	3.3	●° d^2 a. Γ↯ p.
12	30.6	19.9	97	62	9	7	23.1	Ω^2∞^{2}a.Γ↯d^{2}p.
13	27	21	97	84	10	9	13.7	● d^2 a. Γ↯ d^2 p.
14	24.8	18.9	95	76	10	10	21.8	●° d a. p. Γ↯ p.
15	24.9	18.6	97	92	10	10	10.1	● a. d^2 p° Γ↯ p.
16	28.3	20.1	99	89	10	9	24.9	d° a. p. Γ↯ ●° p.
17	22.1	19.6	100	96	10	10	68.6	● a. p.
18	25.6	19.2	99	81	10	10	12.2	● a. p. ○° p^2 p.
19	27.1	17.8	96	62	10	10	.3	ϖ° p.
20	24	17.8	98	90	10	10	8.4	d° a. p. ●° p.
21	27.5	19.4	96	72	10	9	------	⊕°d°a.Γ↯ψ°ϖ°
22	26	18.3	95	69	10	10	2	
23	24.8	19.2	98	87	10	10	3.8	d^2 a. Γ↯ p.
24	24.3	18.5	96	79	10	10	------	p^2 a. p.
25	23.1	18.4	96	87	10	10	2.3	d a. p° a. p. ●° p.
26	25.9	17.4	94	82	10	10	.5	d^2 ↙° ϖ^2 p.
27	27.7	16.9	97	58	10	6	------	d° a. ϖ^2 p.
28	27.5	18.2	95	70	10	10	1	d° a. p.
29	24.5	20	98	88	10	10	19.8	d a. p.
30	29.1	18.8	99	88	4	7	------	● d° p.
31	31.3	20.6	96	56	10	3	------	Γ↯ ⌒° p.
Mean	26.4	19.1	96.7	78.5	9.6	9.2	------	
Total	------	------	------	------	------	------	276.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	28.6	21.7	83	76	0	8	------	Ω^2 ≡ a.
2	29.3	22.1	85	73	2	7	------	Ω^2 ≡ a.
3	30.1	22.5	79	71	3	2	------	Ω^2 ≡ a.
4	30.2	21.9	77	67	3	2	------	Ω^2 ≡ a.
5	28.8	21.9	74	68	5	0	------	≡ a. ∞ p.
6	28.9	20	65	55	5	4	------	≡ a.
7	29	20.4	76	59	6	1	------	Ω^2 ≡ a.
8	29.2	20.5	78	58	4	7	------	Ω^2 ≡ a.
9	29.3	20.7	81	63	2	6	------	Ω^2 ≡ a.
10	29.9	22.8	81	66	2	8	------	Ω^2 ≡ a. T° ζ p.
11	28.7	24.7	82	74	10	9	6.1	≡ a. T° ζ p p.
12	28.8	23.5	83	72	7	6	------	≡ a. T° d p.
13	28.8	23	82	64	9	9	------	Ω^2 ≡ a. d p.
14	29.6	22	70	48	5	3	------	≡ a.
15	27.7	22	76	66	10	8	------	p ≡° a. d a. p.
16	28.5	21.5	82	64	2	4	------	Ω^2 ≡ a.
17	29.8	23.5	77	63	10	9	------	Ω° a. d ⌒° ζ ϖ.
18	30.4	23.2	79	59	9	9	------	Ω° ≡° a. ϖ^2 p.
19	28	21.1	64	46	6	9	------	Ω° ≡° a. ϖ p.
20	28	18.6	76	63	4	9	------	Ω^2 ≡ a. ϖ p.
21	30.2	20.6	70	51	9	5	------	Ω ≡ a. ψ^2 p.
22	28.8	20.7	60	56	4	5	------	Ω ≡ a. ψ^2 p.
23	28.7	21.2	73	64	2	10	------	Ω^2 ≡ a. ψ^2 p.
24	28.5	22.9	61	55	10	10	------	
25	29.4	22.1	62	44	9	4	------	Ω° ≡° a. ϖ° p.
26	30.3	22	57	43	1	0	------	≡° a.
27	30	20.2	63	52	1	0	------	≡° a.
28	28.7	20	72	62	0	3	------	Ω^2 ≡ a. d p.
29	29.6	22.6	78	63	3	9	------	Ω ≡ a. d p.
30	29.9	22.8	79	64	1	0	------	Ω^2 ≡ a.
31	29.6	22.2	78	69	1	0	------	Ω^2 ≡ a. T° ζ p.
Mean	29.2	21.8	74.3	61.2	4.7	5.4	------	
Total	------	------	------	------	------	------	6.1	

[1] From January to November, 1909, the correction + 2.1 °C should be applied to the readings of the minimum thermometer of this station.

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	32.8	19.9	95	49	0	1	------	Ω ≡² a.
2	32.3	20.3	90	48	2	1	------	≡ a.
3	30	19.2	92	54	1	3	------	Ω° ≡² a. ↙° p.
4	30.1	18.2	84	53	2	1	------	≡² a. ↙° p.
5	28.5	20.7	73	45	2	0	------	↙° p.
6	28.9	15.6	93	52	2	3	------	Ω ≡² a.
7	31.5	17.6	91	42	3	4	------	≡² a.
8	30.3	19.7	83	------	2	------	------	≡ a.
9	29.7	19.1	92	72	4	5	34.8	≡² a.
10	30.3	22.5	98	67	10	5	11.2	● a. d p.
11	29.9	22.6	95	75	10	10	1	● p.
12	30.2	22.5	96	70	10	8	------	
13	26.4	22.7	77	72	9	9	------	d a. ↙° p.
14	30	21.4	74	48	3	3	------	
15	26.2	19	91	71	10	10	7.6	≡ a. ↙° p.
16	27.1	19.7	90	74	10	10	------	● d a. ↙° p.
17	29.4	21	81	55	8	4	------	↙° p.
18	30.2	22.6	75	48	10	3	------	Ψ p.
19	28.2	19.7	72	48	4	3	------	≡ a. Ψ p.
20	29.8	19	82	56	7	10	------	≡² a. Ψ² p.
21	31.4	20.6	73	43	3	3	------	Ψ² p.
22	31.9	15.9	93	42	0	2	------	Ω ≡² a.
23	31	19.1	91	53	9	8	------	≡ a.
24	27.8	17.8	78	55	3	10	------	≡ a.
25	28.8	21.3	64	49	8	6	------	
26	28.3	20.8	60	49	1	1	------	↙° ⊖ p.
27	30.3	15.4	89	35	0	0	------	Ω ≡² a.
28	32.8	15.5	87	41	0	1	------	Ω° ≡² a.
29	31.8	21.8	85	57	6	8	------	≡° a.
30	31.5	21.6	96	70	9	1	------	Ω² ≡ a.
31	32.1	21.4	94	60	0	0	------	Ω² ≡ a.
Mean	30	19.8	85	55.1	4.8	4.4	------	
Total	------	------	------	------	------	------	54.6	

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.	Rain, 24 hrs. beginning 6 a. m.	Miscellaneous.
	°C.	°C.	P. ct.	P. ct.	0-10.	0-10.	mm.	
1	25.8	21.8	72	68	8	10	1.8	
2	26.1	20.7	77	64	9	10	------	● v a. d° p.
3	26	21.9	68	60	5	5	16	● p.
4	24.2	20.2	66	66	9	10	1.5	●° a. ↙° p.
5	24.8	20.4	57	53	3	2	.3	d p.
6	24.3	21.1	66	59	4	2	2	↙° a. p ● p.
7	24	20.3	59	60	10	7	.5	↙° a. d p.
8	25.6	21.7	67	77	6	8	21.8	●² p.
9	25.2	21.9	91	87	10	10	6	↙° d a. d ●° p.
10	25.2	21.7	83	80	10	10	7.8	d² a. d p.
11	24.8	22.1	78	87	10	10	8.9	● a. d a. p.
12	26.5	21.3	90	85	10	10	14.5	⌒ a. ● d a. p.
13	23.4	21.2	79	76	10	10	21.1	● d a. p.
14	21.6	17.2	83	71	10	10	2.5	↙° d a. p.
15	22.6	18.2	84	86	10	10	19.3	d a. p. ● p.
16	21.9	19.8	85	88	10	10	30	● a. d a. p ↙° p.
17	22	19.2	87	80	10	10	11.9	●° a. ↙° d a. p.
18	23.4	19.4	80	68	10	7	3.7	d ● a. d° p.
19	24.2	20.2	73	66	6	8	3.6	d ●° p.
20	25.5	21.3	85	85	10	10	8.6	↙° p° a. d p.
21	24.5	21.1	86	75	10	10	8.4	● d a. p. ↙° p.
22	24.4	20.2	77	72	10	7	1	↙ a. d a. p.
23	24.9	20.4	80	70	4	8	------	d° Ψ p.
24	23.8	20.4	77	70	10	8	.5	d° a. p. ⊖² p.
25	22.5	20	80	68	8	9	------	↙° d° a.
26	22.7	18.5	63	67	4	8	1	↙° a. p. d° p.
27	24.5	18.7	69	59	10	7	------	p° a.
28	25.8	21	66	66	2	5	.5	d p.
29	25.2	22.1	79	77	4	10	1.3	d² p.
30	25.9	21.5	86	84	10	10	23.2	d a. p. ● p.
31	27.8	21.9	91	84	3	6	.2	⊤° a. Ω p.
Mean	24.5	20.6	76.9	72.8	7.9	8.3	------	
Total	------	------	------	------	------	------	217.9	

SEISMOLOGICAL BULLETIN FOR DECEMBER, 1909.

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

EARTHQUAKES FELT IN THE PHILIPPINES.[1]

4, 5^h 59^m. **Surigao** (NE of Mindanao). Earthquake of intensity V. It shocked the whole peninsula of Surigao, and was accompanied by rumblings; it was also perceptible in the northern part of the Agusan River Valley. From Butuan it was vaguely reported as a shock of intensity IV–V felt at about 4^h. Most probably its origin lay in the eastern part of the Butuan Bay. Neither the seismographs of Manila nor those of other observatories in the Far East registered any disturbance at the time. Consequently its cause must be considered as local and rather superficial, although the shaken area had a diameter of more than 150 kilometers. We have repeatedly had occasion to call attention in this BULLETIN to similar earthquakes which originated in the same region, and were felt at Surigao, Butuan, and other towns of the northeastern peninsula of Mindanao with intensity V or VI, without, however, affecting our seismographs, situated at a distance of about 700 kilometers from the origin.

7, 3^h 48^m. **Surigao** (NE of Mindanao). Earthquake shocks of intensity IV.

8, 15^h 30^m. **Talacogon** (E of Mindanao). Earthquake of intensity III. Repetition at 21^h 53^m.

8, 17^h 4^m. **Butuan** (N of Mindanao). Oscillatory earthquake; direction ENE–WSW, intensity III. All the shocks felt on the 8th had a common center of origin, to wit, in the northern part of the Agusan River Valley.

9, 13^h 45^m. **Cotabato** (SW of Mindanao). Earthquake shocks of intensity III, duration 10 seconds.

11, 5^h 17^m. **Jolo.** Oscillatory earthquake, direction SE–NW, intensity III.

19, 3^h 00^m 54^s.* **Camarines** (SE of Luzon). Oscillatory earthquake, direction NNE–SSW, intensity III, duration 8 seconds.

19, 8^h 16^m 49^s.* **Atimonan** (SE of Luzon). Oscillatory earthquake, direction NE–SW, intensity III, duration 6 seconds.

20, 19^h 58^m 17^s.* **Antique** (SW of Panay I.) Earthquake shocks of 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.			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.*		
211	9	NNW-SSE	23 42 32	23 46 53	23 51 56	23 58 12	0.01	12	1 01	V. M.	
		NNW-SSE	23 42 39	23 47 16	23 51 58	23 58.15	.11	11.7	0 56	H. P.	
		WSW-ENE	23 42 32	23 46 57	23 51 59	23 58 03	.02	15.2	1 01	V. M.	
		WSW-ENE	23 42 39	23 47 47	23 52 00	23 58 06	.08	12	0 58	H. P.	
212	10	NNW-SSE	5 50 38	5 54 44	5 59 39	6 02 27	.02	8.8	6 55	V. M.	
		NNW-SSE	5 50 44	------	------	------	------	------	6 50	H. P.	
		WSW-ENE	5 50 38	5 55 14	5 59 39	6 02 33	.01	10.8	6 55	V. M.	
		WSW-ENE	5 50 44	5 55 11	5 59 43	6 02 39	.27	9	6 50	H. P.	
213	10	NNW-SSE	7 33 54	7 37 02	7 41 18	7 43 53	.06	8.8	9 15	V. M.	Vertical Component 0.06 mm. Earthquake in Guam.
		NNW-SSE	7 33 52	7 37 20	7 41 09	7 43 22	2.93	13.8	9 13	H. P.	
		WSW-ENE	7 33 54	7 37 37	7 41 16	7 44 50	.10	8.4	9 15	V. M.	
		WSW-ENE	7 33 52	7 37 37	7 41 16	7 43 03	3.60	11.7	9 13	H. P.	
214	19	NNW-SSE	3 00 53	------	3 01 24	3 01 34	.88	2.4	3 11	V. M.	V. C. 0.25 mm. Earthquake, III in Camarines (SE of Luzon).
		NNW-SSE	3 00 54	------	3 01 24	3 01 46	.22	5.1	3 10	H. P.	
		WSW-ENE	3 00 53	------	3 01 24	3 02 36	.82	2.4	3 11	V. M.	
		WSW-ENE	3 00 54	------	3 01 23	3 01 56	.40	10.5	3 10	H. P.	
215	19	NNW-SSE	8 16 49	------	8 17 20	8 17 29	.96	2.4	8 25	V. M.	V. C. 0.72 mm. Earthquake, III at Atimonan (SE of Luzon).
		NNW-SSE	8 16 51	------	8 17 16	------	------	------	8 22	H. P.	
		WSW-ENE	8 16 49	------	8 17 19	8 17 34	.75	2.4	8 25	V. M.	
		WSW-ENE	8 16 51	------	8 17 19	------	------	------	8 22	H. P.	
216	20	NNW-SSE	19 58 17	------	19 59 24	19 59 34	.19	2.4	20 06	V. M.	V. C. 0.01 mm. Earthquake, III in Antique (SW of Panay).
		WSW-ENE	19 58 17	------	19 59 25	19 59 36	.11	2.4	20 06	V. M.	
217	31	NNW-SSE	14 57 53	------	14 58 15	14 58 29	.20	2.4	15 03	V. M.	V. C. 0.12 mm.
		WSW-ENE	14 57 53	------	14 58 15	14 58 21	.16	2.2	15 03	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=9.6 seconds; WSW–ENE pendulum, T=9.9 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.

THE EARTHQUAKE OF GUAM, DECEMBER 10, 9 A. M.

Thanks to the generosity of the Commercial Pacific Cable Company, and in particular of Mr. E. Desnoueé, superintendent of the office at Manila, the Weather Bureau has received the following cabled report of this violent earthquake:

> At 9^h of December 10 occurred two shocks lasting twenty seconds, of which the second was the more severe. Direction of the shocks SE–NW. In Agaña practically at the east and west walls of native mortar houses are badly cracked. In nearly every house articles on shelves of these walls were thrown down, while those of the north and south sides remained in place. The Women's Hospital, built of local mortar, was so badly injured as to necessitate tearing down; its tile roof slid off to the west, and the worst cracks were in the east wall. Many ceiling boards were shaken down in various houses. Several fissures opened in the ground, from one of which, near the river, came a large flow of water. The river bed sank in several places. The passing wave could be seen distinctly as it crossed the public square, and the station ship in the harbor reported having felt the shock. No damage of importance was done in the other towns on the island. The buildings of the Cable Station at Sumay, constructed of reinforced concrete, were not injured; but a few objects were thrown down, and the steel water towers could be seen swaying. No shocks were noticed before or after the earthquake, nor was anything extraordinary observed in the sea. The disturbance was not felt at Yap, Western Carolines.

Up to the present we have been unable to obtain additional information: hence we do not know what intensity the earthquake displayed on the neighboring islands to the north of Guam, on Rota, Saipan, Tinian, etc., all belonging to Germany. This earthquake, of intensity VIII–IX, has been the most violent experienced on Guam since September, 1902. The direction of the seismic waves and the orientation of the most seriously damaged walls, appear to indicate that the focus lay to the southeast or east-southeast of the island, undoubtedly in the northern portion of the "Challenger Deep."

In the BULLETIN FOR SEPTEMBER, 1902, we have given some physiographic data concerning the Marianas Islands, to which we refer the reader. The Mariana or Ladrones Archipelago is beyond doubt a continuation of what Prof. F. Omori calls the "Volcanic Chain of Mount Fuji,"[1] and belongs rather to the seismic system of Japan than to that of the Philippines. In the aforementioned BULLETIN FOR SEPTEMBER, 1902, the reader will find a list of the volcanoes constituting this chain, and likewise a comparison of the seismicities of Guam and Tokyo during the period 1892–1897.

As the available data are not sufficient for a complete study of this earthquake, we confine ourselves to making a few remarks on the cabled report.

(*a*) The time of the occurrence, given as 9^h,[2] is presumably only approximate. We are of the opinion that the shocks commenced about one minute earlier. The reason is, that otherwise the time which passed from the beginning of the disturbance on Guam to its being registered by the Manila apparatus would be only $3^m\ 54^s$. Now, this is too short, as it would suppose that the seismic waves had a velocity of 10 kilometers per second. A similar result is obtained if we compare the times at which registration commenced at Zikawei, Tsingtau, and Osaka.

(*b*) Though the report from Guam states that no other disturbances have been felt on the island, either before or after the principal earthquake, it is certain that in the early morning of December 10 the seismographs not only of Manila, Zikawei, Tsingtau, and Osaka, but even in Europe, registered two perturbations whose origin appears to have been in the same region of the Pacific Ocean, probably near the Magellanes Archipelago.

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[1] Bulletin of the Imperial Earthquake Investigation Committee, Vol. II, pages 166–184.

[2] Time of meridian, $9^h\ 30^m$ east of Greenwich.

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.[1]

4, 5^h 59^m. **Surigao** (NE de Mindanao). Temblor de tierra de intensidad V. Se hizo sentir en toda la península de Surigao donde fué acompañado de ruído subterráneo, y fué sin duda perceptible en la parte N del Valle del Río Agusan: debe ser el mismo que se sintió en Butúan con intensidad IV–V y del que se dice vagamente haber ocurrido hacia las cuatro. Es muy probable que su origen se hallaba en la parte E de la Bahía de Butúan. No fué registrado por los microseismógrafos de Manila ni de las otras estaciones del Extremo Oriente, por consiguiente debe considerarse como un seismo de origen muy superficial aunque el área conmovida tenía más de 150 Kms. de diámetro. Varias veces hemos llamado la atención sobre otros temblores del mismo origen, los cuales con tener en las estaciones de Surigao, Butúan y otras de la península NE de Mindanao intensidad V y VI, no fueron registrados en Manila que dista solo unos 700 kms.

7, 3^h 48^m. **Surigao** (NE de Mindanao). Temblor de tierra de intensidad IV.

8, 15^h 30^m. **Talacogon** (E de Mindanao). Temblor de tierra de intensidad III. Repitió á 21^h 53^m.

8, 17^h 4^m. **Butúan** (N de Mindanao). Temblor oscilatorio, dirección ENE–WSW, intensidad III, duración 4^s. Todos estos temblorcitos del día 8 debieron tener el mismo origen en la parte N del Valle del Río Agusan.

9, 13^h 45^m. **Cotabato** (SW de Mindanao). Temblor de tierra de intensidad III, duración 10^s.

11, 5^h 17^m. **Joló**. Temblor oscilatorio, dirección SE–NW, intensidad III.

19, 3^h 00^m 54^s.* **Camarines** (SE de Luzón). Temblor oscilatorio, dirección NNE–SSW, intensidad III, duración 8^s.

19, 8^h 16^m 49^s.* **Atimonan** (SE de Luzón). Temblor oscilatorio, dirección NE–SW, intensidad III, duración 6^s.

20, 19^h 58^m 17^s.* **Antique** (SW de Panay). Temblor de tierra de intensidad III.

REGISTROS DE LOS MICROSEISMOGRAFOS.

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

EL TERREMOTO DE GUAM, DICIEMBRE 10, Á 9 A. M.

De este violento terremoto recibió el Observatorio el siguiente cablegrama que agradecemos á la generosidad de la Commercial Pacific Cable Company y en especial á Mr. E. Desnoueé, superintendente de la estación de Manila.

Á las 9^h dos sacudidas que duraron unos veinte segundos, siendo la segunda la más intensa. Su dirección SE–NW. En Agaña quedaron malamente agrietadas todas las paredes del E y del W de las casas de mampostería. Fueron arrojados todos los objetos de los estantes que se hallaban adosados á las paredes E y W, permaneciendo en su lugar los de las paredes N. y S. El Hospital de mujeres construído de mampostería, quedó tan agrietado que será preciso derribarlo: su tejado de teja se resbaló hacia el W, las grietas peores se produjeron en el muro del E. En muchas casas se cayeron los cielo-rasos de madera. Agrietóse la tierra en diferentes sitios; de una grieta abierta cerca del río salió gran cantidad de agua. El lecho del río se hundió en varios puntos. Las ondas séismicas se vieron distintamente á través de la plaza; el buque estacionado en el puerto sintió también las sacudidas. No se produjeron desperfectos de consideración en los demás pueblos de la Isla. Los edificios de cemento armado de la Estación del Cable, situados en Sumay, no sufrieron desperfecto alguno; pero algunos objetos sueltos se cayeron al suelo y el tanque de agua se veía oscilar. No se percibió ningún otro temblorcito ni antes ni después del terremoto. No fué perceptible en Yap (Carolinas Occidentales).

[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 meridiano 120° E de Greenwich.

No hemos conseguido hasta ahora obtener más datos que los anotados. Por consiguiente ignoramos que intensidad tuvo el terremoto en las vecinas islas del N de Guam: Rota, Saipan, Tinian, etc., pertenecientes á Alemania. Este terremoto de intensidad VIII–IX ha sido el más violento experimentado en Guam desde Septiembre de 1902. La dirección de las ondas séismicas y la orientación de los muros más castigados parecen indicar que el epicentro se hallaba hacia el SE ó ESE de Guam; sin duda en la parte septentrional de la "Fosa Challenger."

En el Boletín Mensual de Septiembre de 1902, dimos algunos datos fisiográficos de las Islas Marianas y á él remitimos al lector. El Archipiélago de Ladrones ó de las Marianas es sin duda continuación de la llamada por Mr. F. Omori "Cadena volcánica del Fuji," [1] perteneciendo más bien á la provincia séismica del Japón que á la de Filipinas. En el citado Boletín de Septiembre de 1902, se encontrará una enumeración de los volcanes de dicha cadena así como también una comparación entre la seismicidad de Guam y de Tokio en el período 1892–1897.

No poseyendo datos suficientes para un estudio más completo de este terremoto haremos solo algunas advertencias acerca de la nota recibida por el cable:

(*a*) La hora del terremoto 9^h [2] debe ser solamente aproximada, suponemos que el terremoto ocurrió cerca un minuto antes; nos persuade esto el demasiado corto tiempo (3^m 54^s) transcurrido desde que se sintió en Guam hasta que lo comenzaron á registrar los aparatos de Manila, el cual exigiría en las ondas séismicas una velocidad de 10 kilómetros por segundo; análogo resultado se obtiene tomando las horas en que comenzó á registrarse en Zikawei, Tsingtau y Osaka.

(*b*) Aunque en la nota de Guam se dice que no se sintió allí ningún otro temblor ni antes ni después del terremoto principal, es cierto que en la madrugada del 10 se registraron no solo en los observatorios de Manila, Zikawei, Tsingtau y Osaka, sino también en los de Europa otras dos perturbaciones cuyo origen parece se hallaba en esa parte del Pacífico, probablemente hacia el Archipiélago de Magallanes.

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[1] Bulletin of the Imperial Earthquake Investigation Committee, Vol. II, págs. 166–184.

[2] Tiempo del meridiano, 9^h 30^m E de Greenwich.

APPENDIX TO THE MONTHLY BULLETIN FOR 1909.

APPENDIX TO THE MONTHLY BULLETIN FOR 1909.

ANNUAL SUMMARY OF METEOROLOGICAL DATA FOR MANILA, DEDUCED FROM TWENTY-FOUR DAILY OBSERVATIONS DURING THE YEAR 1909.

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	759.90	—1.21	24.7	—0.3	30.2	+0.3	20.2	—0.3	ESE	148.7	—20.5	25
February	60.66	— .70	25.3	0	31.4	+ .7	20.1	— .2	E quad.	172.8	—20	33.5
March	59.73	— .83	26.1	— .6	32.7	+ .4	20.5	— .9	SE quad.	200.8	—27	36.5
April	58.93	— .48	28.2	0	34.5	+ .7	22.6	— .2	SE quad.	208	—30.9	31
May	58.11	— .28	28.2	— .3	34.2	+ .8	23.5	— .5	Variable	174.2	—56.1	31.5
June	58.15	+ .22	27.8	— .1	33.1	+ .9	23.3	— .6	ESE, SW quad.	203.8	—31.9	39.5
July	56.87	— .45	26.1	—1	30.5	— .3	23	— .7	Variable	224.9	—48.7	51
August	58.08	+ .66	27.4	+ .3	32.2	+1.6	23.6	— .1	WSW	246.3	—39.5	34.5
September	57.20	— .31	26.3	— .6	30.6	0	23.3	— .3	WSW	269.2	— .1	62
October	57.07	—1.51	26.9	+ .1	31.2	+ .2	23.6	+ .5	WSW	266.7	+83.6	70
November	58.14	—1.24	25.8	— .2	30.4	+ .2	22.8	+ .5	NNE, SE	179.2	+15.6	36
December	59.62	— .83	24.2	—1	29	— .7	21	— .2	N quad.	145.4	—10.8	30
Annual	758.54	— .58	26.4	— .3	31.7	+ .4	22.3	— .2		203.3	—15.5	70

Month.	Relative humidity.		Cloudiness.		Evaporation.	Sunshine.		Rainfall.			
	Mean.	Departure from normal.	Mean.	Departure from normal.	Under shelter, total.	Total.	Departure from normal.	Total.	Departure from normal.	Rainy days.	Departure from normal.
	Per cent.	*Per cent.*	*0–10.*		*mm.*	*h. m.*	*h. m.*	*mm.*	*mm.*		
January	80.8	+2.8	6.5	+1.3	65.3	186 50	— 6 11	46.8	+ 18.8	9	+ 4
February	75.4	+1.5	6.5	+1.8	86.1	187 10	—17 15	14.1	+ 3.6	4	+ 1
March	71	— .8	5.8	+1.5	116.2	----------	----------	59.3	+ 40.2	9	+ 6
April	69.1	— .5	3.8	— .1	121.1	279 30	+11 24	35.4	+ 5.6	4	0
May	76.2	+ .1	6.5	+ .9	91.5	219 40	—14 19	98	— 12.4	12	+ 3
June	78	—3	7.4	+ .5	81.2	145 20	—28 35	165.7	— 77.3	11	— 5
July	86.9	+2.2	8.8	+1.1	47.1	82 40	—70 12	561.8	+168.7	27	+ 6
August	81.5	—3.4	6.4	—1.4	73.1	225 15	+81 16	71.1	—282	14	— 7
September	85	— .6	8.4	+ .7	48.8	99 15	—41 23	358.3	— 4.9	21	+ 1
October	83.5	— .1	7.2	+ .6	59.3	161 00	—11 21	165	— 26.7	18	+ 2
November	84.4	+1.8	7.1	+ .8	52.1	136 50	—24 05	136.3	+ 4.6	19	+ 7
December	82.1	+ .9	7.7	+1.7	57.3	108 10	—52 50	124.9	+ 63.5	10	+ 1
Annual	79.5	+ .1	6.8	+ .8	899.1	----------	----------	1,836.7	— 98.3	158	+19

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1908 AND 1909.

The present earthquake catalogue is the continuation of the one published in the BULLETIN FOR 1908. In the introduction to the latter[1] are set forth the reasons which prompted us to publish concise catalogue of Philippine earthquakes. In succeeding years we will endeavor to publish a general list of these disturbances for each year as an appendix to the BULLETIN FOR DECEMBER.

CATÁLOGO DE TEMBLORES DE TIERRA DE FILIPINAS, 1908 Y 1909.

Este catálogo es la continuación del publicado en los BOLETINES DE 1908: en la introducción de aquél[1] pueden verse las razones que nos movieron á publicar el catálogo en forma breve de los temblores filipinos. En adelante se procurará que la lista general de cada año sucesivo aparezca como apéndice del BOLETÍN DEL MES DE DICIEMBRE.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1908 AND 1909.

Date.	Time of occurrence.	Region disturbed.	Probable origin of the disturbance.	Total land area of disturbance. Longer axis.	Shorter axis.	Intensity (Rossi-Forel).	Remarks.
1908	*h. m.*			*Kms.*	*Kms.*		
Jan. 3	5 50	Northern Mindanao	Butuan Bay	40	30	III	
5	7 2	do	do	40	30	III	
5	10 7	Southeastern Luzon	Mayon Volcano	20	10	III	
6	15 58	Northeastern Mindanao	Off the NE coast	60	20	III	
8	7 12	Northern Mindanao	S Butuan Bay	30	10	II	
11	4 15	Eastern Mindanao	Near the E coast	60	30	III	
11	11 40	Northeastern Mindanao	Near the NE coast	50	20	III	
12	7 21	Southeastern Luzon	E Mayon Volcano	100	60	IV	
12	22 4	Northeastern Mindanao	Near the NE coast	80	30	III	
13	15 50	do	do	80	30	II	
14	3 33	Eastern Mindanao	Agusan River Valley	120	50	IV	
16	18 10	Northeastern Mindanao	Butuan Bay	150	60	III	
18	23 45	do	E Butuan Bay	200	80	V	
21	4 30	Western Leyte	Near the coast	180	70	VI	Repeated at 7h 58m with the same intensity; there were besides four after-shocks at different hours.
23	21 30	do	do	80	30	III	
26	16 35	Southeastern Luzon	Mayon Volcano	50	20	II	
29	22 29	Northern Luzon	Near the N coast	110	90	III	
Feb. 3	23 54	Southeastern Luzon	E Mayon Volcano	120	70	IV	
10	2 18	Southwestern Luzon	Near the SW coast	300	80	III	
11	4 15	Eastern Mindanao	Near the E coast	30	10	II	
19	20 26	Northwestern Leyte	Near the NW coast	100	40	IV	Repeated at 21h 24m with in-intensity III.
21	4 29	Northern Luzon	Babuyanes group	190	180	IV	
25	22 33	Northeastern Mindanao	Near the NE coast	50	30	III	

[1] Monthly Bulletin, 1908, page 34.

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1908 AND 1909—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.
1908		h. m.			Kms.	Kms.		
March	1	22 09	Northeastern Luzon	Near the NE coast	80	50	III	
	5	9 41	Jolo	S Sulu Sea			II	
	5	10 20	Central Mindanao	Agusan River	280	200	VI	
	8	11 1	Northern Panay	Near the N coast	120	80	IV	
	9	23 29	Northeastern Luzon	Near the NE coast	70	30	III	
	18	5 8	Northeastern Mindanao	do	70	40	III	
	21	0 43	Eastern Mindanao	Agusan River	150	100	III	
	21	4 34	Eastern Visayas and NE Mindanao	Off the NE coast of Mindanao	500	280	IV	
	24	4 55	Eastern Samar	Near the NE coast	60	20	II	
	28	2 40	do	do	100	40	III	Repeated at 10h 45m.
	28	3 15	Northern Mindanao	S Butuan Bay	90	50	IV	
April	1	21 59	Catanduanes	Off the SE coast			III	
	8	15 51	Western Leyte	Near the W coast	70	20	III	
	12	15 8	Catanduanes	Off the SE coast			II	
	13	1 55	Jolo	S Sulu Sea			IV	
	16	8 10	Eastern Mindanao	Agusan River	210	120	IV	
	26	1 38	Northern Mindanao	S Butuan Bay	40	20	II	
May	4	6 32	Ilocos	Near the Ilocos coast	60	20	II	
	4	6 58	Batanes Islands				IV	
	4	22 9	Ilocos and Abra	N Central Range	150	80	III	
	5	14 21	Basilan	Celebes			IV	
	6	19 27	Leyte and NE Mindanao	Butuan Bay	230	140	V	
	7	14 17	Western Leyte	Near the W coast	90	60	III	Repeated at 14h 22m.
	12	18 43	Northern Cebu	SE Masbate Island			IV	
	13	19 3	Southeastern Panay	SE Panay Island	60	60	III	
	14	8 9	Visayas and Mindanao	Near S of Leyte Island	400	250	IV	
	14	21 18	Jolo and W Mindanao	SE Sulu Sea	400	150	VI	
	16	4 18	Southern Luzon and Mindoro	S Taal Volcano	350	200	IV	
	21	22 38	Batanes Islands				IV	
	26	8 6	Northeastern Leyte	Near SW Samar Island	80	50	III	
June	1	2 49	Northeastern Mindanao	E Butuan Bay	150	120	III	
	1	3 6	do	do	150	120	IV	
	4	9 30	E Visayas and NE Mindanao	Butuan Bay	250	200	IV	
	6	5 30	Northeastern Mindanao	do	90	30	III	
	7	14 40	do	do	90	30	III	
	9	10 11	do	do	90	30	III	
	16	4 49	do	do	90	30	III	
	19	0 30	Batanes Islands				IV	
	22	13 19	Western Leyte	Near the W coast	30	20	II	
July	1	15 50	Batanes Islands				III	
	1	21 4	Southeastern Luzon	Off the NW coast of Samar	150	60	III	
	1	23 14	Northern Luzon	Off the N coast	170	50	IV	
	8	17 53	do	do	170	40	III	
	13	9 50	Western Leyte	Near the W coast	40	20	II	
Aug.	3	19 37	Northern Luzon	Near the N coast	160	40	III	
	5	6 28	Northern Mindanao	Butuan Bay	60	40	II	
	8	1 8	Northern Luzon	Near the N coast	150	30	III	
	12	15 10	Ilocos	Near the Ilocos coast	40	20	II	
	16	9 46	Eastern Mindanao	Agusan River Valley	250	140	V	
	16	10 12	Eastern Samar	Near the E coast	60	30	III	
	16	10 49	Northeastern Mindanao	E Butuan Bay	140	90	IV	
	16	11 56	Samar and Leyte	SW Samar Island	80	80	IV	
	21	18 38	Eastern Mindanao	Agusan River Valley	200	120	III	
	23	10 35	do	do	250	130	IV	
	29	3 49	Atimonan	E Lamon Bay	80	30	III	

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1908 AND 1909—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.
1908		h. m.			Kms.	Kms.		
Sept.	3	3 49	Northern Leyte	SE Masbate Island	80	60	III	
	13	3 15	Northern Mindanao	S Camiguin Island			III	
	15	22 39	Northeastern Mindanao	S Butuan Bay	160	110	IV	
	16	14 30	Jolo Island	S Sulu Sea			III	
	17	10 30	Eastern Mindanao	Agusan River Valley	120	80	III	
	23	10 27	Jolo Island	S Sulu Sea			III	
	24	2 13	Northeastern Leyte	SW Samar Island	70	60	II	
	24	17 30	Eastern Mindanao	Agusan River Valley	120	80	IV	
Oct.	19	23 34	Bohol Island	Near the SW coast			II	
	20	10 43	Central Luzon	Casiguran Bay	500	160	IV	Nine aftershocks.
	20	13 40	do	do	500	160	IV	
	20	15 9	do	do	500	160	IV	
	21	12 36	do	do	500	160	IV	
	21	15 19	do	do	500	160	IV	Some light aftershocks.
	22	9 50	NE Luzon and Batanes Islands	Near the NE coast	180	110	IV	
	26	5 58	Benguet Province	S Central Range			III	
	26	20 58	Northwestern Samar	Near the NW coast	80	80	III	
	27	13 18	Northeastern Luzon	E of Babuyanes Islands	150	60	IV	
Nov.	4	6 23	do	Near the NE coast	150	60	IV	
	4	22 35	Northern Mindanao	Butuan Bay	80	40	III	
	7	4 57	Northeastern Mindanao	N Agusan Valley	300	120	V	
	11	2 53	do	do	300	120	IV	Four aftershocks.
	11	21 20	Visayas and Mindanao	E Sulu Sea	400	300	V	Repeated at 21h 40m. Many aftershocks.
	13	7 10	Northeastern Mindanao	SE Butuan Bay	200	110	III	Two aftershocks.
	17	2 0	Southeastern Panay	SE Panay Island	50	50	III	
	17	4 0	Southeastern Luzon	Near Mayon Volcano	40	30	III	
	23	22 26	Northeastern Luzon	Eastern Range	160	120	IV	
	25	8 39	Northeastern Mindanao	Butuan Bay	180	60	III	
	27	17 10	do	do	100	40	II	
	28	9 0	do	do	100	40	III	
	29	3 35	Panay and Negros	SE Panay Island	100	100	III	
	29	8 26	Southeastern Luzon	E Lamon Bay	200	150	III	
	29	20 5	Eastern Mindanao	Agusan River Valley	280	200	IV	
Dec.	1	5 35	NE Luzon and Batanes Islands	Off the NE coast	180	100	III	
	1	21 33	Leyte and NE Mindanao	E Leyte Island	240	100	III	
	2	4 54	Eastern Leyte	do	110	40	III	
	2	23 3	Jolo and W Mindanao	S Illana Bay	400	100	IV	
	7	2 50	Western Ormoc	Near the W coast	40	10	II	
	8	18 45	Southwestern Mindanao	W Apo Volcano	200	200	III	
	9	19 4	Northern Mindanao	Butuan Bay	60	40	III	
	18	3 22	Northeastern Mindanao	do	200	100	IV	
	19	20 31	Northeastern Leyte	SW Samar Island	60	60	II	
	23	16 20	Northern Mindanao	Butuan Bay	80	30	III	
	27	3 44	Northeastern Luzon	Near the NE coast	140	60	III	
1909								
Jan.	2	4 15	Northern Mindanao	Butuan Bay	50	30	III	
	4	21 45	do	do	50	30	II	
	5	6 28	Northeastern Luzon	Near the NE coast	80	40	III	Registered at Manila.
	6	19 19	Central Luzon	Nueva Vizcaya	150	150	III	Do.
	6	21 40	Northern Mindanao	Butuan Bay	60	30	II	
	16	0 36	Eastern Mindanao	Off the eastern coast	250	50	III	Registered in Europe.
	21	0 25	Western Luzon	Off cape Bolinao	80	40	IV	Registered at Manila.
	21	15 35	Western Leyte	Near the western coast	40	20	II	

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1908 AND 1909—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.
1909		h. m.			Kms.	Kms.		
Jan.	23	2 52	Central Luzon	Nueva Vizcaya	100	100	III	Registered at Manila.
	26	23 16	Northern Mindanao	Butuan Bay	80	70	III	
	27	5 15	do	do	50	30	II	
Feb.	7	0 1	Northern Mindanao	SE Butuan Bay	120	80	VI	Rumbling sounds. Repeated at 2h 45m.
	11	7 0	do	do	60	40	III	
	11	21 45	do	do	60	40	IV	Repeated at 4h 30m of the 12th.
	13	16 48	Northeastern Luzon	Near the NE coast	100	30	III	Registered at Manila.
	15	23 0	Northern Mindanao	SE Butuan Bay	80	40	III	
	19	10 45	do	do	120	80	IV	Registered at Manila and Batavia.
	19	20 55	Northeastern Luzon	Near the NE coast	100	30	III	
	26	13 29	Northern Mindanao	SE Butuan Bay	80	70	III	Registered at Manila.
Mar.	1	6 35	Western Leyte	Near the W coast	50	20	II	
	1	16 7	Northeastern Mindanao	Near the NE coast	100	40	III	Registered at Manila.
	4	5 38	Northwestern Luzon	Near the NW coast	100	60	III	
	7	0 0	Northern Mindanao	SE Butuan Bay	80	60	III	
	14	18 45	Camarines	SE St. Miguel Bay	60	30	III	
	17	5 43	Jolo	Celebes Sea			III	Registered at Manila and Batavia.
	18	16 27	Eastern Mindanao	Near the E coast	250	120	VIII	Registered at Manila, Batavia, and in Japan.
	27	8 45	do	Agusan River Valley	60	20	III	
	31	22 58	Western Luzon	S Zambales Range	50	50	III	
Apr.	4	5 33	Northern Luzon	Off the NE coast	150	70	V	Registered at Manila.
	5	13 15	Eastern Mindanao	Agusan River Valley	200	150	IV	
	6	6 1	Northeastern Luzon	Near the NE coast	80	30	III	
	12	8 35	Eastern Samar	Near the E coast	100	30	IV	
	14	6 37	Southeastern Luzon	S of Catanduanes Island			VI	Registered at Manila and in Japan. Four shocks, intensity III at 6h 11m.
	16	6 9	Northern Mindanao	Butuan Bay	60	30	III	
	16	19 21	do	do	150	80	IV	
	17	10 47	Northwestern Luzon	Near the NW coast			II	
	18	7 59	Eastern Mindanao	Agusan River Valley	200	100	III	Registered at Manila.
	19	13 7	Western Leyte	Near the W coast			II	
	25	12 7	Batanes Island				III	
	25	22 45	Southwestern Mindanao	E Illana Bay			IV	
	30	9 46	Catanduanes	S of Catanduanes Island			III	
May	6	19 37	Samar and Leyte	do			IV	
	8	22 49	Catanduanes	Near S of Catanduanes			III	Do.
	9	19 18	Northeastern Luzon	Near the NE coast	90	30	III	
	14	5 0	Northeastern Mindanao	E Butuan Bay	150	100	III	
	14	15 4	Northern Samar	Near the NE coast	150	80	IV	Do.
	15	4 15	Zamboanga, Basilan and Jolo	NW Celebes Sea			IV	
	16	12 56	Ilocos Norte	N Central Range			II	Do.
	16	13 32	Zamboanga, Basilan and Jolo	N Celebes Sea			III	
	21	4 0	Eastern Luzon	Laguna Province			II	
	24	3 49	Northeastern Luzon	Near the NE coast	80	40	III	
	25	21 30	Southeastern Mindanao	Davao Gulf			IV	
	26	4 2	Eastern of S Luzon	Lamon Bay	100	60	III	
June	5	5 40	Guam (Ladrone Islands)				IV	
	8	12 55	Northeastern Mindanao	Near the NE coast			II	
	20	6 44	Northern Mindanao	Butuan Bay			II	
	22	22 51	Guam (Ladrone Islands)				III	Registered at Manila, Zikawei and Osaka.
	28	0 0	Northern Mindanao	Butuan Bay			II	

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1908 AND 1909—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.
1909	h. m.			Kms.	Kms.		
July 2	5 6	Northern Mindoro	Halcon Mountain			III	Registered at Manila.
17	17 12	Southeastern Panay	About $\varphi=10° 50'$; $\lambda=122° 20'$			II	Do.
17	20 30	Northern Mindanao	Butuan Bay			II	
21	8 6	Southern Samar and NE Mindanao.	E of Surigao Strait			IV	Do.
22	17 6	Samar and Leyte	Near South of Samar			III	
23	10 0	Southeastern Luzon	W San Bernardino Strait	80	70	III	
23	21 1	Northeastern Mindanao	Near the NE coast	60	40	II	
24	13 5	Northeastern Luzon	Off the NE coast	100	40	III	Do.
24	22 41	do	do	150	80	IV	Do.
26	9 30	Northern Samar	Near the NE coast	80	30	II	
30	4 20	Northeastern Leyte	do	80	40	III	
30	5 15	Eastern Samar	Off the NE coast	100	30	III	
Aug. 4	4 29	Northeastern Mindanao	E Butuan Bay	150	100	IV	With rumbling sounds.
12	19 25	Eastern Mindanao	Agusan River Valley	300	120	V	Registered at Manila and Batavia.
13	18 22	do	do	300	120	V	Do.
13	20 45	Southeastern Mindanao	SE Davao Gulf			IV	
14	8 52	Eastern Mindanao	Agusan River Valley	100	40	III	
14	19 45	Southeastern Mindanao	SE Davao Gulf			IV	Repeated at 20h 25m with intensity IV.
18	22 5	Eastern Mindanao	Agusan River Valley	100	40	III	
21	4 5	Samar	Near the NE coast	150	80	IV	
23	8 35	Eastern Mindanao	Agusan River Valley	150	80	III	Repeated at 18h with intensity IV.
26	9 49	Southern Luzon	Near the SW coast	150	100	III	
28	8 50	Northeastern Mindanao	SE Butuan Bay	100	80	IV	With subterranean rumbling.
30	4 11	do	E Butuan Bay	150	120	IV	
Sept. 11	1 30	Western Samar	Near the NE coast of Biliran Island.			III	
11	3 48	Eastern Visayas	Near the SE end of Samar Island.	500	200	IV	Registered at Manila.
12	7 42	Southern Luzon	Near the SW coast	250	180	IV	Do.
13	17 15	Guam (Ladrone Islands)				III	
14	19 5	Eastern Mindanao	Agusan River Valley	150	100	III	
19	2 3	Northwestern Luzon	Near the S Ilocos coast			II	
21	2 35	Eastern Samar	Near the E coast	100	30	III	
21	11 21	Northeastern Luzon	Near the NE coast	60	20	III	
22	11 30	Eastern Mindanao	Agusan River Valley	150	50	III	Repeated at 11h 37m with intensity III.
22	16 40	Batanes Islands				III	
27	2 17	Northwestern Luzon	Near the S Ilocos coast			III	
28	8 6	Northern Luzon	S of Babuyanes Islands	180	150	IV	Registered at Manila.
29	4 1	Northeastern Luzon	Near the NE coast	180	100	IV	Do.
29	10 7	do	do	180	100	IV	Do.
Oct. 4	1 15	Guam (Ladrone Islands)				III	
7	8 40	Northern Panay	Near the N coast	100	40	III	
9	1 37	Northeastern Mindanao	Near the NE coast			II	
9	23 50	do	E Butuan Bay	200	150	IV	Sudden stormy like noise.
10	6 15	Guam (Ladrone Islands)				III	
17	8 25	Batanes Islands				III	Rumbling sounds.
17	23 32	Eastern Mindanao	Agusan River Valley	200	80	IV	
21	18 25	Northern Mindanao	Butuan Bay			III	Preceded by a detonation like the reports of cannon.
23	21 20	Guam (Ladrone Islands)				III	
24	3 30	Central Luzon	E Nueva Ecija Province			II	

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1908 AND 1909—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.
1909	*h. m.*			*Kms.*	*Kms.*		
Nov. 7	20 3	Northeastern Mindanao	SE Butuan Bay	60	40	III	
8	19 36	do	do	60	40	II	
9	7 47	Southeastern Luzon	Near the N coast of Camarines	300	120	IV	
27	1 28	Southern Luzon	Near the SW coast	100	50	III	
29	8 57	Northeastern Mindanao	SE Butuan Bay	130	60	III	
Dec. 4	4 30	Northeastern Mindanao	SE Butuan Bay	200	150	V	Rumbling sounds.
7	3 48	do	Near the NE coast	200	50	III	
8	17 5	Northern Mindanao	SE Butuan Bay	60	50	III	
9	13 45	Southwestern Mindanao	E Illana Bay			III	
10	9 9*	Guam (Ladrone Islands)				VIII	Registered at Manila.
11	5 17	Jolo				III	
19	3 1	Camarines	SE St. Miguel Bay	80	30	III	Do.
19	8 17	E of southern Luzon	E Lamon Bay			III	Do.
20	19 58	Panay Island	Near the SW coast	80	40	III	Do.

*Local time about 9h 39m east of Greenwich

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SPECIAL DISCUSSIONS.

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