

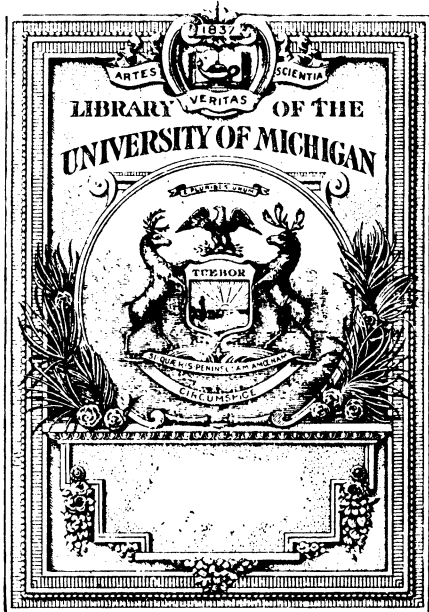
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PHILIPPINE
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THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY



MONTHLY BULLETIN, 1920

PREPARED UNDER THE DIRECTION OF

REV. JOSÉ ALGUÉ, S. J.

DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
1921

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INTRODUCTION.

The form of our Monthly Bulletin as adopted in 1907 and modified in 1914 will be retained. Unless otherwise stated, by daily rainfall in the Philippines we mean the amount of rainfall for 24 hours beginning 6 a. m. The time used is that of the one hundred and twentieth meridian east of Greenwich.

The following is a list of all the official meteorological stations as they existed on January 1, 1920, together with the names of the respective observers, who are in a great measure responsible for the accuracy of the observations published in this Bulletin. A good number of new fourth-class stations were established during the year 1919, and others will continue being established during 1920.

OFFICIAL STATIONS AND OBSERVERS OF THE WEATHER BUREAU, JANUARY, 1920.

Station. ¹	Town.	Province.	North latitude.	East longitude.	Observer.	Class.
Jolo	Jolo	Sulu	6 03	121 00	Agaton S. Edmilao	III
Lais	Lais, Malita	Davao	6 20	125 39	Pedro Caalim	IV
Lebak	Lebak	Cotabato	6 32	124 02	Salvador Andrada	IV
Lamitan	Lamitan, Isabela	Zamboanga	6 40	122 10	Mariano Blanca	IV
Malamau	Isabela	Zamboanga	6 45	121 57	Fortunato Beraltona	IV
Zamboanga	Zamboanga	Zamboanga	6 54	122 05	Juan Lugod	II
Davao	Davao	Davao	7 01	125 35	Lamberto Garcia	III
Pikit	Pikit	Cotabato	7 05	124 40	Rufino Caballero	IV
Bual	Bual, Dulauan	Cotabato	7 12	124 30	Leocadio Duque	IV
Cotabato	Cotabato	Cotabato	7 13	124 15	Felix Manabat	III
Naganaga	Naganaga, Margosatubig	Zamboanga	7 30	122 55	Perfecto Rodriguez	IV
Malabang	Malabang	Lanao	7 36	124 04	Quirino Rojas	IV
Cateel	Cateel	Davao	7 43	126 26	Jose Grimal	IV
Ganasi	Ganasi	Lanao	7 50	124 05	Alejandro Salgado	IV
Camp Kalao	Monkayo	Davao	7 50	126 01	Cipriano Villafuerte	IV
Mailag Agricultural School	Mailag, Malaybalay	Bukidnon	7 52	125 07	Marcela A. Cudal	IV
Camp Keithley	Dansalan	Lanao	8 01	124 17	Pio Fajardo	IV
Veruela	Veruela	Agusan	8 05	125 55	Leon P. Mordeno	IV
Sumilau	Sumilau	Bukidnon	8 17	124 57	Sebastian Minguion	IV
Cagayan	Cagayan	Misamis	8 29	124 38	Juan Hernandez	III
Talacogon	Talacogon	Agusan	8 32	125 40	Doroteo D. Flores	IV
Butuan	Butuan	Agusan	8 56	125 32	Generoso Copin	III
Meeth, Yap ²	Meeth	Western Carolines	9 29	138 08	Prudencio Urbiztondo	II
Tagbilaran	Tagbilaran	Bohol	9 33	123 51	Anacleto Inciong	II
Dalaguete	Dalaguete	Cebu	9 46	123 31	Filemon Salvador	IV
Surigao	Surigao	Surigao	9 48	125 29	Arsenio C. Meneses	II
Central Palma	Ilog	Occidental Negros	10 01	122 49	Jose Borrás	IV
Hacienda Naval	Himamaylan	Occidental Negros	10 07	122 52	Amparo L. Jacson	IV
Biaong Cui's Farm	Barili	Cebu	10 08	123 34	Jose M. Cui	IV
Maasin	Maasin	Leyte	10 08	124 50	Aguedo Espina	III
Isabela	Isabela	Occidental Negros	10 13	123 00	Genaro Patosa	IV
Hacienda Tanolo	Hinigaran	Occidental Negros	10 14	122 52	Pedro E. Belarmino	IV
Cebu	Cebu	Cebu	10 18	123 54	Segundo Peñaflorida	I
La Castellana	La Castellana	Occidental Negros	10 20	123 00	Lazaro C. Magsusi	IV
Central Azucarera de La Carlota	La Carlota	Occidental Negros	10 23	122 56	Jose B. Escara	IV
Hacienda Canlaon	La Castellana	Occidental Negros	10 25	123 02	Francisco Gayares	IV
Maao Sugar Central	Santa Cecilia, Bago	Occidental Negros	10 27	123 05	Mauro G. Benjamin	IV
Valladolid	Valladolid	Occidental Negros	10 28	122 50	Gliceria D. Gestano	IV
Murcia	Murcia	Occidental Negros	10 36	123 02	Jose M. Empio	IV
Concepcion	Concepcion, Talisay	Occidental Negros	10 41	123 04	Enrique L. Viñas	IV
Iloilo	Iloilo	Iloilo	10 42	122 34	Ricardo A. Luna	I
San Jose de Buenavista	San Jose de Buenavista	Antique	10 44	121 55	Jose Ellazar	III
Tuburan	Tuburan	Cebu	10 45	123 50	Agapito Borja	IV
Silay	Silay	Occidental Negros	10 48	122 58	Pedro Pineda	IV
Cuyo	Cuyo	Palawan	10 51	121 01	Roman Kabigting	III
Hacienda Ilaya	Victorias	Occidental Negros	10 54	123 05	Fernando Gonzaga	IV
Hacienda Bilbao	Manapla	Occidental Negros	10 55	123 09	Gerardo Igoa	IV
Cadiz	Cadiz	Occidental Negros	10 57	123 19	Simon Santa Ana	IV
Ormoc	Ormoc	Leyte	11 00	124 36	Severo Bande	III
Guiuan	Guiuan	Samar	11 02	125 44	Patricio Yabao	III
Bogo	Bogo	Cebu	11 05	124 00	Sabas Aballe	IV
Tacloban	Tacloban	Leyte	11 15	125 00	Jose C. Nevado	II
Capiz	Capiz	Capiz	11 35	122 45	Teodoro Peñero	II
Borongon	Borongon	Samar	11 37	125 26	Godofredo Bacolo	III
Catbalogan	Catbalogan	Samar	11 47	124 54	Remigio C. Lauron	III
Calbayog	Calbayog	Samar	12 04	124 36	Clemente M. Letaba	II
Masbate	Masbate	Sorsogon	12 22	123 37	Vicente M. Sañano	IV
Romblon	Romblon	Romblon	12 35	122 16	Dolorito Contreras	III
Batag Lighthouse	Lacang	Samar	12 40	125 04	Placido A. Edroso	III
Irosin	Irosin	Sorsogon	12 42	124 02	Eliseo Villalon	IV
Sorsogon	Sorsogon	Sorsogon	12 58	124 00	Agustin Mendoza	III

¹ For the sake of uniformity, in cases, in which the station is not situated in a town, the name of the barrio, sitio or place of the station will invariably be followed by the name of the municipality, municipal district or township to which it belongs. In the tables of *Daily Rainfall* the name of the corresponding province will be always added after the name of the town.

² Our Yap station will be called in the future the station of Meeth, Yap. This is done for the sake of uniformity. Yap is the name of the island: but the place where our station is located is called Meeth. Yap Island, we are informed, is divided into several colonies or districts which resemble the towns of the Philippines, although they are quite small in comparison with our towns.

Official stations and observers of the Weather Bureau, January, 1920—Continued.

Station.	Town.	Province.	North latitude.	East longitude.	Observer.	Class.
Legaspi	Legaspi, Albay	Albay	13 09	123 45	Bernardino Costa	I
Sumay	Sumay	Ladrone Islands	13 24	144 38	William Pimley	III
Calapan	Calapan	Mindoro	13 25	121 11	Aquilino Nokom	III
Virac	Virac	Albay	13 35	124 14	Eusebio Talion	III
Naga	Naga	Camarines Sur	13 37	123 11	Eduardo Ontengco	III
Tigaon	Tigaon	Camarines Sur	13 39	123 30	Leon Bongolto	III
Batangas	Batangas	Batangas	13 45	121 03	Jose N. Cabrera	III
Calatagan	Calatagan	Batangas	13 50	120 38	Pablo Garcia	IV
Lucena	Lucena	Tayabas	13 56	121 37	Vicente Valderrama	III
Atimonan	Atimonan	Tayabas	14 00	121 55	Pedro Baltasar	I
Nasugbu	Nasugbu	Batangas	14 04	120 38	Gonzalo P. Garcia	IV
Ambulong	Ambulong, Tanauan	Batangas	14 05	121 08	Gregorio Peralta	II
Mendez Nufez	Mendez Nufez	Cavite	14 08	120 54	Pablo G. Pepa	IV
Alfonso	Alfonso	Cavite	14 08	120 51	Olimpio Ortega	IV
Indang	Indang	Cavite	14 12	120 53	Conrado Costa	IV
Canluban	Canluban, Calamba	Laguna	14 13	121 07	Nicolas Princena	IV
Silang	Silang	Cavite	14 14	120 58	Epifanio Montoya	IV
Maragondon	Maragondon	Cavite	14 17	120 44	Josefa Cuajunco	IV
Paracale	Paracale	Camarines Norte	14 17	122 47	Benito Pelaez	II
Santa Cruz	Santa Cruz	Laguna	14 17	121 25	Pedro Resurreccion	III
Imus	Imus	Cavite	14 26	120 56	Consuelo T. Monzon	IV
Antipolo	Antipolo	Rizal	14 36	121 10	Valeriano Garcia	IV
San Isidro	San Isidro	Nueva Ecija	15 19	120 55	Bernardo Pecache	II
Iba	Iba	Zambales	15 20	119 58	Emiterio Mateo	III
Tarlac	Tarlac	Tarlac	15 30	120 35	Arsenio T. Magat	IV
Baler	Baler	Tayabas	15 45	121 34	Santiago Palmero	IV
Dagupan	Dagupan	Pangasinan	16 03	120 20	Jose M. Sison	I
Bolinao	Bolinao	Pangasinan	16 23	119 53	Tereso D. Solis	IV
Baguio	Baguio	Mountain	16 25	120 35	Jose de Jesus	I
San Fernando	San Fernando	La Union	16 37	120 19	Ramon Elcano	III
Echague	Echague	Isabela	16 42	121 40	Mariano Bugas	III
Candon	Candon	Ilocos Sur	17 12	120 27	Luis Quismorio	IV
Vigan	Vigan	Ilocos Sur	17 34	120 28	Francisco Tiangco	II
Tuguegarao	Tuguegarao	Cagayan	17 36	121 43	Meliton Cedeño	II
Laog	Laog	Ilocos Norte	18 12	120 35	Santiago Villafor	II
Aparrí	Aparrí	Cagayan	18 22	121 38	Manuel Delgado	I
Cape Bojeador	Burgos	Ilocos Norte	18 30	120 34	Nicolas Aguirre	IV
Basco	Basco	Batanes	20 28	121 59	Fernando Abad	III

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

Symbol.	Equal to—	Symbol.	Equal to—
Ci.	Cirrus.	o	Overcast.
Ci.-S.	Cirro-stratus.	p	Passing showers of rain.
Ci.-Cu.	Cirro-cumulus.	q	Squally weather.
A.-Cu.	Alto-cumulus.	u	Ugly or threatening.
A.-S.	Alto-stratus.	v	Visibility of distant objects.
S.-Cu.	Strato-cumulus.	w	Wet or heavy dew.
N.	Nimbus.	●	Rain.
Cu.	Cumulus.	☃	Fog or mist.
Cu.-N.	Cumulo-nimbus.	☄	Dew
S.	Stratus.	★	Solar halo.
Fr.-Cu.	Fracto-cumulus.	☆	Lunar halo.
Fr.-N.	Fracto-nimbus.	☇	Lunar corona.
Fr.-S.	Fracto-stratus.	☈	Solar corona.
S.-cf.	Stratus-cumuliformis.	☉	Heat lightning.
N.-cf.	Nimbus-cumuliformis.	☊	Thunderstorm.
M.-Cu.	Mammato-cumulus.	☋	Thunder without lightning.
b	Bright, clear sky.	☌	Strong wind.
c	Cloudy weather.	☍	Rainbow.
d	Drizzling, light rain.	☎	Dry mist.
g	Gloomy or stormy-looking weather.		

NOTE.—A small ^o or 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.

Several volunteer or coöperative rain observers have been furnishing our Central Office with daily and monthly rainfall observations, which are included also in this Bulletin. The following list gives some information concerning these volunteer stations.

VOLUNTEER OR COOPERATIVE STATIONS OF THE WEATHER BUREAU, JANUARY, 1920.

Station.	Town.	Province.	North latitude.	East longitude.	Remarks.
Lapac Agricultural School.	Siasi	Sulu	5 30	120 45	Under the Bureau of Education.
Glan	Glan	Cotabato	5 45	125 10	Do.
Basilan Plantation	Kabunbatan, Isabela	Zamboanga	6 41	121 53	Connected with the Basilan Plantation Company.
Basilan Plantation Office.	Isabela	Zamboanga	6 42	121 55	Do.
La Union	La Union, Sigaboy	Davao	6 42	126 05	Under the Bureau of Education.
Paranglalap	Isabela	Zamboanga	6 43	122 02	Connected with the American Rubber Company.
Latuan	Isabela	Zamboanga	6 44	122 00	Do.
Buluan	Buluan	Cotabato	6 44	124 48	Under the Bureau of Education.
Cagayan de Sulu	Cagayan de Sulu	Sulu	7 00	118 30	Connected with the Atkins, Kroll and Company.
Kidapauan	Kidapauan	Cotabato	7 01	125 03	Under the Bureau of Education.
Piang Agricultural School.	Kudarangan, Dula-uan.	do	7 02	124 30	Do.
Awang	Awang	do	7 07	124 14	Do.
Sirib	Sirib, Guianga	Davao	7 09	125 23	Do.
Kabakan	Kabakan	Cotabato	7 10	124 50	Do.
Kabasaran	Kabasaran, Buldun	do	7 30	124 20	Do.
Compostela	Compostela, Monkayo	Davao	7 36	126 01	Do.
Malangas	Malangas, Margosatubig.	Zamboanga	7 38	123 00	Connected with the National Coal Company.
Lumbatan	Lumbatan	Lanao	7 48	124 16	Under the Bureau of Education.
Tukuran Agricultural School.	Tukuran	Zamboanga	7 50	123 35	Do.
Pantar	Pantar	Lanao	8 04	124 15	Do.
Sindangan	Sindangan	Zamboanga	8 10	122 59	Do.
Dikiom	Tangkulan, Maluko	Bukidnon	8 20	124 48	Connected with the Agusan Coconut Company.
Hacienda San Jose	Tanjay	Oriental Negros	9 31	123 10	Connected with the Central Azucarera de Bais.
Hacienda Palanas	Bais	do	9 32	123 05	Do.
Hacienda Tamugon	Bais	do	9 35	123 05	Do.
Hacienda Vallehermoso	Vallehermoso	do	10 20	123 18	Connected with the San Carlos Milling Company.
La Carlota Experimental Station.	La Carlota	Occidental Negros	10 25	122 55	Under the Bureau of Agriculture.
Hacienda San Antonio	San Carlos	do	10 28	123 20	Connected with the San Carlos Milling Company.
Central San Carlos	do	do	10 30	123 25	Do.
Hacienda Refugio	do	do	10 34	123 27	Do.
Lapuslapus	Lapuslapus, Iloilo	Iloilo	10 42	122 35	Connected with the Philippine Railway Company.
Lucena	Lucena, Santa Barbara.	do	10 52	122 37	Do.
Dueñas	Dueñas	do	11 05	122 35	Do.
Bitaoagan	Bitaoagan, Passi	do	11 12	122 41	Do.
Dumarao	Dumarao	Capiz	11 16	122 42	Do.
Dao	Dao	do	11 23	122 41	Do.
San Jose Estate, Robles Camp D-17.	San Jose	Mindoro	12 18	121 06	Connected with the Mindoro Sugar Company.
San Jose Estate, Tamaraw Plantation.	do	do	12 19	121 07	Connected with the Tamaraw Plantation Company.
San Jose Estate, San Agustin.	do	do	12 19	121 01	Connected with the Mindoro Sugar Company.
San Jose Estate	do	do	12 22	121 05	Do.
San Jose Estate, Tunnel D-12.	do	do	12 24	121 07	Do.
Alabang Stock Farm	Alabang, Muntinlupa.	Rizal	14 26	121 03	Under the Bureau of Agriculture.
Lamao Horticultural Station.	Lamao, Limay	Bataan	14 31	120 36	Do.
Bosoboso	Bosoboso, Antipolo	Rizal	14 38	121 14	Connected with the Metropolitan Water District.
Montalban	Montalban	do	14 44	121 09	Do.
Hacienda Pintong Sapang	San Jose del Monte	Bulacan	14 48	121 03	Connected with the Philippine Vegetable Oil Company.
Mabayuan Dam	Olongapo	Zambales	14 49	120 16	Under the U. S. Naval Station.
Pampanga Sugar Mills	Del Carmen	Pampanga	15 00	120 32	Connected with the Pampanga Sugar Mills.
Hacienda Luisita	Comillas, La Paz	Tarlac	15 25	120 42	Connected with the Hacienda Luisita.
Hacienda Luisita	San Miguel, Tarlac	do	15 26	120 36	Do.
Muñoz Agricultural School	Muñoz	Nueva Ecija	15 43	120 54	Under the Bureau of Education.
Sagada	Sagada	Mountain	17 05	120 54	Connected with the Sagada Mission.
Bontoc	Bontoc	do	17 06	120 59	In charge of Rev. Fr. Jos. Anseeun.

¹ Municipal district.

INTRODUCCIÓN.

Conservaremos en esta publicación la misma forma adoptada en 1907, y modificada en 1914. Mientras no se diga lo contrario, por lluvia diaria en Filipinas entendemos la cantidad de lluvia en 24 horas empezando a 6 a. m. El tiempo usado es el del meridiano ciento veinte E de Greenwich.

Damos en el texto inglés una lista de todas nuestras estaciones meteorológicas oficiales existentes el primero de enero de 1920, con los nombres respectivos de los observadores, los cuales son en gran parte responsables de las observaciones que se publican en este Boletín. Muchas estaciones de cuarta clase fueron establecidas durante el año 1919 y se seguirán estableciendo otras más el año 1920.

Los signos y símbolos usados en esta publicación son los siguientes :

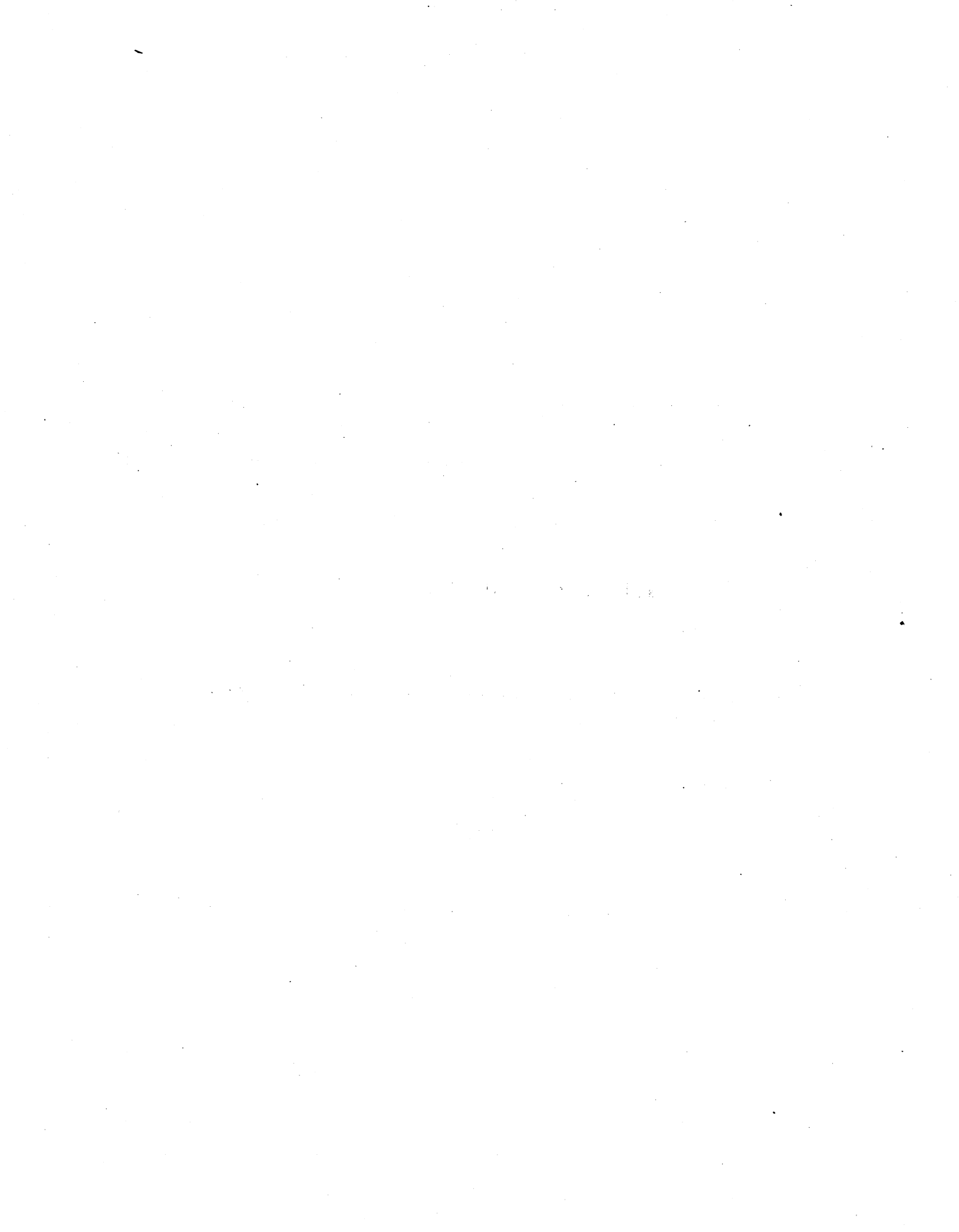
Símbolos.	Significado.	Símbolos.	Significado.
Ci.	Cirrus.	o	Cubierto.
Ci.-S.	Cirro-stratus.	p	Lluvia pasajera.
Ci.-Cu.	Cirro-cumulus.	q	Achubascado.
A.-Cu.	Alto-cumulus.	u	Tiempo feo o amenazador.
A.-S.	Alto-stratus.	v	Trasparencia del aire.
S.-Cu.	Strato-cumulus.	w	Húmedo.
N.	Nimbus.	●	Lluvia.
Cu.	Cumulus.	☃	Niebla o neblina.
Cu.-N.	Cumulo-nimbus.	ρ	Rocío.
S.	Stratus.	⊕	Halo solar.
Fr.-Cu.	Fracto-cumulus.	⊙	Halo lunar.
Fr.-N.	Fracto-nimbus.	☉	Corona lunar.
Fr.-S.	Fracto-stratus.	☊	Corona solar.
S.-cf.	Stratus-cumuliformis.	⚡	Relámpago sin trueno.
N.-cf.	Nimbus-cumuliformis.	⚡	Tempestad de trueno.
M.-Cu.	Mammato-cumulus.	⚡	Trueno sin relámpago.
b	Despejado.	☄	Viento duro.
c	Nublado.	∞	Arco-iris.
d	Llovizna o lluvia ligera.		Niebla seca.
g	Mal cariz; tiempo cerrado, fosco.		

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

Varios observadores voluntarios de lluvia han proporcionado a esta Oficina Central observaciones diarias y mensuales de lluvia, las cuales van incluidas en este Boletín.

En el texto inglés damos alguna información acerca de estas estaciones voluntarias.

BULLETIN FOR JANUARY, 1920.



METEOROLOGICAL BULLETIN FOR JANUARY, 1920.

By Rev. JOSÉ CORONAS, S. J.,

Chief, Meteorological Division of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure of this month is lower than that of the preceding year, and, with a few exceptions, almost identical with, or slightly below, the normal for January. The highest monthly pressures were generally observed on the 1st in Luzon, and on the 24th or 27th in the Visayas and Mindanao. The lowest pressures were generally recorded throughout the Archipelago on the 12th or 13th.

The mean monthly temperature differs but very slightly from that of January, 1919, and from the normal of this month. The absolute maximum and minimum temperatures for Manila were 32.3°C. and 16.5°C.: they were registered on the 29th and 24th, respectively. The extreme temperatures for Baguio were 25.1°C., 10.6°C. on the top of Mirador, and 26.2°C., 10.2°C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR JANUARY, 1920.

Station.	Pressure.							Temperature.						
	Mean.	Departure from Jan., 1919.	Departure from normal.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from Jan., 1919.	Departure from normal.	Highest.	Day.	Lowest.	Day.
Zamboanga.....	758.94	-1.60	-----	760.16	26	757.56	4	26.2	+ 0.3	-----	32.7	20,25	22.1	13,31
Meeth, Yap, Western Carolines.....	58.59	-1.38	-----	59.88	27	56.63	19	27	+ .5	-----	30.5	2	22.5	22
Tagbilaran.....	59.41	-1.70	-0.22	60.80	27	58.10	13	25.3	+ .2	- 0.4	32	31	19.9	21
Surigao.....	59.61	-1.77	+ .13	61	27	58.35	13	25.3	- .2	- .3	30.3	29	21.4	15
Cebu.....	59.73	-1.79	- .10	61.04	27	58.96	13	26.2	- .1	+ .1	31.5	13	22.8	27
Iloilo.....	59.77	-1.59	- .05	61.16	24	58.48	13	25.7	- .2	+ .1	31.5	29	21.3	27
Tacloban.....	60.12	-1.67	- .19	61.45	24	58.79	13	25.2	- .5	- .3	31.8	13	20.5	27
Capiz.....	60.39	-1.55	- .27	61.73	24	58.78	12	25.8	0	+ .1	31.4	12,30,31	21.5	25,27
Calbayog.....	60.28	-1.74	- .24	61.68	24	58.74	13	24.4	- .5	- .4	30.2	6	18.3	26
Legaspi, Albay.....	60.93	-1.57	+ .13	62.48	24	58.90	12	25.6	- .7	0	31.2	10	21.4	10
Atimonan.....	61.51	-1.37	+ .25	63.02	1	59.17	12	25.2	- .4	0	30.1	12	19.6	27
Ambulong, Tanauan, Batangas.....	60.62	-1.40	-----	62.01	1	58.69	12	25.2	0	-----	33.7	30	19.6	28
Paracale.....	61.46	-1.49	- .30	62.96	1	59.02	12	25.2	- .1	+ .2	30.2	28	20.9	28
Manila.....	61.24	-1.40	+ .07	63.02	1	59.32	12	24.3	0	- .5	32.3	29	16.5	24
San Isidro, Nueva Ecija.....	61.38	-1.94	- .06	63.19	1	59.54	12	24.4	- .5	- .3	32.6	31	15.6	28
Dagupan.....	60.39	-1.54	- .43	62.07	1	59.01	13	25.3	- .3	- .2	33.9	29	17.5	28
Baguio ^a	637.90	-1.25	- .07	638.90	1	636.44	13	16.7	- .4	+ .2	25.1	6	10.6	14
Vigan.....	760.84	-1.33	- .34	762.31	1	759.46	9	25.1	- .2	- .3	33.2	3	18.6	21
Tuguegarao.....	62.90	- .53	+ .22	65.15	5	60.34	31	22.3	- 1.1	- .8	31.8	29,31	15.9	24
Laosag.....	61.10	-1.20	-----	62.44	1	59.93	9	24.2	- .5	-----	34.1	10	16.2	1,14,25
Aparri.....	63.34	- .52	+ .37	66.11	4	60.41	31	22.2	- 1	- .7	31.7	31	17	24

^a The barometric readings of this station are not reduced to sea level.

Rainfall.—While in the majority of our stations the total amount of rainfall for this month is greater than in January of last year, yet it is generally below the normal of this month, with the exception of the southern Visayas and Mindanao, where the monthly rainfall of this year is invariably above the normal. In Manila only 1.8 mm. were collected during the month, this amount being 23.9 mm. below the normal of January. The total rainfall for Baguio was as small as 0.8 mm., although the January's normal for that place is 29.2 mm.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JANUARY, 1920.

Station.	Total.	Departure from Jan., 1919.	Departure from normal.	Days of rain.	Departure from Jan., 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from Jan., 1919.	Departure from normal.	Days of rain.	Departure from Jan., 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.
	mm.	mm.	mm.				mm.			mm.	mm.				mm.	mm.	
Jolo	161.1	+120.1	+40.6	12	+8	+2	39.9	12	Naga, Camarines	81.1	+60.9	-35.9	9	+1	-2	25.9	4
Malamai, Isabela, Zamboanga	89.1			6			23.9	7	Sur	200.4	+140.5		18	+8		66.3	12
Zamboanga	64.3	+46.5	+4.9	12	+4	+5	23	4	Tigaon	12.9	-5.3	-11.2	5	+3	-1	5.8	12
Davao	153.1	+124.8	+19.8	15	+6	+7	53.3	3	Batangas	85.7	+6.3		13	+3		26.4	18
Cotabato	126.8	+40.6	+33.2	12	+3	+1	32.8	7	Lucena	147.5	+52.9	-75.7	19	+9	+1	22.4	2
Cagayan	70.4	+24.5	+17.2	4	+1	-4	50.8	22	Atimonan	31.2	+26.4		9	+5		15.4	17
Butuan	612.5	+459.5	+349.1	24	-1	+3	128.8	22	Ambulong, Tanauan, Batangas	27.7	+3		8	-2		17.8	17
Meeth, Yap, Western Carolines	234.7	+171.1	+77	24	+4	+3	63	18	Canluban, Calamba	244.9	+45.3	-166.8	21	+2	-1	48.7	4
Tagbilaran	108.8	+67.4	+21.9	21	+9	+9	29.7	3	Paracale	804.9	+514.3	+333.7	26	+4	+4	32.4	24
Surigao	383.8	+248.3	+113	11	+6	0	62.5	19	Santa Cruz, Laguna	33.8	+248.3	+113	11	+6	0	33.8	17
Maasin, Leyte	35.9	+16.7	-1.2	19	+8	+7	33.8	17	Manila	30.1	+15.6	-23.1	8	+6	-1	9.9	3
Cebu	30.1	+15.6	-23.1	8	+6	-1	9.9	3	Antipolo	14	+14	-18.3	4	+4	0	10.2	13
Iloilo	14	+14	-18.3	4	+4	0	10.2	13	San Isidro, Nueva Ecija	5	+5	-11.1	1	+1	0	23.9	1
San Jose de Buenavista	5	+5	-11.1	1	+1	0	23.9	1	Iba	127.8	+91.7	-61.1	21	+9	+5	190	21
Cuyo	127.8	+91.7	-61.1	21	+9	+5	190	21	Tarlac	720	+504.3		26	+3		124.8	16
Ormoc	720	+504.3		26	+3		124.8	16	Baler	422.6	+239.4	-76.5	23	+6	+2	23.6	3
Guiuan	422.6	+239.4	-76.5	23	+6	+2	23.6	3	Dagupan	85.1	+75.4	-70.9	17	+9	+1	139.5	16
Tacloban	85.1	+75.4	-70.9	17	+9	+1	139.5	16	Bolinog	731	+510.4	+113.5	27	+5	+1	78.7	14
Capiz	731	+510.4	+113.5	27	+5	+1	78.7	14	Baguio	386.9	+351.5		19	+8		39.3	16
Borongan	386.9	+351.5		19	+8		39.3	16	San Fernando, La Union	254.3	+226	+51.8	20	+7	+1	77	17
Catbalogan	254.3	+226	+51.8	20	+7	+1	77	17	Echague	323	+279	+141	17	+6	+1	77	17
Calbayog	323	+279	+141	17	+6	+1	77	17	Candon	99.4	+78.2	-14.7	14	+7	0	45.2	15
Masbate	99.4	+78.2	-14.7	14	+7	0	45.2	15	Vigan	501.9	+422.3		23	+10		72.4	10
Romblon (*)	501.9	+422.3		23	+10		72.4	10	Tuguegarao	441.6	+227.3		22	+4		52.8	1
Batag Light-house, Laoang	441.6	+227.3		22	+4		52.8	1	Laoag	317	+251.6	-54.2	21	+4	0	84.2	4
Sorsogon	317	+251.6	-54.2	21	+4	0	84.2	4	Legaspi, Albay	41.9	+1.8	-19.5	7	-1	-6	12.7	12
Legaspi, Albay	41.9	+1.8	-19.5	7	-1	-6	12.7	12	Sumay, Guam	44.9		-59.2	13		-5	9.7	9
Sumay, Guam	44.9		-59.2	13		-5	9.7	9	Calapan	122.3	+58.2	-86.7	18	+5	-2	38.6	12
Calapan	122.3	+58.2	-86.7	18	+5	-2	38.6	12	Virac								

* 29 days of observation.

DEPRESSIONS AND TYPHOONS.

There were three big cyclones sweeping Japan during this month and some other continental depressions, a few of them having been formed over the Eastern Sea or to the east of the Loochoos. But there was not a single typhoon or depression of the tropical type. Hence the Philippines were practically free during the whole month of the influence of any atmospheric disturbance.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes es menor que la del año pasado, y, con pocas excepciones, casi idéntica, o ligeramente menor que la normal de enero. Las presiones más altas del mes se observaron generalmente el día 1.º en Luzón, y el 24 ó el 27 en Visayas y Mindanao. Las presiones más bajas se registraron generalmente en todo el Archipiélago los días 12 ó 13.

La temperatura media mensual sólo difiere muy ligeramente de la de enero de 1919, y de la normal de este mes. Las temperaturas máxima y mínima absolutas del mes en Manila fueron 32.3°C. y 16.5°C., las cuales se registraron los días 29 y 24, respectivamente. Las temperaturas extremas de Baguio fueron 25.1°C., 10.6°C. en la cumbre del Mirador, y 26.2°C., 10.2°C. en la llanura cerca del "City Hall."

Precipitación acuosa.—Aun cuando en la mayor parte de nuestras estaciones la cantidad total de lluvia caída durante este mes es mayor que la de enero del año pasado, con todo, es generalmente menor que la normal de este mes, a excepción de las Visayas meridionales y Mindanao, en donde la lluvia mensual de este año es en todos casos mayor que la normal. En Manila sólo se recogieron durante el mes 1.8 mm. de agua, siendo esta cantidad menor que la normal de enero en 23.9 mm. La lluvia total de Baguio durante este mes fué tan escasa que sólo ascendió a 0.8 mm., aun cuando la normal de enero para dicha estación es 29.2 mm.

DEPRESIONES Y TIFONES.

Durante este mes hubo tres grandes ciclones, que desfogaron en Japón, y otras depresiones continentales, algunas de las cuales se formaron en el Mar del Este o al E de Loochoos. Pero no hubo un sólo tifón o depresión del tipo tropical. De ahí que las Filipinas estuviesen prácticamente libres durante todo el mes de la influencia de toda perturbación atmosférica.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.^a

φ=14° 34' 41" N; λ=120° 58' 33" E; barometer above sea, 14.2 meters; gravity correction not applied, -1.72 mm.]

Day.	Pressure (mean).	Air temperature. ^b			Underground temperature.				Relative humidity (mean).	Vapor pressure (mean).	Radiation.		Evaporation. ^b			
		Mean.	Maximum.	Minimum.	0.25 meter.		0.50 meter.				1.50 meters.		Minimum on grass.	Maximum in sun. Black bulb in vacuo. ^c	Free exposure (total).	Shelter (total).
					8 a.m.	2 p.m.	8 a.m.	2 p.m.			8 a.m.	8 a.m.				
1.	763.02	22.5	28.6	18.4	25.3	27.6	27	27.4	28.2	28.3	79.2	15.9	16.5	46.8	3	2.1
2.	61.91	23.8	29	18.6	25.1	27.1	27	27.3	28.3	28.4	80.8	17.6	16.7	46.3	2.8	2.2
3.	60.99	25.2	29.7	22	26.1	27.6	27.1	27.2	28.5	28.5	84	20	20.5	46.4	1.9	1.6
4.	61.20	25.3	31.1	22.6	26.7	28.2	27.3	27.5	28.2	28.4	78.4	18.6	20.2	50.6	4.1	2.8
5.	61.45	24.4	27.7	21.8	26.4	27.5	27.2	27.4	28.3	28.3	74.6	16.9	21.4	50.2	3.7	2.7
6.	61.06	24.8	29.5	21.6	26	27.5	27.2	27.2	28.3	28.3	80.4	18.6	19.7	45.1	2.1	1.6
7.	60.97	24.6	29.6	21.3	26.2	27.7	27.3	27.4	28.3	28.4	87.6	20	20.1	52.3	1.6	1.7
8.	60.74	24.8	31.6	20.5	25.7	28.4	27.1	27.5	28.3	28.4	85.4	19.7	19	52.4	2.7	1.7
9.	59.93	25	30	22.3	26.7	28.3	27.5	27.7	28.1	28.4	83.4	19.5	21	45.7	2.1	1.6
10.	60.39	24.9	30	22.4	26.6	28.3	27.5	27.6	28.1	28.5	85.5	19.9	20.9	48	1.9	1.2
11.	60.42	26.1	30.9	21.6	26.4	29.2	27.5	28	28	27.9	81.1	20.1	20	51.6	3.8	2.3
12.	59.32	26.3	30.9	23.9	27.5	29.6	27.7	28.2	28.1	28.3	80	20.3	23.2	52.7	4.1	2.8
13.	59.93	24.6	29.1	20.9	27.2	28.5	27.9	28.1	28.2	28.1	77.8	17.8	21.5	49	3.3	2.7
14.	61.50	23.8	29.5	20.5	26.4	28	27.6	27.7	28	28.1	72.1	15.6	18.1	48.4	4	2.6
15.	61.93	23.3	27.5	20.5	26.1	27.8	27.4	27.6	28	28	78.1	16.5	19.1	45	2.8	1.9
16.	61.97	24	28.6	20.9	26.2	27.9	27.3	27.5	28	28.2	82	18.1	19.2	44	2.1	1.4
17.	61.68	25.1	30.6	21.5	26.1	28.2	27.2	27.5	28.2	28.2	77.7	18.1	20	51	3.7	2.4
18.	61.45	25.3	31.1	22.4	26.5	28.9	27.3	27.8	28	28.4	77	18.2	19.2	52.8	3.8	2.7
19.	61.23	24.2	28.5	20.7	26.2	27.6	27.4	27.5	28.1	28.2	76.6	17	18.6	47.8	2.6	2.4
20.	61.38	24.2	29.6	19.8	25.6	28	27	27.5	28	28.2	76.5	16.9	18	49	3.8	2.4
21.	61.67	23.7	29.6	19.8	26.2	27.9	27.2	27.5	28	28.1	77.1	16.6	19	50.8	2.8	2.5
22.	61.71	23.3	29.4	18.7	25.3	27.3	26.9	27.2	28	28.2	77.6	16.2	16.2	51	3	2.2
23.	62.36	23.1	29	19.3	25	27.8	26.5	27.2	27.9	28	74	15.3	16.6	50.9	4	3.4
24.	62.48	22.7	29.1	16.5	24	27.8	26.1	27.2	27.8	28	75.3	15.1	13.6	48.6	4.2	3.9
25.	61.76	23.6	29.7	17.9	25	27.8	26.5	27.1	27.9	28.3	75.8	16.2	15.5	50.7	4	2.6
26.	62.09	23.2	29.2	18.9	25.3	27.1	26.7	27	27.8	28.2	79.9	16.8	16.4	47.2	2.1	1.3
27.	61.97	23	29.4	18.3	25.2	27.3	26.5	26.9	27.9	28.1	78.7	16.3	15.9	43.7	2.8	2.1
28.	61	23.4	31	16.8	24	27.7	25.9	27	27.8	27.9	76.2	16	16	50	3.9	2.4
29.	60.34	24.9	32.3	19.2	25.4	29	26.5	27.2	28	28.1	78.6	18	16.8	51.5	3.8	2.4
30.	60.35	25.4	32	20	25.8	29	26.8	27.5	27.9	28.1	77.8	18.4	18	51	4.7	2.9
31.	60.39	25.8	31.8	21.7	26.8	29.4	27.3	27.8	28	28.2	76.8	18.7	19.6	51.4	3.8	2.4
Mean Total	761.24	24.3	29.9	20.4	25.9	28.1	27.1	27.5	28.1	28.2	78.9	17.7	18.7	49.1	3.2	2.2
Departure from normal	+0.07	-0.5	-0.2	0.0							+0.7	-0.3			-7.5	

Day.	Wind.				Amount (mean).	Clouds.			Sunshine.	Rain, 24 hrs. beginning 6 a. m.		Miscellaneous.	
	Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.		Form and direction.		On the tower.		In the park.			
						Upper.	Lower.						
1.	NNE	118.5	14	W	0-10.	Ci.	Cu.	ENE	h. m.	mm.	mm.		
2.	N	138	10	NNE	7.2	Ci.	Cu.	ESE	4 05				
3.	N, NE	109	8	N	8	A.-Cu.	Cu.	ESE	2 20	0.6	0.6	Δ° a.	
4.	N	186	21	NE	7.9	A.-Cu.	ENE	E	4 15			Δ° a.	
5.	NNE	243	26	NbyE	8.8	A.-Cu.	E	ESE	3 05				
6.	N	87	12	NW	7.8	A.-Cu.	ENE	E	1 20				
7.	W quad.	75.5	14	W	8.2	A.-Cu.	Cu.	ESE	3 45	4	.5	●° p.	
8.	E quad.	96	12	E	5.6	Ci.	Cu.	E	4 35			≡° a.	
9.	NE	59	6	SSW	8.3	A.-Cu.	EbyN	E	2 00			Δ° p.	
10.	E quad.	77	11	W	7.5	A.-Cu.	E	E, ESE	3 25			≡° a. p.	
11.	W quad.	133.5	13	W	3.2	A.-Cu.	ESE	E	9 00			≡° a.	
12.	N quad.	307	22.5	W, NNW	4.9	A.-Cu.	NNW	Cu.	WNW	6 05	3	.3	d° a.
13.	N quad.	159.5	16.5	NNE	6.3	A.-Cu.	E	Cu.	E	2 50			
14.	NW quad.	133.5	18	SE	7.2	Ci., A.-Cu.	Cu.	E	4 45				
15.	N	102.5	12.5	WNW	9.8	A.-Cu.	Cu.	ESE	0 25				
16.	NE	60	7	SW	7.8	A.-Cu.	Cu., S.-Cu.	E	3 05	5	.8	●° p.	
17.	NE	159.5	15	E	6.6	A.-Cu.	Cu.	E	6 25			Δ° a.	
18.	NE, E	160	22.5	E	6.9	A.-Cu.	E	Cu.	E	4 30			
19.	E	91.5	12	E	6.8	Ci.	Cu.	E	3 55				
20.	N, E	145	15	WNW	4.5	A.-Cu.	ENE	Cu.	E	6 35			
21.	NE quad.	119	16	NE	6.8	Ci.	Cu.	ENE	4 55			d° a.	
22.	N	140	15	E	5.7	Ci.	Cu.	E	3 30				
23.	NE quad.	179	17	W	2.5	A.-Cu.	ENE	Cu.	E	9 00			
24.	NE, S	164	16	W	2.5	Ci.	Cu.	E	8 45				
25.	WNW, S	188	16.5	WNW	3.7	A.-Cu.	Cu.	E	8 30			d° p.	
26.	NE, ESE	118.5	9	WSW	7.7	A.-Cu.	Cu.	E	3 50			Δ° a.	
27.	E quad.	142.5	13.5	WSW	4.9	A.-Cu.	Cu.	E	5 30				
28.	SE, ESE	165.5	16.5	NW	.5	Ci.	Cu.	E	9 30				
29.	SE quad.	137	13	W	1	Ci., Ci.-Cu.	Cu.	E	10 10			Δ° a.	
30.	SE	170.5	18	NNW	1.8	A.-Cu.	ENE	Cu.	E	9 40			Δ° a.
31.	SE, S	160	15	W	2.4	A.-Cu.	Cu.	E	8 55				
Mean Total		139.5	14.6		5.8				5 09				
Departure from normal		-864.8			+0.3				-23 42	-23.9			

^a All the mean values given in this table are deduced from hourly observations.
^b These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
^c Maximum of hourly observations taken from 6 a. m. to 6 p. m.

METEOROLOGICAL DATA FOR MIRADOR OBSERVATORY, BAGUIO.*

[φ = 16° 25' N; λ = 120° 35' E; barometer above sea, 1,512.5 meters; gravity correction not applied, -1.65 mm.]

Day.	Pressure ^b (mean).	Air temperature at Mirador (on the top of the mountain).					Air temperature in the plateau (near the city hall).					Relative humidity (mean).	Vapor pressure (mean).	Radiation.		Evaporation.	
		Mean.	Maximum.	Hour.	Minimum.	Hour.	Maximum.	Hour.	Minimum.	Hour.	Minimum on grass.			Maximum in sun. Black bulb in vacuo. ^c	Free exposure (total).	Shelter (total)	
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	°C.	°C.	mm.	mm.		
1	638.90	16	24	0.15p.	11.1	3.00a.	24.7	1.10p.	11	3.00a.	77.5	10.4	10.1	51.4	4.6	3.7	
2	38.86	17.9	24.1	11.10a.	13.5	1.15a.	26	1.00p.	12.9	5.40a.	68.3	10.4	12.1	53.5	7.1	4	
3	38.49	18.9	24.2	1.00p.	14.5	11.30p.	25.9	0.30p.	15.4	12 m.n.	72	11.6	14.6	57.6	5.2	2.9	
4	38.22	17.2	22.6	1.55p.	13.6	12 m.n.	23.7	11.45a.	13.4	11.00p.	73	10.4	12.6	50.8	7.8	4	
5	38.21	16.1	22.3	1.15p.	12.5	5.45a.	22.1	1.15p.	13.3	5.15a.	70.5	9.5	11.3	51.8	8.2	4	
6	38.13	18.2	25.1	1.10p.	14.4	3.30a.	25.3	0.35p.	14.1	3.30a.	71.3	11.2	13.4	51.8	6.3	3.6	
7	38.29	18.1	22.7	0.10p.	15.7	12 m.n.	24.1	9.40a.	15.8	6.00a.	84.3	13	14.5	55.2	1.5	1	
8	37.76	17.8	22	9.50a.	15	12 m.n.	23.5	2.10p.	15.2	12 m.n.	81	12.4	14.4	51.2	3.1	2	
9	37.01	17.1	23.1	10.30a.	13.9	3.20a.	23.7	11.25a.	13.8	6.00a.	83.3	12.1	12.6	54.6	1.9	1.3	
10	37.57	17.4	23.1	10.15a.	14.1	6.30a.	24.4	11.15a.	13.9	6.15a.	86.8	12.7	12.6	52	2	1.2	
11	37.89	17.9	22.5	10.45a.	14.7	6.00a.	23.9	10.00a.	14.3	0.45a.	87.7	13.2	13.5	56.9	2.2	1.2	
12	36.79	16.9	22.5	11.00a.	14.8	6.25a.	23.3	10.15a.	13.9	6.50a.	91.8	13.2	12.8	58.1	1.8	1.2	
13	36.44	15.8	23	11.40a.	11.6	12 m.n.	24.2	1.00p.	11.4	12 m.n.	82.2	10.9	11.8	56.8	3.7	1.9	
14	37.31	14.7	21.6	11.15a.	10.6	3.10a.	22.7	Noon	10.6	3.10a.	80.8	10	9.7	53.1	3.7	2	
15	37.85	14.9	19.6	Noon	12.5	1.15a.	20.9	11.50a.	12.5	4.55a.	80	10.1	11	46.8	2.8	1.7	
16	38.38	16.8	23.5	0.45p.	13	2.45a.	24	1.00p.	12.6	2.30a.	71.8	10.1	12.1	54.6	6.5	2.7	
17	38.40	16.6	22.4	10.40a.	13.7	6.35a.	23.1	11.00a.	13.2	5.35a.	78	11	12.3	56.6	3.8	2.1	
18	38.16	16.8	23.3	0.30p.	13.8	12 m.n.	23.7	Noon	13.9	12 m.n.	73.3	10.3	13.2	55	6.1	3.4	
19	38.02	16.6	22.9	0.45p.	12.6	5.00a.	23.4	11.30a.	12	5.15a.	78	10.9	11.3	56.2	3	1.8	
20	37.84	16.6	22.1	2.05p.	12.9	7.00a.	22.7	1.35p.	11.8	3.45a.	82.5	11.4	9.7	56.2	2.9	2	
21	37.72	15.6	20.7	1.15p.	12	6.00a.	22.5	2.30p.	11.5	6.30a.	75.8	9.9	10.5	55.2	4.1	2.2	
22	37.86	15.4	22.1	11.30a.	11.2	5.35a.	22.7	0.05p.	10.4	5.30a.	77.2	10.1	9	55	4.8	2.3	
23	38.07	14.8	21.5	1.05p.	11.1	6.45a.	23	0.30p.	11	4.00a.	76.3	9.5	9.5	55.2	3	2	
24	38.30	15	20.5	2.00p.	10.7	6.35a.	21.3	1.45p.	10.2	6.30a.	77.8	9.8	8.6	56.4	3.5	2.1	
25	37.72	15.8	21.2	1.50p.	10.9	5.20a.	23	3.00p.	10.8	4.40a.	72.2	9.5	9.5	50.7	4.2	2.5	
26	38.12	16	22.3	10.45a.	12	6.00a.	23.6	11.35a.	11.2	6.15a.	77.5	10.4	10.6	52.3	3.4	2.2	
27	38.18	15.8	21.1	0.30p.	11.6	6.30a.	23.2	0.30p.	10.5	6.30a.	83.3	11.1	8.9	52.7	3	2.3	
28	37.66	17.8	24.2	10.15a.	12.5	4.00a.	26.1	Noon	11.2	5.30a.	61.2	9.2	9.7	54.5	5.1	3.5	
29	37.49	17.9	23.9	1.00p.	13.3	6.00a.	25.7	1.00p.	11.6	5.30a.	77.3	11.8	10.3	53.9	3.7	2	
30	37.59	17.8	23.6	10.05a.	13.5	5.20a.	26.2	1.30p.	11.7	6.00a.	78.2	11.6	10.6	54.3	2.8	2	
31	37.54	17	23	2.00p.	12.4	6.10a.	25.1	0.15p.	12.8	6.45a.	84.8	12.2	10.5	52.8	3.3	1.7	
Mean	637.90	16.7	22.6		12.9		23.8		12.5		77.9	11	11.4	54	4	2.3	
Total															125.1	72.5	

Day.	Wind.				Clouds.			Sunshine.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	Prevailing direction. ^d	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Amount (mean). ^e	Form and direction.				
						Upper.	Lower.			
1	E	328.6	22.3	E	0-10.	Ci.	Cu.	h. m.	mm.	☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
2	E	387.6	23.6	SE	2.3	Ci.	Cu.	6 50		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
3	SE, E	291.2	25.4	E	1.4	A.-Cu.	SW	7 10		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
4	E	508.2	33.6	E	7.4	Ci.	Cu.	3 35		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
5	SE	566.6	30.6	E	.9	A.-Cu.	SE	7 35		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
6	SE, E	432.9	27.7	SE	8.1	A.-Cu.	Squad.	1 10		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
7	E quad.	251.6	20.9	E	6	A.-Cu.	SW, E	5 20	0.8	☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
8	SE, E	274.5	20.3	E	7.4	A.-Cu.	SW, E	2 05		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
9	SE, E	311.9	21.4	E	6.7	Ci.	Cu.	1 10		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
10	SE quad.	243.4	19	SE	6	Ci.	Cu.	3 25		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
11	W, NE	258.5	17.7	SW	5.9	Ci.	Cu.	3 20		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
12	SW quad.	178	17.2	W	4.9	Ci.	Cu.	3 50		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
13	E	366.9	27.4	E	5.3	Ci.-S.	Cu.	4 15		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
14	E	407.4	23.9	E	2.6	Ci.	Cu.	4 30		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
15	E	297.4	21.9	E	6	A.-Cu.	S	3 10		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
16	E	481.6	27.2	E	9.6	A.-Cu.	SW	0 25		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
17	E	332	23.9	E	4.6	Ci.	SW	5 20		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
18	SE, E	462.7	26.6	E	5.1	Ci.	Cu.	3 05		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
19	E	334.8	23.6	E	4	A.-Cu.	SSE	4 10		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
20	W quad.	292.8	23.6	SW	5.7	Ci.	Cu.	5 25		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
21	E	370.5	26.6	E	3.9	Ci.	Cu.	5 55		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
22	E	370.3	22.2	E	4.3	Ci.	Cu.	4 25		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
23	E	344.3	25.7	SW	4.3	Ci.-S.	E	4 15		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
24	E, SW	283.5	24.1	SW	2.3	Ci.	Cu.	5 30		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
25	E	367	23	E	6.3	Ci.	Cu.	3 20		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
26	E	334.7	19.8	NW	2.3	Ci.	Cu.	7 00		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
27	E quad.	227.6	18	SW	2.9	Ci.-S.	Cu.	5 25		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
28	E	319	18.3	E	4.7	Ci., Ci.-S.	Cu.-N.	5 35		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
29	W, SW	259.4	22.3	W	.9	Ci., Ci.-S.	Cu.-N.	8 20		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
30	E, SW	223.2	17.4	SW	3	Ci.	Cu.	6 85		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
31	SW, N	251.9	19.8	W	.7	Ci.	Cu.	7 25		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
Mean		335.8	23.1		2.3	Ci.-S.	Cu. E, ENE	4 42		☉ ☽ ☿ ♀ ♁ ♂ ♃ ♄ ♅ ♆ ♇ ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓
Total		10,410						145 40	0.8	

* All the mean values given in this table are deduced from 6 daily observations taken at 2, 6, 10 a. m. and 2, 6, 10 p. m.
^b The barometric readings of this station are not reduced to sea level.
^c Maximum of hourly observations taken from 6 a. m. to 6 p. m.
^d This element is based on hourly observations taken from a quadruple register, which gives only eight possible directions of the wind.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, JANUARY, 1920.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Lapac Agricultural School, Siasi, Sulu †				17.3		6.9		7.6	9.4			18.5	15.5	38.9	3.8	0.8
Glan, Cotabato †		2.8	9.4		10.2	3.8	10.2				45.7					1.3
Jolo, Sulu				10.5	7.4	15.5	21.6				29.7	39.9	11	4.1	5.4	14.7
Lais, Malita, Davao	27.7	6.1	48.2	13	25.9	17.5	7.1						4.3	26.2		5.8
Lebak, Cotabato			24.6					41.1	23.1	4.6						
Lamitan, Isabela, Zamboanga	4.3		50.8	46.2	8.1	23.1	12.4				7.4			12.7	41.9	
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †	6.9	4.6	9.4	11.9	7.6		14.2		9.7						48.3	
Basilan Plantation Office, Isabela, Zamboanga †				18.5	10.4		39.5								35.6	
La Union, Sigaboy, Davao †	9.7	3	114	4.9	11.4	20	2.3	1.3		3				7.6		2.5
Paranglalap, Isabela, Zamboanga †	10.2		10.2	15.2	3.8	11.4	7.6								41.9	
Latuan, Isabela, Zamboanga †	2.5		7.9	9.9	1.5	3.6	21.3			2.8					32.3	
Buluan, Cotabato †	10.9	5.1	1	2.3	.8		3	3.8		.8						
Malamau, Isabela, Zamboanga			17	9.9			23.9							11.2	6.9	
Zamboanga, Zamboanga	4.6		2	23		1.6	12.7		1.3			11.7			1.6	.3
Cagayan de Sulu, Sulu †		3.8	48	102.9	30.5	1	1			2.1	3	40.1	63.5	114.3	82.5	
Kidapawan, Cotabato †	5.1	2.3	28.2	12.7	30.5	27.9		9.9	2.5			12.7				
Davao, Davao	8.9	13.9	53.3		5.8	5.1					3.3	2.8				
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †		2.5	16.3	1.5	10.2	6.6	7.4	1				3				
Pikit, Cotabato	2	1	9.7	3.3	10.4	6.6	4.6		.8		8.1	2		8.6		
Awang, Cotabato †			12.2	3.3	28.7	5.8	18.5	.5			3					
Sirib, Guianga, Davao †			30.5				14				11.4			27.4		3.8
Kabakan, Cotabato †	10.2		18.5	19	5.3	.8	5.1									
Bual, Dulauan, Cotabato		3.3	15.8	41.9	30.5	12	3.6	2.8			101.6	4.3		7.6		.5
Cotabato, Cotabato			11.9	10.9	8.6	14.2	32.8	7.1			6.9			7.4		3.6
Kabasaran, Buldun, Cotabato †		4.6			22.9	8.4	2.3	26.2		6.1	16	63.2	31.7	50.8		
Naganaga, Margosatubig, Zamboanga	12.2		36.1				8.1	17.5				13.2	8.9	3.6		1.3
Malabang, Lanao	1.5		4.8	23.4	6.6	.3	8.1	2	80			58.9	2.8	.3	.5	
Compostela, Monkayo, Davao †	59.2	51.3	122.7	26.7	16.5	25.4	6.4					45.7		7.6	3.8	3.6
Malangas, Margosatubig, Zamboanga †			12.7	50.8	25.4	4.8			16.8		1	15.5	4.1	23.9		
Lumbatan, Lanao †			8.1	15	3.8		1.3	20.6	7.6		6.1	3.5	2			
Cateel, Davao	101.8	21.6	189.3	35.1	51.3	39.1	51.5	30.2		1.8		26.2	2	15.2	40.6	
Ganasi, Lanao			7.9	5.6				40.1	.3	3.6	1.8	1.6	.8	11.9		
Camp Kalao, Monkayo, Davao	38.9	8.7	96.5	14.2	34.8	26.9	11.9	3.8		1.3		2	5.6	7.4	3.3	
Tukuran Agricultural School, Tukuran, Zamboanga †	2			203.2	1.8						26.9		20.3			
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon	9.1	11.2	55.1	.5	1.3	7.1	4.8			19	22.1	.3				
Camp Keithley, Dansalan, Lanao	2.5		21.3		1.3	.5	27.7	2.6		6.4	6.1	2.5	9.7	9.7		2.4
Pantar, Lanao †	4.1		2.5	8.9	7.6	7.6	10.7	3		8.4	2.5	14	12.7			42.4
Veruela, Agusan	34.3	27.4	177.8	18	14.2	69.1	19.5	6.1		4.6			14	5.6	3	8.4
Sindangan, Zamboanga †		6.1	45.7		2.3	8.9			2	1.3		10.2	8.9			
Sumilau, Bukidnon	2.8	18.6	37.6		4.1	1.8	1.3				3.3	23.4	21.5	8.4		
Diklom, Tankulan, Maluko, Bukidnon †		21.6	34.5		10.7							8.9	7.6	2.3		1
Cagayan, Misamis			8.9		1.3											
Talacogon, Agusan		8.2	10.2	3.3		14.7	4.1	18.5		6.4		6.4		4.3	8.2	4.3
Butuan, Agusan	8.6	59.2	86.6	58.4	17.1	10	27.7			3.8		1.3	25.1	3.5	.8	4.8
Meeth, Yap, Western Carolines	35.6	.3	13.9	4.9	13.7	2.8	2.3	6	3.9	2.1	.5	1.8		1.4	18.4	
Hacienda San Jose, Tanjay, Oriental Negros †													41.1			24.1
Hacienda Palanas, Bais, Oriental Negros †			8.4	27.2			7.4									13.5
Hacienda Tamugon, Bais, Oriental Negros †			21.6			12.7	7.6	20.3				17.8				
Tagbilaran, Bohol	1.2	8.4	29.7	.3	4.1		6.8	2.3		.3	.3	.8	8.6	6.1		.3
Dalaguete, Cebu	15	11.2	20.3	2	20.3		.5						9.4	1.8		8.4
Surigao, Surigao	6.6	45.9	70.3	38.4	47	13.7	61.9	.5		9.7			5	.8	16.4	49.8
Central Palma, Ilog, Occidental Negros	2.8				2.5	1	2.8		5.3		3.8			1		1.8
Hacienda Naval, Himamaylan, Occidental Negros			2.6	11.5	8.9						10.2	.8	19.8			
Biaong Cui's Farm, Barili, Cebu	27.7		24.9		26.2								21.3	9.7		
Maasin, Leyte		32	25.7		29.7					31.2			24.9			52.6
Isabela, Occidental Negros		3.6	.6		9.9	.3		3.3				23.1	3.5	1.3		
Hacienda Tanolo, Hinigaran, Occidental Negros		4.6	3.8	6.1	3.8							4.1	14.2	2.3		
Cebu, Cebu	.3	2.6	2.8	6.4	11.2	3	7.1		.5	1.1	.3	5.8	1.3	1.3	.3	.3
La Castellana, Occidental Negros		.8	1.8	3	7.9	1.1										.8
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †				11.4			28.7	.5								84.5
Central Azucarera de La Carlota, La Carlota, Occidental Negros	.3	.3	7.6	2.3	4.1		5.1	3.8			4.1		.5			
Hacienda Canlaon, La Castellana, Occidental Negros		.3	3	2.8	2.5	.8					1	21.6	2.5	1		
La Carlota Experimental Station, La Carlota, Occidental Negros †					4.6	.5					7.9	2.5	4.6	5.3	1.3	1
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	.5		11.2	3.1	1									.3		
Hacienda San Antonio, San Carlos, Occidental Negros †				33	8.1	15.2										
Valladolid, Occidental Negros			10.4	1.8	2.1									2.3		
Central San Carlos, San Carlos, Occidental Negros †	3.3	8.4	15.7		5.3		13.2						.5	6.4	.8	
Hacienda Refugio, San Carlos, Occidental Negros †	6.1	17.8	3	4.3		17.8	3.8					12.7				
Murcia, Occidental Negros	1.3	3	5.3	1	1.8	1	1.3					6.4		.8		
Concepcion, Talisay, Occidental Negros	.5	4.6	23.9	.5	2		1.5	.8					17	15.7		1.5
Iloilo, Iloilo	1.3	.8	9.9		.5								9.4			1.3
Lapuslapus, Iloilo, Iloilo †	1.3		16.7		1								.5	.3		11.4
San Jose de Buenavista, Antique			2.8					.5					10.2			

† Voluntary or coöperative station.

Daily rainfall at the stations of the Weather Bureau, January, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Tuburan, Cebu	9.7	10.4	8.9	21	1.8	0.8	1	5.1	18.3	1.8	0.3	7.4	16.5	8.9	0.5	
Silay, Occidental Negros	26.5	2.3	5.3	2.8	4.1	1	1	5.1	18.3	1.8	0.3	7.4	16.5	8.9	0.5	
Cuyo, Palawan	5.1		8									1.3				
Lucena, Santa Barbara, Iloilo †												1.3				
Hacienda Ilaya, Victorias, Occidental Negros	10.2		4.3	.3	13.7	6.3	18.5	1.8			5.1		5.1	7.6	2.3	8.9
Hacienda Bilbao, Manapla, Occidental Negros	14	9.2	6.6		17.8		36.8	2.5		7.1				3		15.2
Cadiz, Occidental Negros	6.9			7.1	4.6					7.6	7.9	4.8	15.2	3.8		6.6
Ormoc, Leyte	23.9	9.6	7.4	1.3	2.3	1.8	.8	2.3		2		19.8	18.3	5		6.1
Guiuan, Samar	43.7	17.8	17	18	32.3	5.3	9.7	.5		42.2	2.1		2.3	12.2	1	131.6
Bogo, Cebu	17.8	12.5	7.7	.3					14.7	23.6		1.8	11.7	16.2		10.4
Dueñas, Iloilo †			16.6										6.9	11.4		
Bitaoagan, Passi, Iloilo †	6.8	2.5	34.3					17					7.6	7.9		8.1
Tacloban, Leyte	39.7	17	13		26.7	7.4	5.9	2.8		8.4	5.6		15.7	56.9	5.8	124.8
Dumarao, Capiz †	15.2		25.4	6.4	10.2	10.2	12.7	1.3			1.3	22.9	25.4	14	12.7	17.8
Dao, Capiz †	13.7	1.3	33.3			1.3	4.3						7.6	20.3		18.2
Capiz, Capiz	9.7	4.6	23.6	2.6	.6		6.4						8.2	15	2.1	2
Borongan, Samar	32.8	25.4	21.1	8.6	17.1	8.8	1.5	2.5		70.6	6.1		88.9	115.8	3.8	139.5
Catbalogan, Samar	13.7	14.2	33.5	9.4	6.6					5.1	10.2		51.8	78.7	.8	51.9
Calbayog, Samar	7.5	17.5	18.8	.8	3.1	5.1	7.6	12.5		3.8	1.6		25.6	21.3	.3	39.3
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †																
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †																
San Jose Estate, San Agustin, San Jose, Mindoro †																
San Jose Estate, San Jose, Mindoro †																
Masbate, Sorsogon	44.7	9.6	40.9	7.9	5.1	1						.8	.3	18	10.2	51.6
San Jose Estate, Tunnel D-12, San Jose, Mindoro †																
Romblon, Romblon	10.9	.8		4.1	5.1	2.5					.5	2.3		11.7	45.2	.8
Batag Lighthouse, Laoang, Samar	26.2	18.6	43.5	30.9	43.4	3	6.3	1.8		72.4	1.3	1.3	53.3	42.4	4.3	4.8
Irosin, Sorsogon	63	10.7	76.5	15.7	15	3.5	3.3	1.5		4.1	4.6	10.7	8.9	15.5	12.2	46.4
Sorsogon, Sorsogon	52.8	11.4	33.1	47	37.9	8.7	4.1	12.4		4.1		4.1	22.1	5.9	36.4	42.4
Legaspi, Albay	17.8		3.3	84.2	43.9	11.2	5.6	.8	7.2	16.5		.5	3.3	7.2	18.7	42.7
Sumay, Guam, Ladrone Islands	2.5	3.8			7.6	5.1						12.7	5.1			
Calapan, Mindoro		3.8		5.3	2.1			.5	9.7			2.5		9.4	4.4	1.3
Virac, Albay	5.8	.5		8.6	14.8	3	.5	3.8		8.1	6.1	38.6	11.5		3.3	4.5
Naga, Camarines Sur	14.5	5.8		25.9	3.8	13.6					.8	6.1	.4			
Tigaon, Camarines Sur	21.9	.3		48.5	18	3.3	.5			8.1	.3	66.3	1.6	2.6	3.6	1.1
Batangas, Batangas			2.3	.8								5.8				
Calatagan, Batangas						5										
Lucena, Tayabas		11	5.1	16.5	9.1	2.8	.3					1.5			.3	4.6
Atimonan, Tayabas		22.4	21.4	14.3	6.8	5.8	2.1	16		.5		1.8	.5	5	15.4	4.6
Nasugbu, Batangas			1			.3	8.4			1.3						
Ambulong, Tanauan, Batangas			3.8	1.3	1	1.3	5.8					1.5				.8
Mendez Nuñez, Cavite			3.8	1					.3			.5				1
Alfonso, Cavite			1.8				.8			.3		.3				.3
Indang, Cavite			.3		.3	1		2.3				1				.8
Canluban, Calamba, Laguna		.5	4.3	.8	.5	1.3						4.6				1
Silang, Cavite			2.1	.5		2	7.1	.8	2.6			4.6				
Maragondon, Cavite			3			.8	2.3			1		9.4				
Paracale, Camarines Norte	3.8	44.2	12.9	48.7	37.9	8.7	3.1	8.1	3.8	.8	2		.5	1.3	21.1	3.3
Santa Cruz, Laguna		.5	.3	2.3	.3	1.3	1.5	2	.8			.5				1.3
Imus, Cavite			.3	.3			.8					1.8				
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †			2.5													
Lamao Horticultural Station, Lamao, Limay, Bataan †																
Manila, Manila			.6													.5
Antipolo, Rizal							11.5	.8	.8	2		4.6				
Bosoboso, Antipolo, Rizal †							3.8					2				
Montalban, Rizal †																
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †				5.6											1.5	2.3
Mabayuan Dam, Olongapo, Zambales †																
Pampanga Sugar Mills, Del Carmen, Pampanga †			1.3													
San Isidro, Nueva Ecija								.3								
Iba, Zambales																
Hacienda Luisita, Comillas, La Paz, Tarlac †																
Hacienda Luisita, San Miguel, Tarlac, Tarlac †																
Tarlac, Tarlac								17.8								
Muñoz Agricultural School, Muñoz, Nueva Ecija †					.8	1.3										
Baler, Tayabas		7.6			9.2			1.5		.3						8.9
Dagupan, Pangasinan								2.5								
Bolinao, Pangasinan			.5					4.9								
Baguio, Mountain Province								.8								
San Fernando, La Union											3.8	.8				
Echague, Isabela	2.8	2.8	.8	.3	.7	4.6	4.6	3.5	2.6	3.8		1.5		.5		.1
Sagada, Mountain Province †	25.4		2.5		1.3	10.2	5.1	2.5	14	5.1		2.5	2.5	15.2		1.3
Bontoc, Mountain Province †		2				1.3			1.3							
Candon, Ilocos Sur								.5								
Vigan, Ilocos Sur					.8	4.9	.5	1.3	2.3	4.5						1.8
Tuguegarao, Cagayan			2.3													
Laoag, Ilocos Norte																
Aparri, Cagayan		1.1	30.5	9.4	5	2.8	15.5	8.6	14.4	8.9	38.1	6.9		4		2.8
Cape Bojeador, Burgos, Ilocos Norte			4.3	.6			4.3	1		.3	2.8	.8				
Basco, Batanes	2.5	11.2	4.4	7.7	7.3	19.6	54.1	9.4	11.5	14.2	5	1.3		3	8.4	3.6

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, January, 1920—Continued.

Station.	Day of month.															Total.	
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
Lapac Agricultural School, Siasi, Sulu †																mm.	119.6
Glan, Cotabato †							17.8			0.8						mm.	126.8
Jolo, Sulu	3								1							mm.	161.1
Lais, Malita, Davao	2			12.5	4.6	46.7	4		3.8	3		3.8				mm.	257.6
Lebak, Cotabato	17.3							13.7		9.1		7.1	6.6		10.7	mm.	191.5
Lamitan, Isabela, Zamboanga			13						3	22.9				3		mm.	248.8
Basilan Plantation, Kibunbatan Isabela, Zamboanga †	9.7				3.6				7.1	2						mm.	135
Basilan Plantation Office, Isabela, Zamboanga †		8.4							7.4	2						mm.	115.8
La Union, Sigaboy, Davao †				19.8		.8	18.5			10.7		3.6				mm.	230.4
Paranglalap, Isabela, Zamboanga †		12.7							7.6	2.5						mm.	123.1
Latuan, Isabela, Zamboanga †		12.4							1.5	3						mm.	98.7
Buluan, Cotabato †		1.3				1.8	4.1			19.3					3.6	mm.	55.1
Malamau, Isabela, Zamboanga		14.2														mm.	83.1
Zamboanga, Zamboanga		4.5							.5	.5						mm.	64.3
Cagayan de Sulu, Sulu †				2.5												mm.	492.5
Kidapawan, Cotabato †				6.6				2.5								mm.	200.3
Davao, Davao	16.5			6.4		1.3	10.9	7.1	5.6	2.8		36.8			9.4	mm.	153.1
Piang Agricultural School, Kudurangan, Dulauan, Cotabato †	1.3	.5						12.2		29.2	1	26.7	.5	7.1		mm.	127
Pikit, Cotabato	6.1	3.3						10.7		1.3		19				mm.	97.5
Awang, Cotabato †		9.7							2.8	15.5	1.8	9.4		1.3		mm.	109.8
Sirib, Guianga, Davao †	6.9				1.3				1.8	3				4.1		mm.	104.2
Kabakan, Cotabato †	13	1.3						2	5.1			19.3		10.9		mm.	110.5
Bual, Dulauan, Cotabato		8.4						10.7	.8	10.7	13.7	5.3		5.6		mm.	279.1
Cotabato, Cotabato								10.9	7.4			5.1				mm.	126.8
Kabasaran, Buldun, Cotabato †		4.8						19.3	49	21.6		6.6				mm.	333.5
Naganaga, Margosatubig, Zamboanga	17.5	3.6		1.3						6.4		1.3				mm.	131
Malabang, Lanao	.5	.5					10.7	1.6	.5	1				10.7	.8	mm.	215.5
Compostela, Monkayo, Davao †		15	1.5	13.7	8.9	14				14.8			2.5		3	mm.	442.3
Malangas, Margosatubig, Zamboanga †		5.3										18.7				mm.	182.1
Lumbatan, Lanao †				27.2	4.8	6.1	8.1	17.8		5.6			2.5			mm.	140.9
Cateel, Davao	11.9	33.3	16.5	71.6	4.6	147.1	35.8	21.6	56.2	38.1		.3	2.5	8.4	5.8	mm.	1,055.2
Ganasi, Lanao				1.8		1.8	1.8	2.8	4.6							mm.	86.4
Camp Kalao, Monkayo, Davao	1.3	12	4.1	12.7	2.3	16.5	7.9		2.3	2.3				2.8		mm.	319.5
Tukuran Agricultural School, Tukuran, Zamboanga †									3.8	6.4						mm.	264.4
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon		3.6								3						mm.	166.4
Camp Keithley, Dansalan, Lanao	.1	2.5	.5	1.3	4.8	26.4	5.6		3		2.9	2.6				mm.	157.5
Pantar, Lanao †	4.5	9.1	4.1	6.9	8.3	19	15.5	4.1	16.8	6.4						mm.	228.7
Veruela, Agusan	7.9	26	2.8	7.7	5.8	81.1	17.3	.5	7.1	8.1				4.8		mm.	566.1
Sindangan, Zamboanga †	12.7			11.4			12.9	1.3	1.3	3.8						mm.	128.8
Sumilau, Bukidnon		6.6					29.2	7.4	1	2.5		4.1				mm.	173.6
Diklom, Tankulan, Maluko, Bukidnon †	.5	2			1	35.8	11	4.6	6.3			.5				mm.	148.3
Cagayan, Misamis							50.8	9.4								mm.	70.4
Talacogon, Agusan	16.2	5.6		4.6	5.6	9.6	27.7	12.7	6.4		5.6	4.3				mm.	186.9
Butuan, Agusan	14.5	39.4	7.2		4.6	128.8	86.6	4.8	10.7	.8		7.7			1	mm.	612.5
Meeth, Yap, Western Carolines	1.5	63	41.3	9.2	1.5	.5	2.3	2.5				2			3.3	mm.	234.7
Hacienda San Jose, Tanjay, Oriental Negros †			7.4					13.2								mm.	107.6
Hacienda Palanas, Bais, Oriental Negros †			7.4		5.8											mm.	69.7
Hacienda Tamugon, Bais, Oriental Negros †		7.6		5.1												mm.	92.7
Tagbilaran, Bohol	14.8	2.5	12.7	.8	1.1	5.4			.5			2.3				mm.	108.8
Dalaguete, Cebu	3.8		10.4	3.3		2.8										mm.	109.2
Surigao, Surigao	75.2	71.6	58.8	16.5	51.3	27	32	82.4	9.4	.3	11.9	1.5		1		mm.	804.9
Central Palma, Ilog, Occidental Negros							2.5									mm.	23.5
Hacienda Naval, Himamaylan, Occidental Negros	1.3															mm.	55.1
Blaing Cui's Farm, Barili, Cebu	20.3	1				57.9										mm.	189
Maasin, Leyte		19.3	62.5	33		8.9		14								mm.	333.8
Isabela, Occidental Negros	2.5											5				mm.	48.6
Hacienda Tanolo, Hinigaran, Occidental Negros	1.6															mm.	40.5
Cebu, Cebu	33.8		12			1.5		.8	2.8					.8	2.3	mm.	95.9
La Castellana, Occidental Negros	3.8														1.3	mm.	29
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †	4.3						14.7	1.3	9.1	4.6						mm.	109.1
Central Azucarena de La Carlota, La Carlota, Occidental Negros	.5	.8										2				mm.	31.4
Hacienda Canlaon, La Castellana, Occidental Negros	2											4.9	3			mm.	45.4
La Carlota Experimental Station, La Carlota, Occidental Negros †	.3	.3										.5	13.5			mm.	42.3
Mao, Sugar Central, Santa Cecilia, Bago, Occidental Negros												7.2	24.1		1.3	mm.	48.7
Hacienda San Antonio, San Carlos, Occidental Negros †																mm.	56.3
Valladolid, Occidental Negros												1				mm.	17.6
Central San Carlos, San Carlos, Occidental Negros †	5.6	5.6	5.3												2.5	mm.	72.6
Hacienda Refugio, San Carlos, Occidental Negros †	8.4	8.9				1							4.6			mm.	87.4
Murcia, Occidental Negros	1	4.5														mm.	28.4
Concepcion, Talisay, Occidental Negros	1.5	2.8	3		.3	8.6	.5				.5		.5			mm.	85.7
Iloilo, Iloilo		1.8												5.1		mm.	30.1
Lapustapus, Iloilo, Iloilo †	.5	2.5													10.2	mm.	44.7
San Jose de Buenavista, Antique																mm.	14

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, January, 1920—Continued.

Station.	Day of month.															Total.	
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
Tuburan, Cebu	4.6	1.8															100.1
Silay, Occidental Negros	1.1	8.1															112.3
Cuyo, Palawan																	.5
Lucena, Santa Barbara, Iloilo †	2.5																11.8
Hacienda Ilaya, Victorias, Occidental Negros	5.6	9.1															112
Hacienda Bilbao, Manapla, Occidental Negros	3.8	13.2				6.4	19.6										173.5
Cadiz, Occidental Negros																	82.3
Ormoc, Leyte	17.8	2.8	4.6	.3	.8	1.8											127.8
Guiuan, Samar	9.4		97.1	38.1	190	13.2	1	3.3									720
Bogo, Cebu	18.8	3.6		.3													146.2
Dueñas, Iloilo †	10.2	7.9															53
Bitagan, Passi, Iloilo †			8.9			7.1	1.3						3.8				114.2
Tacloban, Leyte	23.6	12.5	8.9	13.8	6.6			5.8	3.6				5.8				422.6
Dumarao, Capiz †													1.3	1.3	16.5		194.6
Dao, Capiz †	8.1	19.3	2	1		3.3	2.3						2.3	2	1.5		137.8
Capiz, Capiz	6	4.4	.3			1.6							1.6	1.5	.3		85.1
Boronggan, Samar	54.6	35.1	9.4	9.1	21.1	4.1	.8	5.8	1.3				23.4	9.2	2	7.6	731
Catbalogan, Samar	56.9	18.3						.5	.5				1.8	6.1	26.1	.8	386.9
Calbayog, Samar	27.7	36.7											1.5	1.5	21.6	.5	254.3
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †																	0
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †															1		1
San Jose Estate, San Agustin, San Jose, Mindoro †																	1.5
San Jose Estate, San Jose, Mindoro †		1.5															.5
Masbate, Sorsogon	77	44.7	.3										2.5	4.3	4.1		323
San Jose Estate, Tunnel D-12, San Jose, Mindoro †																	0
Romblon, Romblon	8.4	4.6						.2	.5								99.4
Batag Lighthouse, Laoang, Samar	53.3	27.1	2										29.7	13.2	13.2	4.3	5.6
Irosin, Sorsogon	60.9	15.5	3.8			11.7			1				8	22.6	7.6	1.5	417
Sorsogon, Sorsogon	12.7	9.4			1.3	19.3	7.9						44.9	7.9	15.8		441.6
Legaspi, Albay, Albay	30.7	5.1	.5						1.3				1.5	4.8	10.2		317
Sumay, Guam, Ladrone Islands														5.1			41.9
Calapan, Mindoro	2.3	2.6			.5	.5											44.9
Virac, Albay	5.1	4					.3							3.3	.5		122.3
Naga, Camarines Sur	10.2																81.1
Tigaon, Camarines Sur	22.1	.3					.3									1.3	200.4
Batangas, Batangas	2																12.9
Calatagan, Batangas	2	.4															.3
Lucena, Tayabas	1.5	26.4	3.3													3.3	85.7
Atimonan, Tayabas	3.5	20.4	2.8						.5	2.6						5.6	147.5
Nasugbu, Batangas	76.7																87.7
Ambulong, Tanauan, Batangas	15.4	3.3															31.2
Mendez Nuñez, Cavite	16.8	2															25.4
Afonso, Cavite	8.6	1.1															13.5
Indang, Cavite	5.6	.8															12.1
Canluban, Calamba, Laguna	17.8	1.5															27.7
Silang, Cavite	17.7	1.6															39
Maragondon, Cavite	.3																16.3
Paracale, Camarines Norte	21.8	16.5	.5				1.3									4.3	244.9
Santa Cruz, Laguna	25.4	3.3	.6														40.1
Imus, Cavite	.8																4
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †	.8																3.3
Lamao Horticultural Station, Lamao, Limay, Bataan †																	0
Manila, Manila																	1.8
Antipolo, Rizal	.5																20.2
Bosoboso, Antipolo, Rizal †	2.3																8.1
Montalban, Rizal †	1																1
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †																	9.4
Mabayuan Dam, Olongapo, Zambales †																	0
Pampanga Sugar Mills, Del Carmen, Pampanga †																	1.8
San Isidro, Nueva Ecija		1.8															2.1
Iba, Zambales																	0
Hacienda Luisita, Comillas, La Paz, Tarlac †																	0
Hacienda Luisita, San Miguel, Tarlac, Tarlac †																	0
Tarlac, Tarlac																	17.8
Muñoz Agricultural School, Muñoz, Nueva Ecija †																	2.1
Baler, Tayabas	50	25.1	8.1	.5	.2	.8		.3		.8							113.3
Dagupan, Pangasinan																	2.5
Bolinao, Pangasinan																	5.4
Baguio, Mountain Province																	.8
San Fernando, La Union																	4.6
Echague, Isabela	.8	.5															28.4
Sagada, Mountain Province †		3.6															91.2
Bontoc, Mountain Province †																	4.6
Candon, Ilocos Sur																	0
Vigan, Ilocos Sur																	.5
Tuguegarao, Cagayan	.8	3.5	.5		3.5	1.5											28.2
Laoag, Ilocos Norte																	0
Aparri, Cagayan					11.2												153.7
Cape Bojeador, Burgos, Ilocos Norte				2.8	2												18.9
Basco, Batanes	12.4	8.6		10.6													194.3

† Voluntary or coöperative station.

MAXIMUM AND MINIMUM TEMPERATURES AT THE STATIONS OF THE WEATHER BUREAU, JANUARY, 1920.

Day.	Jolo.		Lais, Malita.		Lamitan, Isabela, Zamboanga.		Malamau, Isabela, Zamboanga.		Zamboanga.		Davao.		Pikit.		Cotabato.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	29.9	25.8	31.5	21.5	33.9	22.1	30.8	22.5	31.2	22.5	31.2	21.4	32	20	33.2	21.6
2	30.6	24.9	29	22.7	32.2	21.1	30.4	23.1	31.2	23.8	29.7	23	28 ?	22.5	29.9	21.6
3	29.5	24	26.6	23	32.3	20.4	30.1	24	29.3	23.2	24.7	22.5	25	21.5	28.2	21.9
4	29.1	25.7	29.9	22.1	29.2	22.5	29	22.5	28.5	23	29.2	25	30.5?	22.5	31.7	21.9
5	30.3	22.8	30.3	22.9	32.2	20.5	29.3	22.3	31.7	23.5	30.7	23.5	33	22.5	30.3	22.9
6	29.2	22.5	29.2	23	30.2	21.6	30.6	22.2	29	23.4	29.7	23.4	30	23	30.2	22.7
7	28.8	23	31	23	32.2	20.5	29.5	22	29	23.9	29.7	23	32.5	22.5	32.3	22.5
8	28.5	23	28.8	23	32.7	21.9	29.2	22.6	28.2	23.6	29.7	22	31.5	23.5	32.1	22.8
9	30	22.5	31.5	23.1	32.7	20.5	29.6	23.4	32.4	22.8	31.7	21.2	32	23	32.3	23.5
10	30.7	22.5	31.3	22	33.5	20.4	30	23	30.4	23	30.7	23	32	22.5	31.9	23.5
11	30	22.5	31.2	22.5	34.2	21.5	30.3	22.9	29	23.2	31.7	22.5	33	23	32.9	23.5
12	27.3	22.6	31.7	22	31.4	20.5	29.5	23	27.7	23	30.8	22.6	32	22.5	32.7	23
13	29	23	33.1	22	31.9	20.5	30	23	28	22.1	31.2	21.5	32.5	23	33.2	22.7
14	30.1	22.6	32.2	22.2	31.4	21.2	28.4	23.2	31	23	31.2	23.2	32	23	34.1	22.9
15	29.3	22.1	32	22.7	32.5	21.9	28.7	23.4	31.9	23	31.2	21.8	32	22.5	33	22.4
16	29.7	21.9	32.6	23.6	33.8	20.4	30.5	23.2	32.3	23.5	32.7	22.5	32.5	21.5	33	22.2
17	30	22.6	32	23.3	31.4	21.2	30.7	23	31.4	23.6	31.9	23.4	33	23	34.2	22.7
18	30	24.1	31.3	22.4	33.6	20.2	30.7	23.2	32.5	22.9	30.2	21	32	23	32.1	21.5
19	30.3	23	32.5	21.2	31.9	21.6	30.5	22.3	32.5	22.7	31.9	20.5	32.5	22	33.2	22.4
20	29.6	23.6	28	23	31.6	20.5	30.2	22.4	32.7	23	28.6	23	30	21.5	31.4	22.1
21	29.1	25.6	31.2	21.6	31.5	20.5	30.6	22	31.7	22.7	29.3	22	32.5	22	32.2	23
22	29.3	25.3	32.4	21.6	32.9	19.5	30.1	23.4	30.3	22.4	30.7	21.4	32	19.5	32.7	21.4
23	28.9	24.9	31.6	23.3	31.9	20.5	31	23.8	30.5	23	30.7	23	31	22	32	22.4
24	27.8	25.1	32	23.2	32.6	22.2	31.1	22	31.5	24.1	31.5	21.8	32	22	32.5	22.5
25	29.1	24.4	32.4	21.6	32.6	21.3	31.4	23	32.7	23.5	31.6	21.5	32.5	20	32.5	21.5
26	29.3	21.9	26.6	23	32.7	20	29.8	23	30	23.5	28.5	22.5	32	22.5	32.5	21.8
27	28.8	23.2	32	22.5	31.5	20.5	30.6	22.6	29.5	22.5	30.7	22.6	31	22.5	31.9	22.3
28	29.1	22.1	32.1	21	34.2	19.7	30.4	22.2	32.5	22.5	30.7	21.5	31	22.5	33.2	22.5
29	30.1	22.6	33.6	23	33.8	20.4	29.8	23.2	28.5	22.5	31.7	21.4	32.5	21	32.5	22.3
30	31.1	21.4	33	22	31.2	19.6	31.1	23	28.4	22.8	32.7	20.5	32	20.5	32.2	21
31	29.5	21.7	32.3	22.3	33.2	20.8	31	22	31.5	22.1	30.8	21.4	31 ?	20.5	33.3	21.9
Mean	29.5	23.3	31.1	22.5	32.3	20.8	30.2	22.9	30.6	23	30.6	22.2	31.5	22	32.3	22.4

Day.	Naganaga, Margosatubig.		Cateel.		Camp Kalao, Monkayo.		Camp Keithley, Dansalan.		Veruela.		Sumilau.		Cagayan.		Butuan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	34.5	22.2	29.5	22.6	30.1	19	27	15.6	28.8	22.3	28.1	19.3	31.6	22	31.1	22.4
2	34.2	23	30.2	22.7	31.1	22	23.9	17.9	29	22.6	25.5	19.2	28	21.8	25.9	22.2
3	33.7	22.5	26	23.5	24.1	22.1	23.9	17.8	24.3	22.6	25.6	18.8	27.8	22.8	27.1	21.9
4	32.5	22.7	25	23.5	25	22.1	23.8	19.1	24.4	23.2	26.4	19.5	28.3	21.3	25.2	22.3
5	32.2	22.5	27.7	23	29.1	22	27.4	19.3	26.6	22.4	30.2	19.6	30.7	22	29.8	22.4
6	33.5	23.2	27.3	23	27.1	22.1	27.2	18.8	26.2	23	28.1	19.9	31.1	22.2	30.9	22.7
7	32.5	24.1	29	23.5	27.1	23	25.6	17.3	26	22.6	24.9	20.1	29.6	21.6	26.1	22.5
8	34.2	22.2	29.2	23	29.1	22.1	26.4	18.7	28	22.4	28	16.6	30.6	22.2	32	21.4
9	33.5	24.5	30	22	31.1	21.1	26.8	19.5	30.8	21.2	29	17.2	30.7	22	31.6	21.5
10	32.5	23.2	29	21	30	20	27.3	17.4	30.4	21.3	28.5	18.1	31.4	21.6	31.1	21.9
11	33.2	22.2	30	22	31	20.1	27.1	18.3	31.8	22.7	27.8	19.2	31.1	22.4	30.1	22.7
12	33.5	23.2	29.7	21.8	33	20.1	27.2	18.9	31.9	21.6	28	17.9	31.2	22.2	33	22.4
13	31.5	24.3	31.1	21.1	31	20	26.6	18.5	30	22.2	27.4	18	30.6	21.5	32.3	22.2
14	32.7	22.2	29.9	22.1	30.1	21.1	26.8	18.3	28.8	22	27.5	18.6	31	22.1	32.2	22.2
15	32	21.7	31.5	20.8	31.1	19	25.9	18.4	30.8	19.7	29.4	16.5	31.3	21.4	32.4	19.7
16	33.5	22.2	30	22.9	29.17	22	24.8	17.2	29.5	22.2	29	17.6	30.3	22.3	29.2	22.9
17	33.5	21.5	30.2	22.6	31.1	21.1	26	18.2	30	23.2	29.4	19.3	31.2	22.6	32.4	20.9
18	32.7	22.5	26	20.8	28	20	26.4	14.1	26.5	20.7	28.3	19.3	31.6	20	28.8	21.4
19	33.5	22.2	30.5	21	31	19.1	25.7	18.7	29.6	22	28.6	18.6	31.2	22.2	31.1	21.8
20	31	23.2	28	23.1	28.1	21.1	24.8	18.5	28.4	22.2	24	18.3	29.8	22	30.9	21.3
21	32.2	22.4	27.5	21.2	26	20	21.3	18.8	26	22.2	24	18.5	29.8	22.2	27.2	22.4
22	32.3	22.2	26.5	21	28.1	20	25.8	19	28	21.2	29.6	14.3	30.5	22.2	32.6	21.4
23	33.2	23.5	29	22.5	29.1	21.1	21.9	19.4	27.7	22.2	25.8	19.3	27.8	22.8	25.8	21.8
24	33.5	22.5	29.5	21.7	31	21	22.8	18.8	27.7?	22.7	28.1	19.6	28.4	23.2	29.6	22
25	32.5	23	29.4	21.6	30.1	20	25.4	17.9	28.3	21.7	27.7	16.7	30.5	23.2	28.8	22.6
26	32.5	21.5	24.6	23	30.1	21.1	24.8	19	26.8	21.7	27	16.5	30.2	22.2	29.9	21.8
27	33.5	22.2	29.5	22.4	29.1	21.1	23.4	17.5	27.8	22.2	25.1	17.7	28.7	23.2	28.9	22.5
28	33.5	22	29.4	21.6	31	19	25.8	17.9	30.4	20.7	29.3	16.7	29.6	21	32.6	21.4
29	34.5	22.2	30	21.4	30.1	19.1	26.4	17.5	29.3	21	29.5	17.5	30.2	20.8	31.9	22.3
30	34	23.5	30	21.6	32	19.1	26.8	15.6	30.4	20.6	29.8	14.2	30.4	19.4	32.6	20.7
31	33.5	21.5	30.8	22.4	32.1	19.1	27.3	17.1	31.3	20.5	29.1	16	31	20	32.4	20.7
Mean	33.1	22.6	28.9	22.1	29.5	20.6	25.6	18	28.6	21.9	27.8	18	30.2	21.9	30.2	21.9

Maximum and minimum temperatures at the stations of the Weather Bureau, January, 1920—Continued.

Day.	Meeth, Yap.		Tagbilaran.		Dalaguete.		Surigao.		Hacienda Naval, Himamaylan.		Biaong Cui's Farm, Barili.		Maasin, Leyte.		Hacienda Tanolo, Hinigaran.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1.	30.4	25.2	30.8	22.9	28.6	23.3	29.2	24.8	30.6	23.6	26.3	21.6	30	23	29.4	23
2.	30.5	23.5	28.1	22.2	28.4	24.5	29.2	23.7	29.8	22.4	26.3	20.8	31	23.2	29.9	22
3.	30.2	24.5	29.5	22.1	29.7	24.2	29.2	23.3	28.4	22.2	26.5	21.4	32	22.4	29.9	23
4.	30.4	24.6	28.1	23.2	28	24.1	27.1	23.5	28.7	23.1	27.3	21.3	30	22.4	29.6	23
5.	30.2	24.8	30.2	22.1	29.1	24	26.2	22.8	31.2	22.4	28.3	23.5	28.5	23.1	29.7	22.1
6.	30.2	24.6	31.4	23	29.6	23.9	29.4	22.9	31.2	22.9	28.5	24	31	22.6	30.6	21.3
7.	30.4	26.2	29.6	22.3	29.1	23.8	26.6	23.9	31.7	21	28.4	21.8	30.6	22.8	30.1	21
8.	29.7	25.4	30.3	22.6	29.1	24.6	29.8	22.6	30.2	23.6	29.3	21.5	31	22.6	31.3	23.5
9.	30	26.4	30.1	21.3	29.6	23.2	30	22.3	32.4	22.5	28.8	22.8	31.5	21.4	31.6	21.8
10.	29.7	26.3	28.9	20.3	28.4	22.4	29	22.4	30.3	18.7	28.6	21.9	31	20.6	30.8	18.8
11.	30.4	24.7	30.3	22.2	30.2	23.5	28.5	22.8	31.1	21.3	30.7	21.2	31.4	23.6	31.6	21.3
12.	30.4	24.5	30.7	23.1	29.3	23.7	30	22.4	30.6	21.4	28.8	22.4	32	23	31.1	21.1
13.	30	23.2	30.5	23.2	30.3	24.5	28.7	23.2	31.5	22.9	28.3	23.2	30.5	22.8	32.1	22
14.	29.9	24	29.2	22.4	29	23.2	29.3	22.4	27.1	22.2	24.5	21.9	30	22.9	27.8	22.6
15.	29.3	25	31	20.5	29.5	23.1	29.9	21.4	31.3	21.5	26.5	20.4	31.5	22	29.7	21.8
16.	29.7	24.4	26.5	21.9	27.8	23.7	26.4	23.1	30.3	21	27.8	21.8	28	22.2	30.5	21.6
17.	29.7	26	30.3	22.5	28.9	23	28.3	22.2	32.7	22.5	26.8	21.6	29.6	22.5	31.7	20.8
18.	29.5	24	31.9	21.9	29.7	23.7	28.3	21.8	31.7	23.2	27.8	22.4	30.6	22	31.4	23.2
19.	28.8	23.5	27.2	21.9	26.8	23.8	28.2	23.6	31.8	21	27.8	21.4	30	22	31.7	21.9
20.	29.3	23.5	26.9	20.1	28.6	22.9	27.8	23.9	29.2	22.5	29.5	22.1	27.2	20.8	29.5	23.4
21.	29.7	25.2	29.4	19.9	28.6	21.3	28.2	23.6	31.6	19	26.8	21.5	28.5	21.8	31.1	20.7
22.	30.3	22.5	26.7	22.9	28.3	22.8	28.4	24	28.7	21.9	23.8	22.6	30	22	30.1	22.4
23.	30.2	24	27.2	22.9	27.7	21.6	25.4	23	27	20.6	25.8	22.2	28.9	22.4	28.3	22.9
24.	29.9	24.2	29.6	22.5	28.5	22.1	27	23.1	30.7	18.8	26.8	21.5	29	21.4	30.1	20.8
25.	29.2	25.6	30.2	22.3	28.7	22.7	27.6	23.3	31.9	19.3	27.5	22.3	30.5	22.2	32.4	20.2
26.	29.2	25.7	31	21.2	28	22	27.8	22.8	31.6	17.5	28.2	22.6	31.5	20.3	32	18.7
27.	29.7	25.5	30.2	20.8	29.9	20.2	25.7	23.3	31.6	16.9	29.4	23.2	31	22	32	17.3
28.	29.8	25.1	30.2	22.8	29.2	23.4	28.8	22.8	28.4	21.5	29.3	23.6	31.8	21.3	30.1	22.1
29.	29.9	24.5	30.3	22.1	29.8	23.5	30.3	23.2	31.6	21.8	28.4	21.5	31.5	22.4	32.3	22.7
30.	30.2	25.6	30.8	22.1	30.3	24.5	29.9	22.1	33.6	20.6	29.8	22.5	32.1	21.6	33.8	20.7
31.	29.7	24.6	32	21.4	29.4	24.5	29.8	22	31.7	20.5	29.8	22.2	31.5	22	32.1	20.6
Mean	29.9	24.7	29.6	22	29	23.3	28.3	23	30.7	21.3	27.8	22.1	30.4	22.1	30.8	21.6

Day.	Cebu.		La Castellana.		Central Azucarera La Carlota.		Hacienda Canlaon, La Castellana.		Mao Sugar Central, Bago.		Valladolid.		Murcia.		Concepcion, Talissay, Occ. Negros.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1.	28.8	23.8	32.1	22.7	30.3	22.7	30.5	21.4	29.5	22.5	29	21.8	28.1	22.3	27	22.6
2.	28.7	24.6	30.4	20.7	30.1	20.9	28.6	19.9	29.6	22.2	28.8	23.6	28.6	21.3	27.5	22
3.	29.8	23.9	32.1	21.3	30.9	21.3	31.7	19.9	30	22.6	29.4	23	29.1	21.9	28	23.5
4.	28.2	24.3	28.7	23	28.3	23.4	27.5	20.5	28	23	28.4	23	26.6	22.8	27.7	23.1
5.	28.8	23.9	30.3	23.3	31	21.9	30.1	20.7	30	22.8	29.6	23.4	29	22.3	27.6	23.8
6.	29	23.4	30.1	23.3	29.8	23.2	29.1	20.6	30.7	22.8	29.2	23	29.5	22.5	27.5	23.2
7.	28.7	23.8	32.2	21.2	30.7	19.9	29.1	21.2	31.3	19	30.8	23.2	30.1	21.6	28.5	20.4
8.	29.6	23.8	32.3	22.9	31.3	22.7	29.6	21.8	31.4	22.5	31.4	23.2	31.6	22.8	29.4	21.6
9.	30.1	23.7	31.9	20.7	32.7	21.2	30.6	19.9	32.5	21.2	31.2	22.3	31.7	22.1	30	21.9
10.	31.4	23.6	32.5	18.7	31.5	18.7	30.5	18.9	31.4	18.2	31.4	19.5	30.5	19.4	30.4	19.6
11.	29.6	24.4	32.3	21.7	30.7	21.6	29.7	20.5	30.5	21.4	32.8	21.8	30.7	21.8	30.1	19.7
12.	30.8	24.3	33.1	20.5	31.9	21	30.5	20.2	32.2	20.7	33.8	21.4	32.1	21.2	30.2	21.6
13.	31.5	23.8	31.6	21.7	31.7	21.7	30.2	20.9	32.5	21.5	32	21.6	31.2	22.1	31	22.5
14.	29.3	23.7	29.2	23.1	28.7	22.2	28	21.4	29	22.2	28.5	22.6	27.7	22.3	30.3	22
15.	28.4	23.9	30.5	21.7	29.3	21.7	29.2	20.8	30.8	21.6	30.1	21.8	28.6	21.7	30	21.4
16.	27.3	23.6	31.1	20.2	32	20	29.6	19.7	31.2	20.5	31.4	22.8	29.6	21.4	27.5	22.4
17.	29.7	24.2	31.8	22.7	31.4	21.8	30.1	21.4	30.5	21.8	30.4	22	29.4	21.6	28.2	22.4
18.	29.3	23.4	31.7	22.2	32.8	22.6	31.2	20.9	31.5	23	31.8	23.5	29.8	21.8	27	23.2
19.	26.7	23.4	31.8	20.7	31.6	21.9	30.7	19.7	31.8	23.1	30	23	29.7	23.1	28.7	22.4
20.	28.3	24	29.6	21.8	28.7	23	28.7	20.9	29.2	21	23.6	23.6	28.6	22.4	27.8	22.8
21.	29.4	22.9	32.1	17.7	30.6	18.5	30	17.7	30	22.4	30	22.4	29.2	21.3	26.5	21.9
22.	27	23.7	29.9	19.5	29.8	19.2	31	19.3	30.2	22.5	29.8	23.4	27.5	22.5	28	22.2
23.	27.9	24.1	27.6	21.2	27.8	23.4	26.3	20.7	28.8	22.5	28	22.8	26.6	22.3	25.5	22.5
24.	29.3	23.9	29.9	18.4	30.3	19.5	29	18.4	30	20	29.8	22.6	28.6	21.4	26.5	21.9
25.	28.8	23.9	31.2	18.4	31.3	18.5	30	18.8	31.2	18.2	30.9	23	29.8	21.1	27.8	21.9
26.	28.7	23.4	31.6	18	31.2	17.7	29.5	18.4	31.7	17	30.7	19.6	29.9	18.3	28.6	20.6
27.	30.4	22.8	31.5	16.2	31.1	16.2	29.2	18.2	31.5	15.8	30.4	17.4	29.6	17.5	28.7	19.8
28.	29.5	23.9	30	18.9	29.6	20	29.9	18.4	29.3	19.9	30.2	23	28.6	21.8	28.8	22.4
29.	30	23.5	31.7	19.9	31.8	22.9	30.7	19.6	32.5	20.3	34.6	23	31.2	20.3	29	21.8
30.	30.1	24.7	33.1	20.1	32.8	21	31.6	20.2	32.7	20.3	32.6	21.2	35.6	20.3	30.5	22.4
31.	30.3	23.6	32	20	31.8	20.6	30.5	19.8	30.9	20	31.6	20.9	31.5	20.3	33	21.6
Mean	29.2	23.8	31.2	20.8	30.8	21	29.8	20	30.7	21	30.6	22.2	29.7	21.5	28.6	22

Maximum and minimum temperatures at the stations of the Weather Bureau, January, 1920—Continued.

Day.	Iloilo.		San Jose de Buenavista.		Silay.		Cuyo.		Hacienda Ila-ya, Victorias.		Hacienda Bilibao, Manapla.		Ormoc.		Guiuan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	28	22.5	31.5	23.8	27.4	23	27.9	24.7	28.8	22.8	28.5	21.6	28.6	22.4	30.2	23.2
2	29.7	23.2	32.8	21.4	27.8	23.2	28.5	24.6	28.5	23.7	28.9	21.9	28.9	23.8	31	24.6
3	29.3	23.5	33.5	20.1	27.9	23.6	29.4	25.2	29.5	23	28.7	22.7	31.9	23	31.4	24.7
4	28	23.3	30.3	22.8	27.6	22.7	28.2	25.4	29.5	23.5	29.6	22.4	31.9	23.6	32.1	24
5	29.5	24	33.6	23	28.2	23.2	29.4	25.4	28.8	23.8	30.3	21.9	30.7	23.8	29.7	24
6	29	23.5	30.6	23.7	27.6?	21.8	29.4	25.4	29	22.5	30.9	22.8	30.6	23.6	31.6	24
7	30.1	23.5	30.8		29.3	22.4	29.5	25.3	28.5	23.3	30.4	22.3	31.2	21.6	31	25.2
8	29.7	23.7	31	22.9	29.1	22.8	29.6	25.9	28.7	23	31.5	21.9	32	22	31.4	24.1
9	29.8	23.3	30.6	20.7	29.2	22.1	30	24.8	29	22	31.8	22.9	32.2	19.9	30.9	22.3
10	30.3	22.3	30.7	19.9	29.2	21.1	30.5	25.2	29.2?	22	31.4	23.1	32.2	19.2	31.4	21.3
11	29.9	23.5	32.1	21.2	30.1	22.2	28.9	24.3	29.5	23	31.7	22.7	31	19.7	31.5	22.3
12	30.8	23.2	31.8	22.8	31	22.3	32.2	25	30.7	21.5	31.6	22.5	32.6	21.4	30.5	23
13	30.3	22.9	31.6	21.9	30	21.7	29.7	25.8	31	22.5	30.9	22.8	32.7	21.7	32	22.5
14	28	22.1	30.9	22.8	26.5	21.5	27.4	24.9	30.3	22.5	31.6	22.7	30.7	22.2	30.5	24.1
15	28.3	22.1	30.6	23.2	28	21.4	27.8	24.4	29	22.5	30.5	21.9	30	22.6	30.5	23.2
16	29.1	22.5	31.6	21.1	29	22.3	29.2	24.7	28	21.5	29.9	21.8	29.2	21.8	28	23.8
17	29	23	31.3	22.5	27.2	21.6	28.9	25.3	29	23	31.4	22.2	29.4	22	30.4	22.1
18	29.4	23.3	33	21.6	27.8	22.1	30	25.1	28	22.5	30.3	21.9	30.9	22.4	32	23.2
19	29.5	22.9	33.3	21.2	28	22.7	28.8	24.9	28.5	22.8	29.3	21.3	30.2	22.9	28.2	23.9
20	29.2	23.7	32.2	21.9	27.8	22.8	28.1	24.4	28?	23.5	29.9	21.9	29.4	22.9	28.5	22.9
21	29.3	22.2	30.7	19.4	29.4	20.2	28	24.5	27.5	23.7	30.7	22.7	30.9	20.4	28	22.5
22	26.3	22.7	30.6	19.3	27	22.6	28.2	24.5	28	22	28.9	21.9	28.9	22.4	29.2	22.5
23	27.6	22.8	30.3	20.7	26.3?	22.5	28.4	24.8	28.5	22.5	28.6	21.6	30.2	23.3	28.1	22.8
24	28.8	21.8	31.7	19.8	27.8	22.2	27.9	24.2	28	23.8	30.7	22.6	29.9	21.4	29.9	23.8
25	28.4	22	31.7	19.6	29	21.4	28.7	24.4	28.5	23.7?	29.9	22.2	31.8	20.4	30.5	23.3
26	29.1	21.4	32.4	18.9	28.6	19.5	29.5	25.2	29.5	22.3	31.6	21.9	32.6	20.6	29.9	23.3
27	28.1	21.3	31.2	17.9		22.6	29.1	24.3	29.2	23?	31.7	21.6	32	19	28.6	23.7
28	29.8	22.2	33.6	20.4	29	21.7	29.5	24	29	20.5	30.6	21.8	32	19.5	31.5	22.2
29	31.5	23	31.2	20.2		23.4	29.7	24.8	30	22.3	30.4	20.6	32.5	20.9	31.5	22.4
30	30.8	23.1	31.3	21.6	30.6	23.1	30.1	24.3	29.5	23.5	29.6	21.2	32.2	20.9	31.9	21.9
31	29.6	23.2	32.2	20.6	31	22.5	30.2	24.1	29.3	22.8	29.4	20.9	32.8	21	32	22.5
Mean	29.2	22.8	31.6	21.2	28.5	22.2	29.2	24.8	29	22.7	30.4	22.1	31	21.7	30.4	23.2

Day.	Bogo.		Tacloban.		Capiz.		Borongan.		Catbalogan.		Calbayog.		Masbate.		Romblon.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	27.8	23.9	26.5	22.9	29.9	23.8	25.6	24.7	28.4	22	29	21.9	28.8	22.4	28.5	23.1
2	29.7	23.5	28.2	23	29.3	23.5	30	24.8	27.6	21.5	28.5	21.9	27.2	22.4	29.1	23
3	28.8	23.6	31	23.2	30.9	24.5	30.3	23.5	28.8	22	29	22.3	28.6	24.2	30.5	24
4	29	24.3	30	23.5	29.2	23.9	29.6	25.3	29.4	23	29.4	22.5	28	22	27.9	24
5	28.4	24.9	27.2	23.5	29.8	23	30.2	24.4	30.1	22.2	29.2	22.3	28	23.2	29.5	23.7
6	29.7	25.1	30	22.9	31.3	24.5	30.6	24.8	31	22.5	30.2	22	29.4	22.8	29.9	23
7	29.1?	23.9	30.2	22.4	31.3	22.9	31	23.8	31	21.1	30.1	20.7	29.6	23	30	23.2
8	31.1	25.1	29.1	22.8	31.2	24.1	30.6	23.2	30.3	22	29.6	22.1	29	23.2	30.4	23
9	31	24.6	31.5	22	31	24	30.4	21.5	30.8	20.6	29.3	21.3	29.8	23.6	30	22.7
10	30.9	25.4	30.9	21.9	31.3	22.5	30.6	21.2	29.7	20	29.8	20.3	29.2	22.6	30.4	23.2
11	30.3	23.3	30.1	23.5	31.3	25.5	30.1	23	30.1	23.5	29.5	23.2	28.6	24.2	30	22.2
12	30.1	23.8	31	23.5	31.4	24.4	30.2	22.7	31	21.6	29.4	21.8	29.8	24	30.5	22.8
13	30.8	23.8	31.8	23.5	30.3	23.5	30.6	21.7	30.8	21.8	29.7	22.7	27.6	24.6	30.7	22.6
14	30.7	23.3	26	22.5	28.7	22.6	26.8	23.6	25.6	22.6	24.4	21.9	25.4	23	28.3	22.9
15	25.9	23.3	27	22	29	22.5	29	23.1	28	21.9	28.7	21.9	27.2	21.8	27.9	21.7
16	26	23.1	25.1	22	30.8	23.1	27	23.7	27	20.6	28.6	21.8	29	21.8	29.8	22.6
17	26.3		26.8	21.5	29.3	23.5	26.7	23.6	25.3	22.6	24.4	22.8	26.6	22.6	27	22.7
18	29.6	23.6	29	22.2	28.3	23.9	28.1	22.3	26.8	22.6	26.7	22.1	26.2	21.6	27.4	23.7
19	29.2	24.2	27	23	30.8	24.1	28.6	24.6	28.8	22.4	29.6	21.7	29	23.4	29.1	24
20	29	24.7	26.1	22.5	30.3	24.1	27.1	23	29	20.4	29.1	20.7	28.6	23.2	30	23.1
21	28.1?	22.3	28.8	21.8	30.3	23.4	29.4	21	30.1	18.6	28.5	19.2	28.4	23	30	22.4
22	29.7	24.7	27	22.4	28.3	24.2	28.4	22.8	29.7	22.9	29.4	22.9	27.6	24.5	30.8	22.2
23	28.3	24.4	26.5	23.2	29.3	23.8	26.9	23.2	28.5	22.9	27.5	22.2	27.6	23.6	29.4	23
24	29	23.3	27.6	22.5	30.3	22	28.4	22.4	29	20.7	28.3	21.5	28.6	22.2		20.1
25	28.9	23.2?	29.6	22.5	30.8	21.5	29	22.1	28.9	20.5	29.6	19.7	29.2	22		22.2
26	30	23.9	30.9	21.5	30.4	22.5	29.5	20.5	29.4	18	29.4	18.3	28.6	21.4		21.4
27	30.1	20.8	29	20.5	30	21.5	29.5	20.3	28.7	17.1	29.3	18.8	28.8	22.6		21.5
28	30.3	24.7	31	22.4	30.3	23.3	29.8	22.5	28.4	22.7	28.6	22.6	26.6	23.6		20.9
29	31	24.3	30.7	22.5	31.3	24.1	30	22.8	29.2	21.2	29.4	21.5	28.2	24		20.6
30	31.4	23.7	31	22.5	31.4	24.4	30.6	22.1	31.3	21.3	29.8	21.3	30	23.8		
31	31.7	24.7	31.4	22.5	31.4	23.1	30.3	22	29.9	21.9	29.6	21.8	29.6	23.6		
Mean	29.4	23.9	29	22.5	30.3	23.5	29.3	22.9	29.1	21.4	28.8	21.5	28.3	23	29.4	22.6

Maximum and minimum temperatures at the stations of the Weather Bureau, January, 1920—Continued.

Day.	Batag Light-house, Laoang.		Sorsogon.		Legaspi, Albay.		Sumay, Guam.		Calapan.		Virac.		Naga, Camarines Sur.		Tigaon.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	29.9	22	28.2	23.2	28.8	23.5	27.8	24.8	28.8	22	29	22	29.1	21.4	28.8	19.3
2	29.9	23.5	28.2	23.2	30.5	24.2	28.4	24.8	27	22.2	29.9	23	29.9	23.1	30.1	21.8
3	29	23.2	30.1	23.3	29.8	25.1	28.4	24.8	30.6	22.1	30	22.9	30.4	22.7	29.6	19.9
4	27.2	23.1	27.4	22.1	27.2	23.1	28.8	24.6	27.5	22.5	30.4	23.1	26.4	23	28.9	21.5
5	28.4	22.8	27	22.5	28	23.3	29	24.6	27.5	22.5	30	22.3	30	22.1	28.9	20.3
6	30.5	22.4	29.5	22.7	28.6	23.1	28.6	24.8	29.1	22.6	29	23	31.7	22.6	29.3	21
7	29.9	23.4	30	22.9	30	23	29	24.8	30	22.4	30.3	22.1	31.4	21.9	29.8	19.1
8	29.6	23.5	28.9	22.1	29.1	24.6	29.4	26	30.5	21.5	30.5	21.5	29.5	20.3	29.9	17.9
9	30	22.5	30.8	22.3	30.8	22.9	29	24	30	22.4	29.9	22.1	29.7	20.5	29.8	18.8
10	29.9	22.5	30.5	20.5	31.2	21.4	29.2	24.6	30	22.6	32.6	20.5	31.2	20	30.3	18
11	29	22.6	30.2	23.2	29.3	23.6	29.4	24.6	31.57	20.5	29.4	22	29	21.2	29.1	19.6
12	30	22.4	30.4	23.5	30.8	23.2	28.8	24.4	30.17	21.5	31.1	22.6	32	23.1	30.1	21.7
13	30	22.4	27.7	22.5	26.5	22.5	29.2	24.2	29.5	21	26.5	22.5	26.8	23.2	29.2	21.2
14	25	21.5	25.7	21.4	25	22.1	29.2	24.4	26	20.6	26.7	20	26.9	20.7	28.5	19.4
15	27.5	22	27.5	21.4	27.1	22.3	29	22.4	28.1	20.5	27.8	21.2	28	21.4	28.3	19.6
16	22	22	29.2	22	28.5	22.6	29	24.6	29	23	29	22.3	30.1	20.9	29	20.3
17	28	23.9	26.9	22.3	27	22.5	28	24.6	30.2	22.5	28	22.2	25.5	20.5	28.2	20.8
18	27	22.3	27.3	23	28.4	23.6	27.6	24.6	29	22.5	27.4	22	29.4	21.5	27.6	21.2
19	28	23.2	28.5	22.3	28.4	23.3	28.2	24	31	22.4	29.6	22	29	22.5	28.1	20.9
20	28.6	23.8	28.5	22.7	29.6	24.1	29	24.6	29.5	21.6	29.3	20.5	29.5	21.3	28.97	19.9
21	28.6	23.5	29.5	22.2	28.9	24	29.4	24	29.6	19.5	28.8	19.8	29.3	20.2	28.8	17.8
22	28.5	24	28.7	22	29	24	29.6	23	30	20.6	29.4	21.4	29.5	21	28.2	18.9
23	27.3	23.8	27.9	22	29	23.6	29.6	24.2	31	21.5	29	20	29.5	21.6	27.7	19.9
24	28	22.6	27.9	20.7	28.9	22.2	29.8	22.2	29.5	21	28.9	21.2	29.5	16.9	27.5	16.2
25	28.9	22.8	29.5	21.5	29.6	22.6	30	21	29.5	21	29	19.5	30.5	17	28.8	16.6
26	28.9	22.5	29	21.5	29.1	23.1	30.4	23.4	30	22.5	27	20.6	30.8	18.2	28.7	17.7
27	29.6	22.4	29.3	21.9	29.6	23.1	30	23.8	30	22	29.5	18.1	30.5	17.2	29.17	16.2
28	27.5	22.5	26.4	23.4	28.4	23.9	30	23.6	30	21.5	29.9	21.8	30	18.5	30.7	19
29	28.5	22.5	29.5	22.4	30.4	24	30	24	30	23.4	30.9	21	30.8	21.4	31.3	20.5
30	29	22.8	28.7	23.1	29.3	23.7	29.6	23.6	30.2	21	28.4	21.5	29.4	20.7	30.9	20.5
31	28	22.5	29.5	21.1	30.2	23.6	29	25.4			29.7	19.3	32.7	18.6	30.8	16.3
Mean	28.7	22.8	28.7	22.3	28.9	23.3	29.1	24.1	29.5	21.7	29.3	21.4	29.6	20.8	29.2	19.4

Day.	Batangas.		Lucena.		Atimonan.		Nasugbu.		Ambulong, Tanauan, Batangas.		Mendez Nunez.		Alfonso.		Indang.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	31.2	18.2	27	20.1	25.8	21.5	31	21.1	29.3	21.5	22.6	16.5	25.5	18.1	26.1	18
2	28.8	21.6	27.3	21.6	25.8	23.7	29.6	19.4	29.3	21.7	22.5	15.5	25	16.7	26.8	17.2
3	32	21.5	28	22.3	27.6	24	32	19.2	31.2	24	25	16	26.5	20.5	27.8	20.5
4	29.9	22.4	26.4	22.5	25.9	22.8	30.1		28.3	23.5	24.3	18.9	25.9	18.8	27	20.5
5	28.8	21.6	24.5	21.6	24.8	22.8	30.1	21	27.7	23.5	22.3	18.4	24.5	20	25.7	20.4
6	31.3	22.9	28	21.6	27.1	23	33	23.4	29.8	23	24.7	18.9	26.1	20.4	27.6	20.7
7	31.3	21.8	28.3	22.5	28.3	24	30.1	23.4	28.7	23.2	26	15.9	28	21	28.4	20.3
8	32.4	20.3	29	20.7	28.4	24.6	31.5	20.5	31.8	22	26.2	18.4	28	19.5	28.5	18.8
9	31.8	20	27.1	21.7	26.7	23	29.5	21.5	30.2	22.3	25.4	17.4	26.4	19.7	26.9	19.7
10	32.4	21.4	28.6	21.9	28.1	22.4	30.1	21	31.7	22.6		19.3	28	20.7	28.8	20.5
11	30.1	19.6	29.3	20.2	28.1	24.2	30.7	22.4	33.2	21	28.3	18.4	29.1	19.4	30.7	19.7
12	31.6	21.8	29.6	21.4	30.1	24	31.6	22.7	30.9	23.5	27.2	17.9	27	20.1	28.5	20.4
13	29.4	22.2	26.7	22.1	26.5	23.6	31.3	23.1	28.2	22.8	24.3	16.4	26	20	26.4	20.4
14	28.9	21.1	25.1	20.6	25.2	22.2	31.5	22.7	27.5	22.2	22.2	16.9	24	18.6	24.8	19
15	27.5	21.2	26	21.4	24.7	21.9	31.1	23.4	27.7	22.2	23.2	16.8	24.5	18.7	25.5	19.4
16	29.5	21.2	27	20.7	26.6	22	30.5	23	28.8	22.7	23.3	17.9	25.6	19.6	26.5	20.2
17	31.5	20.8	29	21.4	29.6	23.6	31.5	22.5	28.2	22.8	23.4	18.9	25.1	20.2	26.1	20.4
18	30.1	22.3	28	22	26.4	21.2	30.5	21.5	27.3	22.8	23.2	18.9	25.5	20.1	26.2	20.3
19	30.6	22	27.4	21	26.4	21.8	30.5	22.6	28	22.3	23	18.7	24.7	19.7	25.8	20.2
20	31.3	19.7	27.5	20.6	26.7	23.9	32.6	21.5	29.8	21.2	24.5	19.97	26.5	19.2	27.2	18.7
21	30.3	18.1	27	19.7	26.8	23.7	31.1	21.3	29.8	21.2	24	17.4	25.1	19.3	26.7	19.5
22	31.2	17.9	28	19.5	26.7	24	32.1	20.5	30.4	20.9	24.7	16.6	26.5	18.5	27.4	17.8
23	31.2	17.6	27.1	20.6	26.4	23.8	31	19.7	30.2	20.8	23.2	17.2	26	18.1	26.7	16.9
24	31.1	17.7	27.5	18	27.2	20.1	32.1	21.2	30.5	20.8	25.4	16.2	26.7	17.4	27.5	17.1
25	31.1	19.6	27.7	19.9	28	23.2	32.6	21.4	29.5	21	25.5	15.7	27	18.5	27.7	18.4
26	30.5	18.3	27.6	19.9	27.3	21.9	32.3	20.2	28.2	21	24.2	15.9	25.5	19.1	26.5	18.6
27	31.2	19.7	27.6	19	27.2	19.6	33.3	20.1	30.2	22	24.8	14.9	26.7	19.1	27.4	19.4
28	32	18.8	29	19.4	28.2	24	33.2	21	32.3	19.6	27.2	15.8	29	18.2	28.8	18.2
29	33	19.4	29.7	21.9	28.5	23.6	31	21.4	32	19.9	28.2	14.5	29.8	18.8	30.9	19.7
30	32.5	19.9	29	21	27.8	23.8	30.1	21.5	33.7	20.5	26.8	14.7	29.8	17.6	29.5	19.5
31	32	20.2	29.4	21.5	29	22	31.5	22	31	21.2	28.5	16.2	29.5	20.6	30.1	20.9
Mean	30.9	20.3	27.7	20.9	27.2	22.9	31.3	21.5	29.9	21.9	24.8	17.1	26.6	19.2	27.4	19.4

Maximum and minimum temperatures at the stations of the Weather Bureau, January, 1920—Continued.

Day.	Canluban, Calamba.		Maragondon.		Paracale.		Santa Cruz, Laguna.		Manila.		Antipolo.		San Isidro, Nueva Ecija.		Iba.	
	Maxi-mum.	Mini-mum.	maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	28.2	19.8	27	17.7	26.5	22.3	27.5	20.5	28.6	18.4	30.3	17.5	29.2	16.4	29.6	21.2
2	29	18.9	27.9	17.3	27.2	23.5	28.3	19.8	29	18.6	29.9	17.9	31.2	17	29	18.4
3	29.4	21.2	28.8	21.4	29.4	23.4	28.9	23.2	29.7	22	30	20.7	31.4	22	31.5	22.2
4	29.6	21.4	29.7	21.1	26.3	22.8	27.2	23.3	31.1	22.6	31.2	20.5	32.2	20.4	30.2	20.1
5	29.5	21.1	27	22.2	26.8	22.7	26.4	22.4	27.7	21.8	29.2	20.7	29.6	21.2	29.1	21.2
6	29.8	22.1	27.6	22.5	29.1	23.3	28.8	22.8	29.5	21.6	29.2	20.8	29.1	19	30.2	20.4
7	29.7	22.2	28.4	21.2	29.2	23	29.3	22.9	29.6	21.3	29	20.8	32	21	30.5	22.4
8	30.8	19.4	31	20.5	29.7	22.5	30.8	20	31.6	20.5	30.2	18.7	30.5	21.8	30.3	21
9	29.2	20.2	28.4	20.3	28.9	23	29	21	30	22.3	28.5	20.6	30.6	21	30.1	21.1
10	31	21.8	29.5	19.7	29.4	22.1	30.3	21.7	30	22.4	30	20.8	30.4	20.4	30.8	21
11	31.9	21.2	30.2	19.7	28.4	22.9	31.6	22.3	30.9	21.6	31.7	20	32.4	20.6	30.2	21.1
12	32	21.3	29.6	22.8	28.5	23.4	32.2	22.3	30.9	23.9	31.8	21.7	31.2	23	29	20.6
13	29.8	21.4	29.2	21.7	26.2	22.5	26.9	23.8	29.1	20.9	30	21	30.1	21	29.4	18.9
14	29.2	19.5	27.7	20.4	24.8	22.4	26.9	21.8	29.5	20.5	28.2	20.8	30.5	18.4	31.1	21.6
15	28.2	21	26.4	20.7	25.7	22.1	26.6	22.1	27.5	20.5	29.1	19.7	28.2	18.4	30.9	21.7
16	29	21	28.1	20.1	28.4	22.5	28.1	21.4	28.6	20.9	29.5	19.3	29.2	18.9	30.2	20.9
17	29.2	21.2	29.4	20	27.5	22.8	28.9	22	30.6	21.5	30	20.3	30	21.2	30	20.9
18	29	21.1	29.5	22.1	27.8	22.9	27.6	22.4	31.1	22.4	29.5	20.9	30.2	21.5	29.9	21.8
19	28	21.2	29.8	21.2	28.4	22.9	27.9	22.4	28.5	20.7	30.2	19.2	30.4	18.6	33	20.3
20	29	19	30	18.2	28.6	24.2	29.5	21.1	29.6	19.8	30.9	19.2	30.6	18	29.8	19.8
21	30	19.6	29	18.6	28.5	24.1	28.2	21.5	29.6	19.8	31	19.3	31.1	19.5	29.9	19.3
22	30.1	21	29.9	17.1	29.1	24.1	29.1	21.3	29.4	18.7	30.5	17.9	29.1	17.6	30	17.5
23	29.2	20	29.7	16.2	29.2	23.3	28.1	21.3	29	19.3	30	18.5	28.9	16	32.1	21
24	30	18.6	28.4	15.6	29	22	28.8	17.4	29.1	16.8	30.4	16.8	31	16	30.8	21.1
25	30	18.8	30.4	18.6	29	22.3	29.4	20.5	29.7	17.9	31.2	17.3	30.4	16.6	29.9	16.4
26	29.9	18.6	29.6	19.1	28.8	21.5	29.7	20.6	29.2	18.9	29.9	18	29	16.6	29.2	17
27	30.2	19.7	30.5	17.2	29.6	21.4	29.1	22	29.4	18.3	30.5	18	28.8	18.1	29.6	17.9
28	31	17.8	29.4	17.3	30.2	20.9	30.2	18.5	31	16.8	31.8	16.3	32.2	15.6	30.2	17
29	32.8	20.4	30.6	19.9	30.1	21.4	31.5	20.8	32.3	19.2	32.5	18.7	32.3	19.4	30	18
30	32.7	19.2	30.8	19.5	28	22	31.1	20.6	32	20	35	19	32.5	19.6	30.1	18.6
31	32.5	21	30.4	22.7	29.8	21.7	31.4	22.7	31.8	21.7	32.3	20.6	32.6	19.4	30.1	18.1
Mean	30	20.3	29.2	19.8	28.3	22.6	29	21.5	29.9	20.4	30.4	19.4	30.5	19.2	30.2	20

Day.	Tarlac.		Baler.		Dagupan.		Bolinao.		Baguio.		San Fernando, La Union.		Echagüe.		Candon.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.8	15.8	28.6	17.7	30.5	19.5	30.3	18	24	11.1	29.6	19	26.4	17.4	29	20.5
2	34	16.2	29	19.4	29.8	18.9	30.6	19	24.1	13.5	30.1	18.8	29.3	18.5	29	20.6
3	34.5	18.2	28.5	22.7	29.9	22.4	30	24.8	24.2	14.5	30.6	20.6	25.5	20.8	30.5	21.5
4	32.4	18.8	29.4	21.9	33.3	21.5	29.5	24.7	22.6	13.6	31.7	21.3	25.6	19.5	32	24
5	33.5	20.4	28.5	22	29.6	21	29.5	21	22.3	12.5	29.4	20.8	24.9	18.2	30.5	22.5
6	33.5	18.4	27.4	21.5	31.1	21	30.2	22	25.1	14.4	30.8	20.9	26.4	18.6	29.5	23
7	34.2	19.4	29.2	22	30.1	22.5	29	23.4	22.7	15.7	30.7	23	28.5	21.2	31.6	24.4
8	33.5	18.2	29.5	21.5	31.6	23.1	29.5	22.4	23.1	13.9	30.9	23.1	26.4	21.5	30	24
9	32.4	18.8	29.8	20.9	30.4	21.2	29.5	22.4	23.1	13.9	30.9	23.1	25.4	18.9	30	23.2
10	32.4	19.2	28.9	21.8	31.1	21.4	31.7	21.1	23.1	14.1	31.3	21.1	26.2	19.6	29	22.2
11	34.5	19.2	30.2	20.9	30.9	22	29.9	22.4	22.5	14.7	30.7	21.2	30.6	21.4	30.6	22.4
12	30.6	19	31.1	20.9	28.1	24.2	26.1	23.8	22.5	14.8	27.2	24.2	29.4	22.3	28.5	24.5
13	31.6	19.6	27.7	20.5	28.7	21.1	28.5	23.8	23	11.6	30.1	20.9	21.8	18.6	31	19.5
14	30.8	18	28.3	18.7	31	19.9	31.6	21	21.6	10.6	29.4	18.3	21.4	17.6	29.1	20
15	29	17	29.2	19.4	29.1	20.6	29	22.1	19.6	12.5	28.5	20.1	22.8	17.8	28.6	22
16	32.8	18.4	29.8	20	31	21.1	29.4	22.4	23.5	13	30.1	21.7	24.4	18.2	29.6	22.4
17	33.1	19	27.6	21.3	32.3	20.2	32	21.3	22.4	13.7	29.8	20	26.2	19.2	30	21.8
18	31.6	21.4	27.9	21.5	33.6	22	32.2	21.3	23.3	13.8	30.8	20.6	27.5	20.2	29.2	21.4
19	32	19	28.4	20.3	33	20.8	31.9	22.2	22.9	12.6	30	20.6	28.7	19.1	30	21.5
20	32.4	18.5	28.2	21.1	31.3	20	29.3	20.4	22.1	12.9	30	19.4	28.6	19.5	29.5	22
21	34	20.2	29.1	20.6	30	20.4	29.8	22.7	20.7	12	29.5	20.5	28.3	19.2	29.2	20.9
22	32.5	16.8	28.6	20.9	32	18.5	30	19.4	22.1	11.2	29.3	18.5	26.6	18.6	29	20.2
23	31.5	16	29.3	19.4	32.4	19.5	31.8	20.7	21.5	11.1	30.3	19.3	27.1	17.6	30.5	20.5
24	33	15.4	28.4	19.5	32.3	19.5	31.2	21.3	20.5	10.7	29.8	18	28.9	15.6	29	20.1
25	33	16.4	29.8	19.6	31.3	19.8	31	19.2	21.2	10.9	29.2	17.6	28.1	18.6	29.5	20
26	32.2	16.8	28.9	20.8	32.6	18.8	31.4	19	22.3	12	29.2	19.2	28.1	19.2	29.5	20.5
27	33	16.4	30.5	20.9	31	19.9	30.7	21.5	21.1	11.6	29.5	18.8	29.9	19.5	29.2	21.5
28	33.4	15.4	28.5	18	32.2	17.5	30.5	20.6	24.2	12.5	29.7	17.7	31.2	15.5	29.5	20.9
29	34.6	16.8	29.3	20.2	33.9	19.6	31.4	21	23.9	13.3	29.8	18.6	30.6	19.8	29.5	19.1
30	35	19.2	29.1	21.4	30.4	20.7	29.5	20.4	23.6	13.5	30.5	18.7	30.8	19.6	29.5	19.5
31	34.8	18.8	29.6	21.1	38.7	20.5	32	20.8	23	12.4	30.4	19.6	32.1	17.2	30.5	20.5
Mean	32.8	18.1	29	20.6	31.2	20.6	30.3	21.6	22.6	12.9	30	20.1	27.3	19	29.7	21.5

Maximum and minimum temperatures at the stations of the Weather Bureau, January, 1920—Continued.

Day.	Vigan.		Tuguegarao.		Laoag.		Aparri.		Cape Bojeador.		Basco.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	28.5	20.6	26.6	17.4	29.9	16.2	26	17.6	25.5	17.3	26.9	18
2	30	19.8	28.8	19.3	30.9	17.8	26.5	19	28.6	20.6	26.6	20.1
3	33.2	19.9	26.1	20.6	32.6	17.2	24.8	20.1	27	22	22.1	19.7
4	30.8	21.5	24.5	19.5	29.4	22.5	22.2	18.7	21.6		20.3	16.5
5	31.1	22	25.5	18.4	31.2	22.2	22.5	18.1	23.3		20	16
6	30.8	22.8	24.8	19	33.8	18.7	25	18.6	23.8		21.5	17.3
7	28.9	22.5	29.4	21	30.6	20.7	28.5	20.8	22.7		23.3	19.1
8	29.8	22	24	19.6	29.4	22.4	22.9	19	23.8		19.5	16.6
9	29.4	21	25.2	19.3	31	21.2	22	19	21.4		20.4	17
10	31.6	22	26.4	20	34.1	18.3	24.2	19.8	24.1		22.3	18.5
11	30.8	21.4	30.2	21.5	32.2	21.6	27.2	22	24.5	21.2	23.1	20.4
12	26.6	20.6	26	20.6	25.7	21.6	23.5	20.5	22.9	20	23.7	20.7
13	30.9	19.4	23.4	18.5	28.9	17	22.1	19.2	24		21.4	15.9
14	30	21.5	22.8	17.3	30	16.2	23.8	18	23.2		19.6	16
15	27.7	22.4	22.2	18	28.7	21	22.7	18	20.6		20.2	15.8
16	30.4	21	24.4	18.8	32.4	20.4	22.8	18.5	22.8		33	17.4
17	30.5	21.4	28.9	19.8	32.3	18	26.3	18.8	26.7	20.3	22.4	18.5
18	31.7	20.5	25	20.3	32.5	18	24.8	19.9	25.5	21.4	25.1	19
19	31.8	22.5	28.4	19.4	32.6	18.3	27	19	28.1	21	26	20
20	29.5	20.9	29.6	19.1	31	18.9	27.8	19	26.5	28.3	23.6	19.4
21	29.2	18.6	25.5	17.3	29.5	19.7	22.7	18.6	22.7	19.1	22.1	17
22	29.6	18.8	24.4	18.8	31.5	16.3	24	19.8	23.6		23.4	16
23	30	20.9	27	17.2	31.2	17.4	26	17.2	26.7	18.4	24	17.9
24	29.5	20.2	28.7	15.9	30.2	16.6	26.7	17	26.7	19.2	25.3	17
25	30.4	21	28	18.4	31	16.2	25.5	18.6	25.3	19.5	25.4	17.2
26	30.6	21.1	28	18.8	31	17.6	27	18	27.2	19.6	27	19.5
27	30.6	21	31.2	18.4	31.7	17.6	28.7	17.8	29.1	21.2	27.3	21.6
28	30.2	20.9	31.7	16	31.3	17.6	30.6	17.1	28.8	22.8	29.1	22.6
29	31	19.1	31.8	17.4	31.3	17	30	19.3	26.2	21	27	19
30	29.4	19.2	31.2	18.5	31.7	17.4	30.8	20.3	28.3	20.5	29.4	16.9
31	30.6	19.6	31.8	18	31.5	18.3	31.7	19	28.8	22.4	28.6	20.6
Mean	30.2	20.8	27.1	18.8	31	18.7	25.7	18.9	25.2	20.6	23.8	18.3

SEISMOLOGICAL BULLETIN FOR JANUARY, 1920.

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EARTHQUAKES FELT IN THE PHILIPPINES.¹

3, 12^h 26^m 00^{s*} [3, 20^h 26^m 00^s]. **SE Luzon, Samar and Masbate.** Earthquake of intensity IV-V, long duration. Its epicenter apparently lay in the San Bernardino Strait: it shook the provinces of Albay, Sorsogon and the islands of Masbate and Samar.

4, 0^h 18^m [4, 8^h 18^m]. **Victoria (Occidental Negros).** Oscillatory earthquake, intensity III, duration 3 seconds.

4, 9^h 30^m [4, 19^h 09^m]. **Guam (Mariana Islands).** Earthquake of intensity IV.

6, 4^h 31^m [6, 12^h 31^m]. **Butuan (N Mindanao).** Oscillatory earthquake, direction NW-SE, intensity III.

8, 9^h 14^m [8, 17^h 14^m]. **Irosin (SE Luzon).** Earthquake shocks of intensity IV, long duration. Apparently originated in the Bulusan Volcano, in eruption at intervals since 1918.

9, 11^h 15^m [9, 20^h 17^m]. **Yap (Western Carolines).** Earthquake of intensity III. It repeated eighteen minutes later with intensity IV.

9, 17^h 05^m [10, 1^h 05^m]. **Camp Keithley (N Mindanao).** Earthquake shock of intensity III. Registered at Butuan.

11, 2^h 30^m [11, 10^h 30^m]. **Bilbao (Occidental Negros).** Earthquake of intensity III, long duration. Recorded at Butuan.

12, 2^h 55^m 07^{s*} [12, 10^h 55^m 07^s]. **SE Luzon, Samar and Masbate.** Earthquake of intensity VI-VII, felt in the provinces of SE Luzon, Samar, Masbate and NE Panay. Its origin lay in the Sorsogon Province. Recorded at Batavia.

12, 13^h 45^m 46^{s*} [12, 21^h 45^m 46^s]. **SE Luzon.** Earthquake of intensity III, felt in the provinces of SE Luzon, but reported only by the observers at Naga, Legaspi and Irosin. The epicenter was located far away in the Pacific between the Philippines and Guam. It was recorded by the seismograph at Agaña and generally in the Observatories of the Far East.

15, 5^h 53^m 00^{s*} [15, 13^h 53^m 00^s]. **N Luzon.** Earthquake felt with intensity IV in the northernmost provinces of Luzon. Origin close to the northern coast.

15, 11^h 53^m 34^{s*} [15, 19^h 53^m 34^s]. **E Mindanao.** Earthquake felt with intensity IV on the eastern portion of Mindanao. Its origin lay far off in the Pacific near to the parallel 8° N. Recorded at Guam and Batavia.

16, 5^h 01^m [16, 13^h 01^m]. **Butuan (N Mindanao).** Oscillatory earthquake, direction W-E, intensity III-IV.

¹ The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that 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 report. All time indications are in Greenwich mean time (midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

18, 6^h 28^m [18, 14^h 28^m]. Butuan (N Mindanao). Earthquake shocks of intensity III, duration 8 seconds.

20, 13^h 09^m 46^s* [20, 21^h 09^m 46^s]. Atimonan (E Luzon). Oscillatory earthquake, direction ESE-WNW, intensity IV, duration 10 seconds.

25, 5^h 44^m 36^s* [25, 13^h 44^m 36^s]. Aparri (NE Luzon). Oscillatory earthquake, intensity IV; its origin seemingly lay in the Pacific.

28, 0^h 45^m [28, 8^h 45^m]. Borongan (E Samar). Earthquake shock of intensity III.

31, 20^h 30^m [Feb. 1, 4^h 30^m]. Mailag (Central Mindanao). Earthquake of intensity III.

31, 22^h 53^m [Feb. 1, 6^h 53^m] Butuan (N Mindanao). Oscillatory earthquake, direction N-S, intensity III, long duration.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Greenwich mean. Midnight=0^h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T₀=6.25, ε=2.906, $\frac{r}{T_0^2}$ =0.053; A_E: T₀=6.18, ε=2.393, $\frac{r}{T_0^2}$ =0.042. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A _N μ	A _E μ	
1	1	I	e F	h. m. s. 12 18 44	s.			
2	3	IIv	eP L M _N M _E F	12 26 00 26 45 27 24 27 38 43	4 4	82	105	SE Luzon, Samar and Masbate.
3	5	Iv	eP F	3 02 34 04				
4	5	Iv	eP F	3 36 36 38				
5	6	Iv	eP F	3 37 00 39				
6	12	IIv	eP L M _E M _N F	2 55 07 55 53 56 16 56 25 3 44	5 4	334	409	SE Luzon, Samar and Masbate.
7	12	Iv	eP F	3 47 00 50				
8	12	Ir	e S L M _N M _E F	13 45 46 49 49 51 35 51 53 52 10 15 06	11 11	109	187	Far off in the Pacific.
9	14	Iv	eP F	20 26 08 32				From Vicentini seismograph.
10	15	Iv	eP L M _E M _N F	5 53 00 53 46 53 50 54 03 6 01		94	85	N Luzon.
11	15	Ir	e F	11 53 34 12 22				Far off in the Pacific.
12	17	IIv	eP L M _E M _N F	8 32 24 32 43 32 46 32 50 38	4 4	720	445	
13	17	Iv	eP L M _E M _N F	8 43 02 43 21 43 23 43 24 48	4 4	291	111	

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A _N μ	A _E μ	
14	20	I _r	eP	1 47 06				
			L	49 01				
			M _N	51 00	6	89		
			M _E	51 02	6		70	
			F	2 16				
15	20	I	e	4 15 17				
			F	23				
16	20	I _v	eP	13 09 46				Felt at Atimonan (E Luzon).
			F	15				
17	21	I _v	eP	2 09 37				
			F	13				
18	21	I _v	eP	6 15 11				
			F	19				
19	21	I _v	e	6 22 08				
			F	35				
20	22	I _v	e	21 29				F on next earthquake.
21	22	I _r	eP	21 47 13				Off the eastern coast of Formosa.
			L	49 03				
			M _E	49 29	5		33	
			M _N	50 29	5	45		
			F	22 22				
22	24	I _v	eP	11 58 25				
			F	12 00				
23	24	I _v	e	15 57 41				
			F	16 09				
24	24	I _v	eP	20 27 55				
			F	30				
25	25	I	e	3 53 38				
			L	55 46				
			M _N	55 58	5	64		
			M _E	55 58	5		57	
			F	4 81				
26	25	I _v	eP	5 44 36				Felt at Aparri (NE Luzon).
			F	50				
27	26	I _v	eP	11 18 21				
			F	43				
28	27	I _v	eP	18 20 35				
			F	23				
29	28	I _v	eP	1 06 48				
			L	07 25				
			M _E	08 10	5		31	
			M _N	08 12	5	36		
			F	23				
30	28	I _v	eP	6 07 54				
			F	12				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS ¹

3, 12^h 26^m 00^{s*} [3, 20^h 26^m 00^s]. SE de Luzón, Sámar y Masbate. Temblor de tierra de intensidad IV-V, duración larga. El epicentro se hallaba al parecer en el Estrecho de San Bernardino; se sintió en las provincias de Albay y Sorsogón y en las islas de Sámar y Masbate.

4, 0^h 18^m [4, 8^h 18^m]. Victoria (Negros Occidental). Temblor oscilatorio, intensidad III, duración 3 segundos.

4, 9^h 30^m [4, 19^h 09^m]. Guam (Islas Marianas). Temblor de tierra de intensidad IV.

6, 4^h 31^m [6, 12^h 31^m]. Butúan (N de Mindanao). Temblor oscilatorio, dirección NW-SE, intensidad III.

8, 9^h 14^m [8, 17^h 14^m]. Irosin (SE de Luzón). Temblor de tierra de intensidad IV, duración larga. Originado aparentemente en el vecino volcán Bulusan, en actividad desde 1918.

9, 11^h 15^m [9, 20^h 27^m]. Yap (Carolinias Occidentales). Temblor de tierra de intensidad III. Repitió 18 minutos más tarde con intensidad IV.

9, 17^h 05^m [10, 1^h 05^m]. Camp Keithley (N de Mindanao). Temblor de tierra de intensidad III. Registrado en Butúan.

11, 2^h 30^m [11, 10^h 30^m]. Bilbao (Negros Occidental). Temblor de tierra de intensidad III, duración larga. Registrado en Butúan.

12, 2^h 55^m 07^{s*} [12, 10^h 55^m 07^s]. SE de Luzón, Sámar y Masbate. Temblor de intensidad VI-VII sentido en las provincias del SE de Luzón, y en las islas de Sámar, Masbate y NE de Panay. Su origen se hallaba cerca de Sorsogón. Registrado en Batavia.

12, 13^h 45^m 46^{s*} [12, 21^h 45^m 46^s]. SE de Luzón. Temblor de tierra de intensidad III sentido en las provincias del SE de Luzón, pero notificado solamente por los observadores de Naga, Legaspi e Irosin. Su origen se hallaba lejos en el Pacífico entre Filipinas y Guam donde lo registró el sismógrafo de Agaña. Registrado por los Observatorios del Extremo Oriente.

15, 5^h 53^m 00^{s*} [15, 13^h 53^m 00^s]. N de Luzón. Temblor de tierra de intensidad IV sentido en el extremo N de Luzón. Originado cerca de la costa.

15, 11^h 53^m 34^{s*} [15, 19^h 53^m 34^s]. E de Mindanao. Temblor de tierra de intensidad IV-V. Su origen se hallaba distante en el Pacífico cerca del paralelo 8° N. Registróse en Guam y en Batavia.

16, 5^h 01^m [16, 13^h 01^m]. Butúan (N de Mindanao). Temblor oscilatorio, dirección W-E, intensidad III-IV.

18, 6^h 28^m [18, 14^h 28^m]. Butúan (N de Mindanao). Temblor de tierra de intensidad III, duración 8 segundos.

20, 13^h 09^m 46^{s*} [20, 21^h 09^m 46^s]. Atimonan (E de Luzón). Temblor oscilatorio, dirección ESE-WNW, intensidad IV, duración 10 segundos.

25, 5^h 44^m 36^{s*} [25, 13^h 44^m 36^s]. Aparri (NE de Luzón). Temblor oscilatorio, intensidad IV; su origen probablemente se hallaba en el Pacífico.

28, 0^h 45^m [28, 8^h 45^m]. Borongan (E de Sámar). Temblor oscilatorio de intensidad III.

31, 20^h 30^m [Feb. 1, 4^h 30^m]. Mailag (Centro de Mindanao). Temblor de tierra de intensidad III.

31, 22^h 53^m [Feb. 1, 6^h 53^m]. Butúan (N de Mindanao). Temblor oscilatorio, dirección N-S, intensidad III, duración larga.

¹ La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos 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 medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

BULLETIN FOR FEBRUARY, 1920.

PREPARED UNDER THE DIRECTION OF

REV. JOSÉ ALGUÉ, S. J.

DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
1921

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BULLETIN FOR FEBRUARY, 1920.



METEOROLOGICAL BULLETIN FOR FEBRUARY, 1920.

By Rev. JOSÉ CORONAS, S. J.,

Chief, Meteorological Division of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure for this month in the Philippines is somewhat lower than that of the preceding year, but slightly higher than the normal for February. The highest pressures of the month were recorded in all our stations on the 24th and 25th, while the lowest were generally observed on the 1st in Luzon, and on the 14th in the Visayas and Mindanao.

The mean monthly temperature differs very slightly, and generally by excess, from the normal of this month, although it is slightly below the monthly mean of February, 1919, in the Visayas and Mindanao. The absolute maximum and minimum temperatures for Manila were 33.7° C. and 15.6° C., the former having been registered on the 29th and the latter on the 8th. The extreme temperatures for Baguio were 26.6° C., 11.8° C. on the top of Mirador, and 26.7° C., 10.4° C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR FEBRUARY, 1920.

Station.	Pressure.							Temperature.						
	Mean.	Departure from February, 1919.	Departure from normal.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from February, 1919.	Departure from normal.	Highest.	Day.	Lowest.	Day.
Zamboanga.....	mm. 759.59	mm. -0.74	mm. -----	mm. 760.88	25	mm. 758.22	28	°C. 26.1	°C. 0	°C. -----	°C. 33.7	4	°C. 21.4	20
Meeth, Yap, Western Carolines.....	59.50	-.77	-----	61.16	25	58.34	13	26.3	-0.3	-----	30	1	22.2	21
Tagbilaran.....	60.32	-.65	+0.42	61.93	25	58.80	14	25.3	-.7	-0.3	33.7	27	18.6	10
Surigao.....	60.56	-.67	+ .64	62.16	25	58.97	14	25.5	-.7	+ .1	30.4	5	20	10
Cebu.....	60.70	-.62	+ .58	62.44	25	59.18	14	26.3	-.5	+ .3	30.9	25	21.9	5
Iloilo.....	60.51	-.55	+ .43	62.16	25	59.22	14	26.2	-.5	+ .4	31.7	19	21.5	10
Tacloban.....	61.01	-.63	+ .65	62.72	25	59.45	14	25.4	-.6	-.1	32.3	1	19.7	3
Capiz.....	61.15	-.54	+ .32	62.91	24	59.82	14	26.1	-.3	+ .4	31.9	1, 23	21.2	10
Calbayog.....	61.31	-.50	+ .82	63.02	25	59.80	14	24.7	-.6	-.2	31.9	22	17.9	10
Legaspi, Albay.....	61.79	-.53	+ .78	63.62	25	60.28	14	26.3	-.1	+ .7	31.8	3	20.3	1
Atimonan.....	62.13	-.43	+ .78	64.02	24	60.73	1	26.1	+ .3	+ .8	30.1	3	20	6, 8
Ambulong, Tanauan, Batangas.....	61.17	-.50	-----	63.13	25	60	28	25.7	+ .3	-----	33.6	7	19.8	8
Paracale.....	62.09	-.52	+ .52	63.96	24, 25	60.58	1	25.8	+ .2	+ .7	30.4	2, 4	20	8
Manila.....	61.77	-.42	+ .51	63.90	24	60.22	1	25.1	-.1	-.1	33.7	29	15.6	8
San Isidro, Nueva Ecija.....	61.96	-.93	+ .60	63.88	25	60.17	1	25.4	-.4	+ .2	33.9	2, 24	15.6	7
Dagupan.....	60.81	-.64	+ .04	62.89	24	59.30	1	26.6	+ .3	+ .8	36	29	19	7
Baguio ^b	638.68	-.18	+ .89	640.88	25	637.50	1	17.8	+ .4	+ 1	26.6	1	11.8	23
Vigan.....	761.22	-.56	+ .30	763.12	25	759.83	1	26.2	+ .6	+ .6	34.4	26	18.8	9
Tuguegarao.....	62.67	-.28	+ .60	65.76	25	60.30	1	24.8	+ .2	+ .7	34.4	26	17.8	5
Laosag.....	61.28	-.58	-----	63.42	24	59.89	1	26.1	+ 1.67	-----	35.9	3	15.2	8
Aparri.....	62.86	-.46	+ .25	66.58	25	60.28	1	24.9	+ 1	+ 1.6	33	5	19	5

^a 24 days of observation.

^b The barometric readings of this station are not reduced to sea level.

Rainfall.—The total amount of rainfall for this month is, with a few exceptions, greater than that of the preceding year; yet, in a great majority of our stations, particularly in the Visayas, it is below the normal of February. The total monthly rain-

fall for Manila (24.9 mm.) is 14.2 mm. and 14.3 mm. above that of February, 1919, and above the February's normal, respectively. That of Baguio (36.4 mm.) differs from the normal of this month by +18.2 mm.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF FEBRUARY, 1920.

Station.	Total.	Departure from February, 1919.		Days of rain.	Departure from normal.		Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from February, 1919.		Days of rain.	Departure from normal.		Greatest rainfall in a single day.	Day.
		mm.	mm.		mm.	mm.					mm.	mm.					
Jolo	52.6	+ 19.2	- 35.1	8 + 3	- 1	20.5	15	Virac	111.2	- 41.3	- 97.3	16	+ 4	0	37.3	14	
Malamaui, Isabela, Zamboanga	206.5			1		206.5	15	Naga, Camarines Sur	96.2	+ 81.7	+ 22.5	12	+ 9	+ 4	37.6	14	
Zamboanga	9.4	- 15.8	- 39.6	6	- 1	7	15	Tigaon	138.9	+ 105.3		15	+ 8		46.2	14	
Davao	101	+ 40.3	- 26.2	12 + 2	+ 4	21.8	23	Batangas	38.9	+ 34.3	+ 18.8	5	+ 2	+ 1	23.4	14	
Cotabato	102.5	+ 61.9	+ 20.1	7 + 1	- 3	29.7	21	Lucena	72.6	+ 18.7		8	+ 5		33.8	14	
Cagayan	9.1	- 8.7	- 25.5	1	- 2	3	14	Atimonan	65.3	+ 19.2	- 47.5	14	+ 4	+ 1	21.9	14	
Butuan	149.7	+ 50.3	- 44.5	17	- 3	0	14	Ambulong, Tanauan, Batangas	96.4	+ 89.5		7	+ 4		57.9	14	
Mambajao	227.5	+ 127.2		17 + 9		51.6	7	Canluban, Cainta	131	+ 111.3		10	+ 4		66	14	
Meeth, Yap, Western Carolines	241.3	+ 183.1	+ 61.1	21 + 5	+ 4	46.2	23	Iamba Paracale	167.4	+ 25.6	- 84.9	18	+ 5	+ 1	46.2	14	
Tagbilaran	59.4	+ 41.2	- 31.2	11 + 6	0	19.5	15	Santa Cruz, Laguna	118.3	+ 103.4	+ 80.1	13	+ 8	+ 5	62.3	14	
Surigao	485	+ 286.5	+ 132.5	21	+ 3	92	15	Manila	24.9	+ 14.2	+ 14.3	7	+ 6	+ 3	13.1	14	
Maasin, Leyte	224.3	+ 198.1	+ 70.1	10 + 3	+ 2	79.5	15	Antipolo	35.1	+ 34.8		6	+ 5	+ 3	23.9	14	
Cebu	53.8	+ 31.7	- 5.3	16 + 7	+ 5	11.4	15	San Isidro, Nueva Ecija	9.7	+ 9.7	+ 3	6	+ 6	+ 3	3	14	
Iloilo	25.5	+ 25	- 12.2	6 + 5	0	13.5	15	Iba	2.2	+ 2.2	- 2.4	3	+ 3	+ 1	1.5	26	
San Jose de Buenavista	9.7	+ 9.7	- 10.7	5 + 5	+ 1	3.3	14	Tarlac	2.9	+ 2.9	6	4	+ 4	+ 2	1.3	15	
Cuyo	1.8	+ 1.8	- 14.8	2 + 2	0	1	15	Baler	475.2	+ 217.9	+ 307.7	17	+ 5	+ 5	132.4	26	
Ormoc	117.5	+ 105.2	+ 12.6	18 + 11	+ 6	21.6	15	Dagupan	4.1	- 6.6	- 14.1	2	+ 1	0	3.8	27	
Guiuan	291.5	+ 171.8		22	0	4	12	Bolinao	.3	+ .3	- 9.1	1	+ 1	- 1	.3	13	
Tacloban	202.3	+ 136.7	- 8.2	14	- 1	2	13	Baguio	36.4	+ 24.4	+ 18.2	5	+ 2	+ 1	23.1	29	
Capiz	140.5	+ 129.6	+ 45	20 + 16	+ 9	24.7	24	San Fernando, La Union	0	0	- 6.9	0	0	- 1	0	0	
Borongan	454.7	+ 237.2	+ 38.1	22	0	2	12	Echague	14.8	+ 10.2	- 19.1	8	+ 5	- 1	5.1	24	
Catbalogan	220.4	+ 157.5		20 + 5		35.3	13	Candon	1.3	+ 1.3	- 6.4	1	+ 1	0	1.3	18	
Calbayog	155.8	+ 129.6	- 11.8	18 + 5	+ 3	28.6	13	Vigan	8.1	+ 8.1	+ 3.7	1	+ 1	0	8.1	27	
Masbate	130.8	+ 108.6	1.1	20 + 10	+ 9	26.7	13	Tuguegarao	71	+ 66.5	+ 49.2	6	+ 4	+ 3	24.7	24	
Batag Light-house, Laoang	259.8	+ 105		17 + 3		64	12	Laoag	0	0	- 6.4	0	0	- 1	0	0	
Sorsogon	334.9	+ 239.9		17 + 1		50.8	26, 28	Aparri	117.2	+ 100.9	+ 22.8	11	+ 7	0	43.5	24	
Legaspi, Albay	193.7	+ 59.5	- 78.7	15 + 3	- 1	33.5	14	Cape Bojeador	1	- 4.5		1	- 1		1	24	
Sumay, Guam	49.6	+ 35.5	- 29.6	5 + 2	- 5	24.1	11	Basco	348.1	+ 207.7	+ 217.5	23	+ 9	+ 8	59.5	28	

DEPRESSIONS AND TYPHOONS.

There was not a single depression or typhoon of the tropical type, in the Far East, during the whole month of February. In northern latitudes, over Japan and in the region of the Loochoos, and the Bonins, there were several depressions of the continental type, which had hardly any influence in the weather of the Philippines.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes en Filipinas es algo menor que la del año pasado, pero ligeramente mayor que la normal de febrero. Las presiones más altas se registraron en todas nuestras estaciones los días 24 y 25, al paso que las más bajas se observaron generalmente el día 1.º en Luzón, y el 14 en Visayas y Mindanao.

La temperatura media mensual difiere muy poco, y generalmente por exceso, de la normal de este mes, aunque es ligeramente menor que la media mensual de febrero de 1919, en Visayas y Mindanao. Las temperaturas máxima y mínima absolutas del mes en Manila fueron 33.7° C. y 15.6° C., habiéndose registrado la primera el día 29, y la última el día 8. Las temperaturas extremas de Baguio fueron 26.6° C., 11.8° en la cumbre del Mirador, y 26.7° C., 10.4° C. en la llanura cerca del *City Hall*.

Precipitación acuosa.—La cantidad total de lluvia caída durante este mes es, con raras excepciones, mayor que la del año pasado; con todo, en una gran mayoría de nuestras estaciones, particularmente en Visayas, es menor que la normal de febrero. La lluvia total del mes en Manila (24.9 mm.) es 14.2 mm. y 14.3 mm. mayor que la de febrero de 1919, y mayor que la normal de este mes, respectivamente. La de Baguio (36.4 mm.) difiere de la normal de este mes en +18.2 mm.

DEPRESIONES Y TIFONES.

Durante todo este mes de febrero no hubo ni una sola depresión o tifón del tipo tropical en el Extremo Oriente. En altas latitudes, en Japón y en la región de las Islas Loochoos y de las de Bonins, hubo varias depresiones del tipo continental, las cuales apenas influyeron en el tiempo de Filipinas.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.*

[$\phi=14^{\circ} 34' 41''$ N; $\lambda=120^{\circ} 58' 33''$ E; barometer above sea, 14.2 meters; gravity correction not applied, -1.72 mm.]

Day.	Pressure (mean).	Air temperature. ^b			Underground temperature.						Relative humidity (mean).	Vapor pressure (mean).	Radiation.		Evaporation. ^b	
		Mean.	Maximum.	Minimum.	0.25 meter.		0.50 meter.		1.50 meters.	2.50 meters.			Minimum on grass.	Maximum in sun. Black bulb in vacuo. ^c	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.	°C.	°C.	mm.	mm.
1	760.22	25.4	32.2	19.9	25.5	29.5	27.4	28	27.7	28.3	76	18	17.3	51.7	4.4	2.7
2	61.02	25.6	33.2	20.1	26.5	29.8	27.5	28.2	27.9	28.2	76	18.2	17.4	53	4.4	2.9
3	61.48	25.6	33.5	20.9	27.1	29.3	27.7	28.2	27.9	28.2	71.4	17.1	18.5	52.7	5.2	3.7
4	61.30	25.7	33.2	18.5	26	29	27.4	28.5	27.9	27.8	68.9	16.4	15.2	54.5	6.4	4.3
5	61.08	26.2	33.1	20.6	26.5	29.8	27.6	28.3	27.9	28.3	70.8	17.4	18	54	5.9	3.7
6	61.43	24.4	32.3	18.3	26	29.2	27.5	28.1	27.8	27.9	71.5	15.9	15.3	52.4	5.5	3.1
7	60.93	23.5	31	16.3	25.3	28.5	26.9	27.7	27.9	28	72.2	15.3	13.9	50	5.1	3
8	61.41	23.6	30.6	15.6	24.6	28.4	27	27.6	28	28.3	70	14.8	12.2	50.6	5.3	3.7
9	61.57	24.5	32.2	18.4	25.6	28.9	27.2	27.8	28	28.1	71.1	15.8	15.1	52.3	5.4	3.4
10	62.63	23.5	28.9	20.8	26.3	28.1	27.1	27.6	28	28	87.7	18.9	18.4	51.2	1.5	1
11	63.06	23.4	28	21.1	26	27	27.1	27.2	27.9	28	85.5	18.2	18.6	42.6	1.6	1.1
12	62.21	24.1	29.8	19.6	25.5	27.5	27.1	27.2	28	28.2	79.2	17.5	17.3	45	2.9	1.8
13	60.82	25.3	33.2	19.7	25.5	28.5	27	27.5	28	28.1	71	16.4	17.2	54.5	5.5	3.3
14	60.82	24	30.5	19.7	25.7	27.8	26.9	27.4	28	28	83.9	18.6	16.6	48.8	2.5	1.6
15	61.79	24	26.9	22.4	26.1	27	27	27	27.7	28.1	90	19.8	21	34	1	.8
16	61.53	26.1	33.2	22	25.8	28.2	26.8	27.3	27.7	28	75.6	18.5	20	58.1	4.5	3
17	61.43	26.3	32.7	22.1	26.4	28.6	27	27.5	27.7	28.2	75.3	19.2	19.3	52.2	5.5	3.4
18	62.20	25.7	32.9	21.2	26.5	29	27.1	27.7	27.7	28	72.6	17.3	19.6	54.8	5.4	3.3
19	62.37	25.1	32.2	20	26.1	28.7	27.2	27.8	27.7	28	76.3	18	16.6	55.4	4.5	2.6
20	61.37	24.9	30.3	20.1	26.1	28	27.2	27.5	27.7	28	77.2	17.5	17.2	50.6	3.1	2
21	61.25	25.1	33.5	18.9	25.6	29	27.2	27.9	27.9	28.1	69.5	15.8	15.6	54.3	7	4
22	62.12	25.8	32.9	19.3	25.4	28.7	27.1	27.8	28	28	68	16.5	16.2	52.8	5.3	3.4
23	63.38	25.7	33	20.6	26.4	29	27.5	27.8	28	28.2	70.7	17	17.6	55.2	5.2	3.5
24	63.90	25.2	32.9	19.2	26	28.5	27.3	27.8	27.7	28	75.2	17.4	15	56.7	2.1	1
25	63.76	25.5	30.6	22.5	26.5	28.4	27.4	27.7	27.8	28	78.8	18.9	21	43.9	3	2
26	62.64	25.7	32.2	21.7	26.5	28.5	27.4	27.6	28	28.2	76.8	18.6	19.9	56	4.4	2.7
27	61.09	25.8	31.6	21.5	26.5	28.4	27.5	27.7	27.8	28.2	70.8	17.3	19.3	53.2	5.1	3
28	60.44	25.4	33	19.2	25.6	28.6	27.1	27.7	27.9	28.1	72.2	17.1	16.4	53	5.9	3.2
29	62.02	25.9	33.7	20.5	26.1	29.1	27.4	28	27.6	28.1	70.3	16.9	18.4	54.4	5.9	3.9
Mean Total	761.77	25.1	31.8	20	26	28.6	27.2	27.7	27.9	28.1	75	17.4	17.4	51.7	4.5	2.8
Departure from normal	+0.51	-0.1	+1	-0.2							+1	-0.1			-3.4	

Day.	Wind.				Clouds.			Sun-shine.	Rain, 24 hours beginning 6 a. m.		Miscellaneous.
	Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Amount (mean).	Form and direction.			On the tower.	In the park.	
						Upper.	Lower.				
		Km.	Km.		0-10.			h. m.	mm.	mm.	
1	S quad.	138	14	W	1.2	Ci.	Cu.	9 50			
2	SE	178	21	SE	.8	Ci.	Cu.	9 45			
3	E quad.	177	17	E, ESE	4	A.-Cu.	Cu.	8 25			
4	E	216.5	24	ENE	1.8		Cu.	10 05			
5	SE, S	199.5	20.5	ESE	1.5	Ci.	Cu.	9 10			Δ° a.
6	E quad.	219.5	19	SE	.1		Cu.	9 50			
7	W	187	18.5	W	.7	Ci.	S	9 55			
8	WNW, SE	182	17	NW	.7	Ci.	Cu.	10 15			
9	E	176.5	18	ESE	2	Ci.	Cu.	9 10			
10	N quad.	108.5	12	NNW	8.7	Ci.-S.	Cu.	2 15	0.5	0.8	● a. d p.
11	Variable	72	8.5	SW	8.4	A.-Cu.	Cu.	1 25	2.1	2.6	d a. ● p.
12	NE quad.	92.5	12.5	E	5.4	A.-Cu.	Cu.	5 00	6.5	6.9	d° p.
13	E quad.	163	23	ENE	2.4	Ci.	Cu.	5 00		.2	
14	SE quad.	143	18	WNW	7	Ci., A.-Cu.	Cu.	5 25			
15	NE, SW	52.5	5	WNW	9.8	Ci.-S.	N.	5 00	13.1	13.6	● p.
16	E quad.	194	25	NE	8.3	A.-Cu.	Cu.	2 50	1.4	1.4	● a. d p.
17	ESE	224	29	SE	5.2	A.-Cu.	Cu.	8 35			
18	E, ESE	195	20	ESE	5.2	Ci.	Cu.	7 30			
19	SE, S	181	20	SE	6.8	Ci., A.-Cu.	Cu.	8 15			∞° p.
20	NE quad.	127	13	WSW	6.2	A.-Cu.	Cu.	5 05			Δ° a. d° p.
21	E	201	20	E	1.8	A.-Cu.	Cu.	9 40			
22	NE	206	21	WNW	2.9	Ci.	Cu.	9 50			
23	ENE	177	24	ENE	3.6	A.-Cu.	Cu.	9 45			
24	NE quad.	147	23.5	E	5.3	Ci., A.-Cu.	Cu.	6 40	5	8	● p.
25	E quad.	114	16	ESE	8	A.-Cu.	Cu., cu.-N.	0 15	8	1	d° a. d° p.
26	E	172	21	E	8.6	A.-Cu.	Cu.	3 15			
27	ESE, SE	205	21.5	ESE	6.6	A.-Cu.	Cu.	6 30			
28	NE, SE	231	23	SE	1.3	A.-Cu.	Cu.	9 55			
29	NE, E	204	24	E	3	Ci.	Cu.	9 35			
Mean Total		167.5	18.9		4.4			7 10			
Departure from normal		4,858.5			-0.5			208 00	24.9	27.3	
		-472						+11 21	+14.3		

* All the mean values given in this table are deduced from hourly observations.
 * These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
 * Maximum of hourly observations taken from 6 a. m. to 6 p. m.

METEOROLOGICAL DATA FOR MIRADOR OBSERVATORY, BAGUIO.*

[$\phi=16^{\circ} 25' N$; $\lambda=120^{\circ} 35' E$; barometer above sea, 1,512.5 meters; gravity correction not applied, -1.65 mm.]

Day.	Pressure ^b (mean)	Air temperature at Mirador (on the top of the mountain).				Air temperature in the plateau near the City Hall.				Relative humidity (mean).	Vapor pressure (mean).	Radiation.		Evaporation.		
		Mean.	Maximum.	Hour.	Minimum.	Hour.	Maximum.	Hour.	Minimum.			Hour.	Minimum on grass.	Maximum in sun. Black bulb in vacuo. ^c	Free exposure (total).	Shelter (total).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	°C.	°C.	mm.	mm.	
1	637.50	18.8	26.6	0.30p.	13.6	4.40a.	26.5	0.30p.	12.1	61.5a.	68.3	10.8	11.2	53	7.2	4.4
2	38.42	19	24.9	1.45p.	14.4	4.30a.	26.5	1.00p.	13.8	4.30a.	68	11	12.5	53	6.6	3.9
3	38.58	18.3	24.3	10.45a.	14.8	6.15a.	25.1	11.20a.	14.2	5.45a.	74.3	11.5	13.3	56.5	4.6	2.7
4	38.34	18	24.9	11.05a.	13.5	6.30a.	25.7	0.30p.	12.3	4.45a.	68.2	10.3	11.1	44.7	8.4	4.3
5	38.20	18	25	0.40p.	14	6.00a.	25.9	0.30p.	13.4	5.35a.	71.2	10.9	12.6	53.8	5.6	3.4
6	38.40	18	23.4	2.10p.	13	4.15a.	25	10.45a.	10.4	6.25a.	72.2	11.1	7.8	54.1	5.8	3.7
7	38.11	19.5	26.2	10.30a.	14	3.35a.	26.7	10.55a.	12.1	3.30a.	53	8.9	11	55.8	9.3	3
8	38.22	17.8	24	0.30p.	13.5	6.45a.	24.1	0.10p.	12.4	6.15a.	62.5	9.4	11.2	54.3	7.4	3.9
9	38.18	16.5	22.7	0.30p.	13.3	6.00a.	24.1	11.30a.	11.5	6.30a.	68	9.4	12	53.3	5	2.6
10	38.81	16.1	20.5	9.15a.	13.5	0.10a.	22.4	2.35p.	12.6	0.55a.	82.8	11.3	11.7	52.1	2.1	1.5
11	39.38	17	24	10.45a.	13.8	6.00a.	24.9	11.00a.	14	6.10a.	81.3	11.6	10.3	59.8	8.4	2.3
12	38.82	17.4	24	11.15a.	13.3	5.25a.	24.7	Noon	12.8	5.35a.	75.7	11.1	12.1	55	5.3	2.9
13	37.80	17.6	23.9	10.45a.	13.6	6.30a.	25	11.30a.	12.4	11.45p.	67.8	10.1	12.5	55.2	6	3.2
14	37.81	17.9	24	1.00p.	12	6.00a.	24.5	2.45p.	11.4	5.30a.	72.8	11	11.3	53	5.5	3.2
15	38.97	16.8	18.8	2.40p.	15.5	3.00a.	20	2.50p.	15.4	3.00a.	77.2	11	14.5	32	3.8	2.6
16	38.79	18.6	25.6	0.10p.	15.2	6.05a.	26	1.30p.	14.4	3.45a.	67.3	10.5	14	58.2	10	5.3
17	38.50	18.7	25.3	1.25p.	15	12m.n.	26.6	1.30p.	14.8	11.00p.	75.2	12	14	55.1	5.9	3.3
18	38.96	17.5	23.1	2.00p.	13.4	3.30a.	24.9	10.05a.	13	6.15a.	80	11.9	12.2	55.8	4.4	2.6
19	39.19	17.6	24.4	10.45a.	14	5.10a.	25.1	11.15a.	12.3	6.15a.	70.5	10.4	10.8	57.5	6.6	4
20	38.96	17.7	24.7	0.40p.	14.2	5.35a.	25.8	10.35a.	13.3	6.00a.	81.2	12.2	12.1	57.8	4.1	2
21	38.13	17.9	25.3	11.50a.	14.6	3.25a.	26.2	Noon	13.7	3.30a.	79	12	13.7	59	7.2	3.9
22	38.92	17.8	24.6	1.30p.	13.5	5.50a.	25.3	0.30p.	11	6.00a.	67.3	10.4	10.8	55	7.7	4
23	40.12	17.4	24.3	11.15a.	11.8	6.10a.	25.5	0.15p.	11	4.30a.	66.3	9.4	10.1	53.8	8.4	4.7
24	40.30	18.3	24.9	11.50a.	13	5.10a.	26.4	0.25p.	10.9	6.00a.	59	9.4	10.6	55	6.9	3.5
25	40.38	17.8	24.5	10.45a.	14.8	6.15a.	24	10.35a.	13	6.30a.	74.2	11.3	11.5	56.9	5.4	3.3
26	39.50	17.9	23.8	10.30a.	14.2	4.30a.	24.6	1.00p.	14.2	4.50a.	73.3	11.2	12.6	58.7	5.6	3.5
27	38.23	17.8	25.5	10.15a.	14.5	3.05a.	25	10.30a.	13.9	3.50a.	77	11.5	13.4	58.2	3.5	2.3
28	37.70	17.6	25	1.30p.	13.8	5.20a.	25.6	11.15a.	13.3	5.00a.	85.3	12.7	12.1	59.5	3.9	1.7
29	39.11	17.1	25	11.20a.	14	4.80a.	25.2	11.30a.	13.7	6.00a.	84.7	12.2	13.9	55.5	3.3	2.4
Mean	638.68	17.8	24.2		13.9		25.1		12.9		72.5	10.9	12	54.5	5.8	3.2
Total															168.9	94.1

Day.	Wind.				Amount (mean).	Clouds.		Sunshine.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	Prevailing direction. ^d	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.		Form and direction.	Upper.			
		Km.	Km.		0-10.			h. m.	mm.	
1	SE	286.5	24.6 ⁷	SW	1	Ci.	Cu.	7 45		☉ a. ☉ a. p.
2	E, SE	409.4	26.8	E	2.1	Ci.	Cu.	6 20		☉ a. ☉ a. p.
3	E	418.9	30.9	E	4	Ci.-S.	Cu.-N. SW, E	4 50		☉☉ a. ☉☉ p.
4	E	342.2	22.2	SE	4.6		Cu.	8 10		☉☉ a. ☉☉ p.
5	E	504.4	32.4	SE	1.7	Ci.	Cu.-N.	6 30		☉☉ a. p.
6	E	256.9	23.5	SW	1.9		Cu.	8 25		☉☉☉ a. ☉☉☉ a. p.
7	E	325.6	22.2	SW, W	4		Cu.	8 50		☉☉☉ a. ☉☉☉ a. p.
8	E quad.	349.3	28	SW	1.4	Ci.	Cu.-N.	9 10		☉☉☉ a.
9	E quad.	296.8	23.6	W	4	Ci.	Cu.-N.	5 25		☉☉☉ a.
10	E quad.	235.3	15.1	SE, W	9.1	A.-Cu.	Cu.-N.	1 20	0.6	☉☉☉ d° a. ☉☉☉ p.
11	E	376.3	21.4	E	8.6		Cu.-N.	2 10		☉☉☉ a. d° p.
12	E, SE	369.4	26.8	E	5.4	Ci.	Cu.-N. E quad.	3 30		☉☉ a. p.
13	E, SW	397.3	30.1	E	1.4	Ci.	Cu.-N.	7 00		☉☉ a. p.
14	E, SE	405.2	25.9	E	5	Ci.	Cu.-N. WSW	7 00		☉☉ a.
15	E	381.6	26	E	9.7	Ci.-S.	Cu.-N.	0 00	3	☉☉ a. d° a. p. d p.
16	E	464.6	27.2	E	6.3	Ci.-S.	Cu.	6 20		
17	E	416.9	28.4	SE	4.9	Ci.-S.	Cu.-N. ENE	5 30		☉☉ a. p.
18	E, W	344.9	22.5	E	6.6	Ci.	Cu.-N. w, wsw	3 25		☉☉ a. p.
19	E	409.6	27.6	E	3.3	Ci.	Cu.-N.	5 45		☉☉ a.
20	E	344.9	25.1	E	5.1	Ci.	Cu.-N. w, wsw	6 05		☉☉☉ a. ☉☉ a. p.
21	E quad.	329.2	25.7	SE	3.6	Ci.	Cu.-N. ENE	4 55		☉☉☉ a.
22	E	385.5	26.8	SE	2.7	Ci.-S., A.-Cu.	Cu.	8 45		☉☉☉ a.
23	E	400.4	29.8	E	4.4	Ci.	Cu.-N.	5 30		☉☉☉ a.
24	E	353.8	23.3	SW	6.6	Ci.-S.	Cu.-N., S.-Cu.	6 55		
25	E quad.	342.3	27.4	E	6.7	Ci.	Cu.-N. WSW	2 20		☉☉ a. ☉☉ p.
26	E	387.8	31.1	E	8.6	Ci.-S.	Cu.-N. ENE, sw	3 20	.1	d° a. ☉☉ p.
27	E	366.4	23.1	E	8.3	A.-Cu.	Cu.-N. WSW	2 50		☉☉☉ a. ☉☉☉ p.
28	E	307.6	22.8	SW	7.3	Ci.	Cu.-N. WSW	4 30	12.3	☉☉☉ a. ☉☉☉ p.
29	E	424.8	28.8	W	6.6	Ci.-S.	Cu.-N. W	3 40	23.1	☉☉☉ a. ☉☉☉ p.
Mean		366.9	25.8		4.7			5 23		
Total		10,639.8						156 15	36.4	

* All the mean values given in this table are deduced from six daily observations taken at 2, 6, 10 a. m. and 2, 6, 10 p. m.
 b The barometric readings of this station are not reduced to sea level.
 c Maximum of hourly observations taken from 6 a. m. to 6 p. m.
 d This element is based on hourly observations taken from a quadruple register, which gives only eight possible directions of the wind.
 e 5 hours missing.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, FEBRUARY, 1920.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Lapac Agricultural School, Siasi, Sulu †			58.1											5.8	1.3	
Glan, Cotabato †							27.7						17.8	3.8	20.3	8.6
Jolo, Sulu										0.4			8.6	13.7	20.5	
Lais, Malita, Davao						4.1		6.9				1.8	5.1	2.3	28.7	
Lebak, Cotabato							12.2								48.8	7.1
Lamitan, Isabela, Zamboanga															6.9	
Basilan Plantation, Kabunbantan, Isabela, Zamboanga †															26.9	27.4
Basilan Plantation Office, Isabela, Zamboanga †															22.8	11.4
La Union, Sigaboy, Davao †			1				3.8	4.1							34	
Paranglalap, Isabela, Zamboanga †												6.4	69.8	18.8		
Latuan, Isabela, Zamboanga †															20.3	
Buluang, Cotabato †					1.3	36.3						3	3.6	13.2	6.9	41.6
Malamau, Isabela, Zamboanga															206.5	
Zamboanga, Zamboanga															5	7
Cagayan de Sulu, Sulu †								5.8						37.3		
Kidapawan, Cotabato †		22.9	15.2				7.6					22.3			48.3	
Davao, Davao		10.9					6.1						8.6	4.1	7.1	
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †						.5	27.2						5.1		13	.5
Pikit, Cotabato							52.1							3	13	
Awang, Cotabato †								21.6					3.3	2	23.1	2
Sirib, Guianga, Davao †	3.8	3.3			7.1			13.2								
Kabakan, Cotabato †								17.8			10.4	6.4	11.4			
Bual, Dulauan, Cotabato						.3	37.3							1.5	20.3	
Cotabato, Cotabato							20.8							1	12.7	9.1
Kabasaran, Buldun, Cotabato †						34.3	22.9					61.2	31.7	26.2	40.2	
Naganaga, Margosatubig, Zamboanga															8.9	37.6
Malabang, Lanao							6.6						13	6.6	85.8	16.8
Compostela, Monkayo, Davao †							48.3	10.2					30.5	37.9	20.3	4.8
Malangas, Margosatubig, Zamboanga †							4.1						23.6		43.9	
Lumbatan, Lanao †		2.5			4.3		48.3		0.1			4.1	30.7	2.8	12.7	14.3
Cateel, Davao	1.8	38.9	8.4	9.4	6.6	38.3	82.8	14.7	16.5	75.7	4.1	16.8	124.2	122	33.5	34.5
Ganasi, Lanao	1.3					24.9							1.5	5.3	29.5	1.8
Camp Kalao, Monkayo, Davao		6.9	1.5	1.3	5.1	5.8	50.8	4.1	2.6			1.6	24.9	62	74.4	1.3
Tukuran Agricultural School, Tukuran, Zamboanga †							12.7								12.7	48.3
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon							7.6								20.8	10
Camp Keithley, Dansalan, Lanao	.8					37.1	17.1				1	6.3	3.3	20.3	4.6	15.2
Pantar, Lanao †					12.4	25.4	1.3				7.6	6.1	16	10.4	23.1	22.3
Veruela, Agusan		10.9	.8		12.2	15.5	61.2	1.3	8.9			.5	5.3	46	53.8	64.2
Sindangan, Zamboanga †	45.7					31.2								9.9		9.4
Sumilau, Bukidnon						2.6	12.7							4.6	20.3	9.6
Diklom, Tangkulan, Maluko, Bukidnon †						1	3.6							.5	20.6	6.6
Cagayan, Misamis															9.1	
Talacogon, Agusan			20.3	7.4	5.3		3	1.3		2.8	2.3	2.5				17.2
Butuan, Agusan		8.6			.3	3.5	19.6				5.3	5.1	3.1	45.2	12.7	5.1
Mambajao, Misamis		5.3				20.1	51.6	.5	12.7		3.3	5.3	32	21.8	6.1	2
Meeth, Yap, Western Carolines				10.2	4.6			.8	22.1	15.4	3.4	44.4	7.4	13	1.3	
Hacienda San Jose, Tanjay, Oriental Negros †							13.5						10.4	2.8		
Hacienda Palanas, Bais, Oriental Negros †							14									13.7
Hacienda Tamugon, Bais, Oriental Negros †						15.2									20.3	14
Tagbilaran, Bohol	19.5			.7		1.6	5.3				1.9	3.3	.3	1.9	12.1	
Dalaguete, Cebu	1.5		.3			12.7	6.4	1.5				1.3	1	11.4	16.6	
Surigao, Surigao	1.3	12.5		3.6	1.6	32.3	70.4			5.9	1.4	44.1	18	41.7	92	7.6
Central Palma, Ilog, Occidental Negros													1			1.8
Hacienda Naval, Himamaylan, Occidental Negros		17.8			1.5		1.5						3.6	3.3	.5	
Biaong Cui's Farm, Barili, Cebu		40.1			6.6	2.5		18.8	7.4							
Maasin, Leyte				6.4	24.2	17.5	18.8					6.4	19.6	22.4	79.5	
Isabela, Occidental Negros		29.2			1.8		.8						6.6	1		
Hacienda Tanolo, Hinigaran, Occidental Negros		17			2.8		3.8							17	.8	1.8
Cebu, Cebu				1.8	11.4	3.6	7.1						10	4.8	10.6	.5
La Castellana, Occidental Negros		8.9			1.5		1.5						8.9	1.3	.8	
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †	8.9									18.3			.8		4.6	1.3
Central Azucarera de La Carlota, La Carlota, Occidental Negros		34.3									.3			2.5	2.1	1
Hacienda Canlaon, La Castellana, Occidental Negros		37.3					2.3							4.1	1.1	
La Carlota Experimental Station, La Carlota, Occidental Negros †		46.2					1.5							2.8	4.3	1.3
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros		46.5												2.3	.5	1.6
Hacienda San Antonio, San Carlos, Occidental Negros †		31.7												4.3		6.6
Valladolid, Occidental Negros		6.4	3.8													
Central San Carlos, San Carlos, Occidental Negros †	33			1.5	1.3		6.4			10.2		12.7		9.1		
Hacienda Refugio, San Carlos, Occidental Negros †	66				19.8				14.5				15.2	2.5	10.7	1
Murcia, Occidental Negros		3												.5	1.5	
Concepcion, Talisay, Occidental Negros							.8					1	6.6	.8	4.9	8.4
Iloilo, Iloilo								.8						2.3	.8	13.5
Lapuslapus, Iloilo, Iloilo †														2.5	16	
San Jose de Buenavista, Antique														.5	3.3	2.1

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, February, 1920—Continued.

Station.	Day of month.																
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
Tuburan, Cebu		37.9				2		3.3					3.6	8.6	6.4	14.5	1.5
Silay, Occidental Negros					0.5								2.8	1.5	3	17.3	.5
Cuyo, Palawan															.8	1	
Lucena, Santa Barbara, Iloilo †		3.3															
Hacienda Ilaya, Victorias, Occidental Negros				5	3.3	4.1	1.3				6.1	14.2	1			.8	.8
Hacienda Bilbao, Manapla, Occidental Negros	1.3		2.5	3.8	12.7	8.9						6.4	2.5	4.3	13.2		
Cadiz, Occidental Negros	.5												1	2.8	16.6		
Ormoc, Leyte		14.5		1.3		.5	.8			0.3	1	5.3	10.7	15.5	21.6	7.1	
Guiuan, Samar		8.6	.8	3.3		24.3	2.3				24.4	72.6	48.5	8.7	31.2	12.5	
Bogo, Cebu		9.7			3.3						1	1.5	4.6	5.8	22.6		5.3
Dueñas, Iloilo †													5.6		8.4		
Bitaoagan, Passi, Iloilo †											2.5		8.1		5.1		
Tacloban, Leyte		21.5										42	55.9	5	9.7	7.1	
Dumarao, Capiz †				1.3				2.5					30.5		1.3		
Dao, Capiz †			13		1.8							13.7	4.6	50.8	16.5	2	
Capiz, Capiz		1.3	.5	.3			.3					16	3.3	18.8	13.7	4.6	
Borongán, Samar	12.4	16	11.5			6.4				1.5	22.9	115.1	80	9.4	22.9	7.4	
Catbalogan, Samar	.8	34.6	6.9			2.5					3.6	31.2	35.3	12.7	25.4	3.6	
Calbayog, Samar	4.3	8.3	8.9								2.6	23.9	28.6	11	7.7	12.7	
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †														1.8	1.3		
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †														15.2	3.3	1	
San Jose Estate, San Agustin, San Jose, Mindoro †														11.7	3.8		
San Jose Estate, San Jose, Mindoro †														11.4	2.8	1.3	
Masbate, Sorsogon		1.8	6.4	.8	1.3						17	24.4	26.7	5.1	7.6	4.3	
San Jose Estate, Tunnel D-12, San Jose, Mindoro †														22.9	7.3		
Batag Lighthouse, Laoang, Samar	2.3	4.8								4.6	10.4	64	42.4	10.4	8.9		
Irosin, Sorsogon		23.9	2	4.8	.8	.5				1.8	33.3	22.8	48	42.9	32.7		
Sorsogon, Sorsogon		17								19.8	13	10.7	34.1	37.9	34.3		
Legaspi, Albay, Albay										10.4	23.2		10	33.5	28.8		
Sumay, Guam, Ladrones Islands								3.8			24.1		12.7				
Calapan, Mindoro	*		*		*	*	*	*	*	*	*	*	*	*	.3	3.6	
Virac, Albay		.3		3.1									14.7	37.3	12.7	1	
Naga, Camarines Sur		.3									5	.8	.5	37.6	11	1	
Tigaon, Camarines Sur		.5									14.5	1.8	6.9	46.2	18.8		
Batangas, Batangas										5.1				23.4			
Calatagan, Batangas											1.3			21.3	.2		
Lucena, Tayabas										4.8				33.8	1.3		
Atimonan, Tayabas										5	1.8			21.9	4.1		
Lian, Batangas										14			39.6				
Nasugbu, Batangas										12.7	12.7				43.2		
Ambulong, Tanauan, Batangas										13.5	10.2				57.9	.5	
Mendez Nuñez, Cavite										19.8	5.8				48.8		
Alfonso, Cavite										18.8	4.1				39.4		
Indang, Cavite										10.4	5.8				39.6		
Canlubán, Calamba, Laguna		1.5	.5							20.8	19.6				66	4.3	
Silang, Cavite		.8								16.2	14.2				50.3	1.3	
Maragondon, Cavite										3.3	3				27.2		
Paracale, Camarines Norte		1.8		4.3						3.8	5.9	3	4.8	46.2	12.1	2.6	
Santa Cruz, Laguna									.8	12.7	16			62.3	.8		
Buenavista, Malabon, Cavite										.8	7.6			31.5			
Imus, Cavite										1.3	.3			19.6	.5		
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †											5	.3		28.2	1.3		
Lamao Horticultural Station, Lamao, Limay, Bataan †																	
Manila, Manila									.5	3.3				8.1			
Antipolo, Rizal				.8						2.1	6.5			13.1	1.4		
Bosoboso, Antipolo, Rizal †										5.3	.8			23.9	3.3		
Montalban, Rizal †										3.3				15.7	5.1		
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †										4.6	1.8			11.2	6.6		
Mabayuan Dam, Olongapo, Zambales †											5.3			13	5.3		
Pampanga Sugar Mills, Del Carmen, Pampanga †															1.8	1	
San Isidro, Nueva Ecija										1				3	2.8	.3	
Iba, Zambales										.2					.5		
Hacienda Luisita, Comillas, La Paz, Tarlac †																	
Hacienda Luisita, San Miguel, Tarlac, Tarlac †																	
Tarlac, Tarlac											.5				1.3		
Muñoz Agricultural School, Muñoz, Nueva Ecija †												1.3					
Baler, Tayabas			.5	1					.8	15.5		8.1		29.2	26.1	19.1	
Dagupan, Pangasinan													3		.3		
Bolinao, Pangasinan											.6				.3		
Baguio, Mountain Province																	
San Fernando, La Union																	
Echagüe, Isabela									2	2.6					.6		
Sagada, Mountain Province †		4.3							.5								
Bontok, Mountain Province †	.5				1.5							11.4					
Candon, Ilocos Sur																	
Vigan, Ilocos Sur																	
Tuguegarao, Cagayan																	
Laoag, Ilocos Norte																	
Aparri, Cagayan		.5	12.4													.5	
Cape Bojedor, Burgos, Ilocos Norte																	
Basco, Batanes		5.6	1	5.4				3.3	.6	.5	27.7	1.1	6.7		6.4	3	

† Voluntary or cooperative station.

* No observation.

Daily rainfall at the stations of the Weather Bureau, February, 1920—Continued.

Station.	Day of month.													Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
Lapac Agricultural School, Siasi, Sulu†					7.6	1.3	5.6		3.3	0.5				75.9
Glan, Cotabato†												7.6		93.4
Jolo, Sulu	1.3								.5	5.3	2.3			52.6
Lais, Malita, Davao	15.2				3	5.1	5.3	8.4	10.4	16.5	7.1		3.6	123.5
Lebak, Cotabato	11.7				31	15.3	8.1	6.6						140.8
Lamitan, Isabela, Zamboanga					11.4	.5			10.7	1.8	.3			31.6
Basilan Plantation, Kabunbatan, Isabela, Zamboanga†	3.6				5.1	6.9	2		6.9		1.5			80.3
Basilan Plantation Office, Isabela, Zamboanga†	7.1				3.8	5.1	1.8		4.1	1.5	1.3			58.9
La Union, Sigaboy, Davao†	.8				20.6	1.8	.8	3.8	1.5					167.2
Paranglalap, Isabela, Zamboanga†	3.8				7.6				3.3	1.3				36.3
Latuan, Isabela, Zamboanga†	.3				2.5				3	1				13.7
Buluan, Cotabato†				8.9	.8	16.5		.5	4.3					127.3
Malamau, Isabela, Zamboanga														203.5
Zamboanga, Zamboanga					3		.8			.5	.3			9.4
Cagayan de Sulu, Sulu†	1.3					2.5								46.9
Kidapawan, Cotabato†							6.4	1.3		35.6	2.3			161.9
Davao, Davao	2.5				8.4		21.8	13.7	5.8	10.7	1.3			101
Piang Agricultural School, Kudarangan, Duluauan, Cotabato†	23.1		2.3		25.9		6.6	.3	2		4.6			111.1
Pikit, Cotabato					7.1		21.6		14.7					116.5
Awang, Cotabato†	9.4				15.2		4.8		6.9					88.3
Sirib, Guianga, Davao†	3.8	4.1	4.6				40.9	10.7	17.3	9.4				164.2
Kabakan, Cotabato†				31.7		10.2		2.5	5.1					126.4
Bual, Duluauan, Cotabato	6.4				40.1		13.8		.8	20.6	.3			142.4
Cotabato, Cotabato					29.7		7.9		18.8	4.3				102.5
Kabasaran, Buldun, Cotabato†														216.5
Naganaga, Margosatubig, Zamboanga		5.1			33		8.9		2					111.2
Malabang, Lanao	4.6		.8		25.4			.8		3.3				163.7
Compostela, Monkayo, Davao†				6.4	19.3	7.6	11.1	25.2	53.3					274.9
Malangas, Margosatubig, Zamboanga†	3.6		2.8		11.5	2	25.4							116.9
Lumbatan, Lanao†		15.2			1.5						1		1.5	139.9
Cateel, Davao	30.3	8.4	20.5	10.7	31.8	27.2	30.2	58.4	69.4	32	12.4		5.8	965.3
Ganasi, Lanao			15.5		10.7	7.4								97.9
Camp Kalao, Monkayo, Davao	14.2			4.3	4.1	2.8	10.2	4.3	65.5					347.7
Tukuran Agricultural School, Tukuran, Zamboanga†			.3				2.8							77.8
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon				1.8	2		3.3		9.1	2				58.5
Camp Keithley, Dansalan, Lanao	4.3		12.7		14.2		7.2			3.8				147.1
Fantar, Lanao†		4.1			26.1	14.5		2.3	.5					178.5
Veruela, Agusan	33	.8	1.8	10.2	11.2	15	39.4	4.1	74.1	22.8	12.2			537.1
Sindangan, Zamboanga†														103.3
Sumilau, Bukidnon					6.6		2.3		13	.5				72.2
Diklom, Tangkulan, Maluko, Bukidnon†					11.9				3.3	17.8				65.3
Cagayan, Misamis														9.1
Talacogon, Agusan	3	3.8	6.4	29.2	18.3		18.5		18.7	.8			1	161.8
Butuan, Agusan		2.5		1.3	6.9		8.1		12.4	2.5			12.5	149.7
Mambajao, Misamis				5.8	.5		.8		13.7	21.6			24.4	227.5
Meeth, Yap, Western Carolines	3.3	1.6	1.6	16.7	37.4	2.8	46.2	3.3		3.9	.3	1.6		241.3
Hacienda San Jose, Tanjay, Oriental Negros†			10.2								6.4			50.7
Hacienda Palanas, Bais, Oriental Negros†												5.1		27.7
Hacienda Tamugon, Bais, Oriental Negros†														54.6
Tagbilaran, Bohol					7.2									59.4
Dalaguete, Cebu							.5			1.5		1.8	3.8	60.3
Surigao, Surigao		2.1	4.8	36.8	3.6			2	26.6	3.8		1.5	72.9	485
Central Palma, Ilog, Occidental Negros						2			.8					7.9
Hacienda Naval, Himamaylan, Occidental Negros					.3									28.5
Biaong Cui's Farm, Barili, Cebu								1.5						78.9
Maasin, Leyte		17.3		12.2						.5				224.3
Isabela, Occidental Negros					.8									40.7
Hacienda Tanolo, Hinigaran, Occidental Negros					3.8									47
Cebu, Cebu	.3	.8	.5	2.3	1.8			1.5	.3		1.5			58.8
La Castellana, Occidental Negros													.5	21.9
Hacienda Vallehermoso, Vallehermoso, Oriental Negros†			4.1			.5		2.5			.8			41.8
Central Azucarera de la Carlota, La Carlota, Occidental Negros														40.2
Hacienda Canlaon, La Castellana, Occidental Negros														44.8
La Carlota Experimental Station, La Carlota, Occidental Negros†				1	.8									57.9
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros								.5					3	54.4
Hacienda San Antonio, San Carlos, Occidental Negros†										16.5				48.2
Valladolid, Occidental Negros					.8								.8	22.7
Central San Carlos, San Carlos, Occidental Negros†							2.5			6.4		6.6	21.3	111
Hacienda Refugio, San Carlos, Occidental Negros†												7.6	22.9	160.2
Murcia, Occidental Negros					1.3			1.5					2	9.8
Concepcion, Talisay, Occidental Negros								1						23.5
Iloilo, Iloilo					6.1			2.5			.3			25.5
Lapu-lapu, Iloilo, Iloilo†					4.9			5.6						29.8
San Jose de Buenavista, Antique				.8									3	9.7

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, February, 1920—Continued.

Station.	Day of month.													Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Tuburan, Cebu				.3	1.6			.5						100.3
Silay, Occidental Negros			1.8	.3	19.6		3.3	11.2				1.3	18.1	63.1
Cuyo, Palawan														1.8
Lucena, Santa Barbara, Iloilo †					3						18.5			24.8
Hacienda Ilaya, Victorias, Occidental Negros		16			8.9			13.7		2	7.4	17.8		102.4
Hacienda Bilbao, Manapla, Occidental Negros					10.2		2.3	6.8			17.8	13.2		110.2
Cadiz, Occidental Negros				.8	12.7		4.8	8.4			1.5			45.1
Ormoc, Leyte		1.3		3.3	4.6			12.7			3.8	8.4	4.8	117.5
Guiuan, Samar	3.8	2.1	5.6	8.9	.5		1.3	2.3	5.9		8.6	5.6	9.7	291.5
Bogo, Cebu	.3			.5	.8			1.5			.5	1.3		53.7
Dueñas, Iloilo †														14
Bitaoagan, Passi, Iloilo †					4.8			1.3			1.3	5.1	1.8	30
Tacloban, Leyte		16.5		11.5	4.8		2.3	4.3			6.9	12.7	6.6	202.3
Dumarao, Capiz †			1.3				1.3			17.8				57.3
Dao, Capiz †		1.8			14.2			22.4	1.3		9.9	8.9	2.5	163.4
Capiz, Capiz	4.1	8.9		2.8	2.8			24.7	3	.3	12.7	22.3	2	140.5
Borongnan, Samar	2.5	1.8	3.3	12	14.2			3	6.8	2.5	37.3	48.5	17.3	454.7
Catbalogan, Samar	.8	.8		3.8	11.9	.8	.8	5.5			10.7	21.3	7.4	220.4
Calbayog, Samar	.8	14	1.8	4.6	5.1			2			7.6	9.1	2.8	165.8
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †								.5						3.6
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †								4.3						23.8
San Jose Estate, San Agustin, San Jose, Mindoro †								3						18.5
San Jose Estate, San Jose, Mindoro †								5.6						21.1
Masbate, Sorsogon	1.5	3.3	1.3	3.3			1.5	11.5		.8	5.6	4.3	2.3	130.8
San Jose Estate, Tunnel D-12, San Jose, Mindoro †								3						33.2
Batag Lighthouse, Laoang, Samar	.8			2.3	1.3		29.4	7.3		5.3	1.3	63.8	.5	259.8
Irosin, Sorsogon	2.3	4.1	18.1	4.4	13.5	1.3	6.6	23.6	1.8	20.3	6.8	13.7		330
Sorsogon, Sorsogon			21.3	2.3	2.3	2.3	9.9	23.1	3	50.8	2.3	50.8		334.9
Legaspi, Albay, Albay	5.6	.5	6.3	17.5			5.9	3.8		5	16.2	5.6		193.7
Sumay, Guam, Ladrone Islands					3.8				5.1					49.5
Calapan, Mindoro	10.2		.5	.5	1.3	1.8		.5	.8	1.8	21.3			42.6
Virac, Albay	13.4	.5	6.1	.3	1		2	3.6	3.3	10.9				111.2
Naga, Camarines Sur	2	.8	3.8					3.6			34.3			96.2
Tigaon, Camarines Sur	12.4	4.6	3.8	.3		1	2.8	3.8	5.3	7.1	9.1			138.9
Batangas, Batangas	3.6							8.8						38.9
Calatagan, Batangas	1.3								3					24.4
Lucena, Tayabas	3				5.1			7.9	16.1	.6				72.6
Atimonan, Tayabas	3	3.8	.8	7.3	.5	1	1	12.7	6.1	.8				65.3
Lian, Batangas									2.5					56.1
Nasugbu, Batangas														68.6
Ambulong, Tanauan, Batangas							5.1	3.3	5.9					96.4
Mendez Nuñez, Cavite	1.5							.5		.8				77.2
Alfonso, Cavite	1.5							.5						64.3
Indang, Cavite	3.3								1.8	.5				61.4
Canluban, Calamba, Laguna								4.6	5.6	5.1	3			131
Silang, Cavite	3.1					.5		2.8	3.3	1.5	.5			94.5
Maragondon, Cavite														33.5
Paracale, Camarines Norte	5.6	8.4	5.1	12	.8			13.4	20.3	16.3		1		167.4
Santa Cruz, Laguna	7.7	2.8	1	.5		.5		1.5	9.4	2.3				118.3
Buenavista, Malabon, Cavite	.8							.3	3					41.3
Imus, Cavite	1.1								.5					23.3
Alabang Stock Farm, Alabang, Muntinlupa, Rizal †									.3					30.6
Lamao Horticultural Station, Lamao, Limay, Bataan †														14.4
Manila, Manila								.5	.8					24.9
Antipolo, Rizal									1					35.1
Bosoboso, Antipolo, Rizal †									1.3					25.4
Montalban, Rizal †														24.2
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †														23.6
Mabayuan Dam, Olongapo, Zambales †	1.3													1.3
Pampanga Sugar Mills, Del Carmen, Pampanga †														2.8
San Isidro, Nueva Ecija	.5									2.1				9.7
Iba, Zambales										1.5				2.2
Hacienda Luisita, Comillas, La Paz, Tarlac †														0
Hacienda Luisita, San Miguel, Tarlac, Tarlac †														0
Tarlac, Tarlac	.8									.3				2.9
Muñoz Agricultural School, Muñoz, Nueva Ecija †														1.3
Baler, Tayabas	19.1		3.8	2.8				5.8	52.1	132.4	109.4	15.2	34.3	475.2
Dagupan, Pangasinan											3.8			4.1
Bolinao, Pangasinan														.3
Baguio, Mountain Province										.1		12.3	23.1	36.4
San Fernando, La Union														0
Echagüe, Isabela	.5							5.1	1	3.8	.1			14.8
Sagada, Mountain Province †				27.9					1	3.5	9.9			58.5
Bontoc, Mountain Province †				7.4						.8	6.6	9.1		25.9
Candon, Ilocos Sur		1.3												1.3
Vigan, Ilocos Sur											8.1			8.1
Tuguegarao, Cagayan								24.7	12.8	7.9	3.1	21	1.5	71
Laoag, Ilocos Norte								4.6	43.5	29	6.1	.3	4.8	117.2
Aparri, Cagayan	.5								1					1
Cape Bojeador, Burgos, Ilocos Norte														1
Basco, Batanes	20.3	9.7		58.4	1.3	34.8	24.4	13.4	3.6	.8	56.6	59.5	4	348.1

† Voluntary or coöperative station.

* 15 days of observation.

MAXIMUM AND MINIMUM TEMPERATURES AT THE STATIONS OF THE WEATHER BUREAU, FEBRUARY, 1920.

Day.	Jolo.		Lais, Malita.		Lamitan, Isabela, Zamboanga.		Malamaui, Isabela, Zamboanga.		Zamboanga.		Davao.		Cotabato.		Naganaga, Margosa-tubig.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.9	21.2	33.8	21.7	32.4	20.5	29.7	23	28.7	22.7	31.4	21.5	32.1	21.9	32.2	21.2
2	29.9	21.6	32.3	21.1	32.5	19.2	31	22	30.9	22	31	21.4	32.4	21.5	33.7	21.5
3	30	21.1	33.5	22.5	32.6	18	30.3	23	31.8	22.8	31.7	20	33.6	21	33.5	20.7
4	31	19.8	34.2	22	32.5	19.1	31	22.2	33.7	21.5	32.2	21.4	33.9	21.2	34.3	20.5
5	30.8	21.4	33.8	20.5	32.4	21.4	31.5	23	32.5	22.2	32	21.3	33	20	33.7	20.2
6	30.6	21.1	32.7	21.3	32.3	20.3	31.6	22	30.1	22.2	31.6	21.4	33.3	20.5	34.5	21.5
7	30.8	21.8	32.5	23.2	33.6	21.5	29.2	23	30	22.3	31.9	23	31.4	22.3	35.2	21.2
8	30.8	24.4	30.3	22.3	32.4	20.7	30.7	22.6	30.3	23.5	31.5	21.3	31.9	22	34.2	22.2
9	30.3	25.5	34	23.2	31.5	21.4	30.1	22.3	32.7	21.8	30.2	22	31.9	20.4	33.5	22.5
10	31.6	21.7	31.7	21.7	32.7	21.5	30.6	21.6	31.5	22.2	29.9	20	32.7	21	34.5	21.5
11	29	21.3	32.4	22.6	33.5	19.7	31.3	22	30	21.8	29.7	22.2	31.4	21.7	33.5	22.2
12	29.3	22	32.3	23.2	34.6	18.2	31.8	22.4	32	23.2	32.5	22.3	32.7	23.2	34	21.5
13	29.1	25.5	31.8	22	30.4	19.6	30.8	23.4	29	23.7	28.5	21.5	31.2	22.2	33.5	22.2
14	29.7	24.6	29.2	23	33.3	20.4	30.5	22.6	28.8	23	27.9	22	30.5	22.8	34	21.3
15	25	22.9	31.3	20.7	34.3	21.2	28.6	22	31.8	22.8	29.7	21.9	32.7	22.5	33.5	20.2
16	29.4	23.5	32.2	21.9	32.2	17.8	29.9	22.6	30.5	22.7	31.2	22.5	33.9	22.5	33	21.2
17	30.3	20.9	32.5	20.5	32.5	20.5	30	22.5	31.4	22.8	31.2	22	32	22.2	34.5	22.7
18	29.2	21.9	32.3	22.5	32.6	21.3	30.5	22.6	29.7	22.9	32.5	23.2	32.7	22.8	33.5	21
19	30.2	21.1	32.5	21.2	31.3	20	31.5	22	29.5	22.1	32.2	20.8	32.9	20.5	33	22.5
20	30.3	20.9	32.5	22	32.6	20.1	31	23	31.1	21.4	32.2	21	32.6	21.3	34.3	19.5
21		23	32.4	22.4	32.2	18.6	31.6	22.4	28.4	21.5	30.8	22.5	31.8	21.5	33.5	20.7
22	30	23	32.3	22.2	32.4	22.5	30.6	23	32.3	23.1	31.7	21.5	33.5	21.5	34.5	23.2
23	29.5	21.9	30.4	23.4	31.4	20.6	32.3	22.1	28.9	23.3	31.1	22.8	33.2	22.2	34	20.2
24	29.4	21.9	31.6	23.5	32.5	20.6	31.9	22.3	31.7	22.2	29.7	22.7	31.2	20.1	33.5	19.7
25	30.3	22.5	30.2	22.7	32.7	20.6	32.2	23.4	31.7	22.4	30	21.1	33.7	22	32.5	21.2
26	29.3	21.7	31.4	22.5	32.2	21.3	31.1	23.5	33.2	22.9	30.3	22.5	34	22.5	33.5	20.7
27	30.3	22.4	30.1	23.7	31.9	21.6	31	23	33.1	22.9	29.2	22.6	34.1	23	34.2	21.5
28	29.6	22.9	32.2	22.5	32.2	22.3	31.4	23.4	32.5	22.9	32.2	20	33.7	21	33.5	20.7
29	29.8	21.4	32.6	22.7	32.4	21.4	31	22.7	29.5	21.8	32.5	22.5	34.1	21.4	33.5	21.5
Mean	29.9	22.2	32.1	22.3	32.5	20.4	30.9	22.6	30.9	22.5	31	21.8	32.7	21.7	33.8	21.3

Day.	Cateel.		Ganasi.		Camp Kalao, Monkayo.		Camp Keithley, Dansalan.		Veruela.		Sumilau.		Cagayan.		Butuan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.5	20.7	29.4	16	32.1	20.1	26.9	15.3	31.3	20.8	29.1	18.1	31	21.5	32.9	20.9
2	28.5	21.5	26	15	30.1	20.1	25.8	15.9	27.8	20.7	24	15.3	27.4	19.8	29.1	21.4
3	30.5	20.5	31	12	30	20.1	26.5	14	28.5	21.2	28.5	17.9	31	20	32.5	21.3
4	30.3	22.5	30.5	13.4	31.1	20.1	26.9	15.5	30.3	20.2	27.5	19.1	31.6	21.5	32.7	21.4
5	30.5	21.2	28.9	12.1	31	20	25.8	13.9	30.8	20.8	28.6	18.4	33	20	33.5	20.9
6	31.1	22.2	27	15.4	30.1	21.1	24.8	15.7	26.3	20.7	27.4	19.9	31.5	21.4	31.1	21.3
7	27.5	23	27.8	18.9	30	21.1	24.9	18.9	25.8	21.4	26.2	17.7	28.8	23	25.6	22.4
8	29.8	21.3	28	18.9	30.1	20	23.6	18.5	29.8	21.7	28.8	18.5	31.4	21.8	31.7	21
9	28	22	28.5	12.9	30	20.1	25.3	16.9	28.4	20.2	28.7	17.3	31.1	19.8	32.2	20.7
10	27.6	21.5	28.7	12.9	29	20	25.4	13.5	28.3	20.2	27.3	17.1	30.8	20	30.9	18.2
11	27	21.7	26.7	18.3	30	21	25.8	17.9	27	21.5	26.8	17.6	30.5	21.4	30.1	20.4
12	30.4	23	29	17.9	31	21	24.6	19.5	28.6	21.7	26	18.1	29.8	22.6	26.4	22.7
13	25.2	22.5	28	18.9	30.1	21	24.6	18.5	24	22.5	24.6	18	29.1	21.1	26.9	21.7
14	23.5	22.3	27	14.6	30	21.1	23.9	18.7	24.37	22.3	23.6	19	28.2	22.8	26.1	21.6
15	27.5	21.7	27.1	20	29	20.1	24.4	18.1	26.7	21.2	25.6	18.4	28.2	22	26.9	21.7
16	30.5	23	28.4	16.7	32	21.1	29.5	19	29.5	21.5	29.4	20	29.8	22.6	30.6	22.6
17	28.1	22.5	28.2	18	30	21	25.1	17.1	27.4	22.6	28.4	20.1	31.2	21.8	30.7	22.3
18	30.4	22.4	29.8	18	32	21	27.3	18.5	30.8	21	28.7	18.6	32.2	20.8	32.6	21.2
19	29.7	21.6	29.4	14.2	31	20	26.9	15.9	30	20.7	29.8	17.5	31.2	20.2	33	21.5
20	30.2	21.2	29	15.4	32	20	26.2	15.7	30.3	20.3	29.9	16.5	31.2	20	32.3	19.5
21	25	20.5	28.4	16	30	21	25.1	17.5	25.8	22.2	24.8	19.9	30.8	20	30.7	22.3
22	30.8	21.9	30.2	16.4	30.1	21.1	27.1	17.6	30	21.6	29.5	18.8	31	20.8	32.9	21.7
23	28.2	22.8	29.4	15	30	21	25.9	17.3	26.8	22.2	25.6	20.2	31.8	20.6	31	21.3
24	27.6	22.8	27	15.4	30.1	20.1	24.5	15.9	30	21.6	27	19.1	32.6	21.1	31.7	20.4
25	30	22	30.4	12.6	31	20.1	25.1	17	28	21.2	29.6	20.5	32.6	21.5	32.5	21.2
26	29.4	23.5	31	16.8	32	21	27.3	18.6	30	21.8	28.5	20	31.8	21.4	29.1	20.9
27	29	23	31	15.5	30.1	20	26.3	17.7	28.8	20.7	28.6	19.1	31.4	22.2	32.4	19.3
28	30	21.8	31.4	12	31	20	26.7	13.4	30.6	19.5	29.4	17.6	31.8	20.9	32.7	18.9
29	30.5	20.8	31.4	12	31.1	20	27.3	14.2	30.8	19.2	30	15.6	31.6	21.1	32	20.9
Mean	28.9	22	28.9	15.6	30.6	20.5	25.8	16.8	28.5	21.2	27.7	18.4	30.8	21.2	30.8	21.1

Maximum and minimum temperatures at the stations of the Weather Bureau, February, 1920—Ctd.

Day.	Mambajao.		Meeth, Yap.		Tagbilaran.		Dalaguete.		Surigao.		Hacienda Naval, Himamaylan.		Biaong Cui's Farm, Barili.		Maasin, Leyte.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.1	23.4	30	25.5	30.9	21.9	29.7	24	29.7	22.6	31.4	19.5	29.8	22.5	32	21.4
2	28.1	23.4	29.6	25.6	30.5	21.2	28.8	23	28.6	22.6	31.7	19.2	30.3	23.5	31	22
3	29.9	23.1	29.4	26.1	31.8	19.9	30	23	29.6	21.6	32.3	19.9	30.5	22.1	31.4	20.6
4	30.4	23.4	29.6	24	31.1	21.8	31	23.7	29.6	22.8	32.8	18.7	30.8	22.9	31	21.5
5	29.9	22.4	29.7	22.6	31.6	21.9	29.5	23.8	30.4	22.8	32.6	23.1	30.5	23.4	30.6	21
6	29.4	23.1	29.8	24.6	31.1	21.8	29.7	23.3	28.8	21.6	31.2	20.6	30.2	22.5	30.6	20.8
7	25.7	23.1	29.4	25.6	27.5	22.9	28	23.2	25.3	22.4	28.6	22.5	26.2	21.2	29	20.8
8	28.9	21.9	29.5	23.2	31	21.6	29	22.6	28.6	21.4	31.4	21.1	26.6	21.4	31	21.4
9	29	22.3	28.9	24.5	32.6	21	28.5	22	28.4	23.4	32.6	19	28.3	21.9	30.7	20.4
10	29.3	24.3	27.7	24	30.5	18.6	29.9	21.8	28.6	20	32.7	19.2	29.2	21.4	31.2	20
11	28.8	23.3	28.3	24.8	30.4	20.6	29.5	22.6	28.7	22.3	32.4	19.1	28.9	21.2	31	21.4
12	26.8	23.4	26.7	22.7	22	29.7	25.5	24.7	23	30.7	20.9	28.5	22.1	28	21.8	
13	26.2	22.7	28.8	22.5	27.9	21.5	28	21.9	25.8	21.6	32.1	22.5	28.5	21.5	29.5	22.1
14	25.9	23.2	28.8	23.5	28.3	22.4	29.2	23.4	27.8	22.8	28.7	22	26.5	22.6	31	21.5
15	25.9	22.4	29.3	24	27.5	23	26.6	23.2	26.6	22.8	27.8	22.5	30.8	23.2	27.4	22.1
16	30.3	23.5	29.7	24.3	32.2	22.1	30	23.9	29.7	23	33.3	22.9	30.4	21.6	31	23.6
17	29.4	24.4	29.7	23.9	32	21.5	30.1	24.2	29	24.7	33.7	24.1	30.6	22.4	30.7	23.2
18	30	23.7	29.7	22.4	30.2	20.6	29.5	23	29.3	21.8	33.4	18.8	30.1	21.4	31.6	21.4
19	29.8	23.3	29.7	23.5	31.5	22.2	29.6	24	29.3	22.1	32.3	19.7	29.1	20.6	31.2	21.8
20	29.9	23.6	29.8	23.4	30.9	21.3	29.1	23.6	27.2	22.1	33	18.7	30.4	21.5	30	22
21	27.4	21.9	27.9	22.2	27.6	22.1	27.8	23.3	28.8	22.3	30.1	21.1	29.4	20.4	31	21.6
22	30.3	22.9	29.4	23.2	30.9	21	29.6	23.2	29.7	21.8	33.8	22	30.5	21.4	31	22.6
23	29.6	23.2	28.6	24.5	31.9	21.7	29.6	24	28.6	25.2	33.6	23	30.5	22	31.3	21.9
24	29.3	23.7	28.7	23.4	30.9	20.2	29.7	24.1	28.5	24.8	33.7	22.9	30.1	21.5	31.4	22
25	28.3	25	29.4	23.5	32.7	21.1	29.7	23.9	28.6	23.9	34.4	23.8	28.9	21.8	32	22
26	27.2	22.9	29.6	24.3	31.1	21.5	29.1	24	28.2	22.4	33.5	23.6	29.8	22.6	32	22.2
27	29.9	22.1	29.4	24	33.7	20.7	30.1	23.5	29.8	21.8	34.4	22.7	29.9	21.8	32.5	21.2
28	29.5	21.9	28.4	22.6	30.7	19.1	30.3	22.8	30	20.5	32.3	18.7	30.1	21.2	31.5	22.2
29	29.9	24.3	29.4	24.8	30.2	21.4	30	23.3	29.4	21.8	33.8	22	28.8	20.7	30.6	20.8
Mean	28.8	23.2	29.1	23.9	30.7	21.3	29.4	23.3	28.5	22.5	32.2	21.2	29.5	21.9	30.8	21.6

Day.	Hacienda Tanolo, Hini-garan.		Cebu.		La Castellana.		Central Azucarera de La Carlota.		Hacienda Canlaon, La Castellana.		Mao Sugar Central, Bago.		Valladolid.		Concepcion, Talisay, Occ. Negros.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.6	20.5	30.1	24.3	33.6	18.7	32.3	18.2	30.4	19.9	32.5	18	32.2	24.2	30.8	18.9
2	32.5	19.8	30.4	23.4	33.2	19	32.9	18.8	31.4	19.7	32.6	18.5	32.6	19.2	32.4	19.7
3	31.9	21.6	29.9	24	31.5	20.8	33.1	19.6	31.2	18.4	33	19	32.2	19.1	31.1	19.6
4	32.3	20	29.8	24.9	32.1	19	33.2	18.7	32	18.6	33.4	18.7	32.2	23	31.5	19.8
5	32.2	21.3	28.7	21.9	32.5	19	33.1	19.4	31	18.4	33.7	19	31.6	19.5	32	19.9
6	30.7	21.3	30.7	22.7	33.2	20.2	31.4	20.4	30.9	18.6	32.5	19.5	31	19.2	30.7	20.1
7	28.1	23.1	27.2	24.5	29.2	23.2	29.3	22.6	28.6	20.7	29.1	22.5	31	19.2	29.9	20.2
8	30.7	21.1	29.2	24	31.1	20	32	20	30.7	18.9	32.7	19.8	32	19.2	20.1	20.1
9	32.4	20.8	28.6	23.7	32.4	17.7	33	18.5	30.4?	18.7	31.7	19.5	32	20	30.1	20.4
10	32.1	18.5	29.9	22.8	32.6	16.6	32.8	16.2	31.4	16	33	16	33	19.2	31	20.5
11	31.7	21.1	30.7	23.5	32.6	19.2	33.3	19.4	32	17.3	32.7	19.7	31.4	19	31.2	20.7
12	31	21.4	28.4	24.5	30.1	19.6	29.6	20.8	28.9	18.3	31.5	21.8	32.2	19.2	30.8	21
13	31.7	22.6	28.8	23.8	31.7	21.5	32.5	21.1	29.9	20	33	21.3	32	21.1	29.3	21
14	28.3	22.4	28.7	23.5	31.6	20	28.6	21.8	28.9	19.4	30.5	22	31	22	29.6	21.1
15	28.1	25	26	23.6	31.7	22.5	29.5	22.6	28.5	20.1	28	22.6	27.5	23.4	28.3	21.2
16	32.4	24.4	30.1	24.9	33.1	23.6	34.6	23.9	33.2	21.9	33	22.5	33	23.3	26.9	21.1
17	32.5	23.6	29.8	24.8	32.8	23.8	32.1	22.7	31.8	21.7	33.7	21.5	31.2	23.5	31.8	21.6
18	31.1	20.6	29.8	24.1	33.6	21	32.8	19.9	32	18.9	33.7	19	32.6	20.2	31.9	19.9
19	31.9	22.1	30.7	24	32.2	21.1	33.4	21	31.9	19.8	34.5	20.8	32	21.2	32	20.2
20	31.8	20.2	29.7	23.7	33.6	18.7	33.3	18.9	32.5	18.2	32.4	18.7	32	20.3	32.4	20.4
21	29.7	22.8	29.3	23.6	32.1	21.2	31.7	21	31.4	19.9	32.8	20.7	28.2	21.5	31	20.4
22	32.5	21.9	29.1	24.2	33.4	20.8	34	19.2	32	18.2	32	18.5	32	20.1	31.5	20.3
23	31.6	21.9	29.8	24.3	33.6	21.8	32.9	19.5	30.9	18.7	33	20.5	32.4	22.2	32.2	20.4
24	33.8	22.1	30.7	24.6	33.8	19.2	33.9	20.4	33	18.6	33.8	22.5	32.4	22.2	31.1	20.5
25	34.1	22.7	30.9	24.3	34.8	21.7	33.4	20.1	32	19.2	34.5	20.2	33.5	21.2	31	22.7
26	33.5	22.9	29.4	24.5	33.9	22.2	34.4	20.2	31.5	19.9	34.8	20.8	34.2	20	31.4	20.9
27	33.2	21.5	29.8	23.9	33.2	21.5	34.9	18.4	31.9?	18.3	35.2	18	34.2	21.2	32	19.9
28	32.5	22.3	30.1	23.5	33.1	21	31.4	19.5	32	18.7	35	19	34.8	20.2	32.5	20
29	32.4	22.3	29.9	24.4	33.3	21.7	32.9	19.6	31.5	18.8	34	20	33.2	21.2	31.1	19
Mean	31.7	21.7	29.5	23.9	32.6	20.5	32.5	20.1	31.1	19.1	32.8	20	32.1	20.9	31	20.4

Maximum and minimum temperatures at the stations of the Weather Bureau, February, 1920—Ctd.

Day.	Iloilo.		San Jose de Buenavista.		Tuburan.		Silay.		Cuyo.		Hacienda Ilaya, Victorias.		Hacienda Bilbao, Manapla.		Cadiz.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.1	22.8	31.6	19.2	29.8	21.5	29.5	23.4	29.9	24.5	29	23	28.9	22.2	29.4	23.2
2	30.9	22.7	32.3	19.7	30	21.8	30.1	20	30.4	22.1	29.5	21.5	29.6	21.7	29.7	23.4
3	30.5	23.3	33.1	21.1	30.2	20.5	30.5	21	30.2	23.9	30	22.8	30.3	21.2	30	21.6
4	30.3	23.1	32.4	19.6	30.3?	21.9	29.5	21.6	31.7	25.1	30.5	22.2	28.8	22.2	29.8	24.2
5	30.8	23	32.2	19	29.8	21.4	29.6	22.1	31.2	24.6	29	21.5	29.8	20.4	29.2	22.1
6	30.3	23.1	32.3	20	29.2	22.1	29.5	21.1	29.8	25	29.2	21.7	28.6	21.6	29.5	24.6
7	29.6	23.8	31.8	22.5	27.4	22.1	30	22.2	29.8	25.7	28.5	21.6	29.4	21.9	29.5	22.6
8	30.8	22.7	32.3	20.4	29.3	21.5	29.5	23.2	30.1	25.2	29	21.5	30.3	21.4	29.5	23
9	29.5	21.8	34	17.7	29.6	19.7	29.5	22.1	30	24.6	28.9	20.6	29.8	21	29.4	21.7
10	30.2	21.5	31.7	15.6	28.5?	18.7	30.5	21.2?	30.4	23.1	29.5	22	30.2	20.5	29.2	20.6
11	30.3	22	32.2	18.4	30.3	20.3	30.2	20.2	29.2	24.6	29.5	21.7	31.6	21.4	29.5	24.5
12	29	23.4	32.1	19.5	26.2	22.5	27.4	22.6	29.9	25	30	23.2	27.5	21.9	26	23.4
13	30.3	23.5	32.5	21.3	29.2	22.4	29.5	22.6	29.5	25.2	30	22.5	28.6	22.2	29.4	22.7
14	30.2	23	32.3	22.4	29.5	22.2	28	21.6	29.5	25.2	23.5	22.5	29.5	22.8	29.4	23.4
15	26.6	23.3	29.2	22.4	25.8	23.1	31.5	22.3	27.9	24.9	23.5	22.8	28.4	21.9	26.4	23.5
16	30.2	23.9	33.6	23.3	31.7	22.5	30	23.5	30.3	25.2	23.7	23.2	29.8	22.2	28.9	24.5
17	30.7	24.2	33.7	22.9	30.9	23.7	30	23.5	32.8	25.1	29.5	23.8	30.4	21.8	29.6	22
18	30.7	23	32.2	20.5	29.4	21.2	31.5	21	30.4	23.9	30	22.2	31.2	20.9	29.5	24.1
19	31.7	23.2	32.3	21.4	31.1	21.8	30.5	23	29.9	24.8	28.5	22.4	30.6	21.3	30	22.7
20	30.4	22.7	31.9	18.5	29.7	20.8	30.5	21.6	30.4	24	29	22.2	31.2	21.7	30	22.5
21	30.2	22.6	32.7	20.7	28.7	21.5	29	21.6	29.7	24.3	29.8	22.3	31.6	21.9	28.5	21.5
22	30.8	22.5	33.6	20.4	30.7	20.6	29.5?	23	30.4	24.9	29.3	22	30.5	22.5	29.1	21.5
23	30.8	23.2	33.2	19.4	31.6	21.2	29.8	20.5	30.3	25.3	29.3	22.2	29.7	21.7	29.4	23.4
24	31	23.2	35.4	19.5	31.5	20.9	29.5	23	30.3	25.2	29.5	22	29.9	20.6	29.7	25.4
25	30.4	23.3	32.3	21.8	31.3	21.6	30.4	21.7	29.9	25.1	29.8	22.5	31.4	21.5	29.2	23
26	31	23.6	32.2	19.5	30.8	21.7	30.5	23.2	30.2	25.1	30.6	23	30.7	21.8	29.8	23.5
27	30.9	22.5	35.1	19	31.8	19.4	31.5	20.6	31.8	25.3?	30.5	21.5	31.6	21.9	30	20.6
28	30	23.3	31.8	20.7	30.2	22.4	29.5	21.6	30.4	25.2	28	23.5	29.9	22.6	29	23.2
29	30.1	23.5	32	21	29.8	21.5	30	22.7	30.4	25.6	28.8	24	29.2	21.6	28.3	24.4
Mean	30.3	23	32.6	20.3	29.8	21.5	29.9	22	30.2	24.7	29.3	22.3	30	21.7	29.2	23

Day.	Ormoc.		Guiuan.		Bogo.		Tacloban.		Capiz.		Borongan.		Catbalogan.		Calbayog.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.9	21.5	31.8	21.9	31.3	22.6	32.3	22.5	31.9	22.5	30.1	21.9	30.1	22.2	31.8	21
2	32.7	21.4	30.6	23.5	31.7	23.1	27.7	21.4	31.8	23.4	28.8	22.9	26.1	21.5	25.8	20.7
3	31.8	19.9	31.7	22.3	31.8	22.8	31.2	19.7	31.8	24	30	21.1	30.8	21.1	-----	19.3
4	32.4	19.9	31.4	24.2	31.3	24.4	31	22.8	31.2	22.5	30.2	22.7	31.1	21.6	-----	21.4
5	32.6	22.4	30.6	25.5	31.7	25	31.4	22	31.8	23	30.1	25.4	31.2	20.6	-----	21.5
6	32.2	22.4	31.3	25.2	31.2	25.1	29.9	22	31.2	23.5	29	23	28.6	21	-----	21.4
7	31.3	22.8	31.3	22.7	30	25.2?	30.6	23	31.3	23.8	30.2	23.6	31	20.9	-----	21.2
8	31.7	20.5	31.4	23.7	30.5	25.3?	30.7	22	31.3	22.4	30.1	22.2	30.8	19.6	31.3	19.8
9	31.8	19.3	30.6	24.8	30.6	24.5	31.2	20.5	31.3	22.5	30	19.6	30.6	18.1	30.4	18.8
10	31.6	18.8	30.5	24	31.1	23.8	31.1	20.7	31.2	21.2	30.1	19.2	30.5	17.7	31.6	17.9
11	31.6	19.7	31	23.7	31.5	23	31.1	22.1	31.2	22.4	30	21.5	30	19.6	30.5	20
12	32	21.5	27.2	22.5	31.2	23.6	25	22	27.8	23.5	25.6	22.6	27.6	22.6	24.6	22.4
13	25.9	22.8	25.8	22.3	31	23.3	25.4	21.8	30.8	23.4	27.9	21.7	27.6	22.3	27.8	22.1
14	29.9	22.7	30	22.7	30.8	23.2	29.9	21.7	30	23	29	22.2	30	22.1	28	21.8
15	29.9	22.9	29.8	23.7	30.2	23.1	29	23	28.9	23.5	29	24.5	29.8	23.3	30.9	23.1
16	31.6	23.2	31	22.8	29.4?	24.2	29.4	23.6	30.8	24	30.1	24.5	29.9	23.6	30.6	23
17	31.7	23.3	31.3	24.1	30.2	24.6	30	21.4	31.2	23.6	30.1	25.5	30	23.5	30.8	22
18	30.2	21	30.4	23.6	30.3	24.8	30.1	21.5	31.4	23.1	30	24.9	30.6	21.6	30	21.5
19	31.9	21.2	31.6	22.7	31.4	24.3	30.5	21.5	31.8	23.6	30.6	21	31	19.6	30.5	21.1
20	31.9	19.9	29	22.2	30.6	22.6	29	22.2	31.3	23.5	29.2	22	27.6	21.1	30	21.9
21	30.5	20.6	31.1	22.6	30.5	23.3	29.8	21.9	31.2	23.1	29.6	21.2	30.3	20.2	30.3	21.1
22	31.4	22.2	31.2	24.5	29.2?	23.8	31.4	22	31.3	23.5	30.1	25.2	30.9	21.6	31.9	21.7
23	32.2	23	31.5	23.7	30.6	24	31	23	31.9	23.4	30.8	25.7	31.3	21.3	31.3	20.5
24	32.2	23.2	30.3	24.5	30	23.9	31.6	22.5	31.7	23.6	30	25.5	30.3	21	30.7	22
25	32.3	22	30.8	24	30.1?	22.9	30.8	22.5	31.8	23.1	30.6	25.6	31.2	22.8	31.4	22.2
26	32	23.4	31.5	24.5	31	23.6	29.5	21.5	31.8	24	30.1	25.3	30.5	21	31.7	21.3
27	31.9	20.2	31.3	24	30.1	22.8	30	20.9	31.7	23.9	30	25.1	30	18.8	29.6	20.4
28	31.9	20.9	30.7	28.4	30.3	23	29	22.5	30.3	23	28.6	23.8	29.3	22.7	29.9	23.3
29	31	22	31.7	23	30.7	24.2	29.9	22.7	30.3	24.1	30.4	23.6	30.4	22.2	29.6	22.6
Mean	31.5	21.5	30.6	23.5	30.7	23.8	30	22	31.1	23.2	29.7	23.3	29.9	21.2	30	21.3

Maximum and minimum temperatures at the stations of the Weather Bureau, February, 1920—Ctd.

Day.	Masbate.		Batag Light-house, Laocang.		Sorsogon.		Legaspi, Albay.		Sumay, Guam.		Virac.		Naga, Camarines Sur.		Tigaon.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.8	21.6	29.5	21.9	30	19.2	30.6	20.3	28.4	23.8	29.9	19	33.3	18.8	30.2	16.4
2	28.8	23	29.5	22.8	27.7	20.9	29.6	21.4	28	24.4	30.8	19.2	32.5	19.5	30.9	16.4
3	29.8	23.5	29	23	29.5	21.5	31.8	25	28.2	24.2	30	21.7	32.8	20.3	29.9	19.5
4	29.6	22.5	29.4	23.7	30.5	22.5	30.3	24.5	28.2	24.2	29.6	21.5	31.8	18.1	30.4	18.5
5	30	23	29.9	24.2	30.5	21.5	31.2	24.5	28.6	24.2	30.4	22	33.7	19.2	30.4	18.8
6	29.6	22.6	29.9	23.8	29.6	22	31	24.2	30.4	23.2	30.8	19.5	31.3	17.4	31.2?	16.9
7	30.4	23.4	29.5	23.8	30	21.9	30.5	23	30.2	22	30.1	20.3	32	18.2	31.2	17.3
8	29.8	22.4	29.5	23.5	29.5	19.9	31	21.2	27.2	22.6	30	20	32.5	17	31.2	16.4
9	29.6	21.2	29.5	23	29.6	21.1	30.6	22.2	28.2	23.6	29.8	19.6	31.2	15.1	30.2	16.4
10	28.6	21.2	29.9	22.7	30	19.3	31.1	22.1	28	23.6	29.7	21.6	31.4	16.6	30.4	15.7
11	28	23.2	29.5	22.8	29.1	21.3	26.8	22.7	29.6	24.6	29.9	22.2	30	20.4	30.8	19.5
12	26.6	22	25.6	21	29.5	22.5	28.7	25	29.8	23.4	29.6	22.2	31.7	21.4	30	20.2
13	26	21.8	27	23	27.9	23	28.9	24.8	28	23.4	29.6	21.1	32.2	22.5	29.6	20.7
14	29.6	22.8	28.5	21.5	28.8	21.6	28.8	22.7	27.2	23.6	27.5	22.3	30.4	19.7	28.6	20.7
15	28.2	23.2	28.6	22.6	29.1	22.7	26.9	23.3	28	23	28.3	22.4	27.5	22.3	28.6	21.2
16	29.6	24	30	23.4	30.7	23	30.6	25.9	28	22.8	30	23.1	30.2	22.8	29.1	21.2
17	29.6	24.6	29	24.4	30.1	22.6	29.8	24.1	27.4	23.6	27.7	23.2	31.5	21.2	27.9	20.7
18	30	23	29.5	24	30.1	21.8	30.4	24.8	27.8	22.8	30	21.7	31.8	20.1	28.9	18.5
19	29.2	23	29.9	23	29.2	20.9	30.3	23.6	28.4	23.6	29.3	22	28	19.2	28.3	17.7
20	28.8	23.2	28.9	23.3	28.5	20.5	28.4	23.6	28	23.8	29.2	21.5	31	20.3	28.9	17.7
21	30.4	24	29.4	23.8	29.3	22	30.8	24.1	27.8	24.6	30	22.3	31.9	19	29.6?	18.6
22	29.6	23.6	29.5	22.3	30	23	30.1	24.7	27.8	23.6	29.5	22.5	31	20.1	29.9	19.1
23	29.6	23.6	29.9	23.3	29.1	22	29.7	22	28.4	23.8	29.6	23	30.5	18.2	29.2	18.7
24	28.8	22.5	28.5	22	29.3	22	30.8	23.7	28	23.4	30.1	22.2	31.5	19.6	30.5	18.7
25	29.8	25.5	29.6	22.8	29.2	22.2	30.3	23.6	27.6	23.8	29	22.5	32.5	21.1	30.4	20.6
26	30	24	29	24.4	29	22.4	30.9	23.7	27.6	24.2	28.7	23	31.5	21.1	29.8	19.9
27	29.4	22.6	28.8	22.4	30.5	22	29.4	22.9	28.8	23.8	29.5	22.5	31	22.4	29.7	20.1
28	30.2	23.4	29.5	24	30.2	23.5	31.3	24.1	29.6	23.8	29.9	22.5	32.5	18.9	29.6	18.4
29	30	22.8	29.8	22.2	30.3	22.5	30.5	25.1	30.4	23.8	30	22.1	30.4	20.6	29.4	19.9
Mean	29.3	23	29.2	23.1	29.5	21.8	30	23.5	28.4	23.6	29.6	21.7	31.4	19.7	29.8	18.8

Day.	Batangas.		Calatagan.		Lucena.		Atimonan.		Nasugbu.		Ambulong, Tanauan, Batangas.		Mendez Nuñez.		Alfonso.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33.3	20.8	32.1	21.4	30	19.9	29.6	22.9	31	21.1	32.8	20	28.7	16.9	30	18.3
2	33.1	20.9	32.5	20.3	29.8	19.8	28.8	24.3	30	19.5	33.2	21	27.8	19.2	29.9	19.7
3	32.9	23.4	32.5	23.8	29.9	22.6	30.1	24.6	30	19.5	32.6	23.6	26.3	19.7	28.6	21
4	32.7	21.4	31.8	22.5	29	20.2	28.4	24	30.5	20	32	21.5	25.7	16.9	27.1	19.8
5	32.2	21.5	31.2	23.4	29.6	20.5	29.6	21	31.2	20	33.5	20.4	27.3	16.7	29	17.4
6	33.1	19.1	32.7	19.4	29.5	20.1	28.6	20	32.5	22.1	32.4	20.5	26.5	15.3	28.8	19
7	33.5	19.6	31.5	21.3	29.4	20.4	28.2	24.7	33.2	21.5	33.6	20.8	28.3	16.2	30	19.1
8	32.5	19.2	31.7	21.8	30	19.2	29.1	20	33.5	21.9	32.4	19.8	27.5	16.4	29.4	18.9
9	32.8	19.9	30.1	19.2	29.1	19.9	28.8	24.4	30.1	19.2	32.7	20	27.6	17.5	29	19
10	29.7	18.7	29.7	21.7.	28.5	20.1	28.8	22.1	32.5	21.4	27.4	21.9	22.5	15.7	22.5	19.6
11	29.5	20.6	29.6	21.7	27.9	21	27.7	23.3	30.9	23	28	22.3	22.3	17.9	23.8	20
12	32.8	20.5	32.2	22.8	29.6	21.4	27.8	24.4	32.8	21.9	30.5	23	26.2	18.9	27	20
13	32.5	21.9	33	22.3	29.2	21	27.8	24.7	32.7	21.5	31.4	23.2	25.8	16.8	27.5	20
14	32.4	21.8	31.6	23.4	27.4	21.9	26.3	23.5	33.7	21.1	31.2	22.4	24.3	19.5?	27.2	19.6
15	27.6	22.3	28.5	22.5	27.5	21.6	25.8	23.7	33.8	21.8	25.1	22.4	23.5	16.9	23.5	20.1
16	29.8	23.4	30.7	24.7	28.7	23.1	28	24.8	33.2	20.5	29.3	22.7	25.3	19.2	26	21.3
17	31.6	23.1	31	24	29.4	22.3	29.9	24.2	32.4	20.5	30.3	23.7	25.5	15.9	26.5	21.1
18	32.1	22.4	31.8	23.7	29.3	22.1	29.6	23	32.2	20.9	31.3	22	26.3	18.9	27.5	20.1
19	32.8	21.3	31.1	22.7	29	21	28.4	23	32.9	21.5	30.6	22	26	18.9	27.5	20.1
20	31.4	21	32.5	22.5	29	21	28.8	24.5	32.4	21.9	30.1	21.8	25.5	17.6	27.5	20.3
21	32.5	20.4	32.1	22.7	28.8	20.6	28.4	23.5	31.5	21.5	30.7	20.8	26.3	18.9	27.6	19.5
22	33.2	22.1	31.1	23.1	30.5	20.6	30	24.5	32.2	20.9	30.9	20.9	25.8	19.9	27	20.4
23	32.3	21.4	33.1	23	29	20.2	28.3	24.4	32.1	20.5	31.2	22.9	26.5	18.5	28	20.6
24	32.9	22	33.2	23.7	29.4	22.5	27.8	23	32.3	21.9	31.3	22.6	26.5	19.5	27.5	20.3
25	31	21.4	33.1	23.1	27.7	21.5	27.3	23	33.6	20.9	29.8	22.6	25.5	19.9	27	20.2
26	32.4	22.3	31.3	23.4	29.5	21.6	29.3	22	32.4	22	30	22.7	26	19.8	27	20.5
27	31.8	22.2	31.8	23.1	28	21.8	27.5	24.2	33.2	20.5	29.4	22.4	25.5	19.5	26.1	20
28	33.7	20.3	32.4	22.1	29.4	20.6	28.2	24.6	32.7	23	32.3	22.2	27.5	19.2	29	19.8
29	33.3	22.4	32.7	23.9	29.5	22.2	28.3	25.2	33.9	21	31.4	23.4	26.3?	19.4	28	20.5
Mean	32.1	21.3	31.7	22.5	29.1	21.1	28.4	23.5	32.3	21.2	30.9	21.9	26	18.1	27.4	19.9

Maximum and minimum temperatures at the stations of the Weather Bureau, February, 1920—Ctd.

Day.	Indang.		Canluban, Calamba.		Maragondon.		Paracale.		Santa Cruz, Laguna.		Buenvista, Malabon, Cavite.		Manila.		Antipolo.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.8	19.3	33	20.4	31.2	18.1	29	21.7	31.9	21.3	33.2	20.8	32.2	19.9	32.7	18.8
2	30.4	20.5	32.8	19.9	32.4	19	30.4	22.5	31.7	21.3	32.7	20.5	33.2	20.1	33.1	18.8
3	29.4	21.7	33	20.9	32.3	21.3	30.2	23.5	31.1	23.5	31.8	20.6	33.5	20.9	32.8	20.1
4	28.7	20.1	32.1	20.6	31.5	20.7	30.4	21.5	30.5	20.3	31.4	20.3	33.2	18.5	32.5	18.4
5	29.2	19.8	33	19.8	32.1	19.3	29.8	22.2	30.7	22	32.2	20.5	33.1	20.6	32.8	20
6	29.3	19.4	32.5	19.5	32	16.6	29.8	20.7	30.8	19.7	31.8	18.9	32.3	18.3	33	18
7	30.2	19.3	32.8	19.4	30.3	15.7	30.2	21	31.1	18.8	32.5	18.4	31	16.3	31.8	16.5
8	29.3	19.1	31.9	18.2	30.5	16.5	29.8	20	31.3	18.3	32.3	18.3	30.6	15.6	32.8	16.3
9	29.3	19.4	32.5	18.5	31.9	17	30.1	21	30.8	19	31.7	19.9	32.2	18.4	32.8	17.7
10	25.5	19	27.8	20.4	27	19.7	29.8	21.5	27.9	20.2	28.9	19.2	28.9	20.8	31.1	19.1
11	24.5	19.4	27.9	20.3	27.4	20.4	27	22.5	27.4	20.9	27.6	19.6	28	21.1	28.5	19.3
12	27.8	19.2	30.8	21	30.4	19.1	29.8	24.1	29.8	22	30.5	19.9	29.8	19.6	31.8	19
13	28.3	20.4	31	20.9	31.5	19.3	30.2	24.7	30.2	22.7	31.7	20.6	33.2	19.7	32.8	19.4
14	28.1	20.1	31.6	20.4	30.4	18.7	26.1	23.7	29.7	21	31.5	20.4	30.5	19.7	30.2	19.5
15	24.3	20.5	27.7	21	27.7	21.6	28.6	23.5	26.4	22	26.4	19.5	26.9	22.4	26.2	21
16	26.7	21.6	30.4	21	30	21.2	29.3	25.4	30	23.7	30.1	20.4	33.2	22	31.5	21.7
17	27.3	21.4	30.7	21.1	30.6	22.6	30.1	23.8	30.3	23.2	31.2	20.5	32.7	22.1	31.8	21.3
18	28.2	20.5	31	21.3	31.8	22.1	29.8	23.6	30.4	22.2	30.6	21.7	32.9	21.2	32.7	20.3
19	28.3	20.1	31.2	21	32	20.8	29.2	22.7	30.6	21.9	31.4	21.4	32.2	20	32.7	19.5
20	28.3	20.4	31.1	20.6	30.5	20.3	28	23.1	31.3	21.2	30.7	21.3	30.3	20.1	31.5	19.3
21	28.5	20	31.6	19.8	31.7	20.2	29.2	23.5	30.9	19.7	31.6	21.4	33.5	18.9	33.2	18.8
22	29.2	20.8	31.9	20.1	32.5	20.6	29.7	23.5	30.6	23	31.9	20.7	32.9	19.3	34.7	20.3
23	28.4	21.2	32	20.3	31.5	20.3	29.6	25.2	30.1	21.9	32.1	21.17	33	20.6	33.4	20.8
24	28.2	20.9	31.6	21	31.9	20	29.8	24.4	30.1	23	31.4	21.9	32.9	19.2	32.8	19.5
25	27.5	21	30.8	21.2	30.8	21.5	28.7	24	29.3	22.2	30.1	22.6	30.6	22.5	32	21.1
26	27.1	20	30.3	21.1	31	22	29.6	23	29.6	22.2	29.2	21.8	32.2	21.7	31.8	21
27	26.5	20.3	29	21	30.8	21.2	29.1	23.5	29	22.3	30.5	21.6	31.6	21.5	31.6	21
28	29.1	20.1	31.5	20.2	32.9	19.3	29.7	24.6	30.6	20.5	31.9	20.9	33	19.2	34.6	19.2
29	28.5	20.4	31.7	20.8	32.1	20.2	29.6	24.8	30.4	21.5	31.4	20.8	33.7	20.5	33.2	20.4
Mean	28.2	20.2	31.2	20.4	31	19.8	29.3	23.1	30.2	21.4	31	20.5	31.8	20	32.2	19.5

Day.	San Isidro, Nueva Ecija.		Iba.		Tarlac.		Baler.		Dagupan.		Bolinao.		Baguio.		San Fernando, La Union.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33.8	19.7	30.2	18.6	34.4	18	29.4	19.4	35.3	20.9	32.7	20	26.6	13.6	32	18.3
2	33.9	19	30.2	18.8	34.8	18.2	29.8	19.2	29.6	21.3	28.8	21	24.9	14.4	30.7	19.5
3	32.9	19.4	32	19.8	35.2	18.8	29	19.6	35.5	21	28.8	22.4	24.3	14.8	32.8	19.4
4	31.5	17.8	31.3	17.5	34.8	18	29.6	20.4	35.4	20.5	33.5	24.9	18.5	13.5	31.9	20.1
5	32.8	19.4	31.2	19.5	34.8	19.2	30.8	21.1	34.6	19.9	33.5	20	25	14	31.5	18.2
6	33.2	18.4	30.8	18.6	34.8	18.8	30.1	18.4	34.9	20.3	32.7	20.3	23.4	13	31.6	19.6
7	33.2	15.6	29.3	17.6	35.4	16	30.6	15.5	31.7	19	29.5	22.4	26.2	14	29.8	18.3
8	33	15.7	29.1	16.5	35	14.4	29.4	15.6	31.9	19.5	29.2	24	24	13.5	30	19.3
9	32.4	17.4	29.2	16.8	35	16.2	30.6	18.2	31.6	19.4	30	19.5	22.7	13.3	30.4	19.5
10	29.9	21.8	29.8	22.1	33.4	16.6	27.1	21.4	32.8	22.6	32	22	20.5	13.5	30.7	22.5
11	31.6	21.1	32	22.9	33	17.4	29.4	20.6	34.5	22.8	34	23.2	24	13.8	31.5	22.6
12	31.1	19	30.5	19.5	34.5	18.6	29	21.4	31.7	20.4	32	20.1	24	13.3	30.1	21.2
13	32.1	19.4	30.3	19.8	34.4	17.8	29.6	22.1	34.6	21	33.6	22.8	23.9	13.6	30.9	20.5
14	32.9	20.1	32.1	18.7	34	18	30	20.4	30.7	19.7	29.6	19.8	24	12	30.5	20.1
15	26.6	22.4	27.5	23.6	28.2	17.2	27.9	22.4	27.9	23.4	30.1	22.8	18.8	15.5	28.7	22.7
16	31.4	21.6	33	22	29.8	17.6	28.1	22.2	35.4	22.3	31	23	25.6	15.2	30.7	22.5
17	30.9	21.4	34.8	23	33	19.6	28.1	23	35.1	23.5	33.5	23.7	25.3	15	32	21.1
18	32	20.7	31.1	23.8	35	20.2	30.9	22.5	33.6	22.3	33.5	22.7	23.1	13.4	31	21
19	32.4	18	31.1	17.9	35.5	17.4	29.6	20.5	33.4	19.3	33	22.5	24.4	14	31.6	19.3
20	32.6	19.4	31	20	36.2	18.2	30	20.9	31.9	22.2	32.5	20.5	24.7	14.2	31.2	21.9
21	32.6	20.4	32.8	21.2	35.8	19.4	29.8	21.6	35.7	22.5	34.3	24	25.3	14.6	32.2	23.5
22	32.4	18.4	31	18.7	35.4	17.2	30.2	19.7	35.8	19.8	35	23	24.6	13.5	32.6	19.5
23	31.8	19	33.1	20.4	35.5	18	28.6	20.7	34.4	20.2	31.5	22.2	24.3	11.8	30.9	20.5
24	33.9	17.8	31	21.9	35.6	17.2	31.6	19.8	34.9	20.9	33.5	22	24.9	13.8	31.3	19.8
25	33.1	22.8	31.2	21	34.4	17.4	30.5	21	35.6	23	34	21	24.5	14.8	32	21
26	29.6	22	31	22.9	35	20.5	27.4	21.9	35.1	23	34	23.2	23.8	14.2	32	22.3
27	31.5	21.4	31.4	22	33.5	18.4	29.9	21	34	23.3	33.6	24.3	25.5	14.5	32	21
28	33.2	19.5	31.5	21.1	35.2	19	31	21.3	33.9	21.4	33.4	23.8	25	13.8	31.6	21.5
29	32	20.1	33	20.8	33.8	18.9	27.2	21.6	36	23.1	34.5	22.7	25	14	32.7	21.3
Mean	32.1	19.6	31.1	20.2	34.3	18	29.5	20.5	33.7	21.3	32.4	22.1	24.2	13.9	31.2	20.6

Maximum and minimum temperatures at the stations of the Weather Bureau, February, 1920—Ctd.

Day.	Echague.		Candon.		Vigan.		Tuguegarao.		Laoag.		Aparri.		Cape Bojeador.		Basco.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1.....	32.6	17.3	30.6	21	32	20.6	33.2	20.4	32.6	19	32	20.5	30	22.1	29.5	20.2
2.....	32.6	17.7	31	21.5	31	20.9	33.6	19.2	34.1	20.2	32	20.3	30.5	22.5	30.2	20.3
3.....	31	21.1	30.5	22.5	32.1	21	32.5	21.4	35.9	19.7	28.5	22.1	26.7	22.5	23.4	21
4.....	32.1	18	31.5	22.6	29.5	22.5	32.9	20	32	20.6	30.5	20.2	23.4	21.9	25	21.7
5.....	32.6	18.9	30.6	21.5	31.9	20.6	32.9	17.8	33.4	20.9	33	19	30	23	29.2	23.3
6.....	32.5	16.4	30.4	22.7	31	20.9	32.5	20.5	33.2	18.5	31.6	20	23	22.7	28.5	19.6
7.....	32.4	16.2	31.2	20.8	30.5	19.2	33.6	20.2	32.6	17	30.2	19.6	27.2	21.1	27.9	18.5
8.....	31.6	18.4	29.1	19.2	29.4	19.2	32.3	20.4	31.8	15.2	30.9	20	27.6	20.3	26.7	19.5
9.....	29.4	18.5	29	18.7	30.8	18.8	26.6	20	31.6	19	27.4	22.3	24.1	21.6	23.7	19.5
10.....	26.6	19.4	30	23.2	30.2	23.6	27	20.7	33.5	19.6	29.6	20	27.4	21.7	26.5	19.2
11.....	30.8	20	30.2	23	31	22.7	29.8	21	32.6	18	30	20.3	29.3	21.5	28.2	20.6
12.....	30.9	20.6	30.5	22	31.9	21	32	19.5	33.5	18.5	30.3	19.5	27.5	21.9	27.5	20.5
13.....	31.9	18.5	30.5	21.6	30.9	20.8	32.7	18.2	32.6	18.6	31.6	19.8	30	21.4	28.8	20.2
14.....	32.8	17.8	31	22	30.5	21.6	33.8	18	32.9	19.6	31.6	19.6	30.6	23.7	29.6	22.5
15.....	28.8	21.2	30.5	22.5	31.4	22	32	20.6	33	18.6	31.6	20	29.5	21.1	29.6	23.6
16.....	29.8	21	30.3	23	30.5	22.4	31.4	21.4	35.6	21.1	30.4	20.9	29.8	23.1	28.6	22.1
17.....	30.6	21.5	30	23	31.6	21.4	32.9	21.2	34	21.4	31.5	21.9	31.3	22.8	28.5	23.8
18.....	33	20.5	31.5	23.2	31.1	22.4	34	20	33.2	21.2	31.7	20.5	29.3	23.9	28	22.6
19.....	31.8	17.6	30	23.2	31.7	23.7	31.8	19.3	32.1	21.4	30.3	19.6	28.9	22.3	28.5	21.5
20.....	32.9	18.8	31.5	22.6	32.1	22	34.4	19	33	21	31.3	20	28.9	22.5	28.3	22.8
21.....	33.2	20	31.2	23.9	31	22	34.2	21.3	33.1	20.6	32.5	20.2	30.6	22.9	27	21.6
22.....	32.5	15.9	32	23	31	22.9	33.7	18	32.8	22	32.7	20	29.9	23.2	29.8	23
23.....	32.1	16.4	31	23	31.4	22	33	19	34.6	19.2	30.6	20.1	28.7	22.3	24.6	21.6
24.....	31.7	19.8	32.5	20	32.1	21.9	30.4	21	34.4	19.4	24	20.5	26.7	-----	23.1	19.7
25.....	30.5	21.2	31.5	22.6	31.8	22.1	28	21.4	35.3	22.7	23.8	20.8	26.7	-----	23.4	19.2
26.....	27.5	21	31	23.7	34.4	23	25	21.2	33.3	23.3	25	20.8	26.2	-----	25.4	19.9
27.....	30.9	20.5	31.7	23.6	31.2	22.9	29.2	21.6	33.8	20.7	28	20.5	30.1	21.2	25.5	21.2
28.....	32.9	20.2	31	23.2	30.9	22.5	32.2	21	32.7	21.5	30.6	20.5	30.2	23.6	22.9	19.8
29.....	31.6	21.5	31.5	23	31	22	29.9	21.5	35.8	20.8	27.6	21.1	28.6	22.1	22.8	19.5
Mean.....	31.4	19.2	30.8	22.3	31.2	21.7	31.6	20.2	33.4	20	30	20.4	28.8	22.3	26.9	21



SEISMOLOGICAL BULLETIN FOR FEBRUARY, 1920.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Chief, Seismic and Magnetic Divisions, Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.¹

1, 17^h 52^m 00^{s*} [2, 1^h 52^m 00^s]. NE Mindanao. Earthquake of intensity VI. The observer at Butuan reports about some extraordinary movements observed during this quake; they were apparently rotatory and twisted the three parallel steel strings supporting the weight of the clockwork of the Wiechert seismograph, the weight having rotated many times in a direction contrary to the hands of the clock: a very remarkable occurrence, because the three parallel strings determine a plane some inches wide, and as the observer remarks never before had occurred in other violent earthquakes. Its principal movements were in a W-E direction; it lasted for about a minute. The epicenter of this earthquake lay within the Island of Mindanao in the wild country WSW of Butuan. In fact it appears that only in the Butuan region, in the Bukidnon Province, and in the Island of Camiguin it had sufficient intensity to awake and alarm the people; certainly it must have been perceptible in a very wide area probably comprising the whole Island of Mindanao and the eastern Visayas. From S Mindanao it was reported by the observer at Lais, Davao, 170 kilometers S of Butuan and from Visayas by the observer at Tuburan, Cebu, some 250 kilometers distant to the NW. It was feebly recorded at Manila and Batavia.

3, 18^h 55^m 00^{s*} [4, 2^h 55^m 00^s]. SW Mindanao. Earthquake felt with intensity III in the Provinces of Zamboanga and Cotabato; its epicenter was located south of the Illana Bay in the Celebes Sea. Recorded at Batavia.

10, 2^h 55^m 01^{s*} [10, 10^h 55^m 01^s]. Baler (E Luzon). Earthquake shock of intensity III, origin in the Pacific near to the E coast of Luzon.

13, 15^h 08^m [14, 0^h 47^s]. Guam (Mariana Islands). Earthquake of intensity IV-V. Recorded by the Manila seismographs; not found in other records of the Far East.

15, 23^h 01^m 02^{s*} [16, 7^h 01^m 02^s]. Naga (SE Luzon). Oscillatory earthquake, intensity IV, duration 8 seconds.

24, 13^h 15^m [24, 21^h 15^m]. Canlaon (Occidental Negros). Earthquake shocks of intensity IV-V. Probably originated in the high Volcano Canlaon or Malaspina.

25, 10^h 55^m [25, 18^h 55^m]. Moncayo (E Mindanao). Earthquake of intensity IV: its origin probably lay within the Agusan Valley, it was lightly recorded at Butuan, 130 kilometers distant to the N.

¹ The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that 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 report. All time indications are in Greenwich mean time (midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

25, 22^h 42^m 14^{s*} [26, 6^h 42^m 14^s]. **SE Mindanao.** Earthquake felt with intensity V-VI through the southeast portion of Mindanao comprising the Provinces of Davao, eastern Cotabato, Agusan or Butuan, and southern Surigao; its duration was reported as unusually long. The epicenter seemingly lay in the Pacific Ocean some distance east of southern Mindanao. It was also recorded at Zikawei and Batavia.

26, 4^h 30^m [26, 12^h 30^m]. **Mailag (Central Mindanao).** Earthquake shock of intensity III.

26, 15^h 20^m [26, 23^h 20^m]. **Central and north Mindanao.** Earthquake felt with intensity IV-V in the Bukidnon Province, and IV in Camiguin Island. It was recorded at Butuan, where another shock of the same origin had been registered 6 minutes earlier. Butuan is located about 70 kilometers to the E of the region chiefly affected by the shock.

29, 11^h 28^m [29, 21^h 07^m]. **Guam (Mariana Islands).** Earthquake of intensity IV, with several distinct shocks during few minutes.

RECORDS OF THE MICROSEISMOGRAPH.

(Time: Greenwich mean. Midnight=0^h. Instrument: Wiechert seismograph; 1,000 kilograms. $A_N: T_0=6.25, \epsilon=2,906, \frac{r}{T_0^2}=0.053$; $A_E: T_0=6.18, \epsilon=2,393, \frac{r}{T_0^2}=0.042$. Alluvium. 2.40 meters above sea level.)

No.	Date.	Character.	Phase.	Hour.			Period.	Amplitude.		Remarks.
				h.	m.	s.		A_N μ	A_E μ	
31	1	I	e	3	43					
			F	4	09					
32	1	Ir	e	13	31	51				
			S		36	04				
			L		39	53				
			M _E		40	05	6		84	
			M _N		40	12	6	64		
		F	14	12						
33	1	Iv	eP	17	52	00				Mindanao Island.
			F	18	42					
34	2	IIIr	eP	11	29	00				Near New Pomerania.
			S		35	00				
			L		38	45				
			M _N		39	13	22	946		
			M _E		39	54	19		434	
		F	13	55						
35	2	I	e	16	50					
			F	17	41					
36	3	I	e	6	48					
			F	7	12					
37	3	I	e	15	01					
			F		31					
38	3	Ir	(PS)	18	55	00				Celebes Sea.
			L		57	43				
			F	20	12					
39	4	I	e	12	47	24				
			F	13	14					
40	6	I	e	9	14					
			F		46					
41	7	I	e	15	19					End overtaken by following earthquake.
42	7	I	e	15	34	45				
			F	16	42					
43	8	I	e	5	33					
			F	6	17					
44	9	I	e	2	42					
			F	3	23					
45	9	I	e	19	19					
			F		52					

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A _N μ	A _E μ	
46	10	II _d	eP	<i>h. m. s.</i>	<i>s.</i>			Felt at Baler (E Luzon).
			L	2 55 01				
			M _N	55 14	3	482		
			M _E	55 16	3	215		
			F	3 03				
47	10	I	e	9 21 48				F lost in the next earthquake.
48	10	I	e	10 12 47				
			F	11 02				
49	10 11	I	e	22 27				
			F	0 20				
50	13	I	e	15 16 27				
			F					
51	14	I _v	eP	0 59 04				
			F	1 05				
52	15	I _v	eP	13 30 13				
			F	33				
53	15	I _v	eP	23 01 02				Felt at Naga (SE Luzon).
			F	05				
54	15	I _v	eP	23 13 14				
			F	16				
55	17	I _v	eP	22 35 22				
			F	42				
56	19	I _v	eP	20 09 26				
			F	35				
57	19	I _v	eP	22 29 00				
			F	31				
58	20	I	e	12 05 30				
			F	57				
59	21	I _v	eP	13 57 57				
			F	14 00				
60	22	II _r	eP	17 42 41				Off the eastern coast of Japan.
			S	48 15				
			L	52 07				
			M _N	52 43	7	78		
			M _E	52 55	6	46		
			F	18 40				
61	25	II _r	eP	22 42 14				Felt in the eastern part of Mindanao.
			S	44 02				
			L	44 24				
			M _E	44 28	6	128		
			M _N	44 41	7	184		
			F	23 47				
62	26	I	e	1 29 14				
			F	2 02				
63	26	I _v	eP	18 51 04				
			F	58				
64	27	I	e	4 26				
			F	40				
65	27	I	e	12 09				
			F	26				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.¹

1, 17^h 52^m 00^{s*} [2, 1^h 52^m 00^s]. NE de Mindanao. Temblor de tierra de intensidad VI. El Observador de Butúan hace notar lo extraño de algunos movimientos al parecer rotatorios, puesto que retorcieron las tres cuerdas paralelas del peso del sismógrafo; las ondas principales eran en la dirección W-E, duró más de un minuto. Su epicentro al parecer se hallaba dentro de la Isla de Mindanao hacia el WSW de Butúan. Parece que solamente en la región de Butúan, en la provincia central de Bukidnon y en la Isla de Camiguín tuvo bastante intensidad para despertar y alarmar a la gente. Debió con todo ser perceptible en una grande extensión, probablemente en toda la Isla de Mindanao y en las Visayas Orientales. Del S de Mindanao dió cuenta el observador de Lais, Davao, 170 kilómetros al S de Butúan, y de Visayas el de Tuburan, Cebú, distante más de 250 kilómetros al NW. Registróse débilmente en Manila y en Batavia.

3, 18^h 55^m 00^{s*} [4, 2^h 55^m 00^s]. SW de Mindanao. Temblor de tierra sentido con intensidad III en las provincias de Zamboanga y Cotabato; su origen se hallaba al sur de la Bahía Illana en el Mar de Célebes. Registrado en Batavia.

10, 2^h 55^m 01^{s*} [10, 10^h 55^m 01^s]. Baler (E de Luzón). Temblor de tierra de intensidad III. Su origen se hallaba en el Pacífico cerca de la costa de Luzón.

13, 15^h 08^m [14, 0^h 47^m]. Guam (Islas Marianas). Temblor de tierra de intensidad IV-V. Parece que solamente lo registraron los sismógrafos de Manila.

15, 23^h 01^m 02^{s*} [16, 7^h 01^m 02^s]. Naga (SE de Luzón). Temblor oscilatorio, intensidad IV, duración 8 segundos.

24, 13^h 15^m [24, 21^h 15^m]. Canlaon (Negros Occidental). Temblor de tierra de intensidad IV-V. Seguramente se originó en el vecino volcán Canlaon o Malaspina.

25, 10^h 55^m [25, 18^h 55^m]. Moncayo (E de Mindanao). Temblor de tierra de intensidad IV. Este temblor debió tener su origen dentro del Valle del Agusan; registróse débilmente en Butúan, distante unos 130 kilómetros al N.

25, 22^h 42^m 14^{s*} [26, 6^h 42^m 14^s]. SE de Mindanao. Temblor de tierra sentido con intensidad V-VI en toda la parte SE de Mindanao, comprendida por la provincia de Davao, parte oriental de la de Cotabato, el Valle del Agusan y parte sur de la provincia de Surigao; su duración fué muy larga en todas partes. Su origen se hallaba en el Mar Pacífico al E del Sur de la Isla de Mindanao. Lo encontramos registrado en Zikawei y Batavia.

26, 4^h 30^m [26, 12^h 30^m]. Mailag (Centro de Mindanao). Temblor de tierra de intensidad III.

26, 15^h 20^m [26, 23^h 20^m]. Centro y N de Mindanao. Temblor de tierra sentido con intensidad IV-V en la provincia de Bukidnon y con intensidad IV en la Isla de Camiguín situada al N. Registróse solamente en Butúan donde 6 minutos antes se había registrado otro choque del mismo origen. Butúan se halla a unos 70 kilómetros al E de la región principalmente afectada por este temblor de tierra.

29, 11^h 28^m [29, 21^h 07^m]. Guam (Islas Marianas). Temblor de tierra de intensidad IV, con varios choques durante un intervalo de pocos minutos.

¹ La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos de este Observatorio siempre que los hayan registrado, distinguiéndola por medio de un asterico (*). En caso contrario copiamos la apuntada por los observadores que nos envían las notas. Todas las indicaciones del tiempo se refieren al tiempo medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

BULLETIN FOR MARCH, 1920

PREPARED UNDER THE DIRECTION OF
REV. JOSÉ ALGUÉ, S. J.
DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
1921

BULLETIN FOR MARCH, 1920.

METEOROLOGICAL BULLETIN FOR MARCH, 1920.

By Rev. JOSÉ CORONAS, S. J.,

Chief, Meteorological Division of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure for this month in the Philippines is slightly below that of the preceding year, although it is very slightly above the normal of March. The highest pressures were recorded on the 6th, and the lowest on the 22d or 29th.

The mean monthly temperature differs very slightly both from that of March, 1919, and from the normal of this month. The highest and lowest monthly temperatures for Manila were 35.5°C., registered on the 31st, and 19.0°C., registered on the 27th. The extreme temperatures of the month for Baguio were 26.7°C., 12.3°C. on the top of Mirador, and 27.8°C., 11.8°C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR MARCH, 1920.

Station.	Pressure.							Temperature.						
	Mean.	Departure from March, 1919.	Departure from normal.	High-est mean.	Day.	Low-est mean.	Day.	Mean.	Departure from March, 1919.	Departure from normal.	High-est.	Day.	Low-est.	Day.
	mm.	mm.	mm.	mm.		mm.		°C.	°C.	°C.	°C.		°C.	
Zamboanga.....	758.83	-0.98	-----	761	6	757.01	29	26.5	+0.4	-----	33	5,26	21.5	13
Meeth, Yap, Western Carolines.....	58.44	-1.27	-----	60.54	5	54.33	11	27	+ .2	-----	31.5	31	23	7,11
Tagbilaran.....	59.55	-.80	+0.01	61.99	6	57.78	29	26	0	-0.3	33.4	29	19.8	11
Surigao.....	59.86	-.88	+ .13	62.23	6	58.05	30	25.9	+ .1	0	30.5	21	20.5	11
Cebu.....	59.89	-.78	+ .10	62.30	6	58.31	29	27	-.3	+ .2	31.6	30	21.7	15
Iloilo.....	59.68	-.63	+ .12	62.24	6	58.04	29	26.8	-.5	+ .1	32.7	8	22	13
Tacloban.....	60.28	-.73	+ .08	62.45	6	58.62	14	25.9	-.4	- .4	32	6	20.8	5,27,28
Capiz.....	60.31	-.58	+ .06	62.85	6	58.89	29	26.6	-.4	0	33.3	24	21.4	12
Calbayog.....	60.55	-.60	+ .29	62.88	6	59.01	14	25.4	-.2	- .1	33.3	30	19.7	11
Legaspi, Albay.....	60.92	-.62	+ .36	63.20	6	59.59	29	27.1	+ .2	+ .5	32.8	12	20.8	12
Atimonan.....	61.14	-.45	+ .46	63.66	6	59.52	22	26.9	+ .1	+ .5	31.4	20	21.5	11,21
Ambulong, Tanauan, Batangas.....	60.19	-.32	-----	62.87	6	58.52	22	27.2	-.3	-----	35.5	22	19.8	14
Paracale.....	61.25	-.45	+ .16	63.83	6	59.56	22	26.5	+ .1	+ .5	31.2	29	21.3	13
Manila.....	60.72	-.34	+ .19	63.17	6	58.99	22	26.5	-.2	- .1	35.5	31	19	27
San Isidro, Nueva Ecija.....	60.86	-.96	+ .23	63.24	6	59.02	22	26.9	-.5	+ .1	35.4	22	18.9	30
Dagupan.....	59.79	-.46	-.20	62.22	6	58.23	22	27.7	-.2	+ .5	38.2	31	20.9	3
Baguio ^a	638.11	-.25	+ .41	639.94	6	636.88	22	18.4	-.1	+ .5	26.7	31	12.3	28
Vigan.....	760.25	-.32	-.06	762.77	6	758.74	22	27.1	-.1	+ .2	36.4	26	20.6	7
Tuguegarao.....	61.32	-.09	+ .27	64.68	6	59.01	22	26.4	-.9	+ .2	36.7	20,22	19.2	8
Laog ^b	60.36	-.29	-----	63.11	6	58.79	13	27.1	+ .4	-----	36	26	18.1	7
Aparri.....	61.71	+ .20	+ .37	65.51	6	59.39	22	25.9	0	+ 1	33.8	23	19.5	28

^a The barometric readings of this station are not reduced to sea level.
^b 29 days of observation.

Rainfall.—The total amount of rainfall for this month is generally below the normal of March in Luzon, but above the same in the great majority of our stations in the Visayas. The monthly rainfalls for Manila and Baguio are both below the normal, the differences being -16.3 mm. and -45.1 mm., respectively. The total respective amounts were as small as 1.9 mm. for Manila, and 1.0 mm. for Baguio.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF MARCH, 1920.

Station.	Total.	Departure from March, 1919.		Days of rain.	Departure from March, 1919.		Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from March, 1919.		Days of rain.	Departure from March, 1919.		Greatest rainfall in a single day.	Day.
		mm.	mm.		mm.	mm.					mm.	mm.					
Jolo	89.3	-8.7	+9.7	10	-3	0	35.5	31	Calapan	54.1	-21.3	-19.2	11	+4	-1	17	15
Malamau, Isabela, Zamboanga	5.1			1			5.1	5	Virac	74.3	+19	-65	11	-6	-7	31.7	2
Zamboanga	31.1	-67.2	-4.2	11	+3	+5	8.2	31	Naga, Camarines Sur	27.8	+27.8	-32.2	6	+6	0	11.7	15
Davao	47.7	-26.5	-89.9	6	-4	-2	14.7	19	Tigaon	36.3	-33.4		13	+2		9.7	15
Cotabato	81	-44.9	+1.1	4	-10	-5	29.2	15	Batangas	7.1	+6.6	+3	1	0	-2	7.1	12
Cagayan	0	-25.4	-33	0	-5	-4	0	0	Lucena	14	+7.8		6	+3		4.8	15
Butuan	111.1	+3.6	-48.1	16	-2	-2	23.1	30	Atimonan	34.5	+27	-45.2	12	+8	+2	18.1	15
Mambajao	105.8	+73.8		12	+4		41.6	30	Ambulong, Tanauluan, Batangas	10.2	+9.2		6	+5		5.1	27
Meeth, Yap, Western Carolines	94.8	+32.9	-50.8	19	+5	+1	20.8	20	Canluban, Calamba	14.7	+13.4		6	+4		6.1	28
Tagbilaran	52.6	-11.4	-19.2	14	+6	+6	13	30	Paracale	108.8	+57	-71.3	13	+1	-3	41.7	3
Iwahig Penal Colony, Puerto Princesa	55.2	+54.9		5	+4		28.7	16	Santa Cruz, Laguna	14	+13.2	-15	5	+4	-3	8	19
Surigao	344.6	+232	+54.8	22	+5	+4	79.9	2	Manila	1.9	0	-16.3	1	-1	-3	1.9	17
Maasin, Leyte	252.5	+235.2	+118.7	9	+7	+3	50.3	30	Antipolo	4.5	-3.7		2	-1	-1	2.5	15
Cebu	103.2	+99.2	+46.8	14	+9	+5	52.1	14	San Isidro, Nueva Ecija	46.7	+45.2	+30.9	3	+2	0	33.5	11
Iloilo	34.3	+26.2	+5.5	9	+6	+4	10.1	1	Iba	.9	-7.8	-24.5	2	0	-1	.6	6
San Jose de Buenavista	17.3	+2.5	+2	4	+1	+1	8.2	15	Tarlac	24.2	+21.9	+5.7	2	+1	0	23.4	4
Cuyo	5.8	+4.8	+2.4	1	0	0	5.8	15	Baler	246.2	+141.9	+48.4	18	+6	+5	81.5	2
Ormoc	70.9	+49.2	-16.6	13	+4	+1	27.9	14	Dagupan	11	+6	-15.1	1	-1	-2	11	18
Guiuan	350.2	+217.4		23	0	+1	102.4	31	Bolinao	.5	-24.1	-16.6	1	0	-1	.5	15
Tacloban	115.8	+41.8	-32.8	11	-4	-5	31.7	14	Baguio	1	-80.1	-45.1	2	0	-3	.7	23
Capiz	48.8	+32.7	+18.7	15	+9	+7	7.9	27	San Fernando, La Union	0	-29.2	-9.2	0	-1	-1	0	0
Borongan	260.1	+81.8	+5.9	19	-5	-3	44.5	1	Candon	0	-21.6	-10.8	0	-2	-1	0	0
Catbalogan	116.6	+69		16	+1		35.6	12	Vigan	0	-1.9	-7.3	0	-1	-1	0	0
Calbayog	57.2	-29.3	-70.1	11	-5	-3	27.5	1	Tuguegarao	5.6	-14.7	-24	1	-1	-3	5.6	1
Masbate	100.5	+87.2	+44.6	12	+4	+3	42.7	2	Laoag	.5	+5	-4.6	1	+1	0	.5	19
Batag Light-house, Laoang	113.7	+43.6		16	-3		31.2	15	Aparri	56.8	-46.4	-1.8	7	+5	-1	52.1	17
Sorsogon	294.2	+146.1		11	-9		120.4	15	Cape Bojeador	8.6	+8.5		2	+1		6.6	3
Legaspi, Albay	113.9	+39.7	-54.8	14	0	-1	31.5	2	Basco	105		-14.7	11		-2	41.1	15
Sumay, Guam	142.1	+116.7	+62.2	13	+8	+3	43.1	27									

a 28 days of observation.

DEPRESSIONS AND TYPHOONS.

As in the preceding two months there was not a single tropical depression or typhoon in the Far East, during this month of March, although there was a cyclone over Japan, and some other depressions of the continental type either south of Japan or further to the north.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes en Filipinas es ligeramente menor que la del año pasado, aunque es mayor, siquiera muy ligeramente, que la normal de marzo. Las presiones más altas se registraron el día 6, en tanto que las más bajas se observaron el día 22 o el 29.

La temperatura media mensual difiere muy poco, tanto de la de marzo de 1919, como de la normal de este mes. Las temperaturas máxima y mínima absolutas del mes en Manila fueron 35.5°C. y 19.0°C., registradas respectivamente los días 31 y 27. Las temperaturas extremas del mes en Baguio fueron 26.7°C., 12.3°C. en la cumbre del Mirador, y 27.8°C., 11.8°C. en la llanura cerca del *City Hall*.

Precipitación acuosa.—La cantidad total de lluvia caída durante este mes es generalmente menor que la normal de marzo en Luzón, pero mayor que ella en la gran mayoría de nuestras estaciones de Visayas. Las lluvias mensuales de Manila y Baguio son mayores que la normal, de la cual difieren en -16.3 mm. y -45.1 mm., respectivamente. Las respectivas cantidades totales de agua recogidas en los pluviómetros fueron tan escasas que sólo llegaron a 1.9 mm. en Manila y 1.0 mm. en Baguio.

DEPRESIONES Y TIFONES.

Al igual que en los dos meses precedentes, no hubo ni una sola depresión o tifón tropical en el Extremo Oriente durante este mes de marzo, si bien hubo un ciclón en Japón, y algunas depresiones del tipo continental al S de Japón o más lejos hacia el N.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.*

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

Day.	Pressure (mean).	Air temperature. ^b			Underground temperature.				Relative humidity (mean).	Vapor pressure (mean).	Radiation.		Evaporation. ^b			
		Mean.	Maximum.	Minimum.	0.25 meter.		0.50 meter.				1.50 meters.	2.50 meters.	Minimum on grass.	Maximum in sun. Black bulb in vacuo. ^c	Free exposure (total).	Shelter (total).
					8 a.m.	2 p.m.	8 a.m.	2 p.m.								
		°C.	°C.	°C.	°C.	°C.	°C.	°C.			°C.	Per ct.	mm.	°C.	mm.	mm.
1	762.52	25.2	32.2	20.5	26.4	28.1	27.4	27.6	28.1	28	72.9	17	17.9	48.5	4.8	8.1
2	61.77	26.3	33.8	21	26	28.7	27.2	27.6	27.9	28.2	69.9	17.2	18.6	53.6	6.2	3.9
3	61.22	26.1	32.9	21.1	26.2	29.2	27.3	27.7	28	28.1	73.3	18.1	19	51.7	5.3	2.8
4	61.54	26.9	33.2	22.2	26.8	29.6	27.5	28.2	27.9	28	72.2	18.8	20.1	54.5	5.5	3.1
5	62.82	25.1	30.9	20.5	26.6	28.5	27.5	28	27.7	27.9	80.4	18.9	18.5	51.7	2.6	1.6
6	63.17	25.2	30.9	21.2	26.3	28.5	27.5	27.7	27.9	28.2	78.4	18.4	19.1	43.8	3.7	2
7	61.93	25.5	32	20.3	26.2	28.8	27.4	27.9	27.8	28	75.2	17.8	18.3	53.8	5.3	3.2
8	61.10	25.9	32.5	19.9	26.2	29	27.3	28	27.7	27.9	75.3	18.4	17.8	51.5	5	2.7
9	60.44	27.2	33.6	22.3	26.8	29.5	27.6	28.2	27.8	28	74.7	19.7	20.2	56.5	4.7	3
10	59.90	27.2	33.1	22.6	27.2	30.3	27.8	28.5	27.8	28	75.6	20	20.6	54.5	5.5	3.2
11	59.77	27.8	34.2	23	28.2	31.2	28.3	28.9	28	28.1	72.5	19.5	21.2	54.5	6.5	3.9
12	59.49	27.2	33.2	23.5	28.3	30.2	28.5	29	27.8	28	75.5	20.1	21.7	53.4	5	2.8
13	59.39	26.5	33.5	21.3	27.5	30.5	28.3	29	27.8	28	72.6	18.2	18.9	58.2	5.7	3.3
14	59.94	26.3	33.8	20.5	26.6	30.2	27.8	29	28	28.3	71.1	17.6	18	52.4	5.7	3.6
15	60.88	25.6	32.2	19.8	26.8	29.6	28.2	28.7	27.8	27.9	74.1	18	17.2	50.5	4.3	2.8
16	60.66	27.4	34.5	22.5	27.8	31	28.3	29.1	28.1	28	70.8	18.7	20.6	58	6.3	4
17	60.32	25.8	31.6	22	27.7	29.7	28.5	28.7	28.1	28	76.6	18.8	19.7	48	3.7	2.4
18	60.41	26.3	32.5	21.1	27.1	29.5	28.3	28.7	28.2	28	71.8	18	18.8	51	5.3	3.2
19	61.05	25.8	31.5	21	27	28.9	28	28.5	28	28	73.8	18.1	18.2	48	4.4	2.8
20	61.18	26.8	33.9	20.8	26.5	30	27.8	28.6	28.3	28.1	68.1	17.5	18.3	54.7	6.5	4.1
21	60.15	27.4	34.3	20.5	27.1	30.6	28.1	29	28.2	28.2	67.2	17.7	17.8	54.8	7	4.4
22	58.99	27.3	34.1	20.6	27.7	30.7	28.5	29	28.3	28.1	67.6	17.7	18	55	7.3	4.3
23	60.05	26.7	34	20.4	27.6	30.5	27.5	29	28.2	28.1	66.1	16.8	17.6	56.5	7.3	4.6
24	61.29	26.4	33.7	19.1	27	29.7	28.2	28.7	28.3	28.1	64.9	16	16	55.5	6.1	3.9
25	61.15	26.9	34.8	19.6	27	30.2	28.1	28.6	28.2	28	62.5	15.6	16.7	54.8	7.8	5.1
26	60.71	25.9	32.7	21.1	27.4	29.5	28.3	28.6	28.2	28	64.6	15.7	18.7	53	6.3	3.8
27	60.81	26.2	33	19	26.6	29.5	27.9	28.5	28.3	28.1	63.4	15.5	16.2	55.5	7.5	4.7
28	60.53	26.1	32.9	21.8	27.4	29.4	28.1	28.5	28.2	28.1	67.6	16.6	19	53	5.7	3.7
29	59.56	26.7	33.6	20.8	27.2	29.8	28.1	28.7	28.3	28.2	65.7	16.6	18.2	52.5	6.6	4.1
30	59.50	27.1	34.1	19.8	27.1	30.5	28	28.6	28.3	28.1	63.8	16.4	17.7	55.5	7.5	4.6
31	60.08	27.9	35.5	22.7	27.5	30.9	28.3	29.1	28.3	28.2	64.9	17.6	20.3	55.5	7.4	4.8
Mean Total	760.72	26.5	33.2	21	27	29.8	27.9	28.5	28	28.1	70.7	17.8	18.7	53.2	5.8	3.5
Departure from normal	+0.19	-0.1	+0.7	-0.3							-0.8	-0.3			-2	

Day.	Wind.				Amount (mean).	Clouds.				Sunshine.	Rain, 24 hrs. beginning 6 a.m.		Miscellaneous.	
	Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.		Form and direction.		Upper.	Lower.		On the tower.	In the park.		
						h.	m.							mm.
1	NE	180	22	E	5.1	A.-Cu.	E	Cu.	E	6	35			∞ p.
2	NE	191	20.5	NE	3.8	Ci.	NW	Cu.	E	10	00			
3	SE	190	20	SE	6.2	A.-Cu.	SE, S	Cu.	E	6	25			
4	E quad.	187	16	W	4.4	A.-Cu.		Cu.	NE, E	10	00			
5	NE, S	133	17	WNW	6.8	A.-Cu.		Cu.	E	3	30			∞° d° a.
6	W quad.	141.5	15	NE	6.2	A.-Cu.		Cu.	E	5	10			∞° a. d° p.
7	E quad.	177	20	WSW	3.4	Ci.		Cu.	E	8	10			∞° a.
8	E quad.	176	20	WNW	3.8	A.-Cu.		Cu.	E	10	15			∞° a.
9	SE	138.5	13.5	SE, WNW	3.2	Ci.-Cu.	E	Cu.	E	9	05			∞° a.
10	E quad.	183	18	WSW	2.8	A.-Cu.	NE	Cu.	E	10	45			∞° a.
11	SE	215	19.5	SSE	2.5	A.-Cu.		Cu.	E	10	15			
12	SE	197	18	SE	3.7	A.-Cu.		Cu.	NE	7	55			< p.
13	SE	160	19	SE	3.2	Ci. SW by W		Cu.	E	8	00			∞° a.
14	SE	159	15	SE	3.5	Ci.-Cu.		Cu.	ENE	8	15			∞° a.
15	E quad.	137	12.5	ESE	7.1	A.-Cu.	SE	Cu.	E	3	55			∞° a. d° p.
16	E quad.	186	20	E	7.7	A.-Cu.	ENE	Cu.	SE	4	45			d° a.
17	SE	172.5	16.5	SE	6.6	Ci., A.-Cu.		Cu.	E	5	05	1.9	2	∞° a. ●° p.
18	SE	180.5	17	WNW	5.9	Ci., A.-Cu.		Cu.	E	8	35			p° p.
19	ESE, SE	165	17	ESE	6.1	A.-Cu.		Cu.	E	4	35			∞° a.
20	E quad.	203	24	ESE	3.3	A.-Cu.		Cu.	E	9	40			
21	SE	230	23	SE	1.2	Ci.		Cu.	E	10	25			∞° a.
22	SE	265	26	SSE	2.1	A.-Cu.		Cu.	E	9	35			∞° a.
23	SE	271	27.5	SE	2.4	A.-Cu.		Cu.	E, NNE	9	40			∞° p.
24	NE	182	17	WNW	1.9	Ci.		Cu.	E	9	00			∞° a.
25	E quad.	220	23	E	1.6			Cu.	ESE	10	25			∞° a.
26	E quad.	172	19	WSW	3.8	A.-Cu.		Cu.	ENE	5	15			
27	E	250.5	34.5	E	4.1	A.-Cu.		Cu.	E	8	00			d° a.
28	N, E	198	26	ENE, ESE	5.9	Ci.		Cu.	E	4	45			
29	E quad.	230.5	21	SE	5.5	Ci.		Cu.	E	6	10			∞° a.
30	NE, SE	230.5	26	ESE	2.6	Ci.		Cu.	E	9	35			
31	E	278.5	28	E	3.7	A.-Cu.		Cu.	E	8	30			
Mean Total		193.5	20.4		4.2					7	49			
Departure from normal		-774.7			-0.2					242	15	1.9	2	

* All the mean values given in this table are deduced from hourly observations.
^b These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
^c Maximum of hourly observations taken from 6 a. m. to 6 p. m.

METEOROLOGICAL DATA FOR MIRADOR OBSERVATORY, BAGUIO.*

[$\phi = 16^{\circ} 25' N$; $\lambda = 120^{\circ} 35' E$; barometer above sea, 1,512.5 meters; gravity correction not applied, -1.65 mm.]

Day.	Pressure ^b (mean).	Air temperature at Mirador (on the top of the mountain).					Air temperature in the plateau near the City Hall.				Relative humidity (mean).	Vapor pressure (mean).	Radiation.		Evaporation.	
		Mean.	Maximum.	Hour.	Minimum.	Hour.	Maximum.	Hour.	Minimum.	Hour.			Minimum on grass.	Maximum in sun. Black bulb in vacuo. ^c	Free exposure (total).	Shelter (total)
	mm.	°C.	°C.		°C.		°C.		°C.		Per ct.	mm.	°C.	°C.	mm.	mm.
1	639.30	17.2	23.5	11.45a.	13.5	4.40a.	25.4	1.30p.	13.4	6.15a.	77.2	11.3	12.1	57.8	7.2	2.9
2	38.83	17.4	24.3	11.00a.	14.2	6.05a.	25.4	11.30a.	13.7	5.00a.	76.5	11.2	13.9	57	4.8	3.3
3	38.53	18.1	24.2	11.30a.	14	4.50a.	25.4	10.50a.	13.4	6.00a.	72.2	11.1	14.3	56.2	4.6	2.9
4	38.84	18.2	25.2	1.40p.	14.3	6.00a.	24.4	11.00a.	13.4	5.55a.	79.7	12.3	11.8	57.2	3.8	2.3
5	39.73	17.6	24.6	0.45p.	14.9	6.10a.	24.4	Noon	14.2	6.00a.	86.2	13	12.7	58.1	2.9	2.2
6	39.94	18.2	24.6	1.15p.	14.4	6.05a.	24.9	0.20p.	13.9	6.00a.	80.7	12.4	13	58.7	3.5	2.4
7	38.75	17.3	23.8	1.00p.	13.8	6.10a.	24.5	11.00a.	13	4.45a.	79.5	11.6	11.4	58.8	3.9	2.3
8	38.33	17.6	23.5	9.40a.	14	2.35a.	25.1	10.40a.	13.2	4.00a.	81.2	12.2	12.5	54.8	3.1	1.8
9	38.21	18.7	23.6	1.30p.	15.2	4.00a.	24.5	11.50a.	13.9	3.30a.	83.7	13.4	12.1	60.2	2.7	1.9
10	37.82	18.6	24.8	1.00p.	15.7	5.30a.	24.8	0.45p.	14.2	5.30a.	88	13.9	13.7	59.8	3.2	2.6
11	37.58	19	24.8	0.50p.	15.4	6.30a.	25.6	10.25a.	15.2	4.50a.	84	13.5	13.6	55	3.3	1.8
12	37.12	18	24.3	0.35p.	14.2	5.10a.	24.5	1.45p.	13.8	5.40a.	86.8	13.3	11.8	58.6	2.7	1.6
13	36.97	18	25.2	0.30p.	14.2	4.00a.	24.8	11.15a.	14.4	4.50a.	83	12.7	12.7	58.5	3	2
14	37.52	18.5	24.9	1.00p.	13.8	5.20a.	25.2	0.10p.	12.9	5.10a.	85.3	13.4	12.1	58	3.1	1.9
15	38.38	18.4	24.8	0.30p.	14.9	6.00a.	25.6	10.40a.	14	6.30a.	74.8	11.7	12.3	51	3.8	2
16	38.31	18.7	25.7	0.10p.	14.3	6.00a.	26.2	Noon	12.9	6.45a.	75.3	12	11.5	59	4.5	2.5
17	37.91	17.6	24.6	0.20p.	15.3	6.20a.	24.3	Noon	14.6	6.25a.	86.3	12.8	13.2	61.1	3.1	2.1
18	37.85	18.2	25.2	1.00p.	14.8	6.00a.	24.6	1.05p.	13.8	6.15a.	84.8	13.2	12.8	60.2	3.1	1.7
19	38.37	18.4	24.7	10.15a.	15.3	11.00p.	26.1	10.20a.	15.4	12m.n.	87	13.6	13.8	60.2	3.1	1.9
20	38.69	19	24.7	10.40a.	14.8	4.15a.	26.2	10.35a.	13.1	4.50a.	74.8	13.2	11.6	54	5.6	2.9
21	38	18.8	25.5	1.00p.	14.2	4.25a.	25.7	0.30p.	13.2	5.15a.	73	11.7	12	57.1	4.7	2.6
22	36.88	19.2	26.2	1.00p.	14.3	6.00a.	25.9	0.30p.	13.5	6.00a.	77.2	12.6	12.4	59	4.2	2.2
23	37.60	18.9	25.6	1.25p.	15.5	6.00a.	26.1	10.00a.	13.9	6.15a.	78.2	12.6	13.6	59.5	4	2.5
24	38.65	18.4	24.2	1.15p.	14.9	5.25a.	24.1	10.30a.	13.9	5.50a.	74.8	11.7	12	57	6.3	3.6
25	38.36	19	25.8	1.05p.	13.5	3.20a.	26.1	11.55a.	12.2	3.45a.	57.5	9.2	10	57	9.5	5.3
26	38	18.3	25.2	11.10a.	13.6	12m.n.	26.2	0.10p.	13.5	4.20a.	64	9.9	12.2	55.8	9.8	5.2
27	37.77	17.9	26.5	1.15p.	13.2	1.30a.	26.6	1.30p.	12.6	2.00a.	50	7.6	11.2	55.8	15.1	8.1
28	37.56	18.2	25.5	11.10a.	12.3	6.15a.	25.9	1.00p.	11.8	5.40a.	46.5	6.9	9.6	54.3	17.7	8.9
29	36.99	18.4	25.4	11.00a.	13.6	1.00a.	25.7	11.15a.	12	2.25a.	48.2	7.8	10	59	12.3	5.7
30	37.05	19.5	26.1	11.10a.	13.3	2.45a.	27.8	11.30a.	12.4	3.05a.	50.7	8.2	11.3	57.2	12.3	5.3
31	37.62	19.8	26.7	11.20a.	15.5	6.25a.	26.9	11.15a.	14.9	11.30p.	63.8	10.7	14.1	58.5	10.4	4.8
Mean	638.11	18.4	25		14.4		25.4		13.6		74.5	11.6	12.3	57.8	5.8	3.2
Total															181.3	99.2

Day.	Wind.				Amount (mean).	Clouds.				Sunshine.	Rain, 24 hours beginning 6 a. m.	Miscellaneous.
	Prevailing direction. ^d	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.		Form and direction.		Upper.	Lower.			
						0-10.						
1	E	434.5	32.4	E	6.1	Ci.	E	Cu.-N.	E	h. m.	mm.	☉ a. ☉ p.
2	E	483.2	28.2	SE	4	Ci.	Ci.-S.	Cu.-N.	E	4 10		☉ d° p.
3	W, E	378.5	25.4	W	4.4	Ci.		Cu.-N.	E	5 40		☉ p.
4	W quad.	321.1	24.4	W	3.6	Ci.		Cu.-N.	E	6 45		☉ a. ☉ a. p.
5	E	341.6	25.9	W	4.6	Ci.		Cu.-N.	W	5 15		☉ a. ☉ a. p. ☉ p.
6	E	317.1	23	W	4.4	Ci.		Cu.	W	6 00		☉ a. ☉ a. p. ☉ p.
7	E quad.	313	24.6	W	4.4	Ci.		Cu.-N.	W	3 30		☉ a. ☉ a.
8	E quad.	346.8	23.3	W	4.9	Ci.	Ci.-S.	Cu.-N.	WSW	3 25		☉ a. ☉ a. p.
9	E quad.	225.6	21.4	W	4.1	Ci.		Cu.-N.	W	4 30		☉ a. ☉ a. p.
10	SW quad.	282.7	24.7	W	4.4	Ci.-S.	W	Cu.-N.	W	5 55		☉ a. ☉ a. p.
11	E	359.4	27.7	W	5	Ci.		Cu.	WNW	6 40		☉ a. ☉ a. p.
12	SE, SW	272.3	23.6	SW	4.6	Ci.	Ci.-S.	Cu.	WNW	5 20		☉ a. ☉ a. p.
13	E, SW	329	31.9	SW	3.9	Ci.		Cu.-N.	WNW	6 15		☉ a. ☉ a. p.
14	N, SW	256.5	23.5	W	3.1	A.-Cu.	SW	Cu.	SW	6 40		☉ a. ☉ a. p.
15	SW, E	295.8	21.1	SW	3.9	Ci.		Cu.	ESE	4 40		☉ a. ☉ a. p.
16	E	327.5	29.3	W	5.4	Ci.		Cu.-N.	SW	4 10	0.3	☉ a. ☉ a. p.
17	E	316.1	23	W	5.6	Ci., Ci.-S.		Cu.-N.	E	3 30		☉ a. ☉ a. p.
18	E	337.8	24.3	W	5.4	Ci.		Cu.-N.	E	3 40		☉ a. ☉ a. p.
19	E quad.	268.3	22	SW	6.6	Ci.-S.	ESE	Cu.-N.	W	3 50		☉ a. ☉ a. p.
20	E	310.9	21.7	SW	4.4	Ci.		Cu.-N. E, ESE	W	6 15		☉ a. ☉ a. p.
21	E, SW	365.1	27.1	W	2.3	Ci.		Cu.	ESE	7 20		☉ a. ☉ a. p.
22	E	305.3	27.7	W	4.4	Ci.		Cu.-N. SW, W	W	5 20		☉ a. ☉ a. p.
23	E	* 314.9	26	W	5.7	Ci.-S.		Cu. SE quad.	W	5 25	.7	☉ a. ☉ a. p.
24	W, E	† 251.3	27.4?	W	4.7	A.-Cu.	SE	Cu. ENE, ESE	W	4 55		☉ a. ☉ a. p.
25	E	424.6	29.5	SW	2.3	Ci.		Cu.	E	7 10		☉ a. ☉ a. p.
26	E	463.1	24.4	SW	3.1	Ci.-S.		Cu.	E	5 35		☉ a. ☉ a. p.
27	E	591.5	36.2	E	3	Ci.		Cu.	E	8 15		☉ a. ☉ a. p.
28	E	476.6	29.3	E	1.3	Ci.		Fr.-Cu.	E	8 40		☉ a. ☉ a. p.
29	E	494.5	37.8	SE	5.3	Ci.		Cu.	E	4 55		☉ a. ☉ a. p.
30	E	426.7	27.1	SW	2.4	Ci.		Cu.	SE	8 15		☉ a. ☉ a. p.
31	E	376.1	28.2	W	3.4	A.-Cu.		Cu. ENE, E	E	6 30		☉ a. ☉ a. p.
Mean		355.2	26.5		4.1					5 36		
Total		11,011.4								173 50	1	

* All the mean values given in this table are deduced from 6 daily observations taken at 2, 6, 10 a. m. and 2, 6, 10 p. m.

^b The barometric readings of this station are not reduced to sea level.

^c Maximum of hourly observations taken from 6 a. m. to 6 p. m.

^d This element is based on hourly observations taken from a quadruple register, which gives only eight possible directions of the wind.

^e 1 hour missing.

^f 6 hours missing.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, MARCH, 1920.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Lapac Agricultural School, Siasi, Sulu †															3.8	
Glan, Cotabato †																
Jolo, Sulu					4.6	1	1								2.5	
Lais, Malita, Davao					19.3										1.8	
Lebak, Cotabato				4.6				21.3	6.6				12.2		46.2	7.1
Lamitan, Isabela, Zamboanga					6.6										5.6	
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †					4.6										1.5	3
Basilan Plantation Office, Isabela, Zamboanga †					6.1										1.5	2.8
La Union, Sigaboy, Davao †					3.3										9.2	
Paranglalap, Isabela, Zamboanga †					11.7										1.3	3.6
Latuan, Isabela, Zamboanga †					11.4										1.5	3
Buluan, Cotabato †		2.5													2.5	2.5
Malamaui, Isabela, Zamboanga					5.1										2	.3
Zamboanga, Zamboanga					.8											
Cagayan de Sulu, Sulu †																
Kidapauan, Cotabato †		2	12.7				7.6		5.1		12.7	20.3	7.6			7.9
Davao, Davao																
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †			1.5		1.3			.5								10.7
Pikit, Cotabato					3.3			4.1								10.7
Awang, Cotabato †			3													72.9
Sirib, Guianga, Davao †	25.4	22.9														3
Kabakan, Cotabato †		2	1.5													15.2
Bual, Dulauan, Cotabato			5.8			.5		1								34
Cotabato, Cotabato																29.2
Kabasaran, Buldun, Cotabato †																34.5
Naganaga, Margosatubig, Zamboanga				4.1												23.9
Malabang, Lanao			3.8		3	7.6								10.9		6.6
Compostela, Monkayo, Davao †					5.8	51.6										
Malangas, Margosatubig, Zamboanga †				9.7		.8										15.7
Lumbatan, Lanao †	.5				2.5	.8	5.1		6.6							
Cateel, Davao			58.4	5.6	46	1.3	31.7									16.8
Ganasi, Lanao					1.3										2	27.7
Camp Kalao, Monkayo, Davao					3.8	2.6	2.5	1.3						2.5		4.1
Tukuran Agricultural School, Tukuran, Zamboanga †														6.9		4.3
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon		2.5	.3		.8		.3							.5		2.3
Camp Keithley, Dansalan, Lanao					3.6	2.5										7.1
Pantar, Lanao †				4.3	9.9	9.9	1.8							10.2		9.7
Veruela, Agusan		.8	4.5	.5	21.1	7.9	5.3	6.1						5.3		4.1
Sindangan, Zamboanga †				13									10.2			10.2
Sumilau, Bukidnon																9.6
Diklom, Tangkulan, Maluko, Bukidnon †				2.8												7.4
Cagayan, Misamis																
Talacogon, Agusan	7.6				5.1							15.2		3.6		10
Butuan, Agusan		1.8	8.3		.3									3.6		8.9
Mambajao, Misamis	.5	1.5			.5	.5	3.8									
Meeth, Yap, Western Carolines	7.4	1.3						2.3	14.4	5.4	.9					3.3
Hacienda San Jose, Tanjay, Oriental Negros †			11.9					5.8		3.6						23.4
Hacienda Palanas, Bais, Oriental Negros †													14.2			
Hacienda Tamugon, Bais, Oriental Negros †														20.3		2.8
Tagbilaran, Bohol	.5		1	.3								.5		11.7		
Iwahig Penal Colony, Puerto Princesa, Palawan																9.9
Dalaguete, Cebu	.5	4.6	3.1	.5		.3						.8		10.9		6.1
Surigao, Surigao	28.7	79.9	44.7	2.8			.3							11.7		4.8
Central Palma, Ilog, Occidental Negros																6.6
Hacienda Naval, Himamaylan, Occidental Negros																10.7
Biaong Cui's Farm, Barili, Cebu			25.9											9.1		24.4
Maasin, Leyte	14		17											39.1		24.1
Isabela, Occidental Negros				3.3										10.2		9.1
Hacienda Tanolo, Hinigaran, Occidental Negros	1.8			1.3										11.4		15.7
Cebu, Cebu	7.9	2.6	2.3	5.8								1	.3	52.1		14.1
La Castellana, Occidental Negros														4.8		6.1
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †	3.8												58.4			5.1
Central Azucarera de La Carlota, La Carlota, Occidental Negros														11.7		3.3
Hacienda Canlaon, La Castellana, Occidental Negros				1									2.5	26.7		7.9
La Carlota Experimental Station, La Carlota, Occidental Negros †														13.5		5.8
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	1.5													24.6		3.6
Hacienda San Antonio, San Carlos, Occidental Negros †		38.6														
Valladolid, Occidental Negros	1.3			1.5										5.1		11.2
Central San Carlos, San Carlos, Occidental Negros †	.3		1.5	13										41.9		8.2
Hacienda Refugio, San Carlos, Occidental Negros †	5.1					26.9								30.5		8.6
Murcia, Occidental Negros	15.2			3.6										31.7		2.8
Concepcion, Talisay, Occidental Negros	10.2			4.8										48.5		4.3
Iloilo, Iloilo	10.1							.3						8.1		9.9
Lapuslapus, Iloilo, Iloilo †	10.7													10.2		14.2
San Jose de Buenavista, Antique	4.1			3												8.2

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, March, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Tuburan, Cebu	6.1	0.8	0.3	1										39.9	1.3	
Silay, Occidental Negros	30.7	2.5	2.5	2.8										22.6	5.8	0.5
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros †	19.6	11.4	2.5	5.1		0.5								16.3	13.2	
Cuyo, Palawan															5.8	
Lucena, Santa Barbara, Iloilo †															3.8	
Hacienda Ilaya, Victorias, Occidental Negros	23.6	40.1		3		.5	4.3						11.7	7.9	1.5	1
Hacienda Bilbao, Manapla, Occidental Negros	17.8	10.2	6.3	11.2				12.2	2.5							4.6
Cadiz, Occidental Negros	14.7	3	.8	.8										25.1	22.1	
Ormoc, Leyte	5.1	2.5	5.1	3.8								3.8		27.9	7.9	
Guiuan, Samar	66.6	11.9	20.3	6.9								1.5	3	21.3	8.9	1
Bogo, Cebu	6.6	13.2		2.3										11.7	7.6	
Dueñas, Iloilo †	3.8															
Bitaoagan, Passi, Iloilo †	5.1	1.3				1.3								1.3	17	
Tacloban, Leyte	20.6	1.5		4.3								9.1		31.7	28.7	2.8
Dumarao, Capiz †						2.5								10.2		
Dao, Capiz †	15					2.3								10.2		
Capiz, Capiz	7.1	6.9				4.8	1.9							4.8	1.3	
Borongnan, Samar	44.5	6.1				13.2	.3						5.1	15.3	15.2	5.6
Catbalogan, Samar	22.9						2.3							35.6	7.7	2.5
Calbayog, Samar	27.5	1					2.3							.5	2.8	1.1
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †														.3	.5	
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †														3.8		
San Jose Estate, San Agustin, San Jose, Mindoro †																
San Jose Estate, San Jose, Mindoro †																
Masbate, Sorsogon	.3	42.7					1							.5		
San Jose Estate, Tunnel D-12, San Jose, Mindoro †																28.7
Romblon, Romblon		2.3			11.2										5.6	
Batag Lighthouse, Laoang, Samar														3.8	13.7	
Irosin, Sorsogon	13	18.8				2.3	4.6					7.1		5.3	31.2	2.5
Sorsogon, Sorsogon	2.8	61				3.6	.8							17.8	16.3	8.6
Legaspi, Albay, Albay	18.3	51						2.3						2.8	120.4	21.8
Sumay, Guam, Ladrone Islands		31.5	3.6			7.7		4.6						11.4	29	3.1
Calapan, Mindoro			2.5					11.4	2.5							
Virac, Albay		.3	10.4	1.5	5.3	.5		1							17	6.4
Naga, Camarines Sur		31.7	5.6					6.8	1					6.8		8.9
Tigaon, Camarines Sur		3.8	7.3			1.5								1	11.7	2.5
Batangas, Batangas		3.9	5.6			2.8								2.1	9.7	2.8
Calatagan, Batangas												7.1				
Balayán, Batangas												5.1				
Lucena, Tayabas	1.8														4.8	
Atimonan, Tayabas			1.5		2		1.3	4.6	.8					1.5	18.1	1.3
Lian, Batangas																
Nasugbu, Batangas																1.5
Ambulong, Tanauan, Batangas																3.6
Mendez Nuñez, Cavite														1.3		1.5
Alfonso, Cavite																2.5
Indang, Cavite																2.8
Canlubán, Calamba, Laguna																
Silang, Cavite																
Maragondon, Cavite																
Paracale, Camarines Norte		5.8	41.7				4.8	9.7						7.9	11.2	3
Santa Cruz, Laguna																1
Buenavista, Malabon, Cavite																.3
Imus, Cavite																4.8
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †																4.6
Lamao Horticultural Station, Lamao, Limay, Bataan †																
Manila, Manila																
Antipolo, Rizal																2.5
Bosoboso, Antipolo, Rizal †																
Balanga, Bataan																
Montalban, Rizal †													3			
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †															.3	
Mabayuan Dam, Olongapo, Zambales †																
Pampanga Sugar Mills, Del Carmen, Pampanga †																
San Isidro, Nueva Ecija								11.7				33.5		11.4	2	
Iba, Zambales																
Tarlac, Tarlac				23.4	3	.6								.8		
Muñoz Agricultural School, Muñoz, Nueva Ecija †									1.3							
Baler, Tayabas	59	81.5				.5				1.8	1.5	22.6			1.8	21.6
Dagupan, Pangasinan																
Bolinao, Pangasinan															.5	
Baguio, Mountain Province																.3
San Fernando, La Union																
Echagüe, Isabela	1.8				.8											
Sagada, Mountain Province †	2.3	4.1														
Bontoc, Mountain Province †	.5	4.1														
Candon, Ilocos Sur																
Vigan, Ilocos Sur																
Tuguegarao, Cagayan	5.6															
Laoag, Ilocos Norte																
Aparri, Cagayan	.5	.5														1.8
Cape Bojeador, Burgos, Ilocos Norte			6.6	2												
Basco, Batanes	1.3	.5	39.2	2.6	.5	2.8							14.2		41.1	.3

† Voluntary or cooperative station.

* No observation.

Daily rainfall at the stations of the Weather Bureau, March, 1920—Continued.

Station.	Day of month.															Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
Lapac Agricultural School.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Siasi, Sulu †	1	4.6	60.2	6.9				5.1	1.3					1.5		84.4
Glan, Cotabato †		12.4		20.3										24.1		56.8
Jolo, Sulu	.9			10				3.8	5.1					24.9	35.5	89.3
Lais, Malita, Davao	5.1	30.2	8.9						3.3				5.8	23.1	1.8	98.8
Lebak, Cotabato	14.2	44.1				11.7		22.3		5				21.3		197.4
Lamitan, Isabela, Zamboanga			5.6	1				15.7						3.3		52.5
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †	7.1		13	1.3				3.8					6.6			40.9
Basilan Plantation Office, Isabela, Zamboanga †	6.4		10.9	1				3.8	1				3.8	.8	1.8	39.9
La Union, Sigaboy, Davao †	3.3	10.9											7.4	14.2		48.3
Paranglalap, Isabela, Zamboanga †	1.3	7.6	5.1										1.3	.8		32.7
Latuan, Isabela, Zamboanga †	6.4	.3	5.6										1.8	1.3	2.5	33.8
Buluang, Cotabato †		3.8	2.5									5	.3			14.6
Malamaui, Isabela, Zamboanga																5.1
Zamboanga, Zamboanga	4.3	1.3	.5					3.8	3.8				.5	5.6	8.2	31.1
Cagayan de Sulu, Sulu †								6.4	1							7.4
Kidapawan, Cotabato †			27.9	27.9											7.6	131.4
Davao, Davao	2.5		14.7							8.4				8.9	5.3	47.7
Piang Agricultural School, Kudurangan, Duluan, Cotabato †	2.5	5.8	24.6	3.3				11.2	2.5				11.9	4.1		79.9
Pikit, Cotabato	4.1	21.3	2.3	15.7				21.1	4.6					3.8		91
Awang, Cotabato †		11.4	8.9	4.6				7.4						10.4	7.6	126.2
Sirib, Guianga, Davao †	11.4		26.4	17.5				6.4		2.3						115.3
Kabakan, Cotabato †		7.9	2.5	21.6										14.2		65.4
Bual, Duluan, Cotabato		5.8	22.4	30.2				16.8					1.3	3	5.3	126.1
Cotabato, Cotabato			27.4	7.9										16.5		81
Kabasaran, Buldun, Cotabato †	16.3	4.8	21.3							22.4						99.3
Naganaga, Margosatubig, Zamboanga	3.6	7.6	15.2	8.9	4.8		14.5	11.9						69.6		164.1
Malabang, Lanao	10.7		8.9	19.6			2.5	15					1.8	48	6.4	144.8
Compostela, Monkayo, Davao †	51.1	.5	10.7	2.5		8.9		2.5	.5	20.3			22.9			177.3
Malangas, Margosatubig, Zamboanga †			3											124.7	10.9	164.8
Lumbatan, Lanao †		17.8	20.3			1	7.6									5.8
Cateel, Davao	60.4	40.6	5.1	26.5	11.4	12.7	12.9	3.1	37.4	2.8	11.4	4.6	107.7	57.4	34.5	612.9
Ganasi, Lanao	1		3.3		17.5		8.6	4.1	2.3				1.8	18	1.5	89.1
Camp Kalao, Monkayo, Davao	16.5	1.5	1.5		4.8		5.8						50.8	9.1	1.8	108.6
Tukuran Agricultural School, Tukuran, Zamboanga †	1.5		1	2.3			15	2	1.8					18	1	53.8
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon				2.6	.3		.5	3.3	.8				9.9	2.3	.3	26.7
Camp Keithley, Dansalan, Lanao	1.8		3	11.7			2.8	16.5	2.3					17.3	3	71.6
Pantar, Lanao †	5.8			1.3			11.9	2			6.1	19.3			45.7	137.9
Veruela, Agusan	18.1	5.1	10.7	6.9	9.7		17.8	8.9	10.4			2.5	37.9	23.6	14	221.2
Sindangan, Zamboanga †							14.7	26.4	1.5				.5	55.9		133.2
Sumilau, Bukidnon	2.8		1.5	3	8.2		28.2						.8	1	.8	55.9
Diklom, Tankulan, Maluko, Bukidnon †	.5			.5	9.6			5.1	1.3					10.2		37.4
Cagayan, Misamis																0
Talacogon, Agusan		7.6	13.5	17	1		10.4	1	3.3							95.3
Butuan, Agusan	3		21.6	2.1	2.3		12.9	5.1	8.1	3.8			6.1	23.1	2.8	111.1
Mambajao, Misamis	20.6		4.8				29.2	.5	1.8					41.6		105.8
Meeth, Yap, Western Carolines	1.3	1.8	.3	20.8				.8	.3	9.9	7.9	8.4	7.7	.3	.3	94.8
Hacienda San Jose, Tanjay, Oriental Negros †	8.1													8.9		61.7
Hacienda Palanas, Bais, Oriental Negros †													6.1			20.3
Hacienda Tamugon, Bais, Oriental Negros †												8.9	7.6			47
Tagbilaran, Bohol			1.3	.7			.3	7.1	12.2				.7	13	.5	52.6
Iwahig Penal Colony, Puerto Princesa, Palawan	.8			4.6												11.2
Dalaguete, Cebu								4.1	8.1	.5		5.8	.8	8.4		54.5
Surigao, Surigao	7.7	5.3	3.5	24.4	1.5		22.6	25.7	1.3	14.5	3.6	.8	1.5	45.1	7.6	344.6
Central Palma, Ilog, Occidental Negros																0
Hacienda Naval, Himamaylan, Occidental Negros										10.2				22.9		19.8
Biaong Cui's Farm, Barili, Cebu																88.4
Maasin, Leyte							24.6	36.6	16.3					50.3	30.5	252.5
Isabela, Occidental Negros									1.3					2.5		26.4
Hacienda Tanolo, Hinigaran, Occidental Negros										11.7				.5		42.4
Cebu, Cebu					1				6.1	1		2.8		4.3	1.9	103.2
La Castellana, Occidental Negros									2.5					.8		14.2
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †			26.7				1.8	.8				.5		23.6		120.7
Central Azucarera de La Carlota, La Carlota, Occidental Negros								4.1	2.5					2.5		24.4
Hacienda Canlaon, La Castellana, Occidental Negros								.8	1.1					10.2		50.2
La Carlota Experimental Station, La Carlota, Occidental Negros †								1.5	.5					6.1		27.4
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros														2.8		32.5
Hacienda San Antonio, San Carlos, Occidental Negros †													27.2			65.8
Valladolid, Occidental Negros														2.3		21.4
Central San Carlos, San Carlos, Occidental Negros †	6.6	.5					11.2	2.5	5.1	1		7.1		14	2	114.9
Hacienda Refugio, San Carlos, Occidental Negros †	9.1						8.9	10.2				8.4		21.6	2.5	131.8
Murcia, Occidental Negros								1	6.8					2.5		63.6
Concepcion, Talisay, Occidental Negros													.5			73.9
Iloilo, Iloilo			.8					.3				1.5		3		34.3
Lapusalap, Iloilo, Iloilo †			1.3					1.5						3.8		44.2
San Jose de Buenavista, Antique										2						17.3

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, March, 1920—Continued.

Station.	Day of month.															Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
Tuburan, Cebu		mm. 0.6														mm. 70.2
Silay, Occidental Negros			mm. 8.9				m. m. 1	mm. 3.6	mm. 7.1			mm. 1.3		mm. 1.5		mm. 89.5
Hawaiian Philippine Co., Malibug, Silay, Occidental Negros †			9.7				2.3		14.3			3.6		14.5	1.3	114.3
Cuyo, Palawan																5.8
Lucena, Santa Barbara, Iloilo †	2.5								3.8							10.1
Hacienda Ilaya, Victorias, Occidental Negros		15.2					1.5	17.8				2.8		25.4	4.8	161.1
Hacienda Bilbao, Manapla, Occidental Negros		6.4	5.1	3.6			14.7	4.8		3.8	2.5	3		33	9.6	151.3
Cadiz, Occidental Negros			6.1						4.1					21.1		97.8
Ormoc, Leyte		1.3						8	5			4.6		5	7.1	70.9
Guiuan, Samar	1.3	2.8	2	5.1		1	1.8	28.7	7.9	10.7	4.1	3.6	3.6	33.8	102.4	350.2
Bogo, Cebu	5.6			5			4.3		1.3			3.3		3.3		59.7
Dueñas, Iloilo †							10.2	1.3								15.3
Bitaoagan, Passi, Iloilo †																28.3
Tacloban, Leyte								5	2.8			10.2		3.6	2.3	115.8
Dumarao, Capiz †	1.3						10.2					2.5				26.7
Dao, Capiz †	2.5	1		16	8			5.1		1		8.9				62.8
Capiz, Capiz	2	.8	4.1						2.5	1.8	7.9	2.3	3	.3		48.8
Borongon, Samar	8.6	7.1	3		5.6		6.4	25.6	7.1	20.3		35.8		29.5	5.8	260.1
Catbalogan, Samar	3.8	3		8	5		2.5	11.1	5.1			12.2		5.1	.5	116.6
Calbayog, Samar				6.9			.5	11.9	2			5				57.2
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †	.5	5.1														6.4
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †		2.3														6.1
San Jose Estate, San Agustin, San Jose, Mindoro †	10.2	3														13.2
San Jose Estate, San Jose, Mindoro †		1.8														2.3
Masbate, Sorsogon		5.1		2				10.2	1.3		1.3	1.8		.5		100.5
San Jose Estate, Tunnel D-12, San Jose, Mindoro †		1.8														3.1
Römblon, Römblon		8.9	2.3					7.1		6.1		2.3				57.7
Batag Lighthouse, Laoang, Samar	2	9.9			4.3		1.8	2	1			6.9				113.7
Irosin, Sorsogon	5.3	17.5	3.8	.5			8.7	36.6	13.9	2.5	6.9	7.8	.8	2.8		218
Sorsogon, Sorsogon		24.1	5.1				11.4	21.3				15.7				294.2
Legaspi, Albay, Albay	.3		3.6	5.9	1.3		3.8			2		6.1				113.9
Sumay, Guam, Ladrone Islands		12.7	7.6	14	10.2					10.2	43.1	1.3	2.5	2.5	21.6	142.1
Calapan, Mindoro			2						4.6	5.1						54.1
Virac, Albay		6.4	.5	3.8			.8		2							74.3
Naga, Camarines Sur																27.8
Tigaon, Camarines Sur		.5	1.5	2		1				.3	.3	3.8				36.3
Batangas, Batangas																7.1
Calatagan, Batangas																0
Balayan, Batangas																5.1
Lucena, Tayabas				2					1	3.6				.8		14
Atimonan, Tayabas			.8						1.6	.5			.5			34.5
Lian, Batangas																0
Nasugbu, Batangas																0
Ambulong, Tanauan, Batangas	.8								1.5	.8	5.1			5		10.2
Mendez Nuñez, Cavite									3.3					4.3		11.2
Alfonso, Cavite									.8					1.3		4.9
Indang, Cavite											1.8			8		2.6
Canluban, Calamba, Laguna									1.5	1	2.8	6.1	.8			14.7
Silang, Cavite											2.3	2				7.1
Maragondon, Cavite																0
Paracale, Camarines Norte	13.2	.5	7.1						2.8	3.3		5				108.8
Santa Cruz, Laguna		.8	8.4									1.5	2.3			14
Buenavista, Malabon, Cavite											.3				1	6
Imus, Cavite																5.8
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †															1	5.6
Lamao Horticultural Station, Lamao, Limay, Bataan †																0
Manila, Manila	1.9															1.9
Antipolo, Rizal	2															4.5
Bosoboso, Antipolo, Rizal †																0
Balanga, Bataan																.3
Montalban, Rizal †												.3				3
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †																.3
Mabayuan Dam, Olongapo, Zambales †																0
Pampanga Sugar Mills, Del Carmen, Pampanga †																13.4
San Isidro, Nueva Ecija															1.5	46.7
Iba, Zambales																.9
Tarlac, Tarlac																24.2
Muñoz Agricultural School, Muñoz, Nueva Ecija †																3.3
Baler, Tayabas		2.3	.5	.2			3	1.8			2.3	5.9	3.8	29.7	6.4	246.2
Dagupan, Pangasinan		11														11
Bolinao, Pangasinan																.5
Baguio, Mountain Province							.7									1
San Fernando, La Union																0
Echagüe, Isabela																* 2.6
Sagada, Mountain Province †	2.5															8.9
Bontoc, Mountain Province †																4.6
Candon, Ilocos Sur																0
Vigan, Ilocos Sur																0
Tuguegarao, Cagayan																5.6
Laoag, Ilocos Norte			.5													.5
Aparrí, Cagayan	52.1	.6									.3			1		56.8
Cape Bojeador, Burgos, Ilocos Norte																8.6
Basco, Batanes												1.5	1			105

† Voluntary or cooperative station.

* No observation.

* 15 days observations only.

MAXIMUM AND MINIMUM TEMPERATURE AT THE STATIONS OF THE WEATHER BUREAU, MARCH, 1920.

Day.	Jolo.		Lais, Malita.		Lamitan, Isabela, Zamboanga.		Malamaui, Isabela, Zamboanga.		Zamboanga.		Davao.		Cotabato.		Naganaga, Margosatubig.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	29.3	21.5	33.3	22.6	32.5	18.3	32.3	23.1	32	22.9	33.7	22.2	34.4	21.4	34.5	20.7
2	31.3	22.7	33.4	20.5	32.6	19.9	32.1	23.1	32	22.7	31.7	19.4	34	19.4	35.2	21.5
3	31.4	21.4	32.5	22	33.5	18.4	32.4	22	30.5	22.3	30.7	22	34.7	22.8	34.7	22.2
4	31.3	22.2	33.3	22.1	34.2	20.7	32.5	23.5	32.3	23.8	31.7	21.8	34.5	22.5	34	21.7
5	29.9	22.5	33.4	22.2	32.7	20.9	32	23	33	22.9	32	21.5	34.2	21.5	34.5	20.2
6	29	22.4	33	23.5	34.1	20.6	31.7	22.6	32.1	22.3	32.7	22.8	34.5	22.5	34.5	21.5
7	29.8	21.8	32	22	32.6	21.2	31.6	22.4	32.5	23.6	31.7	21.5	33.2	21.5	33.5	22.2
8	30.5	21.7	32.2	22.3	33.9	20.5	32.5	23.4	31.2	22.5	32.2	23.3	33.2	22.5	34.2	21.3
9	30	21.7	32.4	20.3	33.2	19.3	31.6	23.3	29.3	22.8	32.3	22.2	34	21.2	33.5	20.5
10	29.6	21.6	32.8	22.5	33.4	19.7	31.3	22.1	28.2	22.8	33.3	21.3	33.2	21.5	35	22.2
11	30	20	33.4	20.6	32.5	21.5	32.6	22.5	29	22.2	34	20	33.2	21.4	34.7	21.7
12	29.5	20.1	32.5	21.2	31.7	19.2	31	22.5	29.6	22	33	22	32.7	22	35	22.2
13	29.4	21.1	34.2	22.3	32.6	21.5	30.5	22.4	30	21.5	30.6	22.3	34.1	22	34.5	20.5
14	29.6	20.7	32.7	21.8	33.4	20.5	32.5	22.5	30.7	22.1	32.8	22.5	34.5	22.2	33.7	21.5
15	31	22.2	30.5	23	31.2	21.4	30.4	22.3	30.4	23.9	29.7	26.3	32.7	23.8	35	22.2
16	32.5	24	33.3	22.3	34.5	21.5	31.1	22	32.3	23.2	32.2	22	34.5	21.5	33.5	22.5
17	30.2	21.9	33.4	23	32.3	21.2	32	23	29.1	23.4	31.2	22.3	33.5	21.4	34.5	22.2
18	29.9	23.7	32.1	23.3	32.7	21.3	30.6	22.5	28.2	23.5	32.7	22.5	32.7	21.8	34	21.7
19	29.5	22	30.6	22.5	31.5	21.2	32.5	23.1	30.2	22.8	30.7	23.8	34.1	22.4	33.5	22.5
20	30.3	22.4	32.5	22.3	32.7	22.3	31.3	22.4	31	24	31.9	22.5	34.2	22	34	22.2
21	30.5	22.4	32	21.8	32.5	22.2	30.8	23	31.7	23.1	31.7	20.5	33.6	21.4	33.5	21.5
22	30	21.5	33.3	22.5	33.5	19.4	31.7	23.2	28.6	22.4	32.7	23	34.1	22	34.5	22.2
23	30.6	22	32.5	22	32.9	21.5	32.3	23.1	29.2	23.9	32.2	21.4	33.9	22.5	33.5	22.5
24	29.5	22.9	33.5	22.5	33.2	21.9	32.6	23	30.5	23.9	32.2	22.5	33.5	23.4	33.5	21.7
25	32	23.4	33	20.5	33.4	21.7	32.4	23.5	32.5	23.8	32.7	21.7	33.7	21.4	33	22.5
26	30.3	22.4	32.7	23	33.3	21.6	31.9	23.1	33	23.4	32.7	22.5	34.2	22.4	34.5	21.7
27	30.3	21.9	33.8	24.5	32.6	20.2	31.5	23.2	32	23	33.2	22.6	35.1	22.4	33.5	22.2
28	30.3	21.7	33.7	25	32.7	20.7	32.2	22.5	31.1	23	33.7	22.8	33.7	22.9	33.7	21
29	31.5	21.2	34.2	23.8	32.5	19.7	32.7	23.4	29.5	22.1	32.7	24.5	32.7	22.5	35.2	22.5
30	31.3	23.3	29.5	24.5	33.9	21.4	33.2	22.9	32.4	23.5	30.7	24.1	33.4	22.6	34.7	22
31	29.6	23.2	32.6	22	34.4	23.4	31.6	23.6	32.5	23.7	31.5	23.3	30.7	23	33	21.5
Mean	30.3	22	32.7	22.4	33	20.8	31.9	22.8	30.9	23	32.2	22.4	33.7	22.1	34.1	21.8

Day.	Malabang.		Cateel.		Camp Kalao, Monkayo.		Camp Keithley, Dansalan.		Veruela.		Sumilau.		Cagayan.		Butuan.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32	21.5	30.6	22.5	32	21	26.8	17.3	30.8	21.7	28.6	20.6	31.8	22.6	31.1	21.5
2	31.5	18.5	30.2	20	31.1	19	28.2	14.6	29	20.7	28.9	17.8	31.9	21.6	33	21.2
3	32	20.5	29.8	19	31.1	20.1	27.4	16.9	30.3	21.7	30.3	20.5	31.8	22.2	32	22.5
4	32	21.5	30.5	22	32.1	21.1	27.5	17.6	31.4	22.7	29.8	20.9	32.2	21.8	32.6	22.4
5	31.5	20.5	29.2	22.5	30	20.1	26.1	15.5	28.6	22	29.6	16.8	32	22.1	33	20.9
6	32	21	29	23.8	30	20	24.5	19.3	29	21.9	29.4	17.5	32	23	32.4	22.2
7	32	21.5	29.5	22.6	29	20.1	26.3	17.6	30.8	20.2	30.3	14	31.8	20.6	32.1	20.3
8	32.5	21	29.8	22.5	31	21	26.3	17.9		22.5	29.5	17.1	31.4	20.6	34.1	20.8
9	32	21.5	30.5	21.1	31.1	19	27.2	17.5	31.4	20.4	30.3	15.8	32	23.4	34.4	21.4
10	32.5	20.5	30.5	21	32	19	26.6	17.5	31.7	19.4	29.9	15.7	32.2	23.2	33.6	20.9
11	32	22.5	30.1	19.5	32.1	18	26.9	15.5	31.8	18.5	29.5	15.8	31.6	23	32.1	20.8
12	32.5	22	30.5	20	32	19	27.8	17.5	30.8	20	30.1	17.2	32.2	22.8	32.4	21.4
13	32	21	30	19.8	30	19	26.7	15.1	29	20.5?	29.4	15.2	31.4	20.4	30	19.9
14	33	22.5	32	20.5	32	20	28.1	16.1	32.3	20.7	30.4	15.9	31.5	20.8	30.6	20.7
15	32.5	23.5	30.3	24	32	22.1	28.7	19.7	30	22.5	29.9	20.8	32.2	22	29.7	22.9
16	32.5	20	30	21.6	32.1	22	28.2	16.4	31	21	30.3	20.4	31.2	20.4	34.1	22.3
17	31.5	21	29.5	22.5	32	20	26.9	15.1	29.8	21.2	28.9	17	31.8	20	31.6	21.2
18	31.5	21	30	22.6	31	21	26.2	18.9	29.8	21.7	29.8	18.4	32.2	20.2	32.9	22.2
19	31.5	22.5	30.3	21.5	31.1	21.1	27.5	17	30.3	22	30.1	19.3	31.8	20.5	32.6	21.4
20	32.5	21.5	30	21.6	32.1	22	27.3	18	29.2	22.2	29.3	20.6	32	20.8	32.3	22.3
21	31.5	21	30	21.5	32.1	22.?	26.1	15.4	28.6	22.2	28.2	18.6	31.9	21	30.9	21.8
22	32	22	30.5	23	32.1	22.1	27.5	16.3	31	22.2	30.6	20.2	33	20.5	33.9	20.6
23	32	22	30.7	21.5	33	21	26.7	16.3	30	21.7	30.4	17.7	32.9	20.8	33.4	21.8
24	31.5	22	30	23	32.1	22	27.3	18.6	29.5	22.7	29	18.5	32.2	20.3	31.4	23
25	31	19.5	30.5	21.6	33	20.1	25.8	15	29	22.3	29	20.5	32	20.4	31.7	21.6
26	33	21	30.6	23	32	21.1	26.3	18	30.3?	21.8	30	20	33.2	21.2	31.6	21.9
27	32.5	21	30.5	22.2	32.1	19.1	26.1	18	31	21.3	30.5	18.4	33.2	21.2	33.1	21.3
28	32	22	30.3	22.5	32.1	21.1	26.5	18.4	32	21.5	30.4	19.6	33.8	20.4	32.6	21.2
29	32.5	22.5	28	24	28.1	22	26.9	17.4	28.8	22.7	29.8	18.1	32.9	20.2	31.1	22.2
30	32	22.5	27	23.8	28	23	25.5	20	27.7	23.5	30.4	20.1	32.2	21.2	28.3	23.3
31	31.5	22	28.7	23.5	29.1	23.?	26.3	19.1	29.3	22.6	29.4	19.9	31.8	22	28.6	23
Mean	32	21.4	30	21.9	31.3	20.7	26.8	17.2	30.1	21.5	29.7	18.4	32.1	21.3	32	21.6

Maximum and minimum temperatures at the stations of the Weather Bureau, March, 1920—Ctd.

Day.	Mambajao.		Meeth, Yap.		Tagbilaran.		Iwahig Penal Colony, Puer-to Princesa.		Dalaguete.		Surigao.		Hacienda Naval, Himamaylan.		Biaong Cui's Farm, Barili.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	26.3	23.3	29.6	23.6	27.9	22.9	30.8	22.5	27.9	24.7	26.9	23.4	33.4	22.6	29.8	21.4
2	29.2	22.6	29.7	24.5	30	21.7	31.5	21.3	24	28.3	23	34.1	22.4	29.4	21.2	21.2
3	28.8	24.2	30.3	25.2	32.4	23.2	31.5	22.2	29	24.6	26.8	22.4	34.1	23	30.1	21.5
4	31	24.4	30.3	24.6	30.9	22.8	32.5	22.4	29.5	24	30	23.6	31.7	23	27.4	21
5	29	24.6	29.7	25	32.4	21.8	31.8	20.5	30.4	24.4	28.5	23.3	33.6	21.4	30	20.5
6	30.1	24.8	30.2	23.1	33.2	21.1	30.4	18.2	30	29.3	29.3	23.6	34.9	20.6	29.3	20.1
7	29.7	23	29.6	23	30.7	20.1	31.2	20.8	30.2	23.7	29.4	22.5	32.6	20.5	30.1	21.5
8	30.6	24.5	29.7	24	31.6	20.1	31.5	21.5	30.5	23.2	30.3	21.4	32.2	19.5	31.1	21.6
9	29.9	23.9	29.7	24.5	31.1	21.4	31.2	30.4	23.2	30.3	22.4	34.1	19.7	30.5	19.9	21.5
10	29.8	21.6	29.6	24.5	31	20.3	32.2	30	22.5	30.3	21.4	32.8	19.9	30.2	21.5	21.5
11	29.7	21.5	27.7	23	31.1	19.8	31.4	30	21.8	29.9	20.5	32.2	19	30.8	21.5	21.5
12	30.4	22.2	29.2	24	30.8	22	31.5	30.3	20.4	29.4	21	33.2	18.7	30.2	21.8	21.8
13	30.1	22.6	29.8	26	31	22	31.5	17.8	29.6	21.7	29.2	22.3	33.4	17.9	30	22.4
14	30.4	22.1	30.2	26.6	30.9	21.9	31.8	31.4	22.5	25.7	21.8	31	19.9	29.5	22.4	22.4
15	29.8	24.6	30.3	26.6	27.7	22.5	31.8	18.5	28	24.6	29.6	23.4	27.7	21.5	28.4	22.2
16	31	24.8	30.8	25.6	31.2	21.8	29.6	20.5	30.8	24.4	29.2	24.7	34.2	21	30.1	22.1
17	30.4	24.9	30.6	25.4	30.9	21.3	30.8	18.8	30.5	22.3	29.4	22.4	34.3	22.7	30.3	21.6
18	30.1	22.9	30.2	23.9	32.7	21.3	31.4	19.3	30.5	23.3	29.6	23.6	35.3	21.2	30	22.5
19	29.4	23.4	30.7	23.9	31	21.4	31.7	19.9	30.4	23.4	29.4	23.5	34.9	21.6	30.5	22.1
20	29.6	22.3	29.6	23.4	31.2	21.6	31.5	20.7	30.3	23.6	29.5	23.7	35.3	21.5	29.8	21.5
21	30.4	24.2	30.2	25.5	31.4	22.4	30.7	21.8	31.5	24	30.5	22.6	35.2	23.1	30	22.1
22	30.4	24.3	30	25.8	32.3	21	30.7	21	30.8	20.8	30.4	24.5	35.5	21.6	30	21.5
23	30.2	23.6	30.4	26.1	32.9	21.4	31.1	19.7	30.3	20.7	29.6	22.4	33.1	19.1	30.1	21.5
24	29.3	23.1	30.7	26.5	30.2	23.4	32.2	18.7	29.2	24.5	28.6	23.8	33.8	21.6	30.1	20.5
25	29.6	22.8	30	25.3	32.1	21.7	31.6	21.2	30.5	24.4	28.4	23.2	34.3	22.7	30	21.6
26	29.8	24.1	29.3	24.2	32.5	21.2	32	22.7	29.9	22.4	29	23.8	35.1	22.6	29.8	20.2
27	30.1	23.8	30.2	25.5	32.9	21.9	31.4	20.7	30.1	23	28.8	23	35.2	23.8	23.2	23.2
28	29.6	24.7	30.2	25.5	32.1	23.4	31.5	20.4	30	23	29.8	21.8	35.1	22.5	30	23.2
29	29.5	25	30.8	25.3	33.4	23.3	31.4	20.3	29.6	22.7	28.2	25	35.1	24.6	30	23.3
30	27.7	24.6	30.6	25.5	32.7	23.5	31.9	20.7	31.1	23.6	28	24.2	34.8	23.7	28.1	23
31	27	23.8	31.5	26.5	30.8	23.5	32.5	19.7	29.4	23.6	25.6	23.4	33.2	23.8	27.5	23.1
Mean	29.6	23.6	30	24.9	31.4	21.9	31.4	20.5	30.1	23.2	29	23	33.7	21.5	29.8	21.7

Day.	Maasin, Leyte.		Hacienda Tanolo, Hini-garan.		Cebu.		La Castellana.		Central Azu-carera de La Carlota.		Hacienda Canlaon, La Castellana.		Mao Sugar Central, Bago.		Valladolid.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.8	22.9	32.8	22.9	28.4	24	33.8	19.8	33.9	21.7	33.5	18.7	33.2	23.5	31.2	21
2	32	21.7	33.3	22.6	31.2	23.8	34.2	22.5	34.8	21.5	33	19.9	34.2	22	34.8	21.2
3	31.8	23	33.4	23.1	28.9	24	34	22.1	33.8	22	32.5	19.8	33.4	21.7	34	24
4	31.4	22.8	32.1	22.9	28	23.4	32.5	21.7	32	20.5	30.8	19.4	31	20.2	34.8	21.6
5	32	21.5	34.3	21	30.7	23.4	34	20	35.4	18.9	33.5	18.2	35.7	18.1	34	23
6	32.5	22	33.5	20.3	30.9	23.9	34.6	18.9	34.9	18.5	33.7	17.7	34	19.5	34.5	22.2
7	32.6	21.2	32.4	21.5	31.4	24	34	20	33.9	19.5	32.5	18.3	34	19.1	34.5	21.5
8	33	21.3	32.8	21.7	30.9	24.5	35.2	19.3	33.3	18.7	32.2	18.6	33.7	19	34	21.5
9	33	21.3	34.7	19.9	30.3	24.4	35.6	19.2	34.1	18.6	33	18.9	34.5	18.5	34?	21
10	31.5	20.5	33	21.7	31	24.2	34	20	33.6	19.7	33	18.9	34.2	19.5	35	20.6
11	32.8	20.5	31.6	20	30.8	25.2	35.1	18.5	33.3	18.6	33.7	18.4	33.8	18	32.7	19.2
12	32.8	21.3	33.4	19.2	30.3	23.9	34.6	18	34.8	19	33	17.2	34	17.3	36.6	19.7
13	33	21.8	33.5	17.9	30.5	23.5	33	17.5	33.8	17	32.5	17.3	34.2	16.6	35.5	18.7
14	30	21.6	32.2	20	31.5	24.1	34.2	17.6	32.8	18.3	33.2	17.5	34.2	18.1	35	23
15	30	23.5	26.8	23.6	26.5	21.7	27.2	24	27.9	23.5	26.4	20.3	28.4	23.5	27.4	22.8
16	31.1	21	33.3	23.8	30.7	24.3	33.1	22.4	34.4	21.9	33.5	20.5	34	20.7	34.5	22
17	33.1	22	33.4	22	30.9	24.5	34.5	21.4	34.2	21.3	33.7	19.5	35	20.7	34.6	21.4
18	33.3	21.8	33.7	20.8	30.5	24.5	34.4	20.4	34.9	20.1	34.2	18.4	35	20.3	34.8	20.8
19	33.8	22.6	32.6	20.6	29.9	24.6	34	20	33	19.8	32.8	18.9	33.7	20.3	34.8	22
20	32.2	22	34.1	21.7	30.4	24.9	34	20.4	34.9	19.5	33.1	18.4	35.3	19.3	35	22
21	33.2	22	33.1	22.5	30.7	25.1	34.1	20.6	35.4	20.7	34.2	19.1	34.7	19.3	35.4	21
22	33	21.6	33.3	21	30.6	24.6	34	19.5	34.4	20	33	18.9	33.7	19.7	34.6	20
23	33	21.8	33.1	20.1	31	24.3	35.1	15.4	35	16.7	34.7	17.4	35	16.6	35.3	18.5
24	28	21	35.5	23.2	29.5	25.3	34.1	21.2	35.9	21.5	33.2	20.1	35.1	22.2	35.8	24.5
25	30	20.5	33.3	23	29.7	23.3	34.5	17.5	33.9	21.3	33.9	19.5	35.4	20.3	34.2	23.1
26	32.4	21.8	32.6	22.5	30.5	24.6	34.5	20.5	34.5	19.5	33.9	19.5	34.3	20.6	35.6	22.4
27	31.6	21.7	33.3	22.5	31	23.8	35.5	21.2	34.9	20.7	33.7	19.7	34.5	23.3	35.3	23
28	32.6	22	33.5	21.6	30.7	24.3	34.5	20.1	35.4	20.4	34	19	34.5	22	35	22.8
29	31.5	22	33.1	23.9	30.4	24.4	35	18.4	35.4	23.5	33.1?	21.3	35.3	23.4	34.6	24?
30	30	21.4	34.7	21.5	31.6	24.3	35.7	21.5	35.4	20.5	33	19.9	35.5	21.2	36.2	23.5
31	31	21	32.7	24.2	27.5	24.3	32.1	23.9	33.7	23.5	31	21.5	34.2	23.4	36	23.5
Mean	31.8	21.6	33.1	21.7	30.2	24.2	34	20.1	34.1	20.2	33	19.1	34.1	20.3	34.5	21.8

Maximum and minimum temperatures at the stations of the Weather Bureau, March, 1920—Ctd.

Day.	Murcia.		Concepcion, Talisay, Occ. Negros.		Iloilo.		San Jose de Buenavista.		Tuburan.		Silay.		Cuyo.		Hacienda Ilaya, Victorias.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.7	22.8	31	20	30.8	22.6	35.2	20.1	29.7	21.7	28.5	23.3	31.2	25.4	28.8	24.2
2	33.1	22.7	29.3	21.4	30.6	22.6	31.6	23	30.3	22.5	30	22.5	30	25.1	28.3	22.6
3	31.8	22.3	31.2	21.6	30.5	23.6	33.2	21.4	30.8	23	30.5	23.2	30.1	25.1	28.7	23.2
4	31	20.3	30.4	21.3	30.3	23.3	32.3	21	28.8	21.9	28.5	23.5	30.3	25.4	28.2	23
5	34.2	19.8	29.2	21	31.3	22.9	33	18.6	30	20	29.5	23	30.7	24.5	28.7	21.8
6	34.5	20.7	32.3	21.4	30.4	22.8	32.2	17.8	31.3	20.6	30.1	21.4	31.5	24.8	29	22.5
7	32.1	22.6	32.1	22.4	31.2	23.4	31.3	20.6	31	22.3	30.5	20.5	29.9	25.1	30	23.5
8	34.5	20.8	30.5	22.4	32.7	23.1	31.8	19	30.9	20.8	31.5	21.5	31	25	29.5	23.2
9	34.7	20.2	33	19.7	31.7	22.6	31.8	19.8	31.9	21.9	30.5?	22.1	31	25.1	29.6	23
10	33.8	20.8	33.6	20.9	30.5	23.5	32.4	20	31.8	20.9	31.5	22.2	32.8	23.6	29.8	22.2
11	34.3	19.8	32.5	19.6	31.4	22.8	32.2	20	31.4	20.9	31.5	23.1	32.2	23.4	30.2	22.5
12	33.5	20	33.1	21.8	31	22.3	31.4	20	31.5	22.2	32.5	21.1	31.5	24.6	30.3	22.5
13	32.7	19.6	31.6	19.1	30.4	22	32.7	19.4	31.3	21.7	31.5	20	30.7	25	30	22.3
14	32.8	20.1	31.8	21.5	31.3	22.3	32.3	18.6	30.1	21.2	30.1	21.2	30.5	25.2	30.7	23.2
15	32.4	23.6	30.8	22.4	26	24.1	28.5	19.5	27.2	22.7	28.5	23.6	26.8	24.9	28?	23
16	33.2	22.3	30.2	20.8	30.9	23.8	33.5	21.5	32.2	21.2	31	21	31.1	23.3	30.5	22.4
17	34.1	20.3	32.5	22.9	31.2	23.6	32.7	21	31.8	21.9	29.8	23.2	31	25.1	29.5	22.2
18	32.6	20.3	31.1	22	30.9	23.4	32.7	19.1	30.4	21.4	30.3	21.6	30.6	25.3	29.3	22.5
19	33.9	20.9	31	22.4	31.3	23.6	32.5	22	32.1	22.2	31	21	30.1	24.8	30	22.2
20	34.9	20.2	32.2	22.5	31.2	23.1	33.8	21.5	30.3	21.2	30.8	23	31	25.8	29	22.5
21	35	22.7	31.6	19.7	31.3	23.5	33.6	21	32.1	21.7	30.6	20.6	33.1	24.3	29.4	21.7
22	35	20.3	33	18.9	31.5	23.5	32.7	19	31.7	20.7	31.5	21	32.5	25	30.6	20.5
23	32.3	20.3	33.5	17.4	32.2	22.1	33.5	19.8	32.1	20.5	31.5	20	31.9	24.6	30	22.2
24	33.4	22.8	31.5	22.4	32	23.8	35.6	23	31.7	22.3	31	20.1	30.9	25.6	30.3	23
25	32.8	23.3	31.8	22.4	31.5	23.9	35	22.4	29	21.6	29.6	20.6	30.4	25.6	29.5	23.2
26	32.5	21.1	31.3	21.9	30.8	24	34	22.8	31.1	20.7	30.5	21.5	31.4	25.7	30.2	22.5
27	33	22.8	31.9	22.9	30.7	23.6	34.2	22.1	31.2	21.8	31.5	22	30.2	25.6	29.5	23.5
28	33.1	21.7	30.5	21.8	31.5	22.8	32.8	20.8	31.4	20.5	31	21.3	29.9	25.3	29.8	22.3
29	33.5	22.5	31.5	22.5	31.4	23.5	35.4	21.5	31.7	22.8	30.4	21.4	31.6	25.6	30	22.5
30	32.8	22.3	31	22	31.8	23	33.7	20.1	30.3	22.1	31.2	21.5	32.3	25	29.6	22.5
31	31.6	22.4	31.3	21.9	30.3	23.7	37.7	23.9	-----	24.3	31.5	21	30.8	26	30	22.2
Mean	33.3	21.4	31.6	21.3	31	23.2	33.1	20.7	30.9	21.7	30.6	21.7	30.9	25	29.6	22.6

Day.	Hacienda Bilbao, Manapla.		Cadiz.		Ormoc.		Guiuan.		Tacloban.		Capiz.		Borongan.		Catbalogan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	29.4	22.2	25	31.2	22.2	27.8	23	27.5	23	31.8	23.9	29	25.4	31	19.4	
2	29.6	21.4	29.6	32.9	22.9	31.5	23	31.1	22.4	29.4	23.3	30.5	22.7	30.5	22	
3	28.2	20.6	29	32.6	23.3	31.1	23.3	30.6	22.8	30.8	24.4	30.5	25.5	31.8	22.3	
4	29.2	21.4	28.5	31.2	22	31.9	23.1	29	22.3	31.9	23.8	29.7	23.4	31.4	21.4	
5	30.7	22.4	29.2	32.4	20.2	31.2	24.1	31.5	20.8	31.9	23	30.4	21.5	31.6	19.5	
6	30.8	21.9	29.7	32.6	19.6	31.6	24.1	32	22	31.4	22	30.6	21.2	30.4	19.3	
7	29.2	21.6	29.6	32.9	20	31.1	24.7	31.5	22	30.3	23.3	30.4	22.6	29.9	20.4	
8	31.4	21.8	29.8	32.6	20.4	31.4	23.8	31.6	22	32.3	22	30.6	21	30.2	19.4	
9	30.6	20.9	30.8	32.6	20.9	31.7	22.3	31	22.4	32.8	24.2	31	21	30.8	20.3	
10	31.5	21.3	30.4	32.4	19.6	31.8	21.6	31.1	22	32.4	23.5	30.4	20.3	30.7	19.4	
11	30.7	22.3	30.5	32.3	19.9	31.4	21.5	31.8	21.2	32.9	22.5	30.7	20.5	31	19	
12	29.8	21.4	30.3	32.6	20	31.5	21.8	31.4	22	32.4	21.4	30.7	20.6	30.8	18.8	
13	30.6	22.3	30	32.2	20.4	31.7	23.2	31.6	21.3	31.9	21.5	30.8	20.5	30.2	19.3	
14	29.5	23.1	30.1	32	21.4	30.8	24.1	29.6	23.4	32.1	22.1	29.6	23.6	28.8	20.5	
15	30.6	22.8	30	31.3	22.9	30.7	24.1	27	23.5	29.3	24.1	29	25.4	28.2	24.7	
16	31.4	21.9	30	33.2	21.9	31.9	24.7	31.6	22.5	32.3	24.5	30.8	24.5	31.7	22.5	
17	30.6	22.5	29.3	33.1	22.2	31.5	24	31.8	22	32.3	24.1	30.6	24.6	31.8	21.5	
18	30.7	22.8	30.1	32.9	22.7	31.5	24.1	30.9	22.9	32.6	24	30.4	22.5	30.1	21.3	
19	28.9	21.9	31	33.6	22.2	31.6	23.7	31.4	22.7	32.4	24.4	30.9	25.7	32	22.2	
20	29.6	21.7	30	33.1	21.5	31.5	24	31	22.3	32.3	23.5	30.1	23.9	30.9	20.5	
21	30.7	22.9	30.3	33.4	21.4	31.7	24.1	31	21.8	32.3	23.8	30.5	23.5	32.1	20.5	
22	29.8	22.3	30.1	33.2	19.7	31	22.8	30.7	21	32.8	23.7	30.6	21.8	32	20.4	
23	29.2	21.9	30.6	32.9	20	31.3	24.1	31.9	23	32.8	23.8	30	23	32.3	19.8	
24	28.7	22.2	30.6	32.5	22.9	30.8	24.2	30.8	23.3	33.3	25	30.6	25.6	32.1	22.6	
25	29.5	21.9	29.6	31.9	20.9	30.3	24.2	28.8	22.7	32.3	25	30	25.2	31	22	
26	30.5	22.1	30.6	32.9	21.4	32	24.2	31.6	21.5	32.3	23.4	30.6	25	31.6	22.2	
27	28.9	21.9	30.5	33.4	23.5	30.5	22.4	30.9	20.8	32.7	24.5	30.3	22.7	31.9	20.9	
28	30.8	22.7	30	32.6	21.8	31	23.4	31.3	20.8	32.2	23	29.1	22.1	29.6	21	
29	30.6	21.6	30.5	32.1	22.4	31.4	24.2	30.2	22	32.3	24.1	30.2	25	31	21.1	
30	31.5	22.2	30.7	34.4	22.9	30.1	25	31.3	23.5	32.8	24.1	30.3	25.6	30.2	21.1	
31	29.8	21.9	30.6	33.2	23.5	28.8	23.2	27.6	23	33.2	25	29.4	22.9	32.3	23.1	
Mean	30.1	22	30.1	32.7	21.5	31.1	23.5	30.7	22.2	32.1	23.6	30.3	23.2	31	20.9	

METEOROLOGICAL BULLETIN.

Maximum and minimum temperatures at the stations of the Weather Bureau, March, 1920—Ctd.

Day.	Calbayog.		Masbate.		Batag Light-house, La-oang.		Sorsogon.		Legaspi, Albay.		Sumay, Guam.		Calapan.		Virac.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	29.9	20.3	30.2	23.8	29	22.3	29.7	22.4	30.2	24.1	30.8	23.8	30.5	23.5	30.2	22.
2	27.7	22.8	27.4	22.2	25.9	22.8	27.9	22.5	29.6	24.1	30.8	23.6	30.6	23.5	28	22.3
3	32	21.3	30.4	24	29.4	23.7	29.9	21.5	30.8	24.2	29.2	24	30.1	23.6	29.5	22.1
4	32.1	21.4	30.6	23	29.5	23.5	30.5	22.37	31.1	24.2	30.8	24	30.3	24	30	20.1
5	31.4	20.4	30	23.5	29.6	23.6	31	22.3	31.4	24.4	31	23.6	31.2	23	30.1	19.6
6	31.6	20.7	29	23.2	30.2	23.1	31	21.5	31.1	23.3	31	24.6	30.5	23	30.5	20
7	31	21.1	29.4	22.6	29.6	23.1	30	22	30.9	24	29.2	24.8	30.4	23	32	22
8	30.4	20.6	30.8	22.8	29.8	23.5	31	22	31.3	24.5	30.6	24.8	30	23	29.5	20.4
9	31	21.2	31.4	24	30	23.7	31.5	23	31.5	24.1	30.4	25.2	30.5	21.8	29.5	22.4
10	31.4	20.2	30.6	23.5	30	23.3	31.5	23.2	32.4	23.7	31	23.2	31	23.1	29.4	20.9
11	30.9	19.7	30.6	22.6	30.4	23	31.5	22.5	32.3	23	31.6	24.4	30.8	22	30	19.8
12	30.7	20.3	30	22.4	30.6	23.2	31	20	32.8	20.8	31.4	23	31.5	21.4	31.5	19.6
13	32	20.5	30.6	22.5	29.5	22.7	30.5	22	31.7	23.4	32	23.4	31.5	21.1	29.7	19.2
14	31.5	21	28.6	23.6	29.6	23.7	30.5	22	31.1	24.4	31.8	24.8	31.3	20.6	30.6	20.2
15	28.6	22.7	28.4	23.8	28.6	23.5	27.3	22.7	28.6	24.3	30.8	25	29.6	20.5	30	24
16	31.3	21.4	30.8	24.5	30	23.4	30	22	31.2	25.1	30.6	24.6	31.2	23.8	30.3	23.8
17	32.6	21.6	30.6	24	29.8	23.5	30.8	20.5	31.3	24.1	30.6	24.2	30.6	22.8	30.6	23.
18	32	21.4	31	23.8	29.9	22.7	30.5	22	31.8	24.7	30.8	24	31.7	24	31	20.9
19	31.5	21.8	30.6	23.6	29.4	23.3	30.5	22.7	31	24.5	31.2	23.4	30.8	24.5	30.3	22.
20	30.8	21.1	30.6	23.6	29.9	23	30.1	21.8	31.2	25	28.6	23	31.1	23.8	29.2	22.4
21	30.9	20.4	31.2	23.2	30.6	23.2	31.1	22.4	31	23.9	28.8	23.2	31	23	30.4	23.2
22	31.4	20.6	31	23.8	29.4	23.6	31.4	22	31.6	25.4	28.2	22.8	31.5	22	30.5	23.6
23	31.6	20.8	31	23.4	29.8	24	30.4	22	32.3	24.9	30	22.8	31.6	22.5	30.5	20.2
24	32.8	22.1	31	24.4	30.2	24.8	30.2	22	31.8	23.7	30.2	24.2	31.6	25.5	30.9	22.7
25	31.2	22.9	29.8	22.8	30.9	23.4	30.1	23	31.8	25.2	30	24	31.6	25.5	31	22.
26	31.8	21.3	30.4	23.8	29.5	24.7	30.1	23	30.8	24.6	30	23.8	32	22.9	31	22.5
27	31.8	21.5	30.6	24.5	30	22.7	31	22	31.2	24.5	30	24	30.5	23.9	30.6	21.5
28	30	21.1	30	22.8	29	23.4	31	23	30.5	24.1	30.4	23.6	31.8	22.8	31	21.6
29	31.9	21.8	30	22.8	29.9	23.6	30.7	21.5	30.9	22.9	30.4	24.6	31.6	24	29.6	22.6
30	33.3	21.3	31	23	30.4	24.5	31	22	32.2	25.1	28	24.6	32	24.1	31.3	22.5
31	31.9	24.2	30.3	24.8	29.9	25.1	-----	22	31.5	25.2	27.8	24	31.8	25	30.2	23
Mean	31.3	21.3	30.3	23.4	29.7	23.4	30.5	22.1	31.3	24.2	30.3	24	31	23.1	30.3	21.7

Day.	Naga, Camarines Sur.		Batangas.		Calatagan.		Balayan.		Lucena.		Atimonan.		Nasugbu.		Ambulong, Tanauan, Batangas.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32	19.8	32.8	21.6	31.6	23.4	31.9	22.5	29.5	20.7	29.2	24.5	33.2	20.9	32	22.4
2	31.1	20.2	33.7	21.6	32.6	22.7	31.9	22.4	29.5	22	28.8	25.2	34.8	20.5	32.3	23
3	29.2	20.8	33.9	20.4	32.5	23.4	31.8	22.3	29.6	23.3	28.4	24.5	32.5	22	31.3	24.2
4	33	19.6	33.4	19.9	32.3	22.5	31.4	21.4	30	23.9	29.4	24	32	24.5	33.8	23
5	31.6	19.8	33.7	21	31.4	23.6	31.3	19.9	30.9	21.3	30.9	25	35.4	21.6	33	21.9
6	29.5	19.4	32.1	22.2	32.7	23.8	31.8	24.3	28.1	22.4	28.7	23.8	31.5	24	32.2	24
7	31	22.5	31.4	20	32.4	23.2	30.9	23.2	29.8	22.5	28.8	24.3	33	24	32.4	23.9
8	32.4	20.5	33.4	19.8	-----	22.6	31.3	22.5	30.5	21	29.1	23.6	34.4	20	32	21.6
9	33	21.1	34.7	20.5	-----	-----	31.5	20	31.5	21.7	29.2	24	32.5	21	33.5	21.5
10	33	20.7	-----	-----	-----	-----	31.7	21	30.6	20.9	30.3	21.5	31.6	20.3	34.2	21.5
11	33	19.3	-----	-----	-----	-----	31.8	21	30.6	20.9	30.3	21.5	32.9	24	35	22.2
12	32.1	18.7	33	-----	-----	-----	31	22.3	31	19.7	31.3	25.2	32.9	24	35	22.2
13	32.5	17.4	31.9	20.5	-----	-----	31.8	19.1	30.5	19.6	30.3	22	33.8	23.7	31.8	22.5
14	32.5	18	31.4	19.3	-----	-----	31.5	19	30.9	19.4	29.5	25	32.5	20	33.2	19.3
15	32	24	30.9	20.1	-----	-----	31.3	19.7	28.9	22.9	27.5	23.5	31.5	21	29.8	23.2
16	32	21.6	34.8	23.4	-----	-----	32.3	24.5	32	23.4	30.5	22.8	32.1	20.1	33.8	23.3
17	31.7	20.8	34.2	23.6	-----	-----	31.5	23.6	31.7	21.6	29.4	23.8	34	23.4	33.4	23.6
18	32.3	19.4	34.8	22.7	32.5	23.5	31.9	23.5	31.7	21.8	30.2	23.8	32.4	23.9	34.2	23
19	32.6	20.4	34.7	21.8	32.4	22.6	32.4	22.8	31.1	21.6	29.5	24.4	33.9	20.9	32.3	23.3
20	32.5	19.7	34.8	22.2	32.6	22.5	31.4	23	32.4	22	31.4	24.3	35	21	34.3	24
21	33.7	19.8	34.2	23.4	31.5	23.5	32	23	32	20.7	31.2	21.5	34.9	20.9	34.7	21.6
22	32.5	19.6	33.8	22.4	31.5	23.6	31.8	22.9	31.7	21.1	30.8	21.8	35.9	23.9	35.5	21.9
23	32.9	18	35.7	23.2	31.5	23.3	31.9	20.3	33	21.1	30.9	21.8	32	21.9	35.4	23
24	33.8	19.2	35.2	22.37	32	22.7	32.8	21.5	32.4	19.6	29.7	25.9	31.5	22.5	34.6	23.8
25	33.5	19.5	35.2	21.8	32.6	23.7	32.1	23.7	32.3	22	29.6	24.9	32.9	22.6	34.2	24.2
26	32	19.5	32.1	24.6	32.3	23.7	31.4	23.6	29.2	22.6	28.9	24.6	32	23.5	31.3	23.8
27	34	19.6	33.4	19.8	32	22.7	31.9	22.9	31.4	19.5	28.8	25	32.5	20.5	31.8	23
28	32.1	18.6	34.2	21.8	30.3	22.5	31.8	21.4	32	19.4	30.1	25.2	31.9	24.9	32.2	21.2
29	32.6	21.6	34.7	26.77	32	22.3	32.4	21.2	31.9	22.9	29.6	25.6	32.5	24.5	33.4	24.7
30	33	18.8	34.7	24.5	34.4	23.7	32.4	21.3	32.7	22.4	30.1	25	35	24.9	34.3	23.7
31	33.5	19.4	34.9	23.6	34.3	24.2	32.4	23.5	32.9	21.9	30.1	24.7	32.9	24	35.2	23.3
Mean	32.3	19.9	33.7	22	32.3	23.2	31.8	22	31.1	21.5	29.8	24	33.1	22.3	33.3	22.9

Maximum and minimum temperatures at the stations of the Weather Bureau, March, 1920—Ctd.

Day.	Mendez Nuñez.		Alfonso.		Indang.		Canluban, Calamba.		Silang.		Maragondon.		Paracale.		Santa Cruz, Laguna.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	27.7	19.9	27.5	20.1	28.4	20.5	32	20.9	28	19.9	31.9	19.9	30.4	24.7	30.1	22.4
2	26.7	19.2	28.4	20.6	29.2	20.4	31.8	21	28.5	32.5	21.5	30	24	30.7	22.8	22.8
3	26.5	19.2	28.2	20.5	29	20.8	32.1	21.4	28.1	32.6	20.7	28.1	23.6	30.3	22.4	22.4
4	29.5	19.2	30	20.3	31.1	20.8	32.4	20.6	28.2	33	21.1	29.3	22.5	32.1	22	22
5	28.5	19.2	29.5	20.8	30.5	20.8	32	20.2	29	33	19.8	29.8	22.3	31.3	21.2	21.2
6	26.5	19.2	28.1	20.7	28.7	21	32.1	21.4	29.2	31.5	20.7	29	24.3	30	22.2	22.2
7	27.3	19.5?	28.5	20.3	29.7	20.6	32.2	21.6	28.7	33	20.5	28.6	25.2	30.9	23	23
8	27.5	19.7?	28.7	20.1	29.5	20.5	31.9	20	29	31.6	21	29.8	23.6	31.7	21.2	21.2
9	30	19.2	31	19	31.7	20.5	32.8	21	28.3	32.6	22.1	30.1	23.5	32.9	21.3	21.3
10	30.5	19.5	31.3	20.2	31.9	20.6	34	21.2	28.5	33.4	21.4	30.5	22.7	33.3	22.1	22.1
11	30	20.4?	30.6	19.6	32	21.3	33.2	21.2	29.2	35	21.7	30	21.5	32.5	22.2	22.2
12	30	20.5	30.2	19.8	31.6	21.2	33.4	21.5	30.6	33.4	21.7	30.3	21.6	32.8	22.5	22.5
13	29.5	19.2	30.4	19.6	31.2	20.4	33	20.9	29	33.7	21.1	29.6	21.3	32.2	20.4	20.4
14	28	18	30	20	30.7	20.4	33.3	20.4	30.2	33.9	19.5	30.5	21.7	31.8	19.8	19.8
15	25.5	19	27	19.1	28	20	31.8	20.6	29.7	31	19.1	30	24.2	28.7	21.1	21.1
16	29	21.2	30.5	21.7	31.5	21.5	33.6	21.4	29	34	24.1	30.4	24.5	33.1	23.7	23.7
17	27.5	20.7	29.1	20.8	30.4	21.7	33.2	21.6	30.5	33.2	20.7	29.9	23.8	31.7	22	22
18	29	20.3	30.4	21	31	21.4	33.1	21.4	30.1	34.2	20.5	30.2	23.6	32.5	22.7	22.7
19	30	19	29.5	20.1	29.7	20.4	33.2	21.4	28.7	32	20.1	30.1	24.2	30.4	21.8	21.8
20	28	20.3	32.2	20.6	30.9	20.5	33.2	21.4	28.7	33.7	20.8	30.5	24.1	31.7	22.2	22.2
21	29.3	18	30.7	20.1	32.2	21	34	21.6	29.9	34.7	21.6	30.7	22.7	32.9	22.5	22.5
22	30	19.7	31.1	20.1	31.8	21.2	34.1	21.4	29.4	35.2	19.6	30.6	22.7	33.1	21.9	21.9
23	29.3	18.8	31.1	21	31.9	21.4	34.7	21.3	30.1	34.4	20.2	30.8	22.3	32.8	22	22
24	29.3	19.2	30.4	20.3	31.3	20.9	34.2	21.4	30.7	34.4	18.8	30.9	25.7	32.4	20.4	20.4
25	28.3	16.7	30	20.4	30.8	21.3	33	21.4	30.1	34.2	19.2	30.6	23.6	32.4	21.1	21.1
26	28.5	20	28.3	20.2	29.3	21.4	31	22	30.7	32.2	21.2	29.3	23.8	30.7	23	23
27	26.2	18.4	28.7	19.3	29.2	20.4	31.2	21	29.9	33	19.3	30.4	23.8	31	20.7	20.7
28	26	19.2	27.8	19.7	28.5	20.3	31.7	21.7	29	31.7	19.5	30.8	25.5	31.1	22.5	22.5
29	27.2	19.7	29.5	20.9	29.9	21.4	31.8	22	30.2	33.5	22.1	31.2	25.5	31.5	22.7	22.7
30	28.3	19.9	30.1	20.5	31.3	20.6	33	21.8	29.3	34	19.6	31.1	24.4	32.4	21.8	21.8
31	27.5	19.7	30.5	21	31	21.3	32.6	21.6	30.1	34.4	20.6	30.9	25.7	32.6	23	23
Mean	28.3	19.4	29.7	20.3	30.4	20.9	32.8	21.2	29.4	20	33.3	20.6	30.1	23.6	31.7	22

Day.	Buenavista, Malabon, Cavite.		Manila.		Antipolo.		Balanga.		San Isidro, Nueva Ecija.		Iba.		Tarlac.		Baler.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.3	21.7	32.2	20.5	32.7	19.9	32.6	20	32	19.5	31.8	20.2	18	27.3	20.7	20.7
2	32.6	22.5	33.8	21	33.7	20.5	33.1	22.8	32	21.6	31.2	20.7	34.5	19.2	27	22.4
3	31.7	21.8	32.9	21.1	32.9	19.9	33.1	20	33.6	19.1	31.2	19.9	36.6	17	29.4	20.9
4	33.9	21.6	33.2	22.2	34.3	20.7	34.3	23.3	34.9	21.4	31.5	21	37.4	18.4	30.9	21.6
5	32.6	21.4	30.9	20.5	33.2	19.5	32.9	21.5	33.2	20.8	31.2	20.9	35.5	19.1	30.3	21
6	31.8	21.6	30.9	21.2	33.3	19.9	33.2	23.8	33.4	21.9	31.7	21.3	36.2	20.5	29.3	22.5
7	32.5	22.1	32	20.3	33.9	20.1	33.6	21.3	32.9	21.4	34.1	22.7	34.5	20.6	29.6	21.9
8	32.4	21.5	32.5	19.9	33.5	19.3	34.3	21.4	34.9	19.5	31.5	19.7	35.6	18.8	30.4	22
9	34.3	21.3	33.6	22.3	34.4	21.3	34.5	24.3	33.7	22	32.2	21.3	36.5	19.2	30.6	21.8
10	34.9	22.4	33.1	22.6	34.7	20.4	34.5	23	34.9	22	32.4	22	36.8	19.8	30.8	21.7
11	34.1	22.1	34.2	23	34.9	21.5	34.8	23	35	23	32.3	21.9	37	19.4	30.3	23.2
12	33.6	22.8	33.2	23.5	33.5	21.2	34.8	24.5	33.6	23	32.5	21.4	35.5	22	30.6	21.7
13	33.4	20.1	33.5	21.3	33	19.5	33.8	22	34.2	21.9	31.1	21.3	36	20.2	30.5	22.3
14	33.6	21.1	33.8	20.5	35.5	19	34.5	21.1	33.4	22	31.7	20.7	35.8	21	30.7	22.1
15	30	20.7	32.2	19.8	30.5	19.5	33.1	21	34.4	20.8	32.8	20.9	35.5	21.8	31.9	19.7
16	33.7	23.6	34.5	22.5	35.2	21.6	33.7	22	31.4	22	35.5	21.5	35.1	20.3	28.6	22.1
17	32.6	22.7	31.6	22	34	21.3	34.3	21	34.2	20.4	32.8	20.4	36.2	19.1	30.5	21.5
18	33.5	20.2	32.5	21.1	35.3	21.5	33.9	20	33.6	21.9	34.5	23.1	37	20.8	31	21.5
19	32.6	21.4	31.5	21	34.7	19.8	34.3	20	33	20.3	33.3	21	36.8	19.8	31	20.8
20	32.7	20.9	33.9	20.8	34.1	20.5	34.3	20.7	33.9	20.4	32.4	21.6	36.5	19.2	31	21.8
21	33.7	21.9	34.3	20.5	35.2	20.5	34.3	21	34.5	20.3	32.4	19.9	36.8	18.8	31.2	20.7
22	34.5	21.9	34.1	20.6	35.3	20.3	34.4	21	35.4	21	32.3	20.5	37.2	20	31.9	19.9
23	33.5	20.5	34	20.4	35.7	20.5	34.1	21.2	34	21	32.3	22	37.2	20.4	31	21.4
24	33.5	20.8	33.7	19.1	36	19.2	34.9	20	33.8	19.6	36	21.4	36.6	19.2	31	20.4
25	32.9	21.3	34.8	19.6	35	21.3	35.1	20.3	33.6	20.6	33.2	20.6	36.6	19.6	31.5	20.5
26	34.9	20.7	32.7	21.1	33.7	21	35.1?	22.1	33.2	20.9	32.4	20.8	36.2	18.6	31.1	22.1
27	31.9	18.8	33	19	32.8	20.3	33.6	18	32	19.5	35.9	22.1	34	18.2	32.5	20
28	30.9	20.4	32.9	21.8	33.4	21	33.1	20	33.4	20.8	32.8	23.9	35	18.8	29.8	22.3
29	32.5	20.4	33.6	20.8	34.6	20.8	34.3	22	32.2	21.5	32.4	22.9	35.2	19.6	29.9	21.9
30	33.4	21.1	34.1	19.8	35.6	19.5	34.7	21.3	34	18.9	34	21	36.2	18.4	30.5	20
31	33.4	20.5	35.5	22.7	35.7	20.5	35.4	23.9	34.4	22.8	36	25.4	36.4	19.5	30.8	23
Mean	33	21.3	33.2	21	34.2	20.4	34.1	21.5	33.6	21	32.8	21.4	36.1	19.5	30.4	21.5

Maximum and minimum temperatures at the stations of the Weather Bureau, March, 1920—Ctd.

Day.	Dagupan.		Bolinao.		Baguio.		San Fernando, La Union.		Candon.		Vigan.		Tuguegarao.		Laoag.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	34.5	22.5	33.5	23.2	23.5	13.5	31.9	21.8	31.5	23	31	22.6	28.1	21.3	35.7	22
2	34.2	21.8	34.5	22.7	24.3	14.2	32.2	21.7	31.5	22.5	31.8	23	30.2	21.6	34	20.2
3	34.6	20.9	33.5	23.5	24.2	14	31.7	20.4	31.5	22.5	32.1	22.7	32.6	20	33.5	21.3
4	31	21.4	30.8	23.1	25.2	14.3	32	22	31.7	22.2	31	21.4	31.2	21.5	34.1	21.3
5	33.4	22	32.5	21.5	24.6	14.9	32	21.4	31.5	22.6	31	21.4	31.9	22	34.5	21
6	34.1	22.5	30	23.9	24.6	14.4	31.9	21.9	31.2	22.2	30.9	21.1	30	21.5	33.5	22.3
7	35.8	22.6			23.8	13.8	32.8	21.7	32	22.8	31.8	20.6	30.8	21	34.4	18.1
8	32.5	21.9			23.5	14	32.2	21.1	32	22.9	31.5	22	34.3	19.2	33.5	19.7
9	30.7	22.5			23.6	15.2	32.2	21.1	32.1	23	32	21.4	34.8	22.8	35.3	21.3
10	33.7	23.8	31	23.4	24.8	15.7	32.7	22.6	31	22.5	31.6	21.8	35.2	22.2	35.5	21.1
11	34.6	22.4	33.8	21.6	24.8	15.4	33.1	21.2	31.4	22	31.4	21	34.9	22.5	33.4	19.4
12	31	25.1	31.3	24.8	24.3	14.2	32.1	22.2	31.5	21.5	31	21.7	34.8	21.3	35	19.3
13	35.6	22.4	31.5	23.1	25.2	14.2	33.9	22.2	31	22.9	31.6	22.5	34.7	20.7	33.1	20.5
14	31.7	21.6	31	21.1	24.9	13.8	32.2	20.5	31.1	22.2	30.7	21.3	35	21.7	32.7	21
15	31.2	23.8	30.8	25	24.8	14.9	32.5	24	31.5	22.5	31.5	22.4	35.6	22.4	34.5	20.4
16	36.7	22.5	32	26	25.7	14.3	32.8	23.2	32	23.9	32	23	35.2	21.5	35.7	21.3
17	34.4	22.5	34.1	22	24.6	15.3	33.1	23	30	24.7	32.2	23.9	29.9	23.2	35	22.4
18	36.8	24	34.6	23	25.2	14.8	34.3	22.4	32	24	31.9	23.2	31.4	22.5	34.1	21.9
19	36.5	22.5	34.7	25	24.7	15.5	33.9	24.4	32	25	31.6	24.8	35.6	22.8	34	23.7
20	33.9	22.2	34.5	23.2	24.7	14.8	33.6	22.7	32	24.5	32.3	24	36.7	21	34.1	21.7
21	37	21.4	36	22.8	25.5	14.2	32.7	22.3	32	24.8	32.7	23.9	36.4	20.4	33.8	23.5
22	33.6	22.8	31.5	23.1	26.2	14.3	33.1	22.4	31.5	23	31.6	22.5	36.7	22.3	33.6	20.5
23	37.6	23.7	35.7	25.2	25.6	15.5	34.2	22.1	32	23	32.4	22.5	36.6	23.6	34	19.7
24	37.9	22	35.5	23.2	24.2	14.9	34.8	23.5	32	23	31.8	24.5	35.9	21	34	20.9
25	37.4	22.8	35.2	22	25.8	13.5	33.2	21.6	31.9	22.6	32.2	22.5	34	20.5	35.9	20.6
26	34.6	22.4	34	22.5	25.2	13.6	33	21.9	32.5	23.5	36.4	23.5	34.4	21	36	20.7
27	36	21.9	34.8	23.7	26.5	13.2	33.2	19.1	32.5	21.8	35.2	23.6	35.6	19.5	35.7	23
28	36.1	22.3	32.7	22	25.5	12.3	32.9	20.6	32.4	22.4	35.8	25.9	36	19.9		
29	36	21.8	35	21.5	25.4	13.6	33.2	19.6	32	21.5	32.7	23	35.7	19.8		
30	37.4	22.6	36	21.8	26.1	13.3	33.8	20.2	32.2	22.2	32.9	24	33.5	21.6	34.6	19.5
31	38.2	24.5	36.7	24.1	26.7	15.5	36	23.7	32.4	25	33.5	25	36.1	22.2	34.4	23.2
Mean	34.8	22.6	33.5	23.1	25	14.4	33	21.9	31.7	23	32.2	22.8	34	21.4	34.4	21.1

Day.	Aparri.		Cape Bojedor.		Basco.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	26.1	20	27.2	17.7	26	20
2	30.1	20.2	29.9	22.1	27.5	21.6
3	30.1	20.5	31.2	23.1	27.5	22.5
4	28.6	22	25.9	21.5	23.7	19.2
5	29.6	22.5	27.2	18.9	25.3	20
6	28.4	22.2	26.6	21.4	24.6	19
7	29.5	22	28.5	19.7	27.2	19
8	33.5	19.6	30	23.6	30	22.4
9	32	22.2	30.3	22	29.2	20
10	32.7	20.5	31.2	22.2	30.2	20.5
11	33	21.5	30	22.8	31.4	23.4
12	32.6	20.6	29	20.2	26.6	21.5
13	31	22.6	31.6	22.1	27.7	21
14	32.4	21.6	29.4	23.2	29.3	23.5
15	32.4	23.2	28.5	22.4	28.8	21.5
16	28.1	22	29.4	22.3	24.5	20.6
17	25.5	22.1	27.5	20.7	26.5	21.1
18	29.6	21.8	29.2	20.6	27.7	21.5
19	31.6	22	32.2	23.2	29.5	22.5
20	33.1	21.5	32.4	23.7	30.1	24
21	33.5	21.6	30.7	23.9	30.5	24.5
22	32	21.5	29.4	22.9	29.3	20.3
23	33.8	21.4	29.6	22.8	30.2	20.5
24	32.3	21	31.4	24	29.5	21.5
25	30.5	20	32.2	21.6	29.1	21.2
26	30.3	22	29.6	20.9	28.8	22
27	31.8	20.5	31.5	21.9	28.6	22
28	32	19.5	31.2	22	28.8	22
29	31.7	20	31.7	22.4	29	22.8
30	29	20.9	32.7	22.9	29.5	22.5
31	32	20.5	33.2	24.2	29.4	23.9
Mean	30.9	21.3	30	22	28.3	21.5



SEISMOLOGICAL BULLETIN FOR MARCH, 1920.

By Rev. MIGUEL SADERRA MASÓ, S.J.,
Chief, Seismic and Magnetic Divisions, Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.¹

2, 23^h 26^m 42^{s*} [3, 7^h 26^m 42^s]. **Catbalogan** (W Samar). Oscillatory earthquake, direction NE-SW, intensity IV, duration 4 seconds. Recorded at Butuan.

12, 2^h 25^m [12, 12^h 04^m]. **Guam** (Mariana Islands). Earthquake of intensity IV. Recorded at Manila and Sydney, Australia.

13, 17^h 36^m [14, 3^h 15^m]. **Guam** (Mariana Islands). Earthquake shock of intensity III.

19, 18^h 15^m 38^{s*} [20, 2^h 15^m 38^s]. **NE Mindanao**. Earthquake of intensity VII at Butuan; where movements of unusual amplitude and suddenness were observed, which threatened to destroy the buildings; fortunately they caused only some cracks, falls of plaster and of some old walls. This earthquake, described as most violent by the observer at Butuan must have been of very limited extension and of insular or local origin. It was but lightly recorded at Manila, and reported only from Surigao and Camiguin with intensity IV. Possibly because it occurred during the middle of the night, did not awake and scare the people, excepting in places where it had very great intensity.

21, 1^h 51^m [21, 9^h 51^m]. **Tigaon** (SE Luzon). Earthquake shocks of intensity III: origin in the Isarog Volcano.

22, 17^h 17^m [23, 1^h 17^m]. **Butuan** (N Mindanao). Earthquake of intensity IV: probably it had the same origin of the preceding one as its distance from Butuan was the same.

24, 20^h 04^m [25, 4^h 04^m]. **San Joaquin** (S Panay). Earthquake of intensity IV. This shock was the first of three chief earthquakes felt there during the 25th, which caused much apprehension to the inhabitants of San Joaquin and the neighbouring villages. The second and the strongest earthquake occurred at 2^h 00^m [10^h 00^m] and the third at 7^h 30^m [15^h 30^m]. Each consisted of several successive shocks during few minutes. These earthquakes were certainly very local, consequently of volcanic or more probably of rockfall character: in fact none of them was perceptible either in Iloilo, some 50 kilometers distant nor in San Jose de Buenavista, Antique, distant only about 30 kilometers.

The town of San Joaquin is placed on the eastern coast of the Island of Panay, where tertiary sedimentaries prevail. All the geologists which visited that country call the attention to the faulted and bended condition of the different layers revealing great and powerful dislocations. Moreover Prof. Warren D. Smith in one of his geologic maps places, not far from San Joaquin, the contact between the sediments and the plutonic and older extrusives which form the western mountain chain of the Island. Great landslides and subsidences not seldom occur in the region circling San Joaquin. Finally the region where San Joaquin lies must be considered as an extension of the central portion of the Iloilo Province, where often occur violent and destructive shocks affecting areas of a few square kilometers. We have in different occasions called the attention of the rockfall character of these shocks.²

¹ The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that 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 report. All time indications are in Greenwich mean time (midnight = 0^h), insular time being added in brackets for the convenience of Philippine readers.

² The Philippine Journal of Science, Vol. VIII, Sec. A, pages 209, 217. Weather Bureau Bulletins for August, 1902 and January, 1916.

25, 18^h 52^m [26, 2^h 52^m]. Surigao (NE Mindanao). Oscillatory earthquake, direction SW-NE, intensity IV, duration 17 seconds. It was of a very local character, it not having been recorded neither in Manila nor in Butuan.

26, 2^h 34^m [26, 10^h 34^m]. Cebu (Cebu). Earthquake shock of intensity II-III. Recorded at Butuan; its epicenter being about 190 kilometers distant from this station, near to the Siquijor Island, S of Cebu.

27, 12^h 47^m [27, 20^h 47^m]. Tigaon (SE Luzon). Earthquake shock of intensity III: origin in the Isarog Volcano.

30, 0^h 46^m [30, 8^h 46^m]. Butuan (N Mindanao). Earthquake of intensity III-IV.

30, 2^h 17^m [30, 10^h 17^m]. Tigaon (SE Luzon). Earthquake shock of intensity III; volcanic origin.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Greenwich mean. Midnight=0^h. Instrument: Wiechert seismograph; 1,000 kilograms. $A_N: T_0=6.25, \epsilon=2.906, \frac{r}{T_0^2}=0.053$;
 $A_E: T_0=6.18, \epsilon=2.393, \frac{r}{T_0^2}=0.042$. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A_N μ	A_E μ	
66	2	Iv	eP	23 26 42				Felt at Catbalogan (W Samar).
			L	27 38				
			M _E	28 26	6	70		
			M _N	28 29	6	131		
			F	53				
67	3	Ir	e	10 49 00				
			S	52 24				
			L	53 17				
			M _N	53 32	9	27		
			M _E	53 43	8	29		
68	4	Iv	eP	4 46 29				
			L	46 51				
			M _E	46 57	2	72		
			M _N	47 07	2	109		
			F	53				
69	6	Iv	eP	17 31 03				
			F	35				
70	11	I	e	13 08				
			F	37				
71	12	I	e	2 30 00				
			F	3 19				
72	12	I	e	16 25 31				
			F	17 32				
73	13	I	e	10 42				
			F	11 16				
74	15	I	e	12 16				F was lost, because the apparatus stopped.
75	16	Ir	eP	9 25 09				
			F	41				
76	17	Ir	eP	18 43 00				
			S	46 27				
			L	47 39				
			M _E	48 09	7	46		
			M _N	48 14	7	65		
77	17	Iv	eP	23 37 19				
			F	49				
78	19	I	eP	18 15 38				Felt at Butuan and Surigao.
			F	32				
79	21	I	e	20 45 51				
			F	21 06				
80	22	I	e	1 48				
			F	2 22				
81	22	Ir	e	20 12 33				
			L	21 16				
			F	21 07				
82	25	Iv	eP	1 18 29				
			F	21				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.¹

2, 23^h 26^m 42^{s*} [3, 7^h 26^m 42^s]. Catbalogan (W de Sámar). Temblor oscilatorio, dirección NE-SW, intensidad IV, duración 4 segundos. Registrado también en Butúan.

12, 2^h 25^m [12, 12^h 04^m]. Guam (Islas Marianas). Temblor de tierra de intensidad IV. Registrado en Manila y en Sydney (Australia).

13, 17^h 36^m [14, 3^h 15^m]. Guam (Islas Marianas). Temblor de tierra de intensidad III.

19, 18^h 15^m 38^{s*} [20, 2^h 15^m 38^s]. NE de Mindanao. Temblor de tierra de intensidad VII en Butúan; donde tuvo movimientos muy amplios y rápidos que amenazaban derrumbar las casas, solo sin embargo se produjeron algunas grietas, desconchados y la caída de objetos y de alguna pared vieja. Este terremoto que parece tan violento en la descripción del observador de Butúan, debió ser muy local y de origen insular puesto que al parecer solo se registró ligeramente en Manila. Tampoco se recibieron más avisos que los de Surigao y de la Isla de Camiguín donde no pasó de intensidad IV. Tal vez la circunstancia de ocurrir a altas horas de la noche hizo que solo donde tuvo su máxima intensidad llamase extraordinariamente la atención.

21, 1^h 51^m [21, 9^h 51^m]. Tigaon (SE de Luzón). Temblor de tierra de intensidad III: origen en el vecino volcán Isarog.

22, 17^h 17^m [23, 1^h 17^m]. Butúan (N de Mindanao). Temblor de tierra de intensidad IV. Probablemente procedió del mismo epicentro del precedente, la distancia era idéntica.

24, 20^h 04^m [25, 4^h 04^m]. San Joaquín (S de Panay). Temblor de tierra de intensidad IV. Este fué el primero de los tres principales sentidos durante el día 25, los cuales causaron gran zozobra a los habitantes de San Joaquín y de los barrios vecinos. El segundo y el más intenso de todos, tuvo lugar a 2^h 00^m [10^h 00^m] y el tercero a 7^h 30^m [15^h 30^m]. Parece que cada uno constó de una serie de choques sucesivos durante algún tiempo. No hay duda de que su carácter era enteramente local, es decir, volcánico o con más probabilidad de derrumbamiento, ninguno de ellos se sintió en la estación de Iloílo, que dista de San Joaquín unos 50 kilómetros, ni en la de San José de Buenavista, Antique, que dista solos 30.

El pueblo de San Joaquín está situado en la costa oriental de la Isla de Panay: los terrenos de la región son sedimentarios margosos. Todos los geólogos que los han visitado hacen notar lo muy movidas, replegadas y quebrantadas que están sus capas. Muy cerca al sur se halla, según un mapa geológico del Dr. W. D. Smith, la divisoria y contacto de estos terrenos sedimentarios con los plutónicos extrusivos que forman la cordillera occidental de la isla. En la misma región son frecuentes grandes derrumbamientos y aún hundimientos del terreno. Además puede decirse que la región de San Joaquín forma parte del área central de la provincia de Iloílo, donde suelen experimentarse terremotos muy violentos y destructores, cuya área meizoséismica comprende siempre una extensión de pocos kilómetros cuadrados, a los cuales hemos atribuido siempre el carácter de terremotos de hundimiento.²

¹ La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos 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 de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

² "The Relation of Seismic Disturbance in the Philippines to the Geologic Structure" by M. Sarrera Masó and Warren D. Smith. The Philippine Journal of Science, Vol. VIII, Sec. A, pp. 209, 217. Weather Bureau, Bulletins for August, 1902 and January, 1916.

25, 18^h 52^m [26, 2^h 52^m]. Surigao (NE de Mindanao). Temblor oscilatorio, dirección SW-NE, intensidad IV, duración 17 segundos. Parece fué de carácter local puesto que no se registró ni en Butúan ni en Manila.

26, 2^h 34^m [26, 10^h 34^m]. Cebú (Cebú). Temblor de tierra de intensidad II-III. Registrado en Butúan con epicentro a 190 kilómetros de distancia, la cual corresponde algo lejos al sur de Cebú, cerca de la Isla de Siquijor.

27, 12^h 47^m [27, 20^h 47^m]. Tigaon (SE de Luzón). Temblor de tierra de intensidad III; probable origen en el volcán Isarog.

30, 0^h 46^m [30, 8^h 46^m]. Butúan (N de Mindanao). Temblor de tierra de intensidad III-IV.

30, 2^h 17^m [30, 10^h 17^m]. Tigaon (SE de Luzón). Temblor de tierra de intensidad III; de origen volcánico.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

BULLETIN FOR APRIL, 1920.

PREPARED UNDER THE DIRECTION OF

REV. JOSÉ ALGUÉ, S. J.

DIRECTOR OF THE WEATHER BUREAU

MANILA
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BULLETIN FOR APRIL, 1920.



METEOROLOGICAL BULLETIN FOR APRIL, 1920.

By Rev. JOSÉ CORONAS, S. J.,

Chief, Meteorological Division of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The monthly mean of atmospheric pressure for the Philippines is slightly below that of the preceding year, and also below the normal of April. The highest pressures were generally observed on the 14th and 17th, and the lowest on the 30th.

The mean monthly temperature is almost identical with the normal of this month. The extreme temperatures for Manila were 36° C. recorded on the 23rd, and 20° C. observed on the 4th and 5th. The absolute maximum and minimum temperatures for Baguio were 27.6° C., 14.2° C. on the top of Mirador, and 27.7° C., 12.3° C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR APRIL, 1920.

Station.	Pressure.							Temperature.						
	Mean.	Departure from April, 1919.	Departure from normal.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from April, 1919.	Departure from normal.	Highest.	Day.	Lowest.	Day.
	mm.	mm.	mm.	mm.		mm.		°C.	°C.	°C.	°C.		°C.	
Zamboanga	758.15	-0.66	-----	759.82	14	756.92	25	26.3	0	-----	33.1	15	21.1	9
Meeth.Yap, Western Carolines	58.33	-.86	-----	59.98	14	57.31	30	27.8	+ .4	-----	31.8	11, 18	23.6	12
Tagbilaran	58.41	-.66	-.35	59.88	14	57.29	30	26.5	-.5	-.05	33.3	16	21.5	2
Surigao	58.70	-.77	-.22	60.39	14	57.58	30	26.6	+ .1	0	31.5	9	22.4	4, 11
Cebu	58.67	-.76	-.24	60.11	14	57.47	30	28.1	-.1	+ .4	32.9	11, 12	24.4	2, 7
Iloilo	58.35	-.58	-.30	59.81	14	57.19	30	28.3	-.4	+ .4	34.7	29	22.6	7
Tacloban	59.08	-.70	-.19	60.58	14	57.88	30	27	-.3	-.1	34.6	16	22.2	6, 30
Capiz	58.81	-.49	-.46	60.10	17	57.34	30	28.1	-.3	+ .4	34.7	23	22.5	7
Calbayog	59.19	-.62	-.13	60.66	14	57.82	30	26.7	+ .5	+ .5	34.7	6	21.1	6
Legaspi, Albay	59.38	-.63	-.09	60.84	14	57.70	30	28.1	-.2	+ .5	33.3	10	21	6
Atimonan	59.41	-.42	-.07	60.83	17	57.53	30	27.9	+ .1	+ .2	33.8	30	21.4	2
Ambulong, Tanauan, Batangas	58.40	-.56	-----	59.74	17	56.89	30	28.5	-.7	-----	33	20, 26	20	7
Paracale	59.45	-.54	-.34	60.92	17	57.56	30	27.6	-.2	+ .4	33.2	15	21.7	6
Manila	58.94	-.42	-.41	60.19	14	57.29	30	28	-1	-.1	36	23	20	4, 5
San Isidro, Nueva Ecija	59.02	-.94	-.34	60.30	3	57.32	30	28.2	-1.1	-.2	38	29	20	1, 5
Dagupan	58.10	-.45	-.66	59.22	14	56.52	30	28.7	-.7	+ .2	39.7	22	21.8	14
Baguio ^a	637.02	-.59	-.14	638.04	17	635.69	8, 9	19.2	-.8	+ .3	27.6	22	14.2	10
Vigan	758.61	-.34	-.45	759.68	13	757.08	36	28.1	-1	-.2	34.9	27, 28	20.9	11
Tuguegarao	59.18	-.35	-.31	60.70	14	57.03	30	27.7	-1	-.2	39.8	20	20	1
Laog	58.51	-.56	-----	59.61	18	56.95	26	28.1	-.4	-----	36.4	30	19.2	13
Aparri	59.53	-.08	.19	61.43	14	57.31	30	26.8	-.8	+ .2	35.6	20	19.6	11

^a The barometric readings of this station are not reduced to sea level.

Rainfall.—The total rainfall for this month, although it is generally greater than that of April, 1919, yet it is for the majority of our stations below the normal of this month. The monthly amount of rain measured at Manila differs by +9.6 mm. from that of the preceding year, and by -22.6 mm. from the normal. That of Baguio is 54.6 mm. and 14.4 mm. above the monthly total of April, 1919, and the normal of this month, respectively.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF APRIL, 1920.

Station.	Total.	Departure from April, 1919.	Departure from normal.	Days of rain.	Departure from April, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from April, 1919.	Departure from normal.	Days of rain.	Departure from April, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.
	mm.	mm.	mm.				mm.			mm.	mm.	mm.				mm.	
Jolo	123	+ 9.5	+ 0.1	10	-1	0	27.5	25	Sumay, Guam	85.4	+ 82.3	+ 39.9	13	+11	+5	30.5	9
Malamau, Isabela, Zamboanga	58.8			4			26.2	29	Calapan	115.6	+ 69.7	+ 10.3	11	0	-1	53.6	27
Zamboanga	20.7	- 32.4	- 19.1	10	+7	+4	7.6	16	Virac	39.5	+ 8.8?	- 74.6	7	0	-7	13.7	28
Davao	148.5	+ 9.9	- 10.7	13	+5	+4	38.6	17	Naga, Camarines Sur	45.3	+ 17.7	- 48.3	6	+ 1	0	21.3	28
Cotabato	118.7	- 11.2	- 38.9	14	+4	+1	50.8	5	Tigaon	106.3	+ 82.7		10	0	0	39.3	28
Cagayan	0	- 18.6	- 29.6	0	-3	-4	0	0	Batangas	55.4	+ 15.3	+ 23.7	3	+ 2	-1	31.8	14
Butuan	315.5	+168	+168.6	18	+3	+3	161.8	3	Lucena	32.8	+ 5.4		3	+ 1		23.9	5
Mambajao	51.1	+ 38.1		5	+3		34.3	3	Atimonan	15.6	-106.6	- 72.9	4	- 3	-3	7.6	22
Dumaguete ^a	6.3	+ .2	- 16.8	2	0	-3	3.8	28	Ambulong, Tanauan, Batangas	20.4	+ 2.4		4	+ 1		13.5	29
Meeth, Yap, Western Carolines	70.8	+ 8.8	- 54.6	20	+6	+2	16.8	1	Canluban, Calamba	15.8	+ 15.8		4	+ 4		7.2	30
Tagbilaran	124.1	+112.7	- 40.9	10	+5	+3	58.2	1	Paracale	31.5	+ 22.9	- 54.8	6	+ 1	-5	18.2	28
Iwahig Penal Colony, Puerto Princesa	25.6	+ 6.1		4	-3		10.7	13	Santa Cruz, Laguna	18.1	+ .4	- 19.8	5	+ 1	-2	9.4	24
Surigao	340.1	+164.8	+ 94.6	19	+3	+3	93.4	3	Manila	10.5	+ 9.6	- 22.6	4	+ 3	0	5.6	3
Maasin, Leyte	151.4	+122.2	+ 82.5	6	+5	+1	94.5	3	Antipolo	67.6	+ 51.9		6	+ 5	+1	56.9	13
Cebu	13.1	+ 7.8	- 19.2	7	+3	0	4.8	24	San Isidro, Nueva Ecija	32.1	- 10	- 7.2	5	0	+1	24.9	13
Iloilo	.5	- 88.3	- 38.3	1	-4	-4	.5	14	Iba	13.8	+ 13.8	- 27.7	3	+ 3	-1	8.9	24
San Jose de Buenavista	35.1	- 38	- 19	5	-5	0	11.4	13	Tarlac	22.2	+ 7.3	- 39.1	7	+ 2	+1	6.6	26
Cuyo	64.6	+ 64.6	+ 40	6	+6	+3	19.1	9	Baler	291.1	+ 62.3	+ 10.5	16	+ 4	0	84.8	15
Ormoc	61.3	+ 20.1	- 13.6	9	+2	-1	28.7	3	Dagupan	48.8	- 52.9	- 36	7	+ 1	0	20.8	27
Guiuan	191.2	+ 2.2		17	-5	-1	86.1	24	Bolinao	25.4	- 30.9	- 2.5	1	- 4	-2	25.4	4
Tacloban	99.9	+ 32.2	- 27.2	9	-1	-5	47.3	24	Baguio	131	+ 54.6	+ 14.4	11	+ 2	+1	48	26
Capiz	35.7	+ 29.1	- 12.3	7	+3	0	29.5	23	San Fernando, La Union	8.4	- 11.2	- 7.3	3	- 1	+1	6.1	2
Borongan	285.7	+ 56.1	+ 50.7	19	0	0	62.5	1	Candon	0	0	- 13	0	0	-2	0	0
Catbalogan	61.7	+ 24.3		9	-1		21.8	2	Vigan	0	0	- 18.7	0	0	-2	0	0
Calbayog	112.1	+ 8.3	- 3	10	-5	-3	34.3	24	Tuguegarao	30.8	- 19.4?	- 38.5	7	+ 3	+1	10	26
Masbate	12.2	+ 10.6	- 21.2	5	+2	0	5.3	10	Laoag	20.3	+ 20.3	+ 10	1	+ 1	0	20.3	4
Batag Light-house, Laoang	65.2	- 67.8		9	-2		28	24	Aparri	207.8	+193	+163.4	8	+ 5	+3	137.2	7
Sorsogon	100	+ 19.5		10	-1		43.2	2	Cape Bojeador	24.1	+ 24.1		1	+ 1		24.1	4
Legaspi, Albay	84.4	+ 39.8	- 54.5	6	-5	-7	46	28	Basco	116.4	+ 83.3	+ 8.2	13	+ 3	+3	55.9	5

^a 28 days of observation.

DEPRESSIONS AND TYPHOONS.

There was no typhoon or depression of the tropical type, during the month of April, in the whole Far East. In higher latitudes, however, there were a few continental depressions, two of them having formed in the Eastern Sea and moved E or ENE to the south of Japan.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La media mensual de la presión atmosférica de Filipinas es ligeramente menor que la del año pasado y también menor que la normal de abril. Las presiones más altas se observaron generalmente los días 14 y 17, y las más bajas el día 30.

La temperatura media mensual es casi idéntica a la normal de este mes. Las temperaturas extremas de Manila fueron 36° C. registrada el día 23, y 20° C. observada los días 4 y 5. Las temperaturas máxima y mínima absolutas de Baguio fueron 27.6° C., 14.2° C. en la cumbre del Mirador, y 27.7° C., 12.3° C. en la llanura cerca del *City Hall*.

Precipitación acuosa.—La lluvia total de este mes, aunque es generalmente mayor que la de abril de 1919, con todo, es menor que la normal de este mes en la mayoría de nuestras estaciones. La cantidad total de lluvia recogida durante el mes en Manila difiere de la del año pasado en +9.6 mm., y de la normal de este mes, en -22.6 mm. La de Baguio difiere en +54.6 mm. y +14.4 mm. de la lluvia total de abril de 1919, y de la normal de este mes, respectivamente.

DEPRESIONES Y TIFONES.

Durante todo este mes de abril no hubo tifón o depresión alguna de tipo tropical en todo el Extremo Oriente. En altas latitudes, sin embargo, hubo unas cuantas depresiones continentales, dos de las cuales se formaron en el Mar del Este y se movieron hacia el E o ENE al sur de Japón.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.^a

[$\phi=14^{\circ} 34' 41''$ N; $\lambda=120^{\circ} 58' 33''$ E; barometer above sea, 14.2 meters; gravity correction not applied, -1.72 mm.]

Day.	Pres- sure (mean).	Air temperature. ^b			Underground temperature.				Rela- tive humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation. ^b					
		Mean.	Maxi- mum.	Mini- mum.	0.25 meter.		0.50 meter.				1.50 meters.	2.50 meters.	Mini- mum on grass	Maxi- mum in sun. Black bulb in vacuo. ^c	Free expo- sure (to- tal).	Shelter (total).		
					8 a.m.	2 p.m.	8 a.m.	2 p.m.									8 a.m.	8 a.m.
1	759.75	27	34.1	20.5	27.7	30.3	28.5	29	28.3	28.3	70.3	18.3	17.5	53	6.3	3.3		
2	59.82	27.9	35.3	21	28	31	28.5	29.3	28.4	28.3	67.1	18.2	18.2	55	7.3	4.3		
3	60.18	26.4	31.7	23	28.5	29.7	28.8	29.1	28.3	28.3	76.3	19.4	21.2	50.5	3	2.3		
4	59.50	26.7	34	20	26.9	30.4	28.6	29	28.4	28.2	67.2	16.9	18	55.8	7.1	4		
5	59.58	27.3	34.3	20	27.5	31	28.3	29.1	28.3	28.2	67.4	17.7	17.3	54.8	6.7	4.1		
6	59.32	27.7	33.7	22.5	28.5	31.4	28.7	29.5	28.3	28.2	67.9	18.4	20.3	53.3	6.3	3.8		
7	58.20	27.2	34.1	20.8	28.7	31.5	28.8	29.6	28.3	28.2	68.5	18.1	18.4	52.8	6.6	3.8		
8	57.88	27.2	32	23.1	28.8	30.9	29	29.6	28.3	28.2	78.6	21	20.6	52.7	4.7	2.7		
9	57.80	27.3	33.1	23.3	28.7	31	29.1	29.6	28.4	28.3	77.1	20.5	21.2	51.8	5.6	3.6		
10	57.85	27.5	32.7	23.5	28.7	31.5	29.1	29.7	28.4	28.2	74.2	20	22.2	53.3	6	3.5		
11	58.17	27.4	32.5	23	28.7	31.3	29.2	30	28.4	28.3	73.5	19.7	21.6	51	6	3.5		
12	58.85	28	33.6	23.7	29	31.5	29.3	29.9	28.4	28.3	74.4	20.7	22.4	52.5	5.5	3.3		
13	59.90	28	33.9	24.8	29.2	32	29.5	30.1	28.5	28.3	75.3	20.9	23.5	52.2	4.6	2.6		
14	60.19	28.4	34.5	25	29.5	31.7	29.6	30.2	28.6	28.3	74.9	21.2	23	54	5.5	3.2		
15	59.88	28.7	34.7	23.9	29.6	32.5	29.7	30.4	28.6	28.3	69.4	19.9	21.8	55.1	7.3	4.3		
16	59.90	28.5	34	24.5	30.5	32	30	30.5	28.7	28.3	68.9	19.7	24.4	55.1	5.9	3.7		
17	60.15	27.8	35.4	21.5	29.3	32.2	29.7	30.4	28.7	28.3	69.1	18.5	20.2	56	7.3	4.5		
18	59.75	27.7	35.3	21.3	29.6	32.3	29.7	30.3	28.8	28.4	66.3	17.7	18.6	53.7	7.6	4.7		
19	59.22	28	34.7	21.4	29.8	31.8	29.7	30.3	28.8	28.3	66.4	18.2	18.8	52.7	6.9	4.3		
20	59.17	28.7	35.5	23.4	29.5	32.7	29.7	30.5	28.8	28.4	64.7	18.2	21	55.3	7.8	4.7		
21	59.06	27.7	35.4	20.9	29.8	32.5	29.9	30.6	28.8	28.3	63.4	17.1	18.2	53.4	8.2	4.8		
22	58.47	27.2	34.7	21.4	29.7	32	29.8	30.5	28.8	28.3	68.9	18.4	19.2	56.1	4.7	2.9		
23	58.32	28.8	36	22.2	29.7	32.2	29.7	30.5	28.8	28.4	65	18.6	19.8	55	8.1	5.3		
24	58.49	29.3	35.8	23.4	30.5	33.1	30.1	30.6	29.2	28.5	65.8	19.3	20.4	55.4	7.6	4.4		
25	57.79	29.2	35.2	23.7	30.1	32.5	30.6	31.1	29.2	28.5	71.2	21	21.3	55.5	7	3.9		
26	57.74	28.7	35.7	23.6	30.7	33.5	30.5	31.3	29.2	28.5	68.1	19.4	21.4	56.2	6.9	4.2		
27	58.64	28.5	35.7	21.9	30.6	33.2	30.5	31.2	29.1	28.5	67.5	19	19	55.2	7.4	4.6		
28	58.93	29.1	35.4	24	31	32.7	30.6	31.1	29.1	28.5	65.6	19.3	21.9	54.5	6.9	4.5		
29	58.34	29	35.2	23.1	30.1	32.8	30.5	31.2	29.1	28.5	70.2	20.6	21.2	54.3	6.1	3.6		
30	57.29	29.5	34.7	25.2	31.3	33.7	30.8	31.5	29.2	28.5	75.1	22.7	23	53.8	5.9	3.2		
Mean	758.94	28	34.4	22.7	29.3	31.9	29.6	30.2	28.7	28.3	69.9	19.3	20.5	54	6.4	3.9		
Total															192.8	115.6		
Departure from normal	-0.41	-0.1	+0.4	0							+0.1	-0.1			+4.6			

Day.	Wind.				Clouds.			Sun- shine.	Rain, 24 hours beginning 6 a. m.		Miscellaneous.
	Prevailing direction.	Total move- ment.	Maxi- mum hour- ly veloc- ity.	Direction at the time of the maximum velocity.	Amount (mean).	Form and direction.			On the tower.	In the park.	
						Upper.	Lower.				
1	E quad.	233	23	WNW	0-10.			h. m.	mm.	mm.	
2	SE, E	209	23	SE	3	A.-Cu., Ci.	Cu. ENE	7 30			d° a.
3	E quad.	151.5	21.5	SE	6.7	A.-Cu.	Cu. E	9 40			d° a. p. p.
4	SE	225.5	24	SE	1.8	Ci.	Cu.-N. ESE	3 35	5.6	5.8	
5	SE	225	18	SE	1.4	Ci.-S., Ci.	Cu. E	11 00			d° a.
6	SE	185	17	W	1.4	Ci.-S., A.-Cu.	Cu. ENE	10 20	5	5	d a.
7	W quad.	231	26	WSW	1.4	A.-Cu., Ci.-S.	Cu.	10 15			
8	SW	258	25	SW	1.8	Ci.-S.	Cu.	8 45			
9	W quad.	241	20	W	2.2	A.-Cu. NW	Cu. E	9 30			Γ p.
10	NNE, WSW	316	24	WSW	1.1	Cu.	Cu.	9 05			∞ p.
11	N, WSW	239	18	WSW	4.2	A.-Cu. NW	Cu. SW	6 05			
12	W quad.	243	20.5	WNW	2.7	Ci.-S.	Cu. E	7 50			∞ ² ∞ ² p.
13	W quad.	193	16	W	4.1	A.-Cu. NE	Cu. E	7 35	3.1	3.5	∞ ² a. p. ∞ ² p.
14	SE	188	19.5	SE	5.7	Ci.-S.	Cu. E	6 30			
15	SE	251	30	SE	4.8	A.-Cu.	Cu. E	8 30			
16	SE	249	23	SE	5	Ci.	Cu.-N. ESE	8 50			
17	SE	243	26	NW	2	Ci.	Cu. ESE, E	11 05			d° a.
18	SE	224.5	24.5	WNW	1.5	A.-Cu. E	Cu. E	10 45			
19	SE, NE	212.5	24	SE	2.4	A.-Cu.	Cu. E	9 40			d° a. ∞ p.
20	SE	240	24.5	SE	1.6	A.-Cu.	Cu. E	10 05			
21	SE, W	192	21	W	7	Ci.	Cu.	10 40			d a.
22	E quad.	165	16	W	5.6	A.-Cu. SE	Cu. E	5 25	1.3	1.5	d° p.
23	SE	277	27	SE	2.9	Ci.	Cu. E	11 00			∞ ² p.
24	SE	240	30	SE	3.1	Ci.	Cu. E	10 35			Γ p. ∞ ² p.
25	SE	243	28.5	SE	3.9	Ci.	Cu. E	9 20			∞ ² a. Γ p.
26	SE	187.5	19	W	3.2	Ci. E	Cu. E	9 30			
27	SE	228.5	24.5	WNW	2.9	Ci.	Cu. E	10 55			d a. ∞ p.
28	SE	216	25	WNW	3	Ci.	Cu. E	10 30			∞ p.
29	W quad.	188	15.5	WNW	2.9	Ci.	Cu. E	10 25			∞ p.
30	SW, W	221	20.5	SW	3.8	Ci.	Cu. E	10 15			∞ a. p.
Mean		223.9	22.5		3			9 12			
Total		6,716						276 00	10.5	11.3	
Departure from normal		-124.3			-1.1			+13 54	-22.6		

^a All the mean values given in this table are deduced from hourly observations.
^b These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
^c Maximum of hourly observations taken from 6 a. m. to 6 p. m.

METEOROLOGICAL DATA FOR MIRADOR OBSERVATORY, BAGUIO.*

[$\phi=16^{\circ} 25' N$; $\lambda=120^{\circ} 35' E$; barometer above sea, 1,512.5 meters; gravity correction not applied, -1.65 mm.]

Day.	Pres- sure ^b (mean).	Air temperature at Mirador (on the top of the mountain).				Air temperature in the pla- teau near the City Hall.				Rela- tive humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation.		
		Mean.	Maxi- mum.	Hour.	Mini- mum.	Hour.	Maxi- mum.	Hour.	Mini- mum.			Hour.	Mini- mum on grass.	Maxi- mum in sun. Black bulb in vac- uo. ^c	Free ex- posure (to- tal).	Shel- ter (to- tal).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	°C.	°C.	mm.	mm.	
1	637.53	19.6	26.7	11.10a.	14.4	4.00a.	27.7	Noon	13.7	3.10a.	59.5	9.9	12	56.1	10.4	5
2	37.83	17.9	21.5	10.45a.	15.7	6.00a.	23.4	2.30p.	15.3	12mn.	86	13.1	14.2	53	2.7	2.2
3	37.80	19.4	25.8	1.50p.	15.2	5.30a.	25.6	2.00p.	13.9	4.30a.	73	12.1	11.1	59.1	5.4	3
4	37.18	18.5	25.8	1.30p.	15	5.25a.	25.4	2.35p.	14	5.45a.	79.2	12.4	12.5	58.1	4.2	2.4
5	37.33	18.6	25.3	0.45p.	14.7	5.15a.	24.8	3.10p.	14.5	6.00a.	78.8	12.5	12.2	58.5	4.1	2.5
6	37.10	18.6	25.7	0.45p.	15.6	6.00a.	24.8	1.15p.	14.5	6.05a.	82.7	13	13.5	60.5	3.6	2.1
7	36.14	17.6	24.8	11.30a.	15	5.00a.	24.3	0.30p.	13.9	6.00a.	85.5	12.7	11.7	60	3.4	2
8	35.69	17.7	24.1	11.25a.	14.8	4.30a.	24.7	Noon	13	5.50a.	82.8	12.4	11.7	57.8	2.8	1.7
9	35.69	18	25.8	1.00p.	15	6.00a.	25.4	0.45p.	14.3	4.00a.	81.8	12.5	12.4	58.1	3.9	2.3
10	35.75	18.9	25.3	2.00p.	14.2	6.00a.	25.8	1.15p.	12.3	5.55a.	66.5	10.7	10.5	53.9	7.1	4.1
11	36.04	18.8	24.5	Noon	15	5.50a.	25.5	11.50a.	12.4	5.50a.	72.7	11.7	11.5	55.1	4.9	2.5
12	36.72	18.8	25	0.15p.	15.4	5.00a.	25.2	1.30p.	14.7	5.30a.	83.2	13.4	12	57.5	4.1	2.2
13	37.69	20.2	26.5	11.45a.	16.4	6.05a.	25.7	0.30p.	14.6	5.40a.	70.7	12.4	12.7	58.7	6	3.2
14	37.96	19.4	26.2	0.45p.	15.7	4.05a.	26.2	10.30a.	13.8	3.45a.	76.8	12.8	12.3	58.1	4.5	2.1
15	37.96	19.8	26.4	2.25p.	16.3	5.30a.	26.3	1.45p.	15.9	5.45a.	83.8	14.2	14.4	57	4	2.1
16	37.82	19.9	25.5	10.20a.	16.5	0.30a.	26.1	10.45a.	15.3	3.35a.	83	14.1	13.8	59.8	2.3	1.5
17	38.04	18.8	25.1	1.00p.	15.5	6.00a.	24.7	2.30p.	15.2	5.15a.	85.3	13.7	13.7	60	4.1	2.2
18	37.67	18.6	24.7	1.45p.	15.5	6.00a.	25.4	3.00p.	12.8	5.30a.	83.5	13.3	12.7	58.6	4.1	2.4
19	37.42	19	25.4	0.55p.	15.5	5.30a.	25.5	10.40a.	14.6	5.00a.	79.5	13.1	12.6	59.8	3.8	2.4
20	37.47	20.1	26.2	1.30p.	15.8	6.00a.	26.1	10.30a.	14.3	5.30a.	80.7	13.9	12.2	57.3	3.8	2.4
21	37.39	20	26	0.40p.	15.5	5.30a.	25.6	11.45a.	15	5.35a.	80.7	14	13.5	59.8	5.1	2.9
22	36.81	21	27.6	1.45p.	16.2	4.55a.	27.5	11.40a.	14.5	3.50a.	70.7	12.8	13.2	57	5.9	3.7
23	36.82	19.6	26.6	1.00p.	15.4	6.00a.	26.5	10.15a.	15.2	5.45a.	79.7	13.4	13.5	59	5.6	3
24	36.84	20	26.8	2.00p.	15.6	4.30a.	26.7	11.00a.	14.7	5.10a.	72.2	12.3	13.8	58.1	5	2.8
25	36.44	20	26.5	0.20p.	16.5	3.35a.	26	1.10p.	15.5	5.30a.	81.7	14.1	14.3	60.5	3.4	2.1
26	36.34	19.5	26.7	1.00p.	16	4.30p.	26.2	1.30p.	16	12mn.	79.2	13.3	13.9	58.3	3.5	2.4
27	36.91	19	25	1.20p.	16.4	0.30a.	25.7	0.55p.	15.2	5.55a.	82.7	13.5	13.3	57.5	2.7	1.6
28	37.20	19.5	26.1	11.00a.	16.1	5.35a.	25.8	11.00a.	15.3	6.00a.	83.7	14	14.3	61.4	2.7	1.7
29	37	18.8	24.8	11.30a.	16.3	3.45a.	25	0.10p.	15.1	4.45a.	88.8	14.3	14.2	58.5	3.1	1.8
30	36.01	19.4	26.1	1.20p.	16.3	6.00a.	25.1	0.45p.	15	5.00a.	84	14.1	13.3	59.2	2.9	1.7
Mean	637.02	19.2	25.6		15.6		25.6		14.5		79.3	13	12.9	58.2	4.3	2.5
Total															129.1	74

Day.	Wind.				Clouds.		Sun- shine.	Rain, 24 hours begin- ning 6 a. m.	Miscellaneous.	
	Prevailing direction. ^d	Total move- ment.	Maxi- mum hour- ly velo- city.	Direction at the time of the maxi- mum velocity.	Amount (mean).	Form and direction.				
						Upper.				Lower.
1	E	458.4	31.6	E	0-10.	Ci.	Cu.-N. ENE	h. m.	mm.	°° a. p.
2		233.6			8.6	Ci.-S., A.-Cu.	Cu.-N. ENE	6 45	0.5	d.°° a. p.
3		252.7			3.3	Ci.	Cu.-N. SW		2.8	°° a.
4	SW quad.	296.7	25.7	W	3.1	Ci.-S., A.-Cu.	Cu. SSE, SE			°° a.
5	SE quad.	296.7	25.7	W	5	A.-Cu.	Cu. ENE			°° a. °° p.
6	E, W	328.2	29	W	5.4	Ci.-S.	Cu.-N. SW	3 35		°° a. °° p.
7	W, NE	298.6	30.4	W	6	A.-Cu.	Cu.-N. W	4 35	.4	°° a. °° p.
8	W	302.7	31.4	W	5.9	Ci.-S.	Cu.-N. W	4 25	.3	°° a. °° p.
9	E, W	321.1	27.9	W	5.9	Ci.-S.	Cu. NW quad.	4 20		°° a. °° p.
10	W	358.4	28.7	W	9	Ci.-S.	Cu. NNW	7 05		°° a. °° p.
11	W	311	27.2	W	5.1	Ci.	Cu. SW	6 15		°° a. °° p.
12	W	268.7	24.7	W	4.9	Ci.-S.	Cu. SW	4 50		°° a. °° p.
13	NW, W	276.1	27.9	W	4.9	Ci.-S.	Cu.-N. wsw, wnw	6 15		°° a. °° p.
14	E	310.9	28	W	6	Ci.-S.	Cu. E	3 05	1.3	°° a. °° p.
15	E, SW	357.4	28.7	SW	6.3	Ci.-S.	Cu.-N. W	4 30		°° a. °° p.
16	E quad.	209.6	17.4	W	7.7	Ci.-S., A.-Cu.	Cu.-N. NE quad.	1 25?	34.8	°° a. °° p.
17	E	355.8	26.2	SW	3.9	Ci.	Cu.-N. W	4 55		°° a. °° p.
18	E quad.	347.3	22.2	W	4.1	Ci.-S.	Cu. SW	4 50		°° a. °° p.
19	E quad.	288	26.4	W	2.6	Ci.	Cu. E	4 45		°° a. °° p.
20	Variable	265.2	26.2	W	3.9	Ci.	Cu. E, ESE	8 05		°° a. °° p.
21	SE, W	319.7	26.2	W	3.6	Ci.	Cu.-N. W	6 50		°° a. °° p.
22	E quad.	343.9	27.9	W	2.7	Ci.	Cu. SE	9 05		°° a. p.
23	E quad.	343.2	26	W	5.9	Ci.	Cu.-N. SE	5 05		°° a. p.
24	E	426.8	29	W	4.1	Ci.	Cu. SE	5 45	5.3	°° a. p.
25	W quad.	316.5	26.6	SW	4.6	Ci.	Cu. E, SE	5 35	.4	°° a. p.
26	NE quad.	317.6	25.1	NW	5.1	Ci.	Cu. E	4 45	48	°° a. p.
27	E, SW	287.1	30.9	W	6.1	Ci.	Cu. E	3 10	19.9	°° a. p.
28	E	337.7	24.3	W	5.1	Ci.	Cu.-N. E, SE	5 40	17.3	°° a. p.
29	Variable	300.7	23.8	W	5.1	Ci., A.-Cu. NW	Cu. SE	5 00		°° a. p.
30	W quad.	274.5	25.7	W	3.9	Ci.	Cu.-N. ESE, SE	6 55		°° a. p.
Mean		313.8	26.9		4.7			5 17		
Total									131	

* All the mean values given in this table are deduced from six daily observations taken at 2, 6, 10 a. m. and 2, 6, 10 p. m.
 b The barometric readings of this station are not reduced to sea level.
 c Maximum of hourly observations taken from 6 a. m. to 6 p. m.
 d This element is based on hourly observations taken from a quadruple register, which gives only eight possible directions of the wind.
 e 8 hours missing.
 f 2 hours missing.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, APRIL, 1920.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Lapac Agricultural School, Siasi, Sulu†	0.8											1.3				16.3
Glan, Cotabato†	.8		0.5					30.5	6.1							2.8
Jolo, Sulu	8.6			1.3	18.6									10		21.3
Lais, Malita, Davao	6.6		11.7	2.5	15.2		7.6									25.9
Lebak, Cotabato	4.1			30.5	13.7		21.8				33	25.4	7.1			
Lamitan, Isabela, Zamboanga	11.7			10.4				10.9							39.1	
Basilan Plantation, Kabunbatan, Isabela, Zamboanga†	17.5			9.4	2.5								20.6	9.4		9.1
Basilan Plantation Office, Isabela, Zamboanga†	17			5.1	3.3								13.2	5.3		6.6
La Union, Sigaboy, Davao†	1.3		2.5	11.9	3		3									7.4
Paranglalap, Isabela, Zamboanga†	10.1			15.2												
Latuan, Isabela, Zamboanga†	11		9.4										60.8			7.6
Buluan, Cotabato†	7.6			1.3						2.3			45.5		14.5	
Malamaui, Isabela, Zamboanga	4.1												.3		2	
Zamboanga, Zamboanga	2.1			3									19.6		8.9	
Cagayan de Sulu, Sulu†		4.6											1.6			7.6
Kidapawan, Cotabato†		10.2	71.1	10.2	5.1	20.3	30.5	21.6		10.7	30.5					15.7
Davao, Davao	5.6			2.8	13.2		3.8	33.8		21.8	3.3					6.6
Piang Agricultural School, Kudarangan, Dulauan, Cotabato†			3.6		88.9											7.6
Pikit, Cotabato			17.5		60.7										6.4	2.5
Awang, Cotabato†			12.7	77.5								3.3				3.8
Sirib, Guianga, Davao†	25.4	3.8		11.9	4.6	50.8	36.8	15.2	8.9	6.4						11.4
Kabakan, Cotabato†			11.9		2											2.5
Bual, Dulauan, Cotabato					34.8						.8	6.4				
Cotabato, Cotabato					50.8		2.8				.8	.3		6.9		5.6
Kabasaran, Buldun, Cotabato†			6.1	4.1	25.9				16	31.7		4.8	10.2			
Naganaga, Margosatubig, Zamboanga	3.8		18.8									31.5				11.9
Malabang, Lanao	9.9		3.3		5.1	6.9					10.2	30.5			23.6	
Compostela, Monkayo, Davao†	14	38.1	35.6		2.3		1.1	1.3	26.7							3.8
Malangas, Margosatubig, Zamboanga†				32.8		6.6										22.1
Lumbatan, Lanao†		7.6	15.2	50.8	17.8						2.5			38.1		
Cateel, Davao	65.8	1.3	72.4	40.7		7.6	20.5	28.7			6.4				1.8	31.8
Ganasi, Lanao	3		5.1				6.9	11.7	21.3			2.3				
Camp Kalao, Monkayo, Davao	.5		35.3	1.3			.8		3.3			26.4	.5			
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon	4.6		5.8	.3					5.8		8.9	.3				5.1
Camp Keithley, Dansalan, Lanao	8.9		5.1	.3	12.4							18.3	9.4	1.3		.5
Pantar, Lanson†		2.5										63.5	2.5			
Veruela, Agusan	33.8	1.3	67.8	13	6.4		23.4					4.6	2	1.5		29.4
Sindangan, Zamboanga†	43.2		3									3.3	3.8			25.6
Sumilau, Bukidnon	1		10.2	1.3	13							62.2				4.1
Diklom, Tangkulan, Maluko, Bukidnon†	23.8		11.9		7.6							6.6				
Cagayan, Misamis																
Talacogon, Agusan	17.5	18.5	10.9	4.3			23.4					1				
Butuan, Agusan	2.6	17.8	161.8	6.1			5.4	.3				.8			.3	19
Mambajao, Misamis		1.8	34.3													
Dumaguete, Oriental Negros	*		2.5													
Meeth, Yap, Western Carolines	16.8	1.3	.8	2.6	1	2.8	.8	1	11	5.6			2.6			
Hacienda San Jose, Tanjay, Oriental Negros†		8.1	6.4	7.6												
Hacienda Palanas, Bais, Oriental Negros†		16.3														
Hacienda Tamugon, Bais, Oriental Negros†																
Tagbilaran, Bohol	58.2	.3	3.5	8.7												
Iwahig Penal Colony, Puerto Princesa, Palawan	1												10.7			
Dalaguete, Cebu	6.6	8.6	2.8	1.3												
Surigao, Surigao	23.3	39.8	93.4	1.8	.5	3.3										15.8
Hacienda Naval, Himamaylan, Occidental Negros	7.1	1.3										52.1				
Biaong Cui's Farm, Barili, Cebu		17.3														
Maasin, Leyte			94.5	9.9												
Isabela, Occidental Negros		1.5									54.9	4.1		41.4		
Hacienda Tanolo, Hinigaran, Occidental Negros		17.3	.6									13.7				
Cebu, Cebu		2.3	2.9													1.8
La Castellana, Occidental Negros			6.1			4.6	2									
Hacienda Vallehermoso, Vallehermoso, Oriental Negros†																
Central Azucarera de La Carlota, La Carlota, Occidental Negros		.8	6.6	.3	3.8							16.8		.8		
Hacienda Canlaon, La Castellana, Occidental Negros	3.3	4.4	3.6		31		10.7						2.5			
La Carlota Experimental Station, La Carlota, Occidental Negros†			14.2		53.9	11.2						13	3			
Maao Sugar Central, Santa Cecilia, Bago, Occidental Negros	.5		1.3		7.9								2	32.2		
Hacienda San Antonio, San Carlos, Occidental Negros†																16.5
Valladolid, Occidental Negros																
Central San Carlos, San Carlos, Occidental Negros†																
Hacienda Refugio, San Carlos, Occidental Negros†																
Murcia, Occidental Negros			6.3		24.9		32.5						1			
Concepcion, Talisay, Occidental Negros			3.3									57.4	17.3	3	.5	
Iloilo, Iloilo																
Lapuslapus, Iloilo, Iloilo†																
San Jose de Buenavista, Antique													11.4	5.6		

† Voluntary or cooperative station.

* No observation.

Daily rainfall at the stations of the Weather Bureau, April, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Tuburan, Cebu	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Silay, Occidental Negros		0.8	4.3										3.3			
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros†	3.9	20.1	2.6													
Cuyo, Palawan									19.1					8	8.9	
Lucena, Santa Barbara, Iloilo†																
Hacienda Ilaya, Victorias, Occidental Negros	7.1															
Hacienda Bilbao, Manapla, Occidental Negros	4.8															
Cadiz, Occidental Negros				2.5												
Ormoc, Leyte		1.8	28.7													1.5
Gufuan, Samar	21.1	31	5.6			0.8	0.5									5.8
Bogo, Cebu			3													
Duenas, Iloilo†							18.3						18.3	1.5		
Bitaoagan, Passi, Iloilo†									7.6				21.3			
Tacloban, Leyte		6.8	25.5						9.1	19.3				1.8		
Dumarao, Capiz†												17.8				
Dao, Capiz†		2.5	2.8										8.6			
Capiz, Capiz				2.5							0.8	1				
Borongan, Samar	62.5	58.7	26.2	2.5		3	27.1	1.5			1.8					
Catbalogan, Samar		21.8	3.3										5.1			
Calbayog, Samar		3.5		6.6												
San Jose Estate, Robles Camp D-17, San Jose, Mindoro†												1	3			
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro†												7.1	2.8			
San Jose Estate, San Agustin, San Jose, Mindoro†																
San Jose Estate, San Jose, Mindoro†																
Masbate, Sorsogon	1	4.1								5.3		2	.3			
San Jose Estate, Tunnel D-12, San Jose, Mindoro†												3	6.6			
Romblon, Romblon			4.8			1.8					.3	.5				
Batag Lighthouse, Laoang, Samar	2.3	1.8														
Irosin, Sorsogon	1.5	22.4	1.3	1.5												
Sorsogon, Sorsogon	1.3	43.2		.3						8.2						
Legaspi, Albay, Albay		1.5								.5						
Sumay, Guam, Ladrone Islands	3.8	2.5	2.5	2				6.4	30.5	20.3				2.5		
Calapan, Mindoro				1.3	0.3	.5						.5	1.3		8.6	
Virac, Albay	.5								3							
Naga, Camarines Sur									4.3						1	
Tigaon, Camarines Sur									20.8			.3	4			
Batangas, Batangas			9.4	13.5		12.2							3.8	31.8		
Calatagan, Batangas																
Balayán, Batangas													16.3	7.1		
Lipa, Batangas													29.5			
Lucena, Tayabas					23.9									7.1		
Atimonan, Tayabas										2.5						
Lian, Batangas		38.1											25.4	28.4		
Nasugbu, Batangas			2.5										1.3	29.2		
Ambulong, Tanauan, Batangas			5.1										.5			
Mendez Nuñez, Cavite									21.8				31.2			
Alfonso, Cavite			2.3						1			4.3				
Indang, Cavite												13.5	22.3			
Canlubán, Calamba, Laguna								3								
Silang, Cavite																
Maragondon, Cavite														1		
Paracale, Camarines Norte		.8														
Santa Cruz, Laguna		1.8														
Buenavista, Malabon, Cavite												4.3	.5			
Imus, Cavite													5.3			
Alabang Stock Farm, Alabang, Muntinglupa, Rizal†			.5													
Manila, Manila			5.6		.5								3.1			
Antipolo, Rizal													56.9	4.1		
Bosoboso, Antipolo, Rizal†		2.5								10.9						
Balanga, Bataan			1.3											1.3		
Montalban, Rizal†										8.4						
Hacienda Pintong Sapang, San Jose del Monte, Bulacan†																
Mabayuan Dam, Olongapo, Zambales†										20.3		2.8				
Pampanga Sugar Mills, Del Carmen, Pampanga†						41.9									4.1	
San Isidro, Nueva Ecija						.3		2.3					24.9			
Iba, Zambales			4.5													
Tarlac, Tarlac	1.3					1.8	2.5	4.1							5.1	
Muñoz Agricultural School, Muñoz, Nueva Ecija†																
Baler, Tayabas	31.7	29.5	8.9		32.5		.5			14.7	3.8	1.8	17.5		84.8	2.1
Dagupan, Pangasinan			15			.8								5.8		
Bolinao, Pangasinan				25.4												
Baguio, Mountain Province	.5	2.8				.4		.3						1.3		34.8
San Fernando, La Union		6.1						1.8								.5
Sagada, Mountain Province†				5.1	2.5	5.3	.3							4.3		3
Bontoc, Mountain Province†																
Candon, Ilocos Sur																
Vigan, Ilocos Sur																
Tuguegarao, Cagayan							2.8								4.1	
Laocag, Ilocos Norte				20.3												
Aparri, Cagayan					2.8	137.2	13.2	13.9	.3							
Cape Bojeador, Burgos, Ilocos Norte				24.1												
Basco, Batanes			1.3		55.9	6.3			22.9	.8					1.3	

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, April, 1920—Continued.

Station.	Day of month.														Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
Lapac Agricultural School, Siasi, Sulu†									17.8		5.1			12.7	54
Glan, Cotabato†	4.3			8.9				7.6		2.8				15.8	80.1
Jolo, Sulu	5.1						15		27.5	5.6		10			123
Lais, Malita, Davao	8.9	3.6				25.4			26.9				38.6	14.5	187.4
Lebak, Cotabato				15.2			6.6	21.3	23.4				49.8	41.2	293.1
Lamitan, Isabela, Zamboanga			29.2										19.8	28.7	149.8
Basilan Plantation, Kabunbatan, Isabela, Zamboanga†	2.5	7.6		5.1					5.1			3.8	2	17.8	112.4
Basilan Plantation Office, Isabela, Zamboanga†	2.5	7.6		2.5					2	.8		3.8	1.3	29.2	100.2
La Union, Sigaboy, Davao†		5.1	1	1				5.3	5			3.8		2.8	49.3
Parangialap, Isabela, Zamboanga†		6.4		2.5										32	124.6
Latuan, Isabela, Zamboanga†		5.1		1.5								.8		38.6	126.4
Buluang, Cotabato†	2											10.2	1.8		27.5
Malamaui, Isabela, Zamboanga			1	.5		2.8			.8				26.2		58.8
Zamboanga, Zamboanga	.8								11.4					.5	20.7
Cagayan de Sulu, Sulu†		12.7			10.2		6.4								22.4
Kidapawan, Cotabato†	38.6	9.6	4.1			2.8	8.1					10.2	6.4	10.7	284.2
Davao, Davao														2.5	148.5
Piang Agricultural School, Kudarangan, Dulauan, Cotabato†	27.9												8.9		136.9
Pikit, Cotabato				1.8				2.5					2	14.7	108.1
Awang, Cotabato†	7.9				13.2	12.7			7.9	3	16.5				158.5
Sirib, Guianga, Davao†	30.5	8.9	3.3	29.2	53.8										280.9
Kabakan, Cotabato†					11.7			4.6					12.7		45.4
Bual, Dulauan, Cotabato	3.6				7.6	1.5		26.9		10.2		1.3		3.3	97.2
Cotabato, Cotabato	5.3			.5	1	.5		22.6		18.3	.5		8		118.7
Kabasarp, Buldun, Cotabato†			23.1	18.8	52.1	11.9	25.4	48.3	15.2	16	55.9	49.3	24.1		438.9
Naganaga, Margosatubig, Zamboanga		18			22.1				37.3			11.9		13.2	168.5
Malabang, Lanao	43.2				18	21.1		2.5	33.8	8.4		10.2		14	240.7
Compostela, Monkayo, Davao†		17.8		26.7			1.8		10.2		9.9			1.3	191.4
Malangas, Margosatubig, Zamboanga†			24.4	25.9				22.1		24.9		56.9	22.9		238.6
Lumbatan, Lanao†				7.6		29.2	11.2	3.8							183.8
Cateel, Davao	40.7	28.8	11.4	14	15.7	11.7		43.2	25.7	1	12.7	3.8	5.8	3.5	495
Ganasi, Lanao	3.8			4.8	9.4			.3	9.1	2.8			25.4	1.8	107.7
Camp Kalao, Monkayo, Davao		5.9		2.5				11.4	5	15				1.3	104.7
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon	6.6			4.6					5.3	7.8					55.1
Camp Keithley, Dansalan, Lanao	24.8			24.6	26.7	.5		16	5.1	1.8		17			172.7
Pantar, Lanao†	30.5			19.6	14				14.5	4.1					151.2
Veruela, Agusan	3	5.1	5.6	2.8	3	2.5	2	39.4	6.8	2.5			1.3	11.7	268.9
Sindangan, Zamboanga†		18							18			3.3	1.3		101.5
Sumilau, Bukidnon				2	4.1				10.2	7.4					115.5
Diklom, Tangkulan, Maluko, Bukidnon†	.5			11.9		3.8			24.6	6.6					97.3
Cagayan, Misamis							4.6	1	40.6	22.4	16.3				0
Talacogon, Agusan							10.4	.3	19.9	4.9	16.5	7.9	20.9		160.5
Butuan, Agusan	17.8			2.8					3.3		9.9				315.5
Mambajao, Misamis				1.8											51.1
Dumaguete, Oriental Negros												3.8			*6.3
Meeth, Yap, Western Carolines		.3	.8	.8		2.6			7.7	2.1	7.4	1.3		1.5	70.8
Hacienda San Jose, Tanjay, Oriental Negros†															22.1
Hacienda Palanas, Bais, Oriental Negros†															16.3
Hacienda Tamugon, Bais, Oriental Negros†															0
Tagbilaran, Bohol	13.5				4.9	.5			3.6	30.4				.5	124.1
Iwahig Penal Colony, Puerto Princesa, Palawan					8.1	5.8									25.6
Dalaguete, Cebu	.8							.5		2.5					23.1
Surigao, Surigao	15.2		1.3	31.2	6.3	6.8	5.8	68.6	1.3	7.4	.3	10.7	2.3		340.1
Hacienda Naval, Himamaylan, Occidental Negros					1				3.3	5.1					69.9
Biaong Cui's Farm, Barili, Cebu								.5							17.8
Maasin, Leyte	11.4					12.2		9.4		14					151.4
Isabela, Occidental Negros					11.9					2.3					116.1
Hacienda Tanolo, Hinigaran, Occidental Negros										.3					31.9
Cebu, Cebu	.5							4.8	.5	.3					13.1
La Castellana, Occidental Negros						1				1.8					15.5
Hacienda Vallehermoso, Vallehermoso, Oriental Negros†							12.7	27.9	.8				.5		41.9
Central Azucarera de la Carlota, La Carlota, Occidental Negros					14.5				.3	10.4	1.8				56.1
Hacienda Canlaon, La Castellana, Occidental Negros									3.3						61.6
La Carlota Experimental Station, La Carlota, Occidental Negros†	2.8														
Maao Sugar Central, Santa Cecilia, Bago, Occidental Negros	1.3								1.5						98.1
Hacienda San Antonio, San Carlos, Occidental Negros†									.8				6.4		51.1
Valladolid, Occidental Negros									22.1	5.9					16.5
Central San Carlos, San Carlos, Occidental Negros†							13.7					2.3			28
Hacienda Refugio, San Carlos, Occidental Negros†															16
Murcia, Occidental Negros								7.1	11.4						18.5
Concepcion, Talisay, Occidental Negros								1							65.7
Iloilo, Iloilo								3.3		2			7.6		93.9
Lapulapus, Iloilo, Iloilo†													1.3		.5
San Jose de Buenavista, Antique								4.1	3.8					10.2	1.3

† Voluntary or cooperative station.

* 28 days of observation.

Daily rainfall at the stations of the Weather Bureau, April, 1920—Continued.

Station.	Day of month.														Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Tuburan, Cebu					0.3			3.1	6.1	0.8					15.4
Silay, Occidental Negros								3.8							38.1
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros †								.3	4.1						28.4
Cuyo, Palawan	0.5										18.5			16.8	64.6
Lucena, Santa Barbara, Iloilo †					3.3										3.3
Hacienda Ilaya, Victorias, Occidental Negros					6.9			9.4							23.4
Hacienda Bilbao, Manapla, Occidental Negros			1.8		52			39.4							98
Cadiz, Occidental Negros					9.1		1.8	13.2	2.8	18.3					47.7
Ormoc, Leyte	1.3				1.8	0.5	.8	19.3		5.6					61.3
Guiuan, Samar	7.6	3			4.6	2.8	1.1	86.1	.5	2	.5	15.2		3	191.2
Bogo, Cebu	3.8			0.8			1.5	6.1		4.3					19.5
Dueñas, Iloilo †													14.7	3.8	64.2
Bitaoagan, Passi, Iloilo †									4.8						56.3
Tacloban, Leyte	8.4			1.8	3.3	2		47.3		2		2.8			99.9
Dumarao, Capiz †	5.1						1.3	*	*	2.5	*	*	*	*	26.7
Dao, Capiz †					19.6			*	*	*	*	*	*	*	*33.5
Capiz, Capiz							29.5	3.3	.3	.5		.3			35.7
Borongon, Samar	4.8	.5	1	1.3	3.8	.8	14.2	57.4		9.1	1.3	8.2			285.7
Catbalogan, Samar					1.3		11.2	10.6		4.1		1		3.3	61.7
Calbayog, Samar		1.8			12.2	6.4	.6	34.3		12.7		31.7	2.3		112.1
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †															4
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †														18.3	28.2
San Jose Estate, San Agustin, San Jose, Mindoro †															0
San Jose Estate, San Jose, Mindoro †															2.3
Maabate, Sorsogon							1.3	.5							12.2
San Jose Estate, Tunnel D-12, San Jose, Mindoro †													21.6	10.2	41.4
Romblon, Romblon								3.8				3.8			15
Batag Lighthouse, Laoang, Samar	5.6	1.3			10.7		9.9	23		3		2.6			65.2
Irosin, Sorsogon	.5			7.1	8.7	2.3	8.9	13.5		.3		6.6			75.4
Sorsogon, Sorsogon	2.5			6.1	10.2		15	4.8				8.4			100
Legaspi, Albay, Albay					17.8		12.7	5.9				46			84.4
Sumay, Guam, Ladrone Islands				2.5	5.8							.5	.3	5.8	85.4
Calapan, Mindoro			40.6	.3				.5		53.6		8.1			115.6
Virac, Albay					1.5		7.6	11.4		1.8		13.7			39.5
Naga, Camarines Sur			4.1				4.1					21.3	11.4		45.3
Tigaon, Camarines Sur						1	3.3			2.5		39.3			106.3
Batangas, Batangas								19.8							55.4
Calatagan, Batangas															0
Balayán, Batangas															23.4
Lipa, Batangas									1.3					1.5	32.3
Lucena, Tayabas								1.8							32.8
Atimonan, Tayabas							7.6					2			15.6
Lian, Batangas								3.5							91.9
Nasugbu, Batangas															33
Ambulong, Tanauan, Batangas														13.5	20.4
Mendez Nuñez, Cavite														1.3	80.2
Alfonso, Cavite											1.3			39.9	67.6
Indang, Cavite														7.6	84.3
Canlubán, Calamba, Laguna										.3				5.3	15.8
Silang, Cavite														1.3	10.9
Maragondon, Cavite														11.4	12.4
Paracale, Camarines Norte				.3			3.8	1.8		6.6		18.2			81.5
Santa Cruz, Laguna						.8	.8	9.4						5.3	18.1
Buenavista, Malabon, Cavite														21.9	26.7
Imus, Cavite															5.8
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †								5.1							5.6
Manila, Manila							1.3								10.5
Antipolo, Rizal							2.5	.3						1.5	67.6
Bosoboso, Antipolo, Rizal †														15.7	29.1
Balanga, Bataan															2.6
Montalban, Rizal †								2.5						.8	11.7
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †								2							25.1
Mabayuan Dam, Olongapo, Zambales †															0
Pampanga Sugar Mills, Del Carmen, Pampanga †							1.3								47.8
San Isidro, Nueva Ecija							.8						3.8		32.1
Iba, Zambales								8.9							13.8
Tarlac, Tarlac								.8			6.6				22.2
Muñoz Agricultural School, Muñoz, Nueva Ecija †															0
Baler, Tayabas				.3			49.5	.8				12.4	.3		291.1
Dagupan, Pangasinan							.5			2.3	3.6	20.8			48.8
Bolinao, Pangasinan															25.4
Baguio, Mountain Province								5.3	.4	48	19.9	17.3			131
San Fernando, La Union															8.4
Sagada, Mountain Province †	4.6	12.2			21.3		38.1	6.9	20.6	7.6	.8	3			135.6
Bontoc, Mountain Province †							38.6	17.8	5.8	17.3	15.5		6.4		101.4
Candon, Ilocos Sur															0
Vigan, Ilocos Sur															0
Tuguegarao, Cagayan								7.6	3.8	10	1	1.5			30.8
Laosg, Ilocos Norte															20.3
Aparrí, Cagayan										9.8	29.3	1.3			207.8
Cape Bojeador, Burgos, Ilocos Norte															24.1
Basco, Batanes						6.6	5		6.1	.3	2.8	6.6	.5		116.4

† Voluntary or cooperative station.

* No observation.

° 21 days of observation.

MAXIMUM AND MINIMUM TEMPERATURES AT THE STATIONS OF THE WEATHER BUREAU, APRIL, 1920.

Day.	Jolo.		Lais, Malita.		Lamitan, Isabela, Zamboanga.		Malamaui, Isabela, Zamboanga.		Zamboanga.		Davao.		Pikit.		Cotabato.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	29.6	22.9	32.5	23	32.9	23.2	31.4	23.5	28.7	24.1	29.7	22.6	32.6	23.67	34	23
2	29.6	23	32.7	23	31.5	22.5	31.9	23.9	29.5	24	32.3	22.4	34.9	22.1	33	23
3	30.3	22.1	33.2	21	32.5	21.9	31	23.5	28.3	23.2	33.2	22.4	35.2	21.3	34	22.5
4	30.3	22.7	31.5	23.5	33.1	21.5	29.6	24.1	31.3	23.5	32.7	23.4	32.3	23.3	34.1	23.5
5	29.8	22.4	32.5	23.2	33	22.5	31.5	23.4	28	23.1	32.2	23.57	34.4	23.3	33.1	23.5
6	29.8	23.1	32.6	23.2	30.9	23.2	32.5	22.1	27.8	23.7	33.3	23.4	32.9	21.9	31.3	22.1
7	29.1	23.2	33.6	22.5	31.7	19.6	30.6	20.4	28.5	22.3	32.3	22.5	33.8	22	31.6	22.3
8	30.5	21.6	31.4	23.3	32.4	18.4	32.4	23.4	27.8	22.3	31.8	23.9	34.1	23.4	32.1	23.5
9	31	21.3	30.8	23.2	31.5	22.5	31.6	23.5	27.9	21.1	31.2	23	33.6	24.1	30.5	24
10	30.1	21.6	32	23	32.1	21.8	31.1	22.6	27.5	21.4	32.2	22.9	33.47	22.5	31.2	22
11	30.5	22	32	23.5	33.1	21.5	31.6	23	28.2	21.4	31.7	22.7	34.7	22.1	31.6	21.1
12	30.5	21.9	32.6	23	32.5	20.6	33.2	23	31	22.8	31.7	24.2	34.7	24.2	31.9	23.5
13	31.8	22.4	32.7	22.5	32	21.7	31.5	23.2	28.2	23.8	31.7	23.5	35.1	24.7	32.3	24
14	29.2	22.6	33.7	22	33.5	21.6	31	23.4	28.9	23.5	32.7	24	35.3	23.8	33.5	23.5
15	30.3	22.4	33.6	23.5	32.5	22.2	33.1	23.9	33.1	23.4	32.7	22.9	35.2	23.5	33.9	23.5
16	30.6	22.3	32.5	22.7	33.4	21.7	32.6	23.1	28.5	22	32.5	23.3	35.1	23.4	31	23.6
17	31.6	22.2	35.5	23.3	31.5	20.9	32	21.7	31.2	21.8	31.7	23	34.4	22.6	33.1	23.5
18	31	23	34	23.5	32.5	21.5	31.7	23.6	32.9	24	32.2	22.6	33.3	22.3	33.5	23.1
19	29.9	23.9	33.9	23	32.5	21.9	33.6	23.7	32.2	24	33.2	22.2	35.1	22.6	34.4	23.2
20	29.2	22.8	28.7	23.7	30.2	23.7	31.4	24	28.8	23.7	31.3	23.4	34.4	23.8	34.5	24.1
21	31.7	22.6	32.7	22.7	32.3	22.6	33.3	23	28.8	24.5	30.7	23	35	22	34.5	23.4
22	30.8	24	33.4	23	32.4	21.5	33.6	23.9	30	24.5	30.2	22.5	31.7	21.6	31.5	23
23	30.8	23.9	32	22.8	32.2	21.6	32.6	24.1	32.2	23.5	32.7	22.4	35	22.5	30.4	23.3
24	30.5	22.6	32.1	23	31.5	21.5	33.5	24.6	28.7	23.7	31.9	22.8	35.1	22.5	32.1	22.6
25	28.8	23.9	31	23.2	32.7	20.2	32.4	22.8	32.5	23.9	29.7	23.4	31	24.47	28.8	23
26	30.3	23.3	30	23	32.4	21.5	30.6	23.1	28.2	23.9	31.2	23	34.1	31.1	22.5	23.5
27	30.5	23.3	33	22.7	32.2	21.9	32.5	24	30.5	23.9	32.7	23	33.8	22.5	31.5	23.1
28	31.2	23.6	33.7	23.3	32.5	21.6	33.2	24.3	29.2	23.9	32.7	23.5	34.9	34.5	22.8	23.8
29	29.8	24.3	33.3	23	31.5	23.2	31.1	24.6	28.8	24.6	33.3	23.4	36.2	24.4	30.5	23.9
30	30.1	23.2	28.5	24	30.5	22.4	30	24.1	28	24.4	33.5	23.4	34.5	22.5	31	24.5
Mean	30.3	22.8	32.4	23	32.2	21.7	31.9	23.4	29.5	23.3	32	23.1	34.2	23	32.4	23.2

Day.	Naganaga, Margosatubig.		Cateel.		Camp Kalao, Monkayo.		Mailag, Malaybalay.		Camp Keithley, Dansalan.		Veruela.		Sumilau.		Cagayan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	34.5	21.2	27	23.7	26	23	26	19.3	26.8	19.1	34.5	23	29.3	18.9	32.1	22
2	33.5	20.2	30.6	21.5	32.1	22	32.3	17	27.3	19	31.9	21.2	30.1	16.5	32	22.3
3	34.7	22.2	30	22.2	28.1	21	34.3	18.3	27	18	27.2	22.6	25.1	18	31.8	22.1
4	34.2	21.5	27.2	23.2	29.1	21.1	32.4	21.3	26.3	19.5	28.8	22.8	28.3	20	32	21.8
5	33.5	22	31	23	31	22.1	32.5	20.3	27.4	19	29.8	22.7	30.6	20	32.8	22.2
6	33.2	22.5	31.5	22.3	33	22	33.4	20.2	27.7	18.5	32.5	22.8	29.3	17.7	32.9	22
7	33.7	23.2	30.8	23.3	31.7	21	34.7	16.4	27.7	15.6	31.2	22.6	30.1	16.1	31.2	23
8	34	22.5	30.6	23	34.1	21	34.5	20.2	28.8	18	32.3	22.3	30.4	19.6	31.8	23
9	35	23.1	30.5	22.5	34	23	34.3	19.3	28.4	17.6	33	22.8	30.4	17.5	32.2	20.2
10	33	20.5	30.2	22.5	34	22.1	34.3	19.2	27.5	18.1	33.4	23.2	29.4	17.8	31.9	20.2
11	34	21	31	22.6	34	22	33.3	18.2	28.8	17.6	33.4	23.2	30.4	18.4	32	20.8
12	33.5	21.2	30.7	23.3	33	22	33.3	19	28.3	18.9	32.7	23.3	30.5	19	32.8	20.3
13	34.3	22.5	31.2	22.5	33	22	34.4	19	28.7	18.7	32.8	22.6	30.6	17.7	32.2	20.2
14	34.5	22.2	31	22.5	33.1	22.1	33.1	20	28.5	19.4	32.6	22.2	30.7	18.7	32.4	21.2
15	35.5	23.7	23	23	33	21	34.4	20.2	27.8	17.7	30.8	21.7	30.7	19.6	32	21.8
16	34.7	24.2	30.87	23	32.1	21	18.8	27.9	17.5	31.2	22.2	30.6	19	32.3	21.8	
17	33.5	22.7	31	23.4	33.1	21	34.2	20	28.3	18.6	31	23.2	29.1	20.7	32.2	21.2
18	34.2	22.5	30	22.8	29.1	22.1	30.9	19.4	27.7	18	30.2	22.8	30.3	20.2	32.2	20.3
19	34	23.2	31	23	32.1	22.1	32.2	17.2	27.8	17.1	31.3	22.7	31	20.3	33	20.2
20	34.2	22.7	30.6	24	33	22.1	33.6	19.6	27.7	17.5	32.7	23	30.4	20.7	32	21.2
21	34.5	22.2	30	23	34	22	33	19.6	27.9	18.6	31.8	22.5	31	19.7	32	22.2
22	33.5	22.2	30.7	23.2	33	22	19.3	26.3	17	30	23.2	29.5	20.7	32.9	21.8	21.8
23	33.7	22.5	31	23.9	34	21.1	33.4	15.17	27.8	17.5	31.2	23.2	31	21.2	32	21.8
24	34.7	22.3	31.3	24	31	22.1	33.4	17.5	27.9	17.7	28.2	27.8	18.7	31.2	22.2	22.2
25	34.5	21.5	30.8	24.5	31	22.1	29.7	20.6	24.1	17.5	29.7	24	26.4	19.2	30.9	21.2
26	34	22.2	31	23.6	32.1	21.1	29.2	19.1	27.3	17.1	30.4	23.3	30.1	18.1	31.2	22.8
27	34.2	23.2	31.4	22.6	33.1	21.1	31.3	17.2	27.4	18.1	32.3	23.2	30.7	17.5	31.4	23
28	34.4	22.7	31.5	21	34	21.1	33.3	19.9	28.9	18.6	33	22.4	30.4	18.3	31.9	22
29	34	23.2	29.9	24	31	22	33.8	19.3	28.4	19.5	29.8	24.2	31.4	19.3	32	21.9
30	33.2	24.4	30	24	30.5	23	30.1	19.2	28.8	19	29.2	23.5	31.5	18.9	30.5	21.2
Mean	34.1	22.4	30.5	23	32.1	21.8	32.9	19	27.7	18.1	31.3	22.8	29.9	18.9	32	21.6

Maximum and minimum temperatures at the stations of the Weather Bureau, April, 1920—Ctd.

Day.	Butuan.		Mambajao.		Dumaguete.		Meeth, Yap.		Tagbilaran.		Iwahig Penal Colony, Puerto Princesa.		Dalaguete.		Surigao.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	29.6	23	29	24.6			30.5	25.3	30.1	22.2	30.7	24.2	29.5	24	28.4	23.4
2	33.6	21.4	29.4	23.6			30.4	25	30.4	21.5	31.4	21.9	30.5	23.9	30.1	23.5
3	26.4	23.2	25.8	23.6	28.4		30.7	24.8	29.2	23.8	32.2	21.8	28	24	29.5	23.7
4	31.4	22.2	30.4	22.9	30.7	22.6	29.8	26.1	30.7	22.8	32	22.2	30	24.6	29.2	22.4
5	31.4	21.8	29.9	23.4	31.3	24.7	29.7	26.5	31.7	22.5	31.5	22.1	30.5	23.5	29.2	23.8
6	32.1	21.4	30.5	24.8	30.7	23.9	30.5	25.1	30.6	21.6	32.8	20.4	31.4	22	29	22.5
7	33.4	22.3	29.6	23.8	31.1	22.5	29.8	23.7	30.4	22	32.8	21.5	31.4	23	30.3	23.7
8	32.7	23.4	30.9	24	31.6	22.4	30.5	25.6	31.2	23.4	33.1	20.5	31	23.4	30.7	24
9	32.6	22.8	30.5	22.6	31.7	23.1	30.2	25.5	32.3	23.3	32.6	20.4	31.2	21.1?	31.5	23.5
10	32.6	22.4	32.4	21.4	31.3	22.3	31.5	24.7	31.7	22.7	33.7	21.1	31	23	31.2	23.2
11	34.6	21.9	30.9	20.3	31.8	23.5	31.8	24.7	31	23.1	33.9	21.3	31.2	22.5	31.4	22.4
12	34.9	22.7	30.5	22.9	31.8	24	31.3	23.6	31.6	23	33.5	20.1	32.3	22.8	31.4	23.4
13	33.4	23	31	24.7	31.4	24.5	31.5	23.7	32.2	23	34	21.5	31.7	24.8	31.4	24.8
14	34.4	23.1	30.8	25.3	31.7	24.2	31.7	24.5	31.9	22.6	31.6	23.4	32	24	31.3	23.5
15	34.2	23.3	31.7	25.8	32.2	24.5	31.4	26.7	32.5	22.3	32.2	23.3	32.6	22.7	31.4	23.6
16	33	22.5	29.9	25.7	32.5	24.7	31.7	25.7	33.3	22.9	33.4	22	31.7	23	29.9	23.7
17	31.1	23.3	29.9	25.3	32.6	25.5	31.7	26.2	31.5	23.6	32.2	21.9	31	25	23.1	24.3
18	34.7	22.3	30.8	24.5	32.6	24.6	31.8	26.4	31.9	22.2	32.4	23.4	31.6	25	31.3	24.6
19	33.9	22.2	30.4	25	32.4	24.3	31.1	26.4	32.6	21.8	33	21.5	31.2	24.3	30.9	23.3
20	33.3	22.4	31.3	24.9	32.4	25.6	31.4	27.3	31.3	22.9	33	21.5	31	24.5	29.7	24.2
21	34.6	23.3	30.3	25.3	32.2	26	31.3	27	31.6	23.1	33.5	21.7	31.5	24.5	30.4	24
22	33.3	22.8	29.4	25.7	31.6	26.3	30.8	24.6	31.9	22.9	30.7	21.5	31.1	24.1	30.3	24.4
23	33.1	22.8	30.7	23.9	32.3	26.9	30.7	27.2	31.4	23.2	32	23	31.7	25.3	30	24.1
24	27.1	22.7	27.6	23.8	32.6	26.7	31.7	27.1	30.4	23.1	32.8	21.5	31.5	25.5	26.8	23.7
25	29.6	22.7	30.8	24.6	31.4	25.2	31.7	25	31.1	22.7	33.1	21.5	31.2	24.5	29.4	24
26	31.1	22.9	29.4	24.4	31.3	25.7	30.7	25	31.2	21.7	33.2	22.2	31.5	24.3	28.7	23.6
27	34.2	21.7	30	23.5	32.1	25	31	26.3	31.4	22	33.2	24	31	25	30.6	23.3
28	34.4	22.4	30.3	24.3	32.6	24.5	30.9	27.2	31.8	22.4	33.8	22.9	32	23.4	30.9	24.4
29	30.6	23.9	31.3	24.4	32	25.3	31.4	25.6	30.7	23.8	33.8	20.1	33.3	21.5	30.2	24.2
30	35.1	22.9	30.5	24.9	31.8	25.5	30.9	25.7	31.7	22.5	33.9	21.7	32.1	25	30.9	23.7
Mean	32.5	22.6	30.2	24.1	31.7	24.6	31	25.6	31.4	22.7	32.4	21.9	31.3	23.8	30.1	23.7

Day.	Hacienda Naval, Hima-maylan.		Biaong Cui's Farm, Barili.		Maasin, Leyte.		Isabela, Occ. Negros.		Hacienda Tanolo, Hini-garan.		Cebu.		La Castellana.		Central Azucarera de La Carlota.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.8	22.7	27.6	23.5	31.7	22	33.8	22.6	32	23.6	30.8	24.9	34	21.9	32.4	21.3
2	31.6	21	30	22.5	32	21.7	34.7	21	33.6	22.3	31.3	24.4	34.4	20.3	33.7	20.3
3	28.9	23.6	30.6	22.5	28.2	21.6	31.3	22.2	29.1	23.2	29.3	24.9	33.3	22.5	31.9	22.7
4	34.4	24.8	30.8	23.2	31	22	33.6	23.2	33.7	23.1	29.4	24.6	34.4	22.7	34.9	21.8
5	34	23	31.8	23.4	32	22.1	35.1	24.4	32.8	23.3	30.6	25.2	35.7	22	34.9	21
6	35	23.1	32.8	23.5	32.4	22	35.1	21.2	34.4	21.5	30.8	24.9	35.5	21.4	34.4	20.7
7	33.5	20	34.5	22.8	34	21.8	34.3	20.1	32.2	20.2	31	24.4	35.1	21.3	33.9	19.6
8	32.5	19.5	34.2	24.6	32.6	23.2	35	20.7	31.7	22.8	31.3	25.4	35.2	22.2	33.7	21.9
9	32.1	20.8	33.7	23.4	33	21	33.6	20	31.1	20.3	31.5	24.9	35	20.8	32.7	20.5
10	32.2	21.8	33.8	23.2	33	23	33.2	20.7	31.3	20.9	31.3	24.9	35.2	21.3	33.4	21.4
11	35	20.8	31.8	23.2	34	22.1	34.2	21.1	31.6	21.8	32.9	25.4	35	21.9	33.9	22.3
12	29.3	22.6	32.9	24.2	33.5	23.5	33.6	21.9	33.7	22.4	32.9	26	35.9	22	33.9	22.3
13	33	23.2	32.4	23.2	34	23	33.8	22.3	33.2	23	32.5	26	36.7	21.9	34.4	23.3
14	33.2	23	32.3	24.8	33.1	22.6	33.3	22.9	33.4	23.3	31.3	26.1	35	22.9	32.9	24
15	34.4	23.4	33.1	24.6	34	23	33.8	22.7	33.9	22.2	30.9	26.4	35.5	22	34.6	21.5
16	34.5	22.2	32.4	24.5	34.4	22.8	35.1	22.7	34.5	22.3	31.8	25.7	36.3	20.9	34.7	20.5
17	35.2	22.6	31.8	23.2	29.8	22.6	33.7	22.4	33.9	22.6	30.4	25.2	35.8	22.4	36.2	21.5
18	35.3	24.8	32.5	23.6	33.4	22.5	33.9	24.7	35.6	23.2	31.3	25.6	36	22.6	34.7	21.4
19	36.2	24.5	32.3	23.6	34	22.6	34.8	24.6	35.6	23.2	31.9	25.6	36.1	22.2	35.9	20.2
20	35.7	22.7	31.2	24.1	33.3	23.4	35.1	24.7	35.5	23.3	32.7	25.4	36.3	22.4	34.9	20.5
21	35.6	24.2	32	23.8	33.4	23.2	35.7	27	34.5	24.9	31.6	26.4	36.8	23.7	34.6	22.5
22	35.4	23.4	32.1	24	32.4	23	34.1	24	35.5	23.8	31.2	26	35.9	23.3	34.7	22.7
23	35	24.9		23.8	33.2	23.6	34.2	24.3	33.9	24.8	31.4	26.5	35.4	24.3	35.6	22.7
24	35.8	24.5	32	23.9	30.6	22.5	35.1	25.6	34	23.8	30.3	24.6	36	24	34.4	21.4
25	31.5	23.8	31.2?	24.2	33	23.6	34.1	22.6	34.9	23.6	31.1	25.1	37	22.5	34.5	21.9
26	34.4	21.9	32.8	23.1	33.2	22.6	34.7	22.3	33.9	22.5	30.8	25.3	36.3	23.2	33.7	21.3
27	33.9	24.2	33.1	23.9	33.2	22.6	35.2	25	35.7	25.1	32.4	25.1	36.5?	25.4	34.6	21.1
28	33.9	22.2	32.8	24.2	33.5	22.7	34.3	23.7	33.9	22.5	31.5	25.6	36.7	21.7	33.7	21.7
29	35.5	23.2	31.9	24.2	34	23.8	36	23.7	36	23.5	31.8	26.4	37.5	24	35.1	23.3
30	35.5	23.6	33.4	22.9	33.7	23.1	34.6	23.9	32.6	24	32.8	26	37.4	23.7	33.9	23.7
Mean	33.9	22.9	32.2	23.7	33.1	22.6	34.3	22.9	33.6	22.9	31.4	25.4	35.7	22.4	34.2	21.7

Maximum and minimum temperatures at the stations of the Weather Bureau, April, 1920—Ctd.

Day.	Hacienda Canlaon, La Castellana.		Mao Sugar Central, Bago.		Valladolid.		Murcia.		Concepcion, Talisay, Occ. Negros.		Iloilo.		San Jose de Buenavista.		Tuburan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32	19.9	34	21.2	33.2	21.2	32.1	22.3	30	22.4	31.5	24.4	34.6	23	31.8	23
2	32.7	19	34.2	21.5	34.4	22.3	32	20.3	31	22	32.2	23.8	33.1	21.6	31.2	22.5
3	31.6	20.8	34.2	23.3	36.2	21.4	32.6	22.3	30.5	23	32	24.9	32.7	21.3	31.1	24.2
4	33.5	21	35.4	21.2	35.2	22.1	34.5	22.8	32	23.4	31.7	24.6	33.7	22	32.2	22.8
5	33.7	19.6	34.5	20.1	35.5	22.4	35.5	22.3	33		32.3	24.5	34	22.2	31.9	22.1
6	32.7	18.9	34.2		36.1	22.2	32.4	20.6	33.8	20.4	31.6	23.5	32.7	22	32.1	22.4
7	32.9	18.5	34.8	19	35.2	21.1	32.9	20.5	32	19.8	33.8	22.6	32.8	21.4	33.2	22.6
8	33.2	20	35.3	21.6	35.2		33.6	20.3	34.2	22	33	23.3	32.7	22.2	33.4	23.3
9	31.9	19.5	34	20.5	32	22.1	33.3	20.7	35.7	21.2	31.4	23.6	32.4	22	33.4	22.4
10	32	20.2	34.4	22	32.5	22.2	33.1	21.3	34.5	23	30.9	23.2	32.8	22.6	33.6	22.8
11	32.1	19.9	35	21.5	34	22.4	33	22.3	34	22	31.4	24.2	33.7	23	34.9	23.4
12	32.6	20.5	34.7	21.5	36.6	22.6	32.9	21.3	34.3	22.4	33.8	24.4	33.7	23.5	34	23.5
13	32.8	20.9	35	22.5	37.4	23.2	32.4	22.8	32	22.4	33.8	24.4	33.7	23.5	34.6	23.6
14	31.7	21.8	33.1	22	35.8	22.2	33	22.3	32.6	22.6	32.9	24.6	32.7	23	34.3	23.4
15	33.5?	20.2	35.4	21.2	36.2		34.1	22.3	32.8	22	32.5	24.8	33.2	22	34	23.4
16	33.4	19.6	34.8	20.5	37.5	21.5	33.6	21.3	32.5	21.6	32.4	24.6	34	21.8	34.3	23
17	33.7?	20.6	35.5	21.5	31.6	24.5	35.2	22.6	31.8	22.4	33.5	25.4	34.4	22.8	34.1	23.4
18	34	20.4	36	21.5	35.6	23.4	35.5	22	33	21.4	33	25	35	22.6	34.9	22.8
19	34.2	20.1	37	20.6	36	21.7	36.5	22.5	34	21.9	32.9	25	34.7	21.5	34.9	22.4
20	34.3	20.4	36.4	20.4	34.2?	22.2	36.7	21.4	34.4	20	32.8	24.8	34.3	21.2	33.5	22.2
21	33.5	21.3	35.5	23	34.2	21.1	35	22.7	34.4	22.4	33.2	25.6	34.7	23	34.2	23.8
22	34.5	21.2	36.8	22	36.4	21.2	36.1	23.8	33.5	22.9	33	25.2	37.8	23.8	34.8	22.8
23	35.7	21.4	36.5	22.5	35	21.4	36.9	22.2	34.5	23	32.4	25.5	35	22.3	34.8	24.7
24	34.5	20.4	35.5	21.2	36.5	22	36.1	22.8	34.4	21.9	32.3	24.8	34.4	22.9	29.5	23.5
25	34.4	19.9	36.1	22.2	33	23.8	35.6	22.3	33	21.4	32.3	24.4	34.2	22.4	31.6	22.8
26	34.6	20.3	35.2	20.6	36.4	21.5	35.7	21.8	33	21.4	33.5	24.4	33.7	22.4	31.3	21.9
27	35.3	21.1	35.7	23.1	34.8	24.4	37.1	22.8	34.1	23.4	33.4	25.8	34	24.4	33	22.2
28	35.6	20.6	35.5	21.3	35.7	22.2	34.5	22.3	35.2	22.9	33.4	25.5	33.1	23	32.7	22.8
29	34.4	21.5	35.8	23	37	25	34.8	22.7	33.5	23	34.7	26.1	34.5	23.8	34.2	23.8
30	34.3	21.2	34.5	23	36.1	24	34.2	22.8	34	23.4	34.2	25.5	34	24.3	33.9	23.4
Mean	33.5	20.4	35.2	21.6	35.2	22.4	34.4	22	33.3	22.1	32.7	24.6	33.9	22.6	33.2	23

Day.	Cuyo.		Hacienda Ilaya, Victorias.		Hacienda Bilbao, Manapla.		Cadiz.		Ormoc.		Guiuan.		Tacloban.		Capiz.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.9	25.6	30	23	29.6	21.7	30	24	32.2	23.6	30.7	22.3	31.8	23.5	32.8	25
2	31.2	25.7	30	23.5	30.7	22.2	30.6	24.1	32.3	22.8	31.2	24	30	23.7	32.8	24.9
3	31.7	26.7	30	23.2	31.4	22.6	30.7	25.8	31.8	23.9	31.8	23.3	29.2	23.5	33.3	25.5
4	31.5	25.9	30.2	23.5	30.8	21.9	31	24.2	31.5	22.6	32	24.1	31.7	22.9	33.3	25
5	32.2	25.8	31	23.5	30.6	22.5	30.7	23.2	32.5	21.4	32.1	24.8	32.3	22.7	33.3	24.5
6	31.7	24.1	30.4	23.6	31.7	21.9	30.8	22.5	32.9	18.4	31.9	22.2	32.9	22.2	32.8	23.5
7	32	25.5	30	23.2	30.5	22	31.1	22.8	32.4	18.7	32.4	24.1	31.5	23.3	33.3	22.5
8	33	23.1	30.6	22.8	31.9	22.7	32	23	32.4	21.9	32.3	22.7	31.5	23.5	33.9	23.2
9	32.7	23.9	31.6	22.6	32.2	21.9	32.3	22.4	32.5	21.8	32.5	22.4	31.8	22.5	33.8	23
10	33	23.2	32	22.2	32.7	22.2	32.1	21.9	32.8	21.6	31	22.3	32.6	22.5	34	23.9
11	33	24.3	32.5	22.8	33.4	22.5	32.2	22.4	33.3	21.8	31.5	23.1	32.7	23.4	34.3	23.4
12	32.7	25.4	31.2	22.5	32.8	21.9	32.3	22.4	33.5	22.4	32.1	23.2	32.6	24	33.8	24
13	31.4	26	33.7	23	31.7	22.1	32.2	23.6	33.9	23.4	32.8	22.7	32	24	34.6	24
14	32.1	25.3	32.4	22.2	31.8	21.9	32.3	23.6	33.9	22.5	32	22.9	32.8	23.1	34.4	24.5
15	33.8	25	32	23	30.7	22.3	32	24.5	33.8	22.3	31.8	24.2	32.9	23.7	33.9	25.1
16	32	26	31.6	23.8	30.1	21.8	31.9	25.1	34.4	21.2	32.2	23.4	34.6	23	33.9	25.1
17	31.9	26.8	32.2	23.6	31.6	22.3	31.8	26.2	34.4	21.8	32	23.6	30.1	23.4	34.3	26.1
18	32.6	26.1	31.8	22.8	33.7	21.9	31.7	23.6	33.7	21.4	32.6	25.3	33	23	34.2	26
19	32.4	25.8	32	23	33.4	22.7	32.3	22.3	34.2	21.8	32.2	24	32.4	22.8	33.9	25.1
20	31.8	26.2	32.5	23.8	32.4	21.5	32.7	23	34.6	21.8	32.6	25.5	34.3	23.5	34	24.6
21	31.7	27.4	33	23.4	32.6	21.8	32	25.5	33.2	22.7	33.4	24.7	33.6	23.5	34	26
22	32.7	27.1	33	24.5	33.4	22	31.8	24.6	34.2	22.7	32.8	24	32.8	23.5	34.3	26.4
23	35	26.6	30.4	24	32.8	22.6	31.8	24.5	34	22.9	32.7	25.2	34	24.1	34.7	24.5
24	32.2	26.5	30.7	24	29.6	22.2	31.2	24.1	32.7	23	28	24.3	29.4	23	33.1	24.5
25	32.7	25.7	31.5	23.8	30.4	21.9	31.8	23.5	32.6	22.6	31.9	22.4	32	23.4	32.8	24.6
26	32.8	25.6	31.2	23.5	29.7	22.2	31.7	23.2	32.8	21.7	32.8	23.3	33.6	23.2	33.9	25.4
27	32.4	24.8	31.7	23.8	32.8	22.7	31.7	23.5	33.7	21.4	32.9	22.9	33.8	22.5	33.8	24.7
28	32.5	25.3	32	24	33.9	22.8	31.7	23.5	33.6	22.2	32	25.1	31.5	24.2	33.8	24.6
29	33.4	26.5	32.3	24.2	34.2	21.9	31.8	24.3	34.3	23.3	33	23.5	32.6	23.2	34.3	26
30	30.5	25.9	32.5	24.4	34.5	22.7	32.3	24.6	34	21	33.5	22.8	32.4	22.2	34.4	24.7
Mean	32.2	25.6	31.5	23.4	31.9	22.2	31.7	23.7	33.3	22.1	32.1	23.6	32.3	23.2	33.8	24.7

Maximum and minimum temperatures at the stations of the Weather Bureau, April, 1920—Ctd.

Day.	Borongan.		Catbalogan.		Calbayog.		Masbate.		Batag Light-house, Laoang.		Sorsogon.		Legaspi, Albay.		Sumay, Guam.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31	25.3	32.3	21	32.8	21.3	31.4	22.6	30.6	23.8	30.7	23	32.1	25	27	24.6
2	30	23.4	30.4	21.5	30.1	23.3	29	24	29.6	23.9	31.1	23.5	31.7	25.3	28.6	24.6
3	29.8	25.7	31.9	23.9	33.3	24	31.2	24.8	30.3	24.8	31.5	23.7	32	26	28.8	24.2
4	30.9	25.8	31.7	23.1	31.2	22.7	31.4	24.8	30.8	24.9	31.8	23.4	32.6	25.5	30.4	24.8
5	31	22.8	31.8	20.6	30.6	21.4	31.2	24.5	31.2	24.3	31.9	22.9	32.8	25.4	29.6	24.27
6	31.4	21.6	31.3	20.3	34.7	21.1	31.8	23	30.5	23	32.1	20.9	32.3	21	29.6	24
7	30.9	23.5	31.5	21.5	33	22.5	31.8	23.2	30.6	24	32.4	22.5	32.3	23.8	30	23.4
8	30.6	22.6	31.8	22.5	34.2	22.7	32.6	24	31.3	24	33.2	21.4	32.8	23	30.2	24.8
9	31.3	22.1	31.5	21.1	32.4	22.2	31	23.5	32.7	23	31.5	22	32.3	23.4	30.4	23.2
10	31.6	22.5	31.7	20.9	32.5	23.2	31.8	23.6	32.3	22.3	30.5	21.8	33.3	22.5	29.6	24
11	31.2	23	32.3	20.4	33.2	23.5	31.8	24.5	31.6	23.5	32.2	23	32.7	25.4	30.2	23.6
12	31.1	23.6	32.8	20.5	33.8	22.4	32.4	25	31.4	23.6	31.7	23.5	33.1	26.3	30.4	23.6
13	31.6	22.4	32.3	22	33.8	22.2	31.8	25	31.5	24.3	32	23	32.8	26.7	30.4	23.8
14	31.7	22.2	32.4	22.6	33.6	22.8	32	25.6	31.7	24.7	32.1	23.5	32.8	26.9	29.6	23.8
15	31.5	22.2	32.5	21.5	33.2	22	31.8	25.6	31.7	24.8	32	23	32.8	26.2	30	24.8
16	31.6	22.5	32.3	21.1	34	22.2	31.8	25.6	31.7	24	32	22.3	32.8	25	30.4	23
17	31.9	25.8	32.5	21.4	34.6	22.5	32.4	24.5	32	24.2	31.9	22.1	32.7	25.7	30.4	24.8
18	31.7	23.9	33.2	21.7	32.6	22.4	33	25.2	31.9	24.8	31.9	22	33.1	25.9	30.2	24
19	31.6	23.3	33.5	20.7	33.2	22.2	33.2	25.2	31.4	24.5	32.4	23.9	32.5	25.4	31	24.4
20	32.1	24.2	33.6	21.5	33.4	22.4	32.8	25	31.6	24.2	30.5	23.5	32.3	25.5	30.4	25
21	32	25.1	31	24.4	32.1	23.4	32.6	25.4	31.8	25.2	31.5	23	32.8	26	30.4	24.8
22	31.6	23.5	33.5	22.6	34.6	22.9	32.8	25.5	30.9	24.2	32	22.5	32.2	24.9	30.4	24.8
23	32.1	25.5	33.8	22	32.3	23.4	32.8	25.2	31.5	24	30.9	24.4	32.1	26.1	30.6	24.8
24	32.1	23.7	30.2	23.2	29.6	23.1	31.6	25	27.2	24.5	28.7	23.6	29.9	24.1	31	25
25	31.6	25.8	33.8	23.5	32.4	23.2	32.8	25	30.6	23.4	32.4	23.8	32.2	26.4	31	25
26	31.1	22.7	30.5	21.6	32	21.5	33.2	24.6	30.4	23.8	32.2	21.9	32.8	24.3	31.2	25
27	31.6	22.8	33.3	21.7	32.5	23.3	33	25.2	30.7	24.4	32.5	23.7	32.9	25	31.8	24.8
28	31.1	25.2	31.2	22.8	30.6	22.2	33.4	25.2	29.9	25.1	31.2	23	31.3	25.6	31	25.2
29	32	23.9	33.8	22.5	32.7	22.4	33.2	25.6	31	24.3	32.5	23.2	32.5	25.5	27.57	25
30	32	22.8	33.9	22	32.1	21.6	32.4	24.8	31.3	24	33.2	22	32.7	25.8	31	25
Mean	31.3	23.6	32.3	21.9	32.7	22.5	32.1	24.7	31.1	24.1	31.8	22.9	32.4	25.1	30.1	24.4

Day.	Calapan.		Virac.		Naga, Camarines Sur.		Batangas.		Balayan.		Lipa.		Lucena.		Atimonan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32	23	30.2	20.6	33.5	17.2	35	22.7	32.8	22	33.5	19.8	33	20.8	29.8	25.4
2	32.5	22.5	31	21.5	32.1	20.2	35.1	22.2	32.4	20.1	33	18.4	33.1	20.5	31.8	21.4
3	32.5	24.8	31.6	23.3	34.1	20.1	35.4	22.9	32	20.8	31.7	19.3	32.5	22.5	32.9	25.6
4	31.5	23.5	30.7	22.6	33.6	19.1	35.6	24	31.6	23.8	32.7	18.1	33	20.5	31.4	25.5
5	32.2	23.4	31	21	34	21.1	34.6	24	31.7	21.8	31.2	20.6	31.5	22.5	32.1	25.5
6	32.5	24	31	20.2	33.5	18.9	35.1	23.4	31.5	20.7	33.1	20.1	33	22.5	31.1	25.6
7	33	21.5	31.4	20.7	33.5	20.4	34	20.8	30.5	20.2	34.1	19.3	32.3	20.4	31.2	22.6
8	32.8	21.5	31.5	21	35	21.2	33.5	22.7	30.5	22.5	33.2	18.5	31.2	21.1	32.4	23
9	33.5	21.5	35	22.1	33.4	22.6	34.3	23.1	31.7	21.9	34.9	19.9	31.7	20.5	31.5	21.9
10	33	22.1	34.5	21.6	33.4	21.4	33.4	23.9	31.5	21.8	33.2	20.4	33.4	21.5	32.1	23.3
11	33	21.5	31.5	21.1	33.5	22.1	33.3	22.4	32.4	21.1	33.7	19.6	32	22.1	30.9	23.8
12	34	24	32	22.2	35	22.6	35.5	23	31.4	22.2	32.7	18.9	32.1	22.2	32.5	26.4
13	33.1	24.3	30.6	21.5	35	22.1	35.3	23.9	32.6	23.1	33.3	19.3	31.8	23	32.4	24.1
14	33	23.2	31.7	23	33.9	22.5	32.5	24.2	32.4	24	30.9	18.7	31	23.5	31.6	24.2
15	32.5	26.2	31	23	35.3	20.8	34.7	23.8	32	24.2	32	20	31.1	22.7	33.5	24.5
16	32.7	23.5	31.5	21.2	34.3	19.6	34.6	24	32.5	24.7	32.2	19.7	32.1	22.4	33.2	25.6
17	32.5	26	31.6	21.5	34.1	19.9	35.5	22.7	33.4	24.1	32	20	32.4	21.5	31.7	26.4
18	32.2	25	31.7	21.7	35	19.7	34.7	24.1	32.8	24.2	32.7	19.6	32	21.1	32.4	26.2
19	34	23.5	32	23	32.9	20.4	34.8	24	33.3	22.2	33.1	20.4	32	22.5	32.3	23.3
20	33	24	32.5	21	34.9	18.9	36.5	25.2	33.6	22.4	33.2	22.4	33.3	22.7	32.1	23.7
21	32.2	22.5	33	21.6	34.1	20.4	35.3	23	33.8	21.7	33.1	20.8	33.2	22.6	31.3	26.5
22	32	25.5	31	22.3	35.4	22.5	35.4	23.9	33.2	25.1	32.2	21.5	33	22.5	30.2	26.2
23	32.5	26.5	31.5	22.1	33.5	20.2	36.5	25.3	33.2	25.1	33.9	20	33.3	22.6	31.8	26.2
24	33.5	24.6	31	24.5	34	21.7	35.6	24.7	34	24	33.4	19.4	32.9	22.7	31.4	25.4
25	33	24.4	32.7	24.1	34.8	21.9	34.8	24.3	33.8	24.1	32.6	22.4	32.5	22.4	32.8	25.9
26	33.3	23.9	32.3	21.1	35.5	19.5	34.8	24.2	33	24	32.5	22	33.4	22.5	32.7	26.6
27	33.5	22	31.6	24.2	34.5	22.3	34.8	23	33	20.7	33.1	19.9	32	23.4	32.6	24
28	32.6	24	30.6	21.5	34.2	20.6	36.1	24.7	33.3	20.8	33.9	22.6	33.4	23.3	32.4	23.9
29	32.5	24.5	31.7	24	34.1	23.8	35.9	25.37	33.5	23.1	33.4	21.7	32.5	23.5	31.7	24.4
30	32.5	23.5	31.6	23	34.9	22.6	34.8	24.9	33.8	23.1	33.2	22	32	23.3	33.8	24.1
Mean	32.8	23.7	31.7	22.1	34.2	20.9	34.9	23.7	32.6	22.6	32.9	20.2	32.4	22.2	32	24.7

Maximum and minimum temperatures at the stations of the Weather Bureau, April, 1920—Ctd.

Day.	Nasugbu.		Ambulong, Tanauan, Batangas.		Mendez Nuñez.		Alfonso.		Indang.		Canluban, Calamba.		Silang.		Maragondon.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33	21	34.6	23	29.3	18.2	31	20.4	31.5	20.7	33.4	22	30	20.6	34.5	21.6
2	32.9	22	35.2	20.6	29.8	19.3	31.3	20.1	32.4	21.3	34.4	22.1	31.4	20.6	35	20.1
3	32.9	23.9	34	24.7	28.8	19.2	30.6	22	32.8	22.7	33.5	21.5	30	21.1	33.8	24
4	32	22.5	34.8	22.8	29.3	20.2	31.5	20.6	31.9	21.2	34	21.6	30.2	21.4	35	19.5
5	33	22.5	33.5	22.8	29.8	18.5	31.3	20.5	32.4	20.6	34.2	21.9	30.4	20.1	35	19.8
6	32.9	22.9	36.2	21.5	28.5	19.2	32	20.8	34	21.5	34.4	21.7	30.1	20.6	34.5	22.4
7	32	23.9	33.2	20	30	18	32.6	19	34.6	21.5	35.4	21.5	31.6	20.4	34.7	20.7
8	33.9	24.9	32.3	22.4	28.3	19.5	31.5	18.8	32.5	21	33.2	22	31.6	20.8	34.1	21.6
9		22.9	33.2	22	29	19	31.6	18.4	33.3	20.3	34.1	21.6	31.2	20.4	35	21.9
10	32.9	23	32.3	23.7	28.8	18.5	31.7	19.6	33.4	21.6	35.7	21.9	32.6	21.5	33.5	20.6
11	32.9	22	33.3	22	29.9	19.7	31.5	20.6	34	21.8	34.9	22	32.3	20.7	33.9	22.1
12	33.4	22.9	34	25.4	30.3	20.2	30.6	21.1	32.7	22.4	35.2	22.5	32.3	20	34	21.1
13	33.4	23.9	36	24.8	30	20.7	30.4	21.1	32.8	22.2	34.6	22	31	21.8	35.3	21.1
14	32	22	33.7	24.5	27.5	19.3	31.2	22	31.7	22.4	35.2	22.2	32.2	22.5	33	23.6
15	33.4	23.9	35	23	24.7	20	31.6	21.7	31.9	22.6	35.4	22.1	32.2	22.4	34.5	22.6
16	32.3	21	36.4	22.6	29.3	20.2	31.6	21.7	31.5	22.4	34.9	23	31.7	21.9	35.4	24.2
17	32.9	22.5	35.3	22.5	28.7	19	31	21.5	31.7	21.8	35	21.8	32.2	21.3	35.4	21.5
18	33	22.9	35.2	23.1	30.2	20	32.1	21.1	32.2	22	35.6	23	32.5	21.1	34.2	22.8
19	32	22.5	36.2	21.8	30	20.4	32	22.2?	32.2	21.8	35.5	21.6	32.3		34.3	20.6
20	33.5	23.5	38	22.1	30.2		32.5	21.4	32.9	22.5	35.7	23	32.5	21.3	36.4	22.6
21	32.9	23	37.8			19.8	33	21.6?	33.7	21.3	36.2	22.6	32.2	20	34.5	21.1
22	33.5	22	35.5	25		20.3	32.8		32.6	21.8	35	23	32.7	21.2	35.5	21.1
23	33.9	24.5	37.2	25	28.5	20.5	32.1	22.7	32.4	22.5	36.6	22.8	32.3	21.4	36.1	21
24	33	24.9	36.4	24.8	30.5	21.2	33.5	22.4	33	22.6	36.2	23.3	32.5	21.1	35.8	23.1
25	32.9	22	36	23.8	32.2	20.4	32.4	22.5	33	22.8	35.9	23.2	33.8	21.5	36	23.3
26	32.9	22	38	24.7	36.7	21.2	33	21.6	33.7	22.3	36.2	22.2	33.4	21.3	36.4	23.3
27	32.9	22	36.8	24.2	32	21	32.5	20.6	33.8	22.6	36	22.6	33.8	21.2	35.5	20.6
28	32.5	22.9	37.2	25.5	31	21.5	32.6	22.5	33	23.1	35.4	23.3	32.3	21	35.8	23.6
29	33.5	23.9	34.6	24.7	30.5	21.3	33.4	22.1	32.9	22.8	34.9	23.8	33.2	21.3	35.7	20.6
30	32	20.5	34	24	33.2	20.7	31	21.6	32.4	23.5	35	23.2	32.5	21	36.1	23.9
Mean	32.9	22.8	35.2	23.3	29.8	19.9	31.9	21.2	32.7	22	35.1	22.4	32	21.1	35	21.9

Day.	Paracale.		Santa Cruz, Laguna.		Buenavista, Malabon, Cavite.		Manila.		Antipolo.		Balanga.		San Isidro, Nueva Ecija.		Iba.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.1	24.4	32.7	20.5	33.6	21.1	34.1	20.5	36	19.5	35.5	20	34.4	20	33.2	22.2
2	30.8	23	33.5	21.3	34.1	21.9	35.3	21	35.2	20.5	34.6	22.7	33	23.3	33	24.1
3	32.1	26	33.1	23.7	32.6	23.1	31.7	23	33.8	22	33.5	23.8	33.4	21	33.5	20.9
4	31.8	23.7	33.1	21.1	34.6	21.3	34	20	36	21	34.5	20.4	34	20.3	33.4	23.5
5	31	23.7	33	22.1	34.9	21	34.8	20	35.9	19.8	35.7	20.6	35.8	20	32.4	21.5
6	31.8	21.7	34.6	22.2	35.8	22.6	33.7	22.5	35.2	21.5	35.8	23.1	36.9	22.9	32.1	22.4
7	31.8	22.5	34.6	20.5	35.9	21.9	34.1	20.8	35.9	20.3	35	22.9	35.8	22.4	32.1	24.5
8	31.6	22.8	34.6	22.2	34.3	21.3	32	23.1	35.2	21.8	34.1	22	35	22	31.6	21.5
9	32	23.5	34.4	22.2	34.7	22.3	33.1	23.3	34.3	21.7	34.9	21.7	35.4	22.6	33.1	21.5
10	31.3	23.5	35	23.1	33.8	23.6	32.7	23.5	35	21	34.6	22.7	35.4	22.6	31.3	21.3
11	32.2	24.1	33.8	23	34.5	21.3	32.5	23	37.8	22	35	21.2	35.1	21.4	31.9	20.1
12	31.8	24.5	34.8	24.5	33.8	21.5	33.6	23.7	34.8	22.5	34.9	22	35.4	21.9	32	21.6
13	32.3	24.7	35.1	24.8	34.1	23.9	33.9	24.8	34.7	22.7	35.1	23.1	36	23	32.5	23
14	32.5	25.2	34	24.3	34.1	23.3	34.5	25	34.9	23.3	35.3	24.3	34.5	24.1	32.3	22.7
15	33.2	25	34.4	24.2	35.2	23.6	34.7	23.9	33.8	23.3	34.6	24	33.4	23.6	32.4	23.7
16	32.3	23.8	33.2	23.7	34.3	23.5	34	24.5	35.2	23.2	34.6	23.8	33.9	25.1	31.6	25
17	32.3	25.2	33.6	22.3	34.1	22.3	35.4	21.5	35.7	21.4	34.7	22.3	34.1	22.2	35.2	22.9
18	32.6	23.7	34.7	22.9	34.9	22.3	36.3	21.3	35.4	20.5	35.7	22.9	36	20.8	33.1	22.8
19	32.6	24.2	34.8	22.8	35.3	21.7	34.7	21.4	36.2	20	36	22.2	36.1	21.3	33.5	22.1
20	32.9	23.2	34.4	24.6	35.7	21.2	35.5	23.4	36.9	22.7	35.5	23	35.6	22	33.4	22.8
21	33	24.1	34.9	21.8	36.5	21.6	35.4	20.9	35.8	19.7	36.3	21	37	22.4	33.6	22.1
22	32.6	25.5	32.4	23.3	34.3	21.6	34.7	21.4	35.3	21.5	35.8	22.4	35.6	21.2	36.4	23
23	32.8	26	34.4	23.3	34.7	21.3	36	22.2	35.2	21.8	35.5	23.9	34.8	24.4	37.9	24.8
24	31.9	25.4	34.2	23.2	35	21.2	35.8	23.4	35.7	22.3	35.5	23.7	35.9	22.8	36.9	24.8
25	32.9	24.8	33.9	23.4	34.5	21.5	35.2	23.7	35.4	23	35.2	23.5	36.3	22.9	33	24.2
26	32.7	23	34	22.9	35.3	20.6	35.7	23.8	36.1	22	36.4	25.2	36.6	23.9	33.2	24.1
27	32.2	24.9	34.6	23.6	35.4	22.4	35.7	21.9	35.9	21	36	22.3	35.9	22	34.4	23.5
28	33	25	34.1	24.5	34.7	21.8	35.4	24	37	21	36.1	24.3	35.8	24.4	34.5	25.6
29	31.8	24.5	34.6	25	35.4	23.5	35.2	23.1	35.9	22.5	37.1	23.4	36	22.5	34	23.3
30	32.6	24.6	36	24	33.9	24.3	34.7	25.2	35.9	23.5	36.1	24.7	37	24.8	34.1	25.4
Mean	32.2	24.2	34.2	23	34.7	22.2	34.4	22.7	35.5	21.6	35.3	22.8	35.4	22.5	33.4	23

Maximum and minimum temperatures at the stations of the Weather Bureau, April, 1920—Ctd.

Day.	Tarlac.		Baler.		Dagupan.		Bolinao.		Baguio.		San Fernando, La Union.		Candon.		Vigan.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	36.6	19.5	29.9	20.7	35	23	35.7	23.8	26.7	14.4	33	22.2	32.4	24.4	33.4	24.9
2	36.7	20.4	29.7	22.9	36.6	24.5	34.6	25.3	21.5	15.7	33.5	25	31.4	25.4	32.7	24.5
3	35.4	19.8	29	21.6	37.5	22.4	36	24	25.8	15.2	34.4	22.3	32.5	23.2	32.5	23.9
4	36.2	18.4	30.3	21.4	37	22.4	37	24.9	25.3	15	34.1	23.2	32.5	25.4	33.9	25.1
5	37	19.4	30.5	19.7	36.5	22.9	34.4	24.4	25.3	14.7	34.7	25.2	32.6	26	33.8	24.7
6	33.4	19.8	30.4	21.4	34	24.7	32.3	24.3	25.7	15.6	34.6	24.9	33	26	32.9	25.6
7	32.4	18.2	31.5	19.8	35.5	23	33.3	24.2	24.3	15	34.1	23	32.6	24.7	32.5	24.5
8	35.5	20.2	31.1	21.1	34	23	32.1	23.7	24.1	14.8	34.4	23.8	32.5	24.4	32.4	24.4
9	36.2	19.2	31.1	22	31.4	24	30.5	26.4	25.8	15	32.2	22.4	32.4	24	31.4	23.6
10	37.2	19.8	31	22.7	30.2	25	30	25.8	25.3	14.2	31.5	21.8	31	22.5	30	21.5
11	37	20.2	31.4	23.2	30.2	24.6	30.2	25.4	24.5	15	31.5	21.6	31.4	21.1	30.5	20.9
12	36.8	21.2	30.6	23.7	31	24.9	30.2	25.7	25	15.4	31.6	22.5	31	21.1	31.4	22
13	37.2	22.4	30.8	24.6	31.2	25	30.2	25.3	26.5	16.4	31.9	21.4	31.5	21.9	30.8	21.3
14	37.5	21.2	30.4	23.3	37.6	21.3	31.5	22.7	26.2	15.7	34.1	21.1	31.6	21.5	32.8	21
15	36.2	21.5	30.5	25.1	37.5	24.3	34.2	24	28	16.3	35.9	24.2	33	25	32.9	25.4
16	35.5	22.2	30.8	22.7	37	24.7	34.5	26.6	25.5	16.5	34.5	24.1	33	25.5	32.8	23.9
17	36.6	21.4	30.8	22.6	37.7	23.5	36.8	25.1	25.1	15.5	35.2	24.7	33	20	33.1	24.9
18	37	19.8	31.4	20.9	37.7	23.4	35.2	23.3	24.7	15.5	34.1	24.5	32.6	26	33	24.6
19	38	20.1	31.5	20.3	37.3	23.3	34.4	25.5	25.4	15.5	34.7	24.2	32	25.5	32.7	24.8
20	38.2	21.4	31.2	22	37.6	23.8	35.2	26.4	26.2	15.8	34.3	24.7	32.8	26.2	33.6	24.9
21	37.5	21.8	31.6	21	36	24.1	33.9	27	26	15.5	34.5	25.6	32.6	26	32.9	24.5
22	38.2	19.6	32.2	20.9	39.7	23.5	37	24	27.6	16.2	36.9	25.6	33	24.6	33.4	24.4
23	36.8	22	31.4	23.7	38.7	24.1	37.5	25.4	26.6	15.4	36.4	25	33	25.6	34.4	25.2
24	38.4	19.4	31.7	22.9	38.6	24.6	37	24.9	26.8	15.6	35.9	25.2	33.2	26.6	33.2	26
25	38	19.2	32.4	22.3	39.5	23.6	36.5	26.2	26.5	16.5	35.1	24	33.4	25.2	33.5	24.5
26	37.6	22	32.2	21.7	37.2	23.4	34.6	26	26.7	16	36.6	26	32.5	27.2	34	25.1
27	38.5	20.4	32.4	21.7	37.3	22.9	36.4	25.6	25	16.4	35.9	26	33.5	26.6	34.9	26.4
28	38	19.8	30.9	23.5	36.4	24	36.4	25.4	26.1	16.1	36.1	25.5	33.8	26.1	34.9	25.2
29	39	20.2	32.3	21.8	35.9	24	35.6	24.9	24.8	16.3	34.4	25	33.6	26.5	34	26.3
30	38.6	20	32.4	23.4	33.4	25	34.2	27.2	26.1	16.3	35	24.7	34	26	33.5	24.6
Mean	37.2	20.4	31.1	22.2	35.8	23.8	34.2	25.2	25.6	15.6	34.4	24	32.6	24.7	33	24.3

Day.	Tuguegarao.		Laoag.		Aparri.		Cape Bojea- dor.		Basco.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	36.5	20	34.6	21	31.3	20	32.1	23.5	30.7	24
2	36.8	23.6	34.6	23	33.6	22.5	32.7	24	31.1	24.7
3	36	21	34.5	22.5	33	22	33.5	24.5	30.6	24.5
4	38.2	21	35.1	23.3	34.1	21.7	33.2	25	31.3	23.8
5	38.5	21.2	33.6	23.3	33.7	22	31.4	24	31.6	24.4
6	38.5	23.3	33.8	23.5	32.1	22	31	24	29.1	21.8
7	37.2	22.2	35.1	22.5	31.6	21	29	23.9	27.5	22.4
8	35.7	22.6	34.3	22.8	30.6	21	29.7	23	27.2	23
9	36	21.6	32.1	23	30.8	21.2	28.3	22.6	27.6	22.3
10	34.8	21.5	31.1	21.4	29.7	21	29.6	23.4	25.4	21.3
11	35.8	20.5	32	19.8	30.5	19.6	30.3	22.3	27.6	21.2
12	34.6	21.2	31.9	20.5	31.2	21.5	29	21.7	29	19
13	35.8	21.5	32.4	19.2	30.3	19.8	28	21.9	23.2	20.6
14	34.6	23.6	35.6	20.4	30.4	24	30.6	23.8	23.2	22.4
15	37	24	35.5	23	31.7	23.6	33	22.7	29.4	22
16	35	24	36.2	23.2	33	23.6	32.6	23.2	30.4	22
17	37.8	23	35.6	22.4	32.7	21.8	33.7	24.5	30.1	22
18	38	21.6	35.5	23.1	35	22.5	33.6	25	31.4	24.5
19	39.2	22	35.5	22.8	33.1	22	31.3	24.8	31.5	22.2
20	39.8	22.5	35.2	22.5	35.6	22.9	34.4	24.3	31.8	23.2
21	38.5	22.6	35.7	21.8	32.8	22.7	30.6	24.1	31	22
22	38.4	22.1	35	21.3	32.6	21.5	33	24.6	26.7	22.6
23	34.9	22.1	35.1	23	32.4	23.4	34	24.4	28.9	22.7
24	39.7	22.4	35.5	24.2	34.7	22.3	33.2	25	31.1	23
25	38.2	23.7	35.1	22.5	34.5	23	31.7	23.8	31.9	24.6
26	35	22.4	35.7	24.1	33.2	22.5	31	24.9	29.7	22
27	32	22.5	35.7	24.4	29.7	22.5	30.5	23.8	26.4	21
28	35.3	24	35.6	24.1	31.8	22.3	32.2	23.6	27.8	22.6
29	37	24.3	35.7	25.5	34.7	23.2	32.7	25.9	31.4	24.6
30	37.5	24.6	36.4	24.1	32.6	22.5	33.2	25.8	29.7	23
Mean	36.7	22.4	34.7	22.6	32.4	22.1	31.6	23.9	29.5	22.6

SEISMOLOGICAL BULLETIN FOR APRIL, 1920.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Chief, Seismic and Magnetic Divisions, Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.¹

2, 23^h 11^m [3, 7^h 11^m]. Camiguin Island (N of Mindanao). Earthquake shock of intensity III. It repeated with the same intensity after few minutes at 7^h 18^m and later at 8^h 15^m. These shocks had a very local character; none of them being recorded at Butuan nor at Manila: quite certainly they were of volcanic origin.

6, 21^h 14^m 34^{s*} [7, 5^h 14^m 34^s]. SE Luzon. Earthquake of intensity III-IV felt through the provinces of Camarines, Albay and Sorsogon. The epicenter lay in the Pacific NE of the San Bernardino Strait.

9, 11^h 41^m [9, 19^h 41^m]. Bagnio (W Luzon). Earthquake shock of intensity III.

18, 13^h 55^m 37^{s*} [18, 21^h 55^m 37^s]. S Luzon and Mindoro. Earthquake of intensity V, felt in the provinces of Manila (Rizal), Cavite, Batangas and in the Mindoro Island. The origin was located very near to north Mindoro, probably in the western part of the strait which separates it from Luzon.

23, 9^h 40^m [23, 17^h 40^m]. Ganasi (N Mindanao). Earthquake of intensity III: recorded by the seismograph at Butuan. Its origin was probably volcanic. Ganasi is located very near to the region of the Macaturing and Ragang volcanoes.

29, 10^h 04^m 18^{s*} [29, 18^h 04^m 18^s]. SE Luzon. Earthquake shocks of intensity IV, duration 10 seconds. The origin or epicenter lay within the island in the region of Mayon and Bulusan volcanoes.

30, 16^h 35^m [May 1, 0^h 35^m]. Butuan (N Mindanao). Earthquake shock of intensity III, duration 15 seconds.

¹ The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that 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 report. All time indications are in Greenwich mean time (midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

RECORDS OF THE MICROSEISMOGRAPH.

(Time: Greenwich mean. Midnight=0h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N : $T_0=6.25$, $\epsilon=2.906$, $\frac{r}{T_0^2}=0.053$;
 A_E : $T_0=6.18$, $\epsilon=2.393$, $\frac{r}{T_0^2}=0.042$. Alluvium. 2.40 meters above sea level).

No.	Date.	Character.	Phase.	Hour.			Period.	Amplitude.		Remarks.	
				h.	m.	s.		A_N μ	A_E μ		
83	2	I	e F	1	11	50					
				2	20						
84	2	Iv	eP F	14	46	14					
					48						
85	2	Ir	eP S L M _E M _N F	15	14	53					
					17	00					
					17	48					
					17	54	8		40		
					18	31	10	120			
					16	38					
86	5	I	e F	15	58	54					
				16	37						
87	5	Iv	eP F	18	54	00					
				19	02						
88	6	Iv	eP F	0	38	53					
					45						
89	6	Ir	eP S L M _N M _E F	19	09	21					
					14	58					
					18	34					
					20	16	7	44			
					20	36	7		35		
					20	00					
90	6	Iv	eP L M _N M _E F	21	14	34				Felt in the Southeastern Luzon.	
					15	20					
					15	30	4	66			
					15	49	4		27		
					28						
91	8	I	e F	0	21						
					48						
92	9	Iv	eP F	5	01	00					
					03						
93	9	Ir	eP L F	14	37	48					
					42	56					
				15	22						
94	11	Iv	eP F	22	57	07					
					59						
95	11	Ir	eP S L M _E M _N F	23	11	57					
					15	55					
					17	38					
					18	41	7		37		
					20	11	7	55			
					52						
96	15	Ir	e F	12	20	00					
					35						
97	17	Iv	eP F	4	37	21					
					42						
98	18	IIIa	eP L	13	55	37				S Luzon and Mindoro.	
					55	55					
99	19	Iv	eP L M _E M _N F	20	34	08					
					35	12					
					35	37	5		22		
					35	42	5	46			
					50						
					50						
100	19	I	e F	21	25						
					48						
101	20	Iv	eP F	15	59	55					
				16	07						

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A _N μ	A _E μ	
102	25	I _r	e	h. m. s.	s.			
			L	16 51 17				
			M _N	54 32				
			M _E	54 47	8	38		
			F	55 35	8		64	
				17 08				
103	26	I _v	eP	23 38 00				
			F	42				
104	27	I _v	eP	15 41 04				
			F	52				
105	29	I _v	eP	6 30 26				
			F	37				
106	29	I _v	eP	10 04 18				SE Luzon.
			F	15				
107	29	I _r	e	16 18 31				
			F	36				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.¹

2, 23^h 11^m [3, 7^h 11^m]. Isla de Camiguín (N de Mindanao). Temblor de tierra de intensidad III. Repitió con la misma intensidad pocos minutos después a 7^h 18^m y luego a 8^h 15^m. Estos temblores fueron de carácter muy local, puesto que ninguno de ellos se registró ni en Butúan ni en Manila, seguramente eran de origen volcánico.

6, 21^h 14^m 34^{s*} [7, 5^h 14^m 34^s]. SE de Luzón. Temblor de tierra de intensidad III-IV, sentido en las provincias de Camarines, Albay y Sorsogón. El epicentro se hallaba en el Mar Pacífico, al NE del Estrecho de San Bernardino.

9, 11^h 41^m [9, 19^h 41^m]. Baguio (W de Luzón). Temblor de tierra de intensidad III.

18, 13^h 55^m 37^{s*} [18, 21^h 55^m 37^s]. S de Luzón y Mindoro. Temblor de tierra de intensidad V sentido en las provincias de Manila (Rizal), Cavite y Batangas del S de Luzón y en la Isla de Mindoro. El epicentro se hallaba muy cerca del N de Mindoro probablemente en la parte N del estrecho entre esta isla y Luzón.

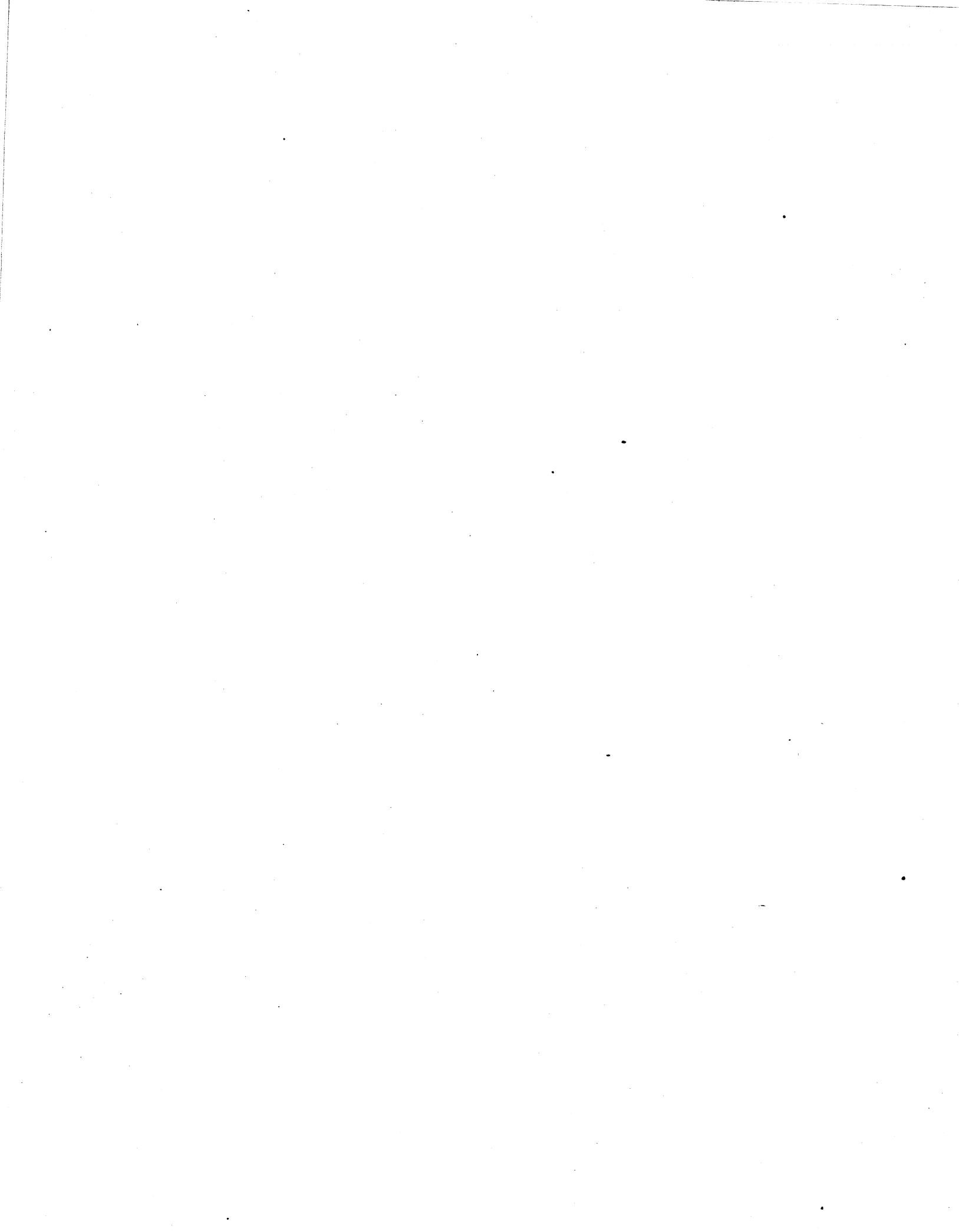
23, 9^h 40^m [23, 17^h 40^m]. Ganasi (N de Mindanao). Temblor de tierra de intensidad III. Registrado por el sismógrafo de Butúan. Sería de origen volcánico, Ganasi dista poco de la región volcánica del Macaturing y del Ragang.

29, 10^h 04^m 18^{s*} [29, 18^h 04^m 18^s]. SE de Luzón. Temblor de tierra de intensidad IV, duración 10 segundos. El origen de este temblor probablemente se hallaba dentro de la isla en la región volcánica del Mayón y del Bulusan.

30, 16^h 35^m [Mayo 1, 0^h 35^m]. Butúan (N de Mindanao). Temblor de intensidad III, duración 15 segundos.

¹ La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos 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 medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.





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THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

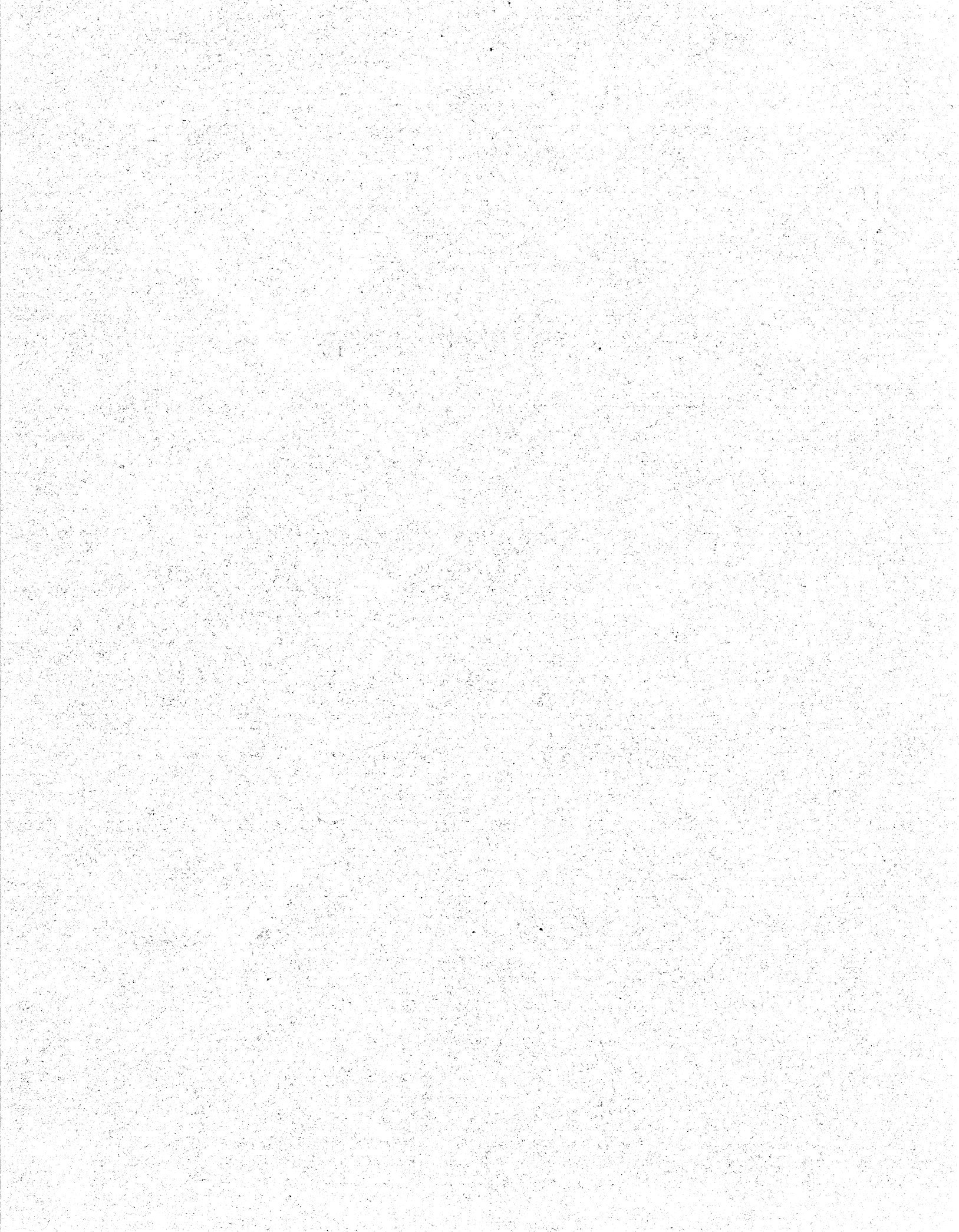
BULLETIN FOR MAY, 1920

PREPARED UNDER THE DIRECTION OF

REV. JOSÉ ALGUÉ, S. J.

DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
1921



BULLETIN FOR MAY, 1920.

METEOROLOGICAL BULLETIN FOR MAY, 1920.

By Rev. JOSÉ CORONAS, S. J.,

Chief, Meteorological Division of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—Although there was no depression or typhoon in or near the Philippines during the whole month of May, yet the mean monthly atmospheric pressure is reported from practically all our stations as being somewhat below that of the preceding year, and below the normal of this month. The lowest pressures were generally observed on the 6th, when a continental depression passed to the north of Formosa between Formosa and Shanghai. The highest pressures were recorded either on the 22nd, or on the 17th to 18th.

The mean monthly temperature differs very slightly from the normal of May. The absolute highest and lowest temperatures for Manila were 35.9° C., and 23.2° C.; they were registered on the 4th and 14th, respectively. The extreme temperatures for Baguio were 25.8° C., 15.2° C. on the top of Mirador, and 25.8° C., 14.1° C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR MAY, 1920.

Station.	Pressure.							Temperature.						
	Mean.	Departure from May, 1919.	Departure from normal.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from May, 1919.	Departure from normal.	Highest.	Day.	Lowest.	Day.
	mm.	mm.	mm.	mm.		mm.		°C.	°C.	°C.	°C.		°C.	
Zamboanga.....	758.39	+0.20	-----	759.89	17	757.05	31	26.5	-0.2	-----	31.6		22.8	28
Meeth, Yap, Western Carolines.....	58.12	-.20	-----	59.96	18	55.88	31	27.5	-.3	-----	33.2	10	23.5	20,30
Tagbilaran.....	57.98	-.07	-.19	59.36	17	56.52	31	27.4	-.7	-.2	33.3	24	21.5	1
Surigao.....	58.02	-.30	-.36	59.35	22	56.44	6	27.5	+.2	+.4	33	13	22.9	1
Cebu.....	58.05	-.29	-.21	59.43	18	56.52	6	28.4	-.6	+.2	33.2	1	22.5	10
Iloilo.....	57.90	-.14	-.16	59.16	18	56.46	5	28.2	-.5	+.2	35.1	2	23	22
Tacloban.....	58.16	-.42	-.29	59.62	22	56.42	6	27.6	-.9	-.1	35.3	8,30	22.2	22
Capiz.....	57.91	-.18	-.46	59.28	18	56.28	6	27.5	-1.4	-.5	35.4	7	22.2	22
Calbayog.....	58.22	-.33	-.23	59.70	22	56.71	6	27.6	+.3	+.7	33.8	31	22	3
Legaspi, Albay.....	57.97	-.56	-.40	59.50	22	56.02	6	28.2	-.8	0	35.5	7	22.4	3
Atimonan.....	57.79	-.56	-.46	59.36	22	55.70	6	27.7	-1	-.5	35.6	3,6,7	23	16,18
Ambulong, Tanauan, Batangas.....	57.21	-.40	-----	58.71	22	55.30	6	27.7	-1.4	-----	35	31	22.4	23
Manila.....	57.77	-.32	-.55	59.23	22	55.98	6	28.1	-1	-.3	35.9	4	23.2	14
San Isidro, Nueva Ecija.....	57.82	-.59	-.44	59.27	22	55.74	6	27.5	-1.7	-.9	37.4	1	23	1,12,23
Dagupan.....	56.88	-.41	-.84	58.27	22	54.88	6	28.3	-1	-.2	38.4	4	23	23
Baguio ^a	636.05	-.62	-.39	637.15	22	634.50	6	18.6	-.6	-.2	25.8	2,3	15.2	15
Vigan.....	757.24	-.35	-.74	758.59	22	754.95	6	28.4	-.8	-.3	34.5	2,4,29	23.2	7
Tuguegarao.....	57.29	-----	-.74	58.82	30	54.29	6	27.7	-----	-.7	38.2	27	22.6	29,30
Laoag.....	57.08	-.78	-----	58.32	22	54.46	6	28.1	-.2	-----	37.7	4	22.5	7
Aparri.....	57.39	-.88	-.78	58.86	30	54.17	6	27.7	+.3	+.2	37	25	22	18

^a The barometric readings of this station are not reduced to sea level.

Rainfall.—The great majority of our stations in Luzon and the northern Visayas reported a total monthly rainfall above that of May, 1919, but below the normal of this month, while the monthly amount of rain for practically all the stations in the southern

Visayas and Mindanao is smaller than the normal of May, and the monthly total of the preceding year. The total monthly rainfall for Manila was 140.9 mm., which differs by only -3.4 mm. from that of May, 1919, and by +34.7 mm. from the normal. In the rain-gauges of Baguio 362.7 mm. were collected during the month, this amount being 77.5 mm. and 43.9 mm. below that of the preceding year, and below the normal, respectively.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF MAY, 1920.

Station.	Total.	Departure from May, 1919.			Days of rain.	Departure from May, 1919.			Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from May, 1919.			Days of rain.	Departure from May, 1919.			Greatest rainfall in a single day.	Day.
		mm.	mm.	mm.		mm.	mm.	mm.					mm.	mm.	mm.		mm.	mm.	mm.		
Jolo.....	93.9	-55.3	-95.7	12	-6	-3	29.7	17			Sumay, Guam	104.7	+79.3	+0.8	19	+15	+6	26.9	15		
Malamaui, Isabela, Zamboanga	58.6	-74	-	4	-4	-	35.6	6			Calapan	90.9	+41.2	-62.6	13	+2	-1	42.4	30		
Zamboanga	15.3	-45.7	-59.6	6	-4	-3	5.9	21			Virac	50.4	-69.4	-87.9	5	-14	-10	25.9	10		
Davao	170.4	-112.4	-66.2	10	-2	-2	76.2	27			Naga, Camarines Sur	130.9	+19.1	+9.8	16	+7	+6	42.2	19		
Cotabato	19.9	-194.5	-206.3	13	-2	-2	4.1	5			Tigaon	295.9	+208.7	-	15	+7	-	119.6	10		
Butuan	80.3	-50.9	-69.4	13	-2	-2	23.9	16			Batangas	43.6	+14.3	-47	5	-2	-4	19.8	16		
Mambajao	72.3	-9.3	-	6	-2	-2	27.9	8			Lucena	105.6	+34	-	12	+4	-	29.7	9		
Dumaguete	92.1	-8	-15.3	8	+4	-1	22.1	24			Atimonan	145.5	+81.7	-8.9	12	+2	0	43.7	15		
Meeth, Yap, Western Carolines	217.4	+20.1	-59.6	21	+1	-1	34.3	11			Ambulong, Tana-uan, Batangas	103.1	+69.3	-	15	+9	-	41.9	3		
Tagbilaran	48.9	-3	-49	7	+1	-1	34.3	9			Canluban, Calamba	261.9	-4.3	-	16	+1	-	48	15		
Iwahig Penal Colony, Puerto Princesa	136.8	-23.3	-	15	+1	-	33.8	10			Paracale	196.3	+78.7	+22.4	17	+1	+1	52.1	17		
Surigao	13	-74.5	-116.9	7	+6	-3	4	30			Santa Cruz, Laguna	96.7	-33.6	-35.8	14	+5	+2	19	2		
Maasin, Leyte	32.8	-8.6	-91.3	3	+1	-3	13.7	14			Manila	140.9	-8.4	+34.7	18	+9	+7	49.9	18		
Cebu	93.9	-19.4	-6.2	12	+4	+2	33.1	10			Antipolo	144.6	-60.1	-	14	+4	-	38.1	3		
Iloilo	53.7	-25.1	-100.1	14	+1	+2	11.2	5			San Isidro, Nueva Ecija	213.4	+69.8	+27.4	21	+9	+9	41.2	17		
San Jose de Buenavista	192.4	+128.9	+22.8	17	+5	+3	61	14			Iba	153.4	+20.9	-62.2	14	+5	+2	44.7	10		
Cuyo	88.1	-65.4	-72.6	16	+1	+4	16	25			Tarlac	143.6	+39.4	-29.9	17	+4	+4	36.1	10		
Ormoc	123.6	+117.3	+38.5	14	+3	+2	36.6	20			Baler	281.9	+7.3	+4.8	13	+8	+3	74	10		
Guiuan	85.1	-57.6	-	11	-7	-	28.2	11			Dagupan	80.9	-61.2	-157	16	+5	+2	16.8	14		
Tacloban	52.3	-39.8	-92.9	6	0	-3	21.1	10			Bolinao	134.7	+46.3	-35.9	14	+2	+2	32.2	17		
Capiz	188.2	+84.5	+12	19	+10	+6	33.8	21			Baguio	362.7	-77.5	-43.9	22	-5	+2	47.5	16		
Borongon	118.5	+34.9	-92.1	12	-5	-5	25.2	11			San Fernando, La Union	90.4	-105.5	-97.1	15	+2	+5	28.4	18		
Catbalogan	141.9	+105	-	11	0	-	34.8	4			Candon	190.3	+87	-5.5	12	+1	+2	53.3	22		
Calbayog	86.2	+10.7	-65.4	15	+5	-1	23.6	15			Vigan	159.2	+73.3	+5.9	13	+4	+4	45.6	7		
Masbate	173.3	+80.4	+92.3	15	+6	+7	63.3	17			Tuguegarao	87.9	-	-32.9	14	-	+4	25	12		
Romblon	34	-12.6	-82.1	5	-2	-7	14.2	17			Laoag	217.9	+116.1	+21.5	12	-3	+2	75.7	6		
Batag Light-house, Laoang	143.7	+131.4	-	12	+3	-	47.8	8			Aparri	92.3	-56.1	-21.1	11	-8	+1	44.9	29		
Sorsogon	42.3	+9.5	-	10	+2	-	13.7	15			Cape Bojeador	123.7	+3.9	-	10	-3	-	32.7	7		
Legaspi, Albay	91.5	+11.2	-38.3	14	+4	+1	24.6	19			Basco	310.6	-71.3	+61.9	20	+5	+6	88.7	7		

DEPRESSIONS AND TYPHOONS.

There was no typhoon or depression of the tropical type during this month, with the exception of one which appeared southwest of Yap on the 30th, on which we will say a few words in the Bulletin for next month to which it properly belongs. Yet, our weather was somewhat influenced at times by some continental depressions, which moved eastward across the Eastern Sea and the Loochoo Islands. The one which passed south of Shanghai and north of Formosa on the 6th is particularly noteworthy, as it happens seldom that a continental depression influences so clearly and pronouncedly in the barometers, the winds and general weather conditions of the Philippines.

Besides, our daily weather maps showed at times, during the month, particularly during the first part of it, something like a low pressure area, or a trough of relatively low pressure, extending from Hainan to Formosa, or from the China Sea to the Pacific across the Balintang Channel and northern Luzon.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—Aunque no hubo depresión o tifón alguno en o cerca de Filipinas, durante todo el mes de mayo, sin embargo, la media mensual de la presión atmosférica en casi todas nuestras estaciones es algo menor que la del año pasado y que la normal de este mes. Las presiones más bajas se observaron generalmente el día 6, cuando una depresión continental pasaba por el N de Formosa entre esta Isla y Shanghai. Las presiones más altas se registraron el 22 o del 17 al 18.

La temperatura media mensual difiere muy poco de la normal de mayo. Las temperaturas máxima y mínima absolutas de Manila fueron 35.9° C. y 23.2° C., habiendo sido registradas en los días 4 y 14, respectivamente. Las temperaturas extremas de Baguio fueron 25.8° C., 15.2° C. en la cumbre del Mirador, y 25.8° C., 14.1° C. en el valle cerca del *City Hall*.

Precipitación acuosa.—La gran mayoría de nuestras estaciones de Luzón y de la parte norte de las Visayas acusan este mes una cantidad total de lluvia mayor que la de mayo, 1919, pero menor que la normal de este mes; al paso que la cantidad de lluvia mensual para casi todas las estaciones del sur de Visayas y de Mindanao es inferior, así a la normal de mayo, como al total mensual del año pasado. La lluvia mensual de Manila fué 140.9 mm., la cual se diferencia solamente en -3.4 mm. de la de Mayo, 1919, y en +34.7 mm., de la normal. En los pluviómetros de Baguio se recogieron durante todo el mes 362.7 mm., siendo esta cantidad inferior a la del año pasado en 77.5 mm., y a la normal de mayo, en 43.9 mm.

DEPRESIONES Y TIFONES.

No hubo tifón o depresión alguna del tipo tropical durante todo este mes, si exceptuamos un solo tifón que apareció al SW de Yap el día 30: de él diremos algo en el Boletín del próximo mes de junio, al cual pertenece propiamente. Sin embargo, influyeron a veces algo en el tiempo de Filipinas algunas depresiones continentales que se movieron hacia el este a través del Mar del Este y de las Islas Loochoos. Merece especial mención la depresión que pasó por el S de Shanghai y N de Formosa el día 6, pues sucede pocas veces que una depresión continental influya tan marcada y notablemente en los barómetros, vientos y estado general del tiempo de Filipinas.

Además, nuestros mapas diarios del tiempo indicaron a veces durante el mes, especialmente durante la primera quincena, algunas áreas de baja presión que se extendían de Hainán a Formosa, o desde el Mar de China hasta el Pacífico a través del Canal de Balintang y del norte de Luzón.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.

[$\phi=14^{\circ} 34' 41''$ N; $\lambda=120^{\circ} 58' 33''$ E; barometer above sea, 14.2 meters; gravity correction not applied, -1.72 mm.]

Day.	Pres- sure (mean).	Air temperature. ^b			Underground temperature.				Rela- tive humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation. ^b			
		Mean.	Maxi- mum.	Mini- mum.	0.25 meter.		0.50 meter.				1.50 meters.		Mini- mum on grass.	Maxi- mum in sun. on Black bulb in vacuo. ^c	Free expos- ure (total).	Shel- ter. (total).
					8 a.m.	2 p.m.	8 a.m.	2 p.m.			8 a.m.	8 a.m.				
1	757.04	29	34.2	25.2	31.5	33.6	31.1	31.6	29.4	28.5	78	23.1	23.8	52.8	5.7	3.4
2	57.76	29.4	34.9	24.7	32	34.4	32.4	32	29.5	28.7	75.1	22.7	23	56.2	5.7	3.5
3	58.29	28.5	35.6	25.4	32.5	34	31.7	32	29.5	28.8	77.6	22.2	25	54.2	3.9	2.6
4	57.57	29.5	35.9	24	31.2	33.7	31.3	32	29.5	28.7	71.5	21.4	22.2	55	6.6	3.6
5	56.28	29.6	34.9	25	32	34.2	31.6	32	29.7	28.8	71.8	21.7	23.2	54.7	6	3.6
6	55.93	29.1	34.2	24.7	31.8	33.7	31.6	32	29.6	28.7	76.5	22.7	23.3	54.5	5.8	3.4
7	57	29.4	33.7	26.4	31.7	33.6	31.6	31.9	29.8	28.7	77.3	23.4	24.6	52	4.9	2.8
8	58.37	28.1	32	25.3	30.5	32.5	31.2	31.6	29.5	28.5	83.4	23.4	23.6	51.8	3.2	2
9	58	28.3	32.7	25	30.5	32.4	31.1	31.5	29.7	28.5	80.6	22.8	23.9	52.1	4.1	2.3
10	57.52	28	33.2	24.6	30.3	33.2	30.8	31.6	29.7	28.6	79	22	23.4	52.5	4.9	2.8
11	57.24	27.6	33	24.2	30.8	32.8	31	31.6	29.8	28.7	79.6	21.7	23.3	54.8	4.6	2.7
12	57.35	27	31	24.1	30.7	31.4	30.9	31.1	29.8	28.7	84.5	22.3	23	46	2.9	2
13	57.80	27.9	31.9	25.1	29.7	31.6	30.6	30.9	29.8	28.7	79.4	22	24.2	53.2	4.4	2.6
14	58.28	27	32.2	23.2	30.3	32.1	30.6	31	29.8	28.9	83.6	21.9	23.6	54	3.4	1.8
15	58	26.8	31.9	23.6	29.2	31.2	30.3	30.7	29.8	28.9	85.6	22.2	22.6	52.6	3.3	2.2
16	57.93	27.2	31.4	23.4	30.2	31.5	30.5	30.9	29.9	29	83.6	22.3	23.2	53	3.6	1.9
17	58.89	26.5	32.2	23.3	30.1	31.3	30.6	30.7	30	28.9	84.9	21.6	22.5	54	5.1	3.4
18	58.98	27.7	32.4	23.9	30.1	31.7	30.3	30.8	29.9	28.9	81.6	22.3	23.1	54	4.3	4.1
19	58.21	27	31.2	23.9	29.5	30.8	30.3	30.6	30	28.8	85	22.4	22.9	49.5	3.1	2.1
20	57.59	27.5	31.7	24	29.5	31.2	30.3	30.6	30	28.8	81.9	22.1	23.2	55.4	4.2	2.4
21	58.47	27	31.8	23.9	30.4	31.8	30.6	30.8	30	29	84.8	22.3	23	55.8	2.6	1.6
22	59.23	27.4	33.2	23.6	30.2	31.8	30.6	30.8	30	29	79.9	21.3	22.4	52.2	3.8	2.2
23	58.14	28.6	34.2	23.6	30.2	32	30.6	31	30	29	76.2	21.9	21.7	52.9	4.7	2.9
24	58.35	28.8	34.8	24.7	31	32.6	31	31.2	30	29.1	78.3	22.8	23.1	52.6	4.6	2.7
25	58.16	28.8	33.3	25.7	30.8	32	31.1	31.4	30	29	79.1	23	24.1	51.9	3.4	2.1
26	57.60	28.8	33.8	25.5	31.1	32.8	31.2	31.4	30.1	29	79.6	23	23.8	54.5	4.4	2.8
27	56.53	28.8	33.4	24.5	31	32.9	31.3	31.5	30	29	77	22.4	22.8	55	5	2.9
28	56.86	28.6	33.5	24.8	31.4	33.1	31.5	31.7	30.1	29.1	78.2	22.4	23	53	5.9	2.8
29	57.92	28.2	35	24.8	31.6	33.6	31.6	32	30.2	29.1	80.2	22.6	23.5	58	5.3	4.2
30	58.32	27.9	33.3	24.1	31.6	32.9	31.7	32	30.2	29.1	79.2	22	22.6	49.8	3.6	2.2
31	57.27	28.5	34.5	23.7	31	33	31.6	31.7	30.2	29	76.2	21.8	21.8	53.7	4.6	2.7
Mean	757.77	28.1	33.3	24.4	30.8	32.6	31.1	31.4	29.9	28.8	79.7	22.3	23.2	53.3	4.4	2.7
Total															137.6	84.3
Departure from normal	-0.55	-0.3	-0.4	+0.5							+3.7	+0.7			-15.9	

Day.	Wind.				Amount (mean).	Clouds.		Sun- shine.	Rain, 24 hrs. beginning 6 a. m.		Miscellaneous.
	Prevailing direction.	Total move- ment.	Maxi- mum hourly veloc- ity.	Direction at the time of the maximum velocity.		Form and direction.			On the tower.	In the park.	
						Upper.	Lower.				
1	SW	232	25	SW	0-10.	Ci.	Cu.	h. m.	mm.	mm.	☁ p.
2	SW quad.	224	20	WSW	3.7	Ci.	Cu.	8 20			☁ p.
3	W quad.	157.5	18	SW	4.4	Ci.	Cu.	8 30	0.3	0.5	☁ p.
4	SW quad.	157	14	W	6.2	Ci.-S.	Cu.	6 15	.6	.9	☁ p.
5	WSW	273.5	26	WSW	4.1	Ci.	Cu.	9 45			☁ p.
6	WSW	388.5	33	WSW	5.8	Ci.	Cu.	9 00			☁ p.
7	SW	430.5	32	W	6.7	Ci.	Cu.	7 40	2	2	☁ p.
8	SW	268	21	WSW	9.2	Ci.-S.	Cu.	9 15			☁ p.
9	SW, W	273.5	24.5	SW	8.3	Ci.	Cu.	4 10	1	1	☁ p.
10	W quad.	268.5	27	SW	6.7	Ci.	Cu.	7 20	7.1	7.4	☁ p.
11	W quad.	339.5	28.5	WSW	7.3	Ci., Ci.-S.	Cu.	6 00	7.4	7.4	☁ p.
12	SW quad.	292.5	30	WSW	8.5	Ci.-S., A.-Cu.	Cu.-N.	0 55	2.4	2.6	☁ p.
13	W	347	25	WSW, SW	6.9	Ci., A.-Cu.	Cu.	4 45	4.3	4.3	☁ p.
14	SW quad.	226	23	W	7.5	Ci.	Cu.	5 15	30.5	30.5	☁ p.
15	E, SW	195.5	23	SW	8.5	Ci.-S.	Cu.	3 15	14.9	14.2	☁ p.
16	SW	238	32.5	WSW	6.4	Ci.	Cu.	5 15	5.1	5.3	☁ p.
17	E, ESE	160.5	21	W	7.3	Ci.-S.	Cu.-N.	4 50	.7	.8	☁ p.
18	WSW	284	31.5	WSW	6.2	Ci.	Cu.	6 05	49.9	50.5	☁ p.
19	WSW	256	25.5	SW	8.8	A.-Cu.	Cu.	0 35	3.6	3.8	☁ p.
20	SW quad.	264	30.5	SW	7	Ci.-Cu.	Cu.	6 50	6.4	6.4	☁ p.
21	SW	155	27	SW	8.2	Ci.	Cu.	3 50	1.3	1.4	☁ p.
22	E quad.	141.5	19	SSW	6.7	Ci.	Cu.	6 45			☁ p.
23	W quad.	164	16	WSW	2.5	Ci.	Cu.	10 30			☁ p.
24	W quad.	145.5	16	NW	5.8	Ci.	Cu.	7 05			☁ p.
25	NE, SW	154	15.5	SW	7.6	Ci.	Cu.	0 35			☁ p.
26	W quad.	168	22.5	SW	6.2	Ci.	Cu.	8 15	.5	.5	☁ p.
27	W quad.	211.5	20	SW	4.1	Ci.	Cu.	8 05			☁ p.
28	W quad.	188.5	20	SW	5.4	Ci.	Cu.	8 30			☁ p.
29	W quad.	129	17	SW	5.4	Ci.	Cu.	5 55			☁ p.
30	WNW, NE	149.5	21.5	WNW	6.8	Ci.	Cu.-N.	6 05			☁ p.
31	NE	111.5	15	NW	7.5	Ci.	Cu.	7 05			☁ p.
Mean		225.6	23.2		6.4			6 03			
Total		6,994						187 40	140.9	142.9	
Departure from normal		+92.2			+0.6			-41 28	+34.7		

^a All the mean values given in this table are deduced from hourly observations.
^b These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
^c Maximum of hourly observations taken from 6 a. m. to 6 p. m.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, MAY, 1920.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Lapac Agricultural School, Siasi, Sulu †	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Glan, Cotabato †	19	5.8			2.5		1.3					3.8				
Jolo, Sulu	25.4			13.7	2.5		1.5									
Lais, Malita, Davao	4.3		4.9	14.2	6			0.3				1.8		1.3		
Lebak, Cotabato		7.6	10.2	15.2		0.8				1.5			12.4			
Lamitan, Isabela, Zamboanga	22.6		83.8	10.2			8.1	4.1					13.5			
Basilan Plantation, Kabunbantan, Isabela, Zamboanga †					61.9					41.2		22.1		37.6		
Basilan Plantation Office, Isabela, Zamboanga †						20.3			11.4							15
La Union, Sigaboy, Davao †			5.1			14.2										
Paranglalap, Isabela, Zamboanga †					7.6	6.9			81.5	1.8		.8	8.6			1.3
Latuan, Isabela, Zamboanga †					17				19.3						5.1	
Buluan, Cotabato †				1.3	.3	2.8		15.2	5.8	10.7	8.4	27.2				
Malamaui, Isabela, Zamboanga						35.6				10.2			11.7		6.4	
Zamboanga, Zamboanga			4.3							3						
Cagayan de Sulu, Sulu †	50.8	13.7											21.6	34		
Kidapauan, Cotabato †	6.4			26.7		15.2	6.4	27.9				1.8	7.6	6.6		
Davao, Davao	10.9		39.6				2.8		2.3	45.7						
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †			20.3	14				15.7				.8				
Pikit, Cotabato	13.7		7.1	4.6				29								
Awang, Cotabato †		4.6		15.2				7.1				.8				
Sirib, Guianga, Davao †		7.6			3						10.9	4.6	2.5	1.8		
Kabakan, Cotabato †				26.7	2.5					4.1			4.8			31.7
Bual, Dulauan, Cotabato						3.8		1.8		1.3	6.4		1.3		19.6	
Cotabato, Cotabato			2.5		4.1			2		1.8		1.8	.4	.5		1.3
Kabasaran, Buldun, Cotabato †		17.8	9.9	23.4	38.4	25.4										1.5
Naganaga, Margosatubig, Zamboanga		14	4.1		99.1	2.5		6.4	25.9	1.8		53.3	72.1	10.9		
Malabang, Lanao	2.5		50.8	50.8	14	26.7	3.3					20.3	14.2	13		21.3
Compostela, Monkayo, Davao †	3.6		8.4	1.5								21	2.8	4.6		
Lumbatan, Lanao †	3.8	25.4	35.6	16.5						5.1						2.8
Cateel, Davao			11.7	2.5												
Ganasi, Lanao	1.5	.3		32.3	15.5							24.9				
Camp Kalao, Monkayo, Davao						50.8	69.8					5.6				
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon	11.2					7.9		4.6	.8	50.8	33.5				14.2	
Camp Keithley, Dansalan, Lanao		1.3	5.8	.3	75.4	20.3	37.1	9.7	6.6	6.6		13.7	44.4	4.3	1.8	11.2
Pantar, Lanao †			2.5	1	15.2	1	11.7	15.7	9.4	44.9	.3	9.1	38.6	34.8	23.4	25.9
Veruela, Agusan			1.5	10.4	3.8	12.4	26.2	20.1	4.8	55.1		6.1	15.2	26.7	20.3	34
Sindangan, Zamboanga †			7.6			1.3		16.5	11.4		73.7	61	.5	12.2	4.8	8.9
Sumilau, Bukidnon				7.1	1.5	4.3	1.3	10.9	36.1	5.8		.8	3.3			5.3
Diklom, Tangkulon, Maluko, Bukidnon †					22.6	32	1.8	38.9	28.9	7.1	3.8	9.4	6.4	2.5		5.4
Cagayan, Misamis			5.3	5.1	7.9			9.7	6.9	.8	8.9	5.6	3	1.3		3
Talacogon, Agusan	*	*	*	*	*	*	*	*	*	*	*	1.8	3.3	4.8		
Butuan, Agusan								6.4	10.4	38.1	4.8	11.4	4.3			5.8
Mambajao, Misamis	4.8		4.1	1				3.6	2.5		.5		4.1			23.9
Dumaguete, Oriental Negros								27.9		2.3	24.1					8.4
Meeth, Yap, Western Carolines	.3	2.3		2.5	20.6	1.3			8.1					15	.6	7.4
Hacienda San Jose, Tanjay, Oriental Negros †											34.8			5.3	2.3	4.6
Hacienda Palanas, Bais, Oriental Negros †																
Hacienda Tamugon, Bais, Oriental Negros †								7.9						2.5		
Tagbilaran, Bohol						5.1	6.4	7.6		5.1			7.6			6.4
Iwahig Penal Colony, Puerto Princesa, Palawan									34.3	.6			2	.5		
Dalaguete, Cebu					10.4	.5			10.7	33.8	1	1.1	17.3	2.5	20.8	
Surigao, Surigao										.3		.3				8.1
Central Palma, Ilog, Occidental Negros															1.5	8.3
Hacienda Naval, Himamaylan, Occidental Negros		2.5	5.8	1.8		3	5.1	6.8	6.6	6.1	1.5	1	3.3	1.8	3.8	5.3
Biaong Cui's Farm, Barili, Cebu				1.3					3.6			8.1	.5			20.8
Maasin, Leyte									33			2				
Isabela, Occidental Negros										36.8						
Hacienda Tanolo, Hinigaran, Occidental Negros										12.2	6.9				13.7	
Cebu, Cebu	.8			53.3	3	69.8	2.5			7.6	4.6	4.9		4.3	1.3	2.5
La Castellana, Occidental Negros				51.6	3.8	1.5	.5		3.6	33.1		12.7	39.4	3.3	7.4	10.4
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †									3.3	5.1		17	4.1	1.5	1.5	4.6
Central Azucarera de La Carlota, La Carlota, Occidental Negros																15
Hacienda Canlaon, La Castellana, Occidental Negros				39.6					39.4	15.2	21.3	23.6	11.9	.8	5.1	5.3
La Carlota Experimental Station, La Carlota, Occidental Negros †		3.3		4.6				.8	19	9.1	14.7	19	12.2	1.3	33	49.8
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros									68.1	9.7	9.7	20.8	31	3.3	16.8	13.2
Hacienda San Antonio, San Carlos, Occidental Negros †				22.1	8.6				24.9	15	6.6	16	3.6	3.5	3.3	5.1
Valladolid, Occidental Negros																
Central San Carlos, San Carlos, Occidental Negros †					5.1	2.5	8.1			8.1	3.6	2.3	1.3	.3	27.7	
Hacienda Refugio, San Carlos, Occidental Negros †						4.3					1	.5			.8	20.3
Murcia, Occidental Negros					3.6											
Concepcion, Talisay, Occidental Negros					17.3				22.6		3.8	28.7	3.8	7.1	2	20.1
Iloilo, Iloilo			1.3	2.3						10.9	16.8					
Lapuslapus, Iloilo, Iloilo †					11.2					4.1	3.6			5.8	5.3	20.3
San Jose de Buenavista, Antique					3.6					4.6	5.1			8.4	3.3	.3
						14.2				1	3.6			10.7		1
										1.5	34.8	1.8	4.1	61		11.7

† Voluntary or cooperative station.

* No observation.

Daily rainfall at the stations of the Weather Bureau, May, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Tuburan, Cebu									3.6	13						0.3
Silay, Occidental Negros					12.4			24.6	14.5		14.5		7.9	0.3		105.4
Hawaiian Philippine Co., Malibug, Silay, Occidental Negros †				15.7	1.3			36.1	18		10.9		1.8		0.8	121.9
Cuyo, Palawan					5.6	4.8			5.9		8.1	1.3	3	15.5	2.5	
Lucena, Santa Barbara, Iloilo †																
Hacienda Ilaya, Victorias, Occidental Negros					2.5			10.2	17.3	1.8			4.1		2.5	92
Hacienda Bilbao, Manapla, Occidental Negros				27.9	4.3				17.8	7.6						66
Cadiz, Occidental Negros									4.3	2.5						16.8
Ormoc, Leyte								22.1	7.1		13.7			5.6	.3	5.9
Guiuan, Samar											28.2				.5	1.5
Bogo, Cebu						3.3		2.5	15		5.3				6.9	41.1
Dueñas, Iloilo †					25.9			8.4	40.6		4.3				6.6	
Bitaoagan, Passi, Iloilo †					10.2			33	20.8		13.5	4.8				2.8
Tacloban, Leyte								12.4		21.1			14.7			.8
Dumarao, Capiz †					50.8		1.8	50.8	47.8		20.8			45.7		1.3
Dao, Capiz †								15.2	38.1	1.3	3.6	.5		9.7	.5	3.6
Capiz, Capiz					6.8			1.8	11.2	12	.3	7.4	.5	6.1	10.2	
Borongan, Samar	0.8						1.3	14			25.2					17.6
Catbalogan, Samar				34.8						7.1	16.5				1.5	29.7
Calbayog, Samar				.5		3				2	5.1	1		.5	23.6	2.8
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †						2.5	10.2	11.9			15.3	4.1	2.5	33	5.1	5.6
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †						3	1.5	10.4		1	2.5	15.7	2	36.3	10.9	
San Jose Estate, San Agustin, San Jose, Mindoro †							16.3	29.2	27.9		9.4		2	.5	12.2	13.5
San Jose Estate, San Jose, Mindoro †						12.7	2.5	2	28.7	.8	6.1	3.8	.3	22.8	7.9	16
Masbate, Sorsogon						1	1.3	6.1	18		1			3	12	2.5
San Jose Estate, Tunnel D-12, San Jose, Mindoro †						6.6	.3		25.9		2	2.3	12.2	16.8	9.9	29.7
Romblon, Romblon											8.4	.8				
Batag Lighthouse, Laoang, Samar								47.8	.8	1.5	1.3		5.8	1.8		
Irosin, Sorsogon													.8	2.8	1.8	
Sorsogon, Sorsogon										2					13.7	1.5
Legaspi, Albay, Albay								7.8	.8	6.7	2.5		1.8		7.9	11.7
Sumay, Guam, Ladrone Islands						1		.5		1.5	5.4	11.4	.5	3.6	26.9	16
Calapan, Mindoro			1						11.4	7.9	1.5	2		.3	2.6	8.1
Virac, Albay										25.9						1.3
Naga, Camarines Sur	5					1	.1	2		11.2					2.5	1.8
Tigaon, Camarines Sur								7.1	119.6	26.7	2.3			61.2	6.6	3.8
Batangas, Batangas									3.8	3.8						19.8
Calatagan, Batangas			1						21.1		6.9	8.1			10.4	
Balayan, Batangas						2			7.1		3.3	7.6				1
Lipa, Batangas	13.2	14.2						45.7	.8					51.6	2	2.6
Lucena, Tayabas		12.2							29.7	3	1.8	6.9		1.5	15	2.6
Atimonan, Tayabas									9.9	2.8	1.8	1.1		39.6	43.7	1.3
Lian, Batangas						13				50.8		6.6	8.9		3	2.5
Nasugbu, Batangas						3.8		15.2	4.3		4.3					13.2
Ambulong, Tanauan, Batangas	1.8		41.9					1.5	1.5			2	.8	6.1	2.5	18
Mendez Nuñez, Cavite		24.1	1.3			8.9		20.3			.5	1.8		4.3	7.4	6.9
Alfonso, Cavite		.5				10.2	.3	21.1	.8	2.5	1.5	3.1	1.3	3.9	18.8	10.9
Indang, Cavite	2		6.6											.5		10.9
Canluban, Calamba, Laguna	14.7	8.1						43.4		2.3	.8			19.8	48	28.9
Silang, Cavite		43.9	11.4					.3	4.6					1.3	1.8	4.6
Maragondon, Cavite			2.8			.3		1.1	.3	6.1		5.3	4.9	4.4	10.7	42.7
Paracale, Camarines Norte						3.8		.3	34	15.3	1	1.3	.3	24.1	.3	22.6
Santa Cruz, Laguna		19	.8			6.6		17.8		5.1	5.1	2.8				3.6
Buenavista, Malabon, Cavite	2.3	3.3	1.5					8.9	.5			1.3		13.7	1.8	8.4
Imus, Cavite		27.9									1.8	3.6	2			3.6
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †		12.4														
Lamao Horticultural Station, Lamao, Limay, Bataan †					2.5	10.1	2.5		6.4	1.3	11.4	6.4		3.6	28.7	12.8
Manila, Manila		.3	.6			2		2.9	1	7.1	24.4	11.5	5.6	49.6	11.5	1.3
Antipolo, Rizal			38.1						2.5		7.4	2.4	4.3	80.5	14.9	6.1
Balanga, Bataan						4.6			1.8	1	9.4	17.3		1.5		10.2
Montalban, Rizal †	36.1	.8	.5	10.9	4.6	.8	4.8	.5	4.3	3.8	9.1	.5	3	15.2	27.9	1.3
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †																
Mabayuan Dam, Olongapo, Zambales †							2.1		2.3		.5	48.8	1.3			9.7
Pampanga Sugar Mills, Del Carmen, Pampanga †																
San Isidro, Nueva Ecija	1	2	12.4	1.3	5.3				15.2		12.7	10.9			5.8	
Iba, Zambales			.3					22.3	2.3	1	6.4	.5	4.8	11.4	4.1	1.5
Hacienda Luisita, Comillas, La Paz, Tarlac †					99.1											
Hacienda Luisita, San Miguel, Tarlac, Tarlac †					82			10.4	4.8	23.4	1.8		2.8	4.8	1.8	6.4
Tarlac, Tarlac	.8			6.4	25.4	.3			4.6	6.4	36.1	2.3			5.6	1.3
Muñoz Agricultural School, Muñoz, Nueva Ecija †		15.2	4.8						9.7		74	.8		23.6		13.5
Baler, Tayabas			24.1											29	14.5	1
Dagupan, Pangasinan						2	1.8	.5	3.8	8.4	.8	2		16.8		15.5
Bolinao, Pangasinan						25.4	11.4		.8	1	.5				7.4	
Baguio, Mountain Province						.3	9.9	3.4	2.1	35.5	31.9	44.3		12.2	31.7	47.5
San Fernando, La Union			5.9			.8	.3	4.4		17.8	2	.5		.3	9.1	8.3
Echagüe, Isabela	34	.8	14.5							11.4	7.6	9.4	14.7		20.1	52.8
Sagrada, Mountain Province †									8.4	11.2	17.5	9.1	2.8	3	1.5	2.3
Bontoc, Mountain Province †					8.1					10.4	3	5.3	3.6			2.5
Candon, Ilocos Sur					7.9					2.3	14.5	11.2				
Vigan, Ilocos Sur						35.3		45.6	6.6		13.7	3.3	23.6	3.3		
Tuguegarao, Cagayan		5	1	3.8						2	22.6	1		.6	8.1	
Lacag, Ilocos Norte						75.7		44.2	3.5	7.1	17.5	1.3	25	9.9	5.3	.5
Aparri, Cagayan								3	1	1.5	6.1		6.3	59.2	.3	
Cape Bojeador, Burgos, Ilocos Norte					10.4	17.5	32	5.3	7.6	5.6			23.1	4.1	11.2	
Basco, Batanes	1.5	3	7.9	13.5	.3	19.6	88.7	16.8	23.1	12.7	2.8	6.1			.3	

Daily rainfall at the stations of the Weather Bureau, May, 1920—Continued.

Station.	Day of month.															Total.	
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
Lapac Agricultural School, Siasi, Sulu †	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Glan, Cotabato †					2			13.5				5.3	19	1.3			99.8
Jolo, Sulu	29.7											5.7		10.2			68.7
Lais, Malita, Davao			1.5					14.5									98.9
Lebak, Cotabato					4.6			45.2	19	8.6	4.6		19.8		18.8		63.7
Lamitan, Isabela, Zamboanga		33.8		36.1							16.5	1					262.9
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †						3.8									27.2	3.6	250.2
Basilan Plantation Office, Isabela, Zamboanga †																	81.3
La Union, Sigaboy, Davao †		2.3		28.4				2.5	8.4	.5	5.8	6.1		2.3	2.5		36
Paranglalap, Isabela, Zamboanga †																	104.7
Latuan, Isabela, Zamboanga †								2.5				6.1			6.6		34.8
Buluan, Cotabato †		2.8	4.1	1.3			11.2	4.3				3					43.6
Malamaui, Isabela, Zamboanga								3	91.4	3.6	30.2		1.5				232.5
Zamboanga, Zamboanga												6.4					58.6
Cagayan de Sulu, Sulu †												3.3	3	1.8	5.3		15.3
Kidapauan, Cotabato †		19	49.5				15.5	15.2	20.3	2.8	52.1	7.6					180.6
Davao, Davao		3.8						2	23.4		76.2	44.4	50.8	20.3			403.4
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †																	170.4
Pikit, Cotabato				14.7				1.5	18.5								70
Awang, Cotabato †	12.7	8.6						10.4	3.6								86.7
Sirib, Guianga, Davao †					3.3	5.8			2.8			14.2	16.3		5.1		105.6
Kabakan, Cotabato †			1.3	3.8	14.5			27.9	2.5	3.8			2				111.1
Bual, Dulauan, Cotabato				2.5				6.6	37.1	18.5			1	4.1			113.6
Cotabato, Cotabato	.5			8					1	8							98.9
Kabasaran, Buldun, Cotabato †		7.6	12.7					6.1	2.5		40.6			7.6			19.9
Naganaga, Margosatubig, Zamboanga			32.8	16									25.9	8.6			192
Malabang, Lanao		25.9		6.1	4.1			10.4	15.2	5.8	1			8.1	33.5		380.2
Compostela, Monkayo, Davao †									2.5	16.8							358.8
Lumbatan, Lanao †	.5			7.6	25.4		25.4	17.5	12.7	3.8	8.6	10.1	14	2.5	34.3		41.9
Cateel, Davao				1.8	4.1	3.3		2.8	1.3				5.8				251.6
Ganasi, Lanao				2.5					49			9.9	1				49
Camp Kalao, Monkayo, Davao		2		2.5										10.7			194.1
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon	4.1	25.4	1.8	57.4	10.2				15.2	6.4	2	2.8			24.6		177.8
Camp Keithley, Dansalan, Lanao	1.3	.8	20.5	2	18			1.3	6.4	.8		42.4	2.8				392.2
Pantar, Lanao †	2.5	.5	1.5	1.3	10.2		.3	.8	.8	20.1		29.3	29.2	1			358.7
Veruela, Agusan	1.8				1.5				.3			2.8		4.8			325.7
Sindangan, Zamboanga †				2	.8				1.3			8.9		26.4			213.4
Sumilau, Bukidnon	21.8	1.3	9.4	14.5	4.6			1.3	1.8			1.8		12.2		1.8	114.3
Diklom, Tankulan, Maluko, Bukidnon †			2.5	7.9	6.1			2.5		17.8		24.9	.5				237.9
Cagayan, Misamis				2.5	11.4				.8								119.7
Talacogon, Agusan	4.3	14.5						5.6	.5								20.6
Butuan, Agusan		9.9		.5				16.8	3							5.6	115.8
Mambajao, Misamis												4.8				4.8	80.8
Dumaguete, Oriental Negros					13			22.1									72.8
Meeth, Yap, Western Carolines	6.2		5.6	.5	12	28.7	3.8	31.7	3.3	.5		7.9	12.7	30.5			92.1
Hacienda San Jose, Tanjay, Oriental Negros †																	217.4
Hacienda Palanas, Bais, Oriental Negros †				3.3			4.8								15.2		0
Hacienda Tamugon, Bais, Oriental Negros †																5.1	33.7
Tagbilaran, Bohol				1.1	7.4									3			43.3
Iwahig Penal Colony, Puerto Princesa, Palawan		.3		5.6	1.3		1.3			19							48.9
Dalaguete, Cebu				4.8	6.4							7.9	3.8				136.8
Surigao, Surigao										.3		3.3		4		.8	32.1
Central Palma, Ilog, Occidental Negros	2			1.3		1.8	2									1.3	13
Hacienda Naval, Himamaylan, Occidental Negros					3.3					6.9			9.4	3.8			66.1
Biaong Cui's Farm, Barili, Cebu				40.6									2.5				106
Maasin, Leyte																	74.3
Isabela, Occidental Negros		52.8			4.3	3		27.9	26.4	3.8	95.5	15.5		3	1.5		32.8
Hacienda Tanolo, Hinigaran, Occidental Negros		56.4	.3		2.5			14.5	1.6		.5				.5		258.9
Cebu, Cebu				11.7								24.4			2.5		281.4
La Castellana, Occidental Negros	.5	33	.3	3	2.3					44.7		34.8	9.2		15.7		93.9
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †	26.7		19.3				13.5	1									239.9
Central Azucarera de La Carlota, La Carlota, Occidental Negros		21.1	1		2.5	6.9				3.8		41.4	2.5	4.6	15.5		69.6
Hacienda Canaan, La Castellana, Occidental Negros				3.8		21.6				8.9			25.4			1.8	263.8
La Carlota Experimental Station, La Carlota, Occidental Negros †			35.6			4.8		2	.8	1	8.6	66.8	1		1.5		232.1
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	.5	1			1.5		.3	3.6	14.5	1.3	3.6	18.5	1.8	1	33.8		339.4
Hacienda San Antonio, San Carlos, Occidental Negros †				22.4								3					193.1
Valladolid, Occidental Negros	20.8				4.8	2						30.5	29.2	.5			53.1
Central San Carlos, San Carlos, Occidental Negros †		1	1	2.5	39.1						4.1		9.1		71.1		142.7
Hacienda Refugio, San Carlos, Occidental Negros †				15.7							15.2				6.6	18.5	154.8
Murcia, Occidental Negros			.5		.5			6.4		4.8		17.3	8.6				66.2
Concepcion, Talisay, Occidental Negros		2	.5		1.8				20.8	6.1	5.8	2.3				2.3	138.4
Iloilo, Iloilo		4.8	.8	1.3	.3							.8	1.3		8.7		53.7
Lapuslapus, Iloilo, Iloilo †			2.5	1	.3							2	2.5		3		39.3
San Jose de Buenavista, Antique	15.2	3.3	1.5	10.4	3.6					7.1		5.1	12.5				192.4

† Voluntary or coöperative station.

* 20 days of observation only.

Daily rainfall at the stations of the Weather Bureau, May, 1920—Continued.

Station.	Day of month.															Total.	
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
Tuburan, Cebu					3.5				0.8	2.3		1				36.9	
Silay, Occidental Negros		0.3	4.1	1.8							2.5				5.1	239.4	
Hawaiian Philippine Co., Malibug, Silay, Occidental Negros †		1.5	7.9	.5	.5						.3	4.3			22.6	244.1	
Cuyo, Palawan	1.3	1.5	4.3	8.6	5.4			2.8	16						1.5	88.1	
Lucena, Santa Barbara, Iloilo †			1.8					4.3	3					3.6		12.7	
Hacienda Ilaya, Victorias, Occidental Negros			2.3		1						1.8	13.2			75.7	224.4	
Hacienda Bilbao, Manapla, Occidental Negros		11.4									3.6	2.3		30.5	39.4	210.8	
Cadiz, Occidental Negros		1.3		2.8											16.5	44.2	
Ormoc, Leyte	.8		.5	36.6	1.3			3.3	9.4						11.7	123.6	
Guiuan, Samar		3.8		5.1		0.5	2	1					5.1	25.7	11.7	85.1	
Bogo, Cebu	1		7.6		5.8				13	65		26.9		9.9	15.2	218.5	
Dueñas, Iloilo †	17.5	15.5	20.6	42.2				3.8		47.5					13	245.9	
Bitaoagan, Passi, Iloilo †			43.9		6.4			19.3	18	3.8	1.8					178.3	
Tacloban, Leyte	1.3														2.5	52.8	
Dumarao, Capiz †		17.8		36.8	24.1				30.5	30.5						358.7	
Dao, Capiz †	.5	19.8	18.8	3.8	50.8				10.9	.5	14.7	15.2		5.1		212.6	
Capiz, Capiz	22.3	.8	4.3	29	33.8		10.2				9.9	16.7		.8	4.1	188.2	
Borongan, Samar	9.1	7.1	16.5		9.9		3.3							3.8	9.9	118.5	
Catbalogan, Samar		8.4	3.3	19				5.1						14	2.5	141.9	
Calbayog, Samar		23.4	1.5	9.2				1.8				4.6		8.9	1	86.2	
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †		30.4	26.2	29.2	.3							1.3	12.7	5.1		195.4	
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †				22.6	2	12.2						40.6	11.4	.5		172.6	
San Jose Estate, San Agustin, San Jose, Mindoro †		3.6	21.3	12.4												148.3	
San Jose Estate, San Jose, Mindoro †	.6	2.3	12.7	7.6	6.1							16.5	1.3	2.3		153	
Masbate, Sorsogon	63.3	45.7	8.6	3.6					.8		7.6	3.8				178.3	
San Jose Estate, Tunnel D-12, San Jose, Mindoro †	1		13.2	30.2	2.3	.3						18.3	26.7	8.6		206.3	
Romblon, Romblon	14.2			.8												34	
Batag Lighthouse, Laoang, Samar	2.5	39.6	4.3	14.2										13.2	11.4	143.7	
Irosin, Sorsogon	2.5	1	2.8	6.8											14.2	32.2	
Sorsogon, Sorsogon	3	5.3	3.6	2.3	2.5							1			7.4	42.3	
Legaspi, Albay, Albay	.5	.8	24.6	1			1	1.5			19.6				4.8	91.5	
Sumay, Guam, Ladrone Islands	7.6	7.9	.3		5.9		2.5			.8		1.5	1.5	8.4		104.7	
Calapan, Mindoro	1.8		1.8		3	7.1								42.4		90.9	
Virac, Albay							14		8.4					.8		50.4	
Naga, Camarines Sur	3.6	33.3	42.2	.9	8.9			18.3	1.8				2.3			130.9	
Tigaon, Camarines Sur	9.9	24.1	6.1	19.8	1.3	6.4	.5					.5				295.9	
Batangas, Batangas	3		13.2													43.6	
Calatagan, Batangas	13.5		8.6		.3											69.9	
Balayon, Batangas	9.4	1	20.6													53	
Lipa, Batangas	1.5		2.3		2	17						25.6	.8		1.5	178.2	
Lucena, Tayabas	11.4	.8	11.7	8.9												105.5	
Atimonan, Tayabas	3.6		29.2	9.7	1.5											145.5	
Lian, Batangas	2.8		4.3		1.8											93.7	
Nasugbu, Batangas					.5						6.4					47.2	
Ambulong, Tanauan, Batangas	1.5							20.5				1.5	1	2		103.1	
Mendez Nuñez, Cavite	7.9					34.3									3.3	121	
Alfonso, Cavite	20.3	2.3			.5	31.8		23.6	9.4			23.6	1	4.1		190.5	
Indang, Cavite	29.7	2.8				34.3		16.8	5.1			4.6	3.3	.3		119.2	
Canluban, Calamba, Laguna	33.5	27.4	16.5		1.5							3.3	3.3	9.9		261.9	
Silang, Cavite	3	3.8	40.6		4.8	10.7		27.2	1.8	.5	1.3					162.4	
Maragondon, Cavite	2.5	25.9	.3	1	6.4	2.6	.3			4.1	1.3			30.7	4.6	157	
Paracale, Camarines Norte	52.1	2.5	13	4.1	3.6	17.5								1		196.8	
Santa Cruz, Laguna	3.8	4.8			1.5			17.2				1	7.6			96.7	
Buenavista, Malabon, Cavite	15	28.2			61.5	13.5				5.6	1.8	3	3.8			174.1	
Imus, Cavite	4.3	50.3		2.3	17.8			5.8		.8			22.8			143	
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †	27.9	1.3		3.8	6.4											114.7	
Lanao Horticultural Station, Lanao, Limay, Bataan †	6.8			.5									5.6			139.6	
Manila, Manila	.7	49.9	3.6	6.4	1.3					.5						140.9	
Antipolo, Rizal	35.6	3	2.5	7.6	7.1								3	8.6	2.3	144.6	
Balanga, Bataan	19.3				20.3								39.6	3.8	3.8	144.8	
Montalban, Rizal †	12.4	8.9	14.2	12.4				.8				2	2.3	13.5		190.6	
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †	.8	3.8	26.4	26.2	2.5			3.8								163.1	
Mabayuan Dam, Olongapo, Zambales †	50.8				10	15.2										130.5	
Pampanga Sugar Mills, Del Carmen, Pampanga †	7.6	13.2		14	4.1						2.8					86.3	
San Isidro, Nueva Ecija	41.2	30.7	40.6	7.6	1.5			6.4		24.9	.3	9.2				213.4	
Iba, Zambales	7.6	4.1			3.3											158.4	
Hacienda Luisita, Comillas, La Paz, Tarlac †	1.5		2	2.5		1	1.8					1.5	1	.5		175.4	
Hacienda Luisita, San Miguel, Tarlac, Tarlac †	.8		3	1.8		.8	2.5					2.3				148.4	
Tarlac, Tarlac		8.9	.3	5.1		8.1							5.1		23.9	143.6	
Muñoz Agricultural School, Muñoz, Nueva Ecija †	1.8	5.3	7.1	2.5	6.6		7.1									95.5	
Baler, Tayabas	7.6	29.2	48.8	30.5	.5					12.2						281.9	
Dagupan, Pangasinan	4.8	11.4	3.6		.8	1.8		5.6						1.8		80.9	
Bolinao, Pangasinan	32.2	13.7	.3	6.4	18.8	.8						15.2				134.7	
Baguio, Mountain Province	46.9	18.3	13.3	14.4	9.2	3.3		24.4		3.8				3	1.1	362.7	
San Fernando, La Union	.3	28.4		1.3	.3	1							22.4			90.4	
Echagüe, Isabela	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	187.7
Sagrada, Mountain Province †	13.2	8.9	7.1	48.3	9.4	10.9	5.6	.3				9.4	19	22.6	6.1	228.2	
Bontoc, Mountain Province †	10.2		20.3	46.2	11.7	43.9	13					11.4	21.3	17.3	38.1	266.1	
Candon, Ilocos Sur		22.9		23.4	14.5	53.3							4.3			190.8	
Vigan, Ilocos Sur	6.4	1		27.9	1.3											159.2	
Tuguegarao, Cagayan					1.3	10.4							5.1	5.8		87.9	
Laoag, Ilocos Norte				9.1	10.4	.8		.5								217.9	
Apurri, Cagayan	4.8												44.9			92.3	
Cape Bojeador, Burgos, Ilocos Norte					6.9											123.7	
Basco, Batanes					35.3	9.7	4.3			.8		10.4		49.5	4.3	310.6	

MAXIMUM AND MINIMUM TEMPERATURES AT THE STATIONS OF THE WEATHER BUREAU, MAY, 1920.

Day.	Jolo.		Lais, Malita.		Lamitan, Isabela, Zamboanga.		Malamau, Isabela, Zamboanga.		Zamboanga.		Davao.		Pikit.		Cotabato.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30	23.3	32.1	23.6	30.2	21.8	32.1	24.1	29.2	24.2	32	23.4	34.6	23.4	31.2	23.6
2	30.3	22.7	31.8	23	32.5	21.7	32.1	24	28.7	23.5	31.2	28.7	34.1	23.6	32.2	24
3	29.7	23.5	33.4	22.5	31.6	20.4	31.4	24.1	28.5	23.1	33.2	23.4	34.6	25.1	31.5	24.6
4	31.2	22.2	31.4	23.4	32.4	21.7	31.2	24	29	23.5	32.3	23.5	34	23.2	32.4	23.6
5	29.4	22.9	31.7	23	33.5	20.9	31.5	23.1	28.2	24.4	32.2	23.2	31.1	23.8	30.8	24
6	30.3	23.4	31.8	22.9	31.5	22.6	32.6	23.3	29.5	23.7	31.7	23	34.4	22.5	30.4	23
7	31.1	24.3	30.3	22.5	32.4	21.8	31.6	22	29.3	23.7	33.2	23.5	34.6	22.5	33.5	22.3
8	30.4	24.1	32	23.4	32.8	21.5	33.1	23.4	29.8	24.3	32.2	23.9	33.4	23.3	33	22.8
9	29.9	24	31	23	33.5	22.4	32.6	24.1	29	24.5	31.5	23.2	34.4	23.2	32.6	23.4
10	31.5	22.9	32.2	22.9	29.2	23.3	32.1	24	28.4	24	31.7	22.5	34	23.2	31.6	23
11	32.5	22.9	32.4	22.5	30.2	19.5	32.3	24	29.5	23.5	32.8	23	35.3	23.9	31.4	23
12	31.4	23.7	31.3	23	31.5	21.2	34.1	24	28.5	24.1	32	24	35.8	24.2	32	23.2
13	30.6	24.4	32	22.5	33.7	22.2	33.3	24.1	29	24.6	31.7	22.3	34.3	22.6	30.9	22.1
14	32.3	24	31.5	22	33.5	20.6	34	24	29.5	24.3	31.5	22.8	35.6	22.8	31	22.4
15	31.8	23.2	32.1	23	28.8	23.4	33.1	23.5	29	23.5	31.2	22.5	33.2	22.3	31.9	22.6
16	32.3	24.1	32.3	22.6	31.5	22.5	32.6	24.1	30	23.9	31.7	23.1	34	21.8	31	23.4
17	31.3	23.9	31.9	23.1	32.4	21.6	33.5	24.5	29.5	23.6	31.5	23.5	34.3	22	31.1	22.1
18	31.1	23.1	32.2	23.5	31.4	22.4	33.1	23.5	28.7	23.4	32	23.2	35.4	22.5	31.2	22.8
19	31.7	22.8	32.5	22.6	32.5	21.5	33.5	24.4	29	23.5	31.7	23.3?	33.8	23.5	31.9	22.8
20	31.2	23.1	33.7	22.8	30.2	18.9?	33.5	24.1	30	23.2	31.7	22	35	22	32.2	22
21	31.9	23.6	32.2	22.3	34.5	18.6?	33.1	24	29.5	24.4	31.8	22	34.1	22.3	32.1	22
22	33	24	34.4	22.6	31.7	21.4	33.5	24.1	31.6	24	31.7	22.5	35	22.8	34	23.2
23	33.1	22.5	34.7	23.3	32.5	21.9	33.6	24	29.5	24	32.5	22.7	34.9	22.8	34.5	23.6
24	29.6	23	32	24	33.5	22.4	31.1	24.1	29.2	24.2	32.7	23.8	35.4	24.9	31.8	23.4
25	30.1	22.5	33.3	23.1	32.3	20.3	31	23.5	28	24.4	32.2	23.8	34.3	23	32	22.5
26	30.4	22.8	34.2	23.2	32.5	21.4	31.6	24	27.9	23.7	31.2	22.3	34.1	22.7	31.8	22.4
27	30.5	22.8	33.2	22.5	32.5	21.8	33.1	24.1	28.5	23	31.9	23.5	34.7	23.8	32	23.1
28	30.3	22.9	32.2	22.4	33.5	21.2	32.2	23.5	29.3	22.8	31.7	24	35.4	22.8	31.4	23.6
29	30.9	21.9	33	22.7	32.8	20.3	33.5	24.1	28.8	23	30.8	23.4	34.4	23.6	34.7	23
30	29	22.6	33.6	23	33.5	21.5	32.3	23.1	28.5	23.8	32.7	23.2	35.3	23	33	23.8
31	30.5	21.6	34.2	23.5	32.7	20.2	31.1	24.2	28	23.5	31.2	24.2	34.5	23.7	32.2	24.2
Mean	30.9	23.2	32.5	22.9	32.2	21.4	32.6	23.8	29.1	23.8	31.9	23.2	34.5	23.1	32	23.1

Day.	Naganaga, Margosatubig.		Malabang.		Cateel.		Ganasi.		Camp Kalao, Monkayo.		Mailag, Malaybalay.		Camp Keithley, Dansalan.		Veruela.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33	23.3	32.5	23	30.6	22.2	29.5	18.5	33.5	22.5?	34.1	20.2	28.8	18.5	32.6	22.2
2	34.5	22.2	32.5	23	30.4	23.5	30	18.1	32.3	22.5	34.6	22.2	29	18.6	31.2	22.4
3	33	23.5	32.5	23	31	22.3	30.6	20	32.5	21	32.6	18.8	27.9	20.2	21.8	25
4	35.2	23.2	33	23.5	30.6	23.2	29	19	34.5	22	34.4	20.4	28.1	18.1	33	22.7
5	33.3	23.5	32.5	24	30.5	22.2	30.6	20	32.5	22	33.6	19.5	29.3	19.1	33.2	22
6	33	21.7	32.5	23.5	31.5	22.4	28	20	35	22.5	33	20.4	27.4	20.2	34	22.7
7	35	23.2	32.5	23.5	31.2	22.8	28	19	33	21.5	33.6	21.2	29.3	19.4	34	22.2
8	34.5	23.9	32.5	22.5	31.6	22.5	29.9	19	32.5	21	33	20.2	29.6	19.1	34.9	21.4
9	33.7	22.2	32	23.5	31.4	23.4	29.8	18	32.5	22.5	33.5	19.2	27.5	18.5	32.6	22
10	33.5	22.5	33	21.5	31.2	21.8	28	17.3	33.7	21	32.2	20.4	26.9	19	33	22
11	34.5	21.5	32.5	22.5	31.5	22.5	28.7	18	33.5	21	33	21.4	26.6	18.2	34	21.7
12	34	23.2	32.5	21.5	30.5	23.3	29.7	18.2	32	22	32.5	21.7	26.4	19.6	32.8	23.2
13	33.7	23.5	32.5	22.5	31.3	21.6	29.8	18.3	33.5	20	32.6	19.7	27.8	18.7	32.5	21.3
14	33.2	23.2	32.5	22.5	31.5	21.4	29	18	33	21.5	32.5	19.2	27.9	20.4	34	23.7
15	33.5	21.5	32	21.5	32	21.4	29	17.8	33.5	21	31.2	18.5	27.6	18.1	33	21.2
16	34.3	22.2	32	22	31.6	22.6	29	17	32.5	21.5	31.5	20	27.8	19	35	22.3
17	34.5	22	32.5	21.5	30.5	22.4	28	18	33	22	32.1	21.5	28.3	18.8	33	23
18	34.3	22.5	32.5	21.5	31.6	22.6	29.4	19	33.5	22.5	32.2	20.3	27.9	19.5	33.6	22.8
19	35.2	23.2	33	21.5	31.1	22.4	29.5	17.8	31.5	21.5	33.3	20.3	27.4	19	30.5	21.5
20	34.2	22.5	32.5	22	31.9	22.5	29.3	16.9	32.5	21	32.5	20.6	29.2	17.9	33.5	21.7
21	34	22	32.5	22	31.5	21.6	29.6	18.5	33	20.5	32.8	19.7	27.5	18	33	23.5?
22	33.5	22.2	32.5	21.5	31.6	22.1	29.8	18.5	33	22	33.1	19.1	28.8	18.4	33.4	23
23	34?	22.5	32.5	21.5	32	22	30	18.8	34	22	33.1	19.2	28.8	17.5	32.9	23.5
24	34	22.5	33	21.5	32.5	23	31.4	18.8	33.5	21	32.4	19.5	27.7	19.5	31.8	23
25	34.5	23.2	32.5	22	29.2	23.1	29.8	16.8	30.4	23	33	19.8	28.8	18.1	29.4	23.8
26	33.2	22.2	32.5	21.5	31.5	23.1	29.6	15.9	34.2	21	32.5	19	29.5	18.6	32.6	23.5
27	33.5	22	33	22.5	31.5	21	29	18.3	35	22.5	33.1	19.7	28.3	19	33.5	22.8
28	33.3?	22	32.5	23.5	32	22.2	29	18.8	34.5	22	34.2	20	29.3	19	32.2	23
29	34.5	22.5	32.5	22.5	31.8	22.8	29	18.8	35.5	21.5	33.5	19.4	29.3	18.7	33.7	21.2
30	34.3	22	32.5	23.5	32.5	22.2	29	18	31.5	21	33	18.6	29.3	17.7	32.2	23
31	33.5	23.1	33	22.5	30.3	23.2	29	18	32	22.5	33	21.4	27.7	20.1	31.6	24
Mean	33.9	22.6	30.5	22.4	31.3	22.4	29.4	18.3	33.1	21.7	33	20	28.4	18.9	32.9	22.4

Maximum and minimum temperatures at the stations of the Weather Bureau, May, 1920—Ctd.

Day.	Sumilau.		Cagayan.		Butuan.		Mambajao.		Dumaguete.		Meeth, Yap.		Tagbilaran.		Iwahig Penal Colony, Puerto Princesa.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.6	18.5			34.7	22.4	30.5	22.4	32.2	23.9	30.9	26.4	31.1	21.5	34.5	22.1
2	30.7	18.8			33.4	22.7	30.7	24.1	32.3	24	32	26.7	30.9	22	34.2	21.9
3	31.1	19.1			34.6	23	30.4	25	32.7	24.1	31.1	26	31.8	22.7	34.2	22.1
4	31	18.6			34.4	23.4	30.4	25.3	32.6	24.7	31.2	26.8	31.5	22.9	34	23
5	30.8	19.1			34.1	23.3	30.9	23.4	32.9	24.6	31.2	25	31.8	22.9	34.7	22.8
6	29.2?	19.2			33.9	23.7	32.3	23.5	32.4	25.1	30	25	32.8	24.9	34.3	22.3
7	30.4?	19.8			33.9	23.2	32.5	25.3	31.6	24.7	30.7	24.5	32.6	25.2	33.8	22.3
8	30.6	19.5			34.6	23	32.7	26.4	33.7	24.9	31.8	24.5	33	25.9	32.7	22.6
9	30.4	19			35.9	22	32.4	24.2	31.8	24.8	32.3	25	32.7	23.2	32.8	22.4
10	29	19.1			33.9	22.7	32.9	25.1	32.8	23.9	33.2	25.9	31.2	22.9	32.5	22.6
11	30	19.6			34.6	23.2	32.2	23.5	31.8	24.3	32.2	24	31.4	24	30	22.4
12	29.1	19.9			34.4	23.8	33.5	24.4	31.9	23.8	31.9	23.7	31.8	24.5	32.3	21.8
13	29.9	18.1	33.2	22	34.7	22.3	34	24.9	32.2	24.6	32.2	24	31.6	26	31.8	22.1
14	29.3	19.6	33.3	23.2	34.5	22.8	33.9	25	33.5	23.9	32.8	24.5	32.2	24	31.8	22.8
15	29.3		32.2	22.5	33.9	23	33.4	25	31.8	23	32.6	24.6	32	23.9	32.2	22.4
16	28.5	18.1	32.6	22.6	33.1	23	33.8	24.4	31.3	23.4	32.7	24.7	31.8	23.9	31.8	21.4
17	29	19.6?	31.8	22.7	32.3	22.9	33.5	24.4	31.5	24.2	32.1	24.6	32.2	24.2	32	23.4
18	30.2	18.4	32.7	22.3	34.1	23.1	33.5	24.4	32.8	23.5	30.9	23.7	33.2	23.6	31.8	23
19	28.6	18.2	32.7	22.8	32.1	21.6	32	25.3	31.9	24.1	31.2	23.7	32.1	24.1	30.3	23.2
20	30.3	18.7	33.6	22.4	32.6	22.3	30	23.5	30.9	23.7	31.2	23.5	31.2	23.9	32.2	23.2
21	29.7	19.1?	33.4	21.2	33.6	22.3	30.8	22.8	32.1	24.4	31.2	25.3	31.8	23.8	30.9	22.3
22	30.3	18.6	31.8	21.8	33.7	22.2	30.5	24.2	31	23.9	30.8	24.3	31.3	24	31.7	22.5
23	31.2	17.8	33	22.2	34.8	23.2	31	25.4	31.8	25.2	30.9	25	32.2	23.1	32.3	22.5
24	29.4	18.2	33	21	33.9	23.3	31.6	25.4	31.7	25.3	31.3	26.2	33.3	24	32.4	24.2
25	28.1	18.7	33	22	32.2	22.9	30.9	23.4	32.4	24.3	30.5	24.5	32.7	23.9	33.2	22.5
26	30.1		32.5	22.7	32.9	23.4	31.9	23.8	32	23.7	32.1	24	32.1	23.5	33.2	22.2
27	30.2	19.7?	33.6	21.8	35.1	23	30	24.3	31.9	24.6	32.7	24	32	22.9	32.9	22.4
28	30.6	18.1	33	20	35.1	23.6	31.4	23.9	31.3	24.5	32.7	23.6	32.8	24	32.3	22.4
29	31	18.1	33.4	22.8	34.1	23	30.6	23.8	31.9	24.8	32.2	25.1	31.4	23.6	32	22.3
30	30.3		33.2	22	35.1	22.4	30.7	23.5	32.1	25.9	29.5	23.5	32.5	23.7	32.6	22.5
31	28.7	16.4	33.4	23	33.1	23.2	29.1	24.8	31.9	24.5	30	26.7	31.6	24	32.6	22.5
Mean	29.9	18.8	32.9	22.2	34	22.9	31.8	24.3	32.1	24.3	31.6	24.8	32	23.8	32.6	22.5

Day.	Dalaguete.		Surigao.		Hacienda Naval, Himpalaylan.		Biaong Cui's Farm, Barili.		Maasin, Leyte.		Ysabela, Occ. Negros.		Hacienda Tanolo, Hini-garan.		Cebu.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	
1	32.5	21.7	31.3	22.9	34	24.2	32.8	24.6	34.2	23	35.1	22.7	33.7	23.5	33.2	26.5
2	31.4	22.1	31.3	24	34	21.6	33.1	23.8	34.5	22.7	35.6	21.5	34	22	32.5	25.7
3	32.5	23.5	31.4	24	34.3	23	33.5	22.6	34	23.6	34.8	23	35.4	22.2	31.8	26
4	32.3	22.8	31.2	24.4	33.5	21.6	32.6	25.5	35	22.8	34.8	22.7	33.5	22.9	32.9	25.7
5	31.9	23.4	30.4	23.6	34.6	23.5	32.3	24.9	34.8	23	34.6	22.2	32.5	22.6	31.3	26.3
6	32.8	23.5	31.9	24.5	34.6	24.2	35.2	22.8	34.2	22.8	33.3	22.7	31.2	24.5	32.3	26.7
7	32.7	24	32.9	24.2	33.6	23.6	36.5	22.5	34	24	34.1	23	31.5	23.8	31	25.4
8	32.1	23.1	32.9	24.3	32	23.8	35.2	24.2	34.4	24.2	33.8	23.6	31.6	24.1	32.1	26.6
9	32.3	25.3	31.6	25.1	33	23	35	21.8	33	24.6	33.3	20.4	31.1	22.6	31.4	25.8
10	31.6	23.5	31.8	24.5	32.4	22.7	31	21.2	34	23.9	32.8	22.4	30.8	22.4	30.7	22.5
11	31.5	23.4	31.6	24.1	33.5	23.4	32.4	22.8	32.8	23.6	33.2	23.5	31.5	23.4	30.9	24.3
12	32.7	22.6	31.8	24.6	32.4	23.5	33.5	22.7	33.8	23.4	31.6	23.6	30.6	23.3	30.6	26.5
13	31.6	24	33	23.8	32.6	23.5	33.2	22.6	32.7	24.6	31.9	23.9	30.9	23.2	31	25.5
14	33.5		32.4	24.1	30.5	22.7	35.6	23.2	34	24.8	29.8	22.5	28.6	22.5	30.3	25.7
15	32.3	23.2	31.4	24.7	30.9	22.6	32.8	22.8	32.2	23.4	31.4	22.8	29.7	22.5	30.4	26.1
16	32.1	23	32.3	24.2	33.2	21	34.2	23.5	34.2	24.4	32.3	22.8	30.6	22.9	31	25.4
17	31.8	23.7	31.8	24.8	31.2	23.2	32.6	22.9	32.8	24.4	31.8	23.4	30.7	22.8	30.6	25.3
18	32.2	22	32.2	23.6	32.7	23	33.5	22.9	33	24.8	32.8	22.8	31.2	22.9	31.2	25.9
19	31.6	24.7	29.9	24.4	32.9	22.7	31.6	22.4	32.6	24.5	31.3	23	30.1	22.9	30.7	25.7
20	31	23.5	29.7	24.1	31.2	22.7	32.5	22.1	31	24.8	31.9	22.6	30.5	22.8	30.2	24
21	31.1	23.9	31.9	23.6	31.6	22.2	30.2	22.5	32	24.2	31.6	23.5	30.6	23.2	30.4	24.9
22	30.4	24.7	32.6	23.7	31.2	23.1	32.2	22.6	34.2	24.4	32.8	21.8	31.4	21.7	31.5	25
23	31.5	25.1	32.3	23.3	32.4	23	32.5	22.5	34.4	24.6	34.7	23.2	34.4	23	31.8	26
24	32	21.3	31.4	24.4	33.4	21.8	32.8	22.8	34.1	24.8	35	24	32.5	24	32.2	26.5
25	32	24	31.8	24.2	33.8	24	33.1	21.5	34	24.9	32	22.9	30.8	23	32.7	26.4
26	32.4	25.1	31.8	23.7	31	23.2	32.8	23.9	34.4	24	32	22	31.3	22.1	32.8	26.1
27	32.3	23.3	31.8	24.7	31.6	23	33.9	23.7	35	24.2	31.7	23.4	31.1	23.6	32	26.1
28	32.2	24.4	32.2	24.4	33.9	21.8	33.5	23.2	35.1	23.8	33	22.2	32	22.5	31.4	23.9
29	32.5	25	32.4	24.7	33.3	23	34	22.7	33.4	24.1	31.4?	22.8	32	23	32.2	24.4
30	32.6	24	31.2	23.7	32.4	23.6	34.5	25.2	33.6	24	34.4	22.3	33	22.5	32.8	26.2
31	31.8	23.6	29.4	24.5	32	21.5	34	25	33.4	24	32.2	23.4	31.5	23	32.3	26.1
Mean	32	23.6	31.7	24.2	32.7	22.9	33.3	23.1	33.7	24	32.9	22.8	31.6	22.9	31.6	25.6

Maximum and minimum temperatures at the stations of the Weather Bureau, May, 1920—Ctd.

Day.	La Castellana.		Central Azucarera de La Carlota.		Hacienda Canlaon, La Castellana.		Maa Sugar Central, Bago.		Murcia.		Concepcion, Talisay, Occ. Negros.		Iloilo.		San Jose de Buenavista.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	36.5	22.5	34.9	23.7	34.4	21.2	35.8	22.3	36	22.3	34.1	22.9	34.4	23.2	33	22.3
2	36.7	21.3	34.9	22.4	34.6	20.6	35.8	21.7	35.5	21.3	34.2	23	35.1	24.7	33.8	23
3	33.8	22	35.7	22.4	35	20.4	36	21.5	36	21.8	35.2	21.9	33.9	23.7	33.7	22.3
4	37.5	22.2	34.9	23.4	35.1	21.6	36.2	21.3	34.5	21.5	35.2	22.4?	34	24.1	34.4	24
5	38.8	22.1	33.9	22.7	34.6	20.8	35	23	36.5	21.8	35.5	22.9	34.9	25.1	34	24.6
6	35.2	24.7	32.3	24	32.7	21.8	34.2	23.7	32.8	22.3	34.6	23	31.6	24.2	32.2	25
7	35	24.7	33.1	24.2	33.9	21.6	33.7	24.5	33.7	22.2	34.5	23	32.5	27.4	32.6	24.7
8	36.2	25	33.2	24.3	34	22.9	33.8	25	34.6	21.5	34.5	23	32.8	25.8	34	24
9	33.4	22.5	32.1	22.3	32.4	20	32.3	22.5	32.5	22.3	35.9	22.8	32.6	24.5	32.7	23.8
10	34	23	31.9	22.7	32.7	20.3	32.4	23	32.4	22.6	34	22.9	31.2	24.6	32.2	23.2
11	34.8	23.9	31.9	23.3	32.4	21	32.4	23.5	32.6	22.7	32.2	22.6	32.2	24.3	32.8	22.8
12	31.8	23.4	32.2	23.2	30.8	20.5	31.5	23.1	31.5	22.7	30.2	22.8	31.2	24.3	30.8	22.1
13	32.1	23.8	32.6	23.5	31.3	20.9	32	23.6	31	23.6	31.5	23.4	31.7	25.5	31.3	24
14	30.6	23.4	30.9	23.3	29.4	20.9	30.2	23.6	30	23.4	30.8	23	30.5	24.3	29.4	24.1
15	31	22	31.9	23.2	29.8	20.7	33.3	23.2	31.6	22.5	30	23.2	31.3	25	31	22.1
16	33.6	22.8	32.4	23.7	31.9	21.4	32.5	23.7	32.1	23.2	31.4	23	32	23.3	31.4	23.4
17	31.7	23.4	32.6	23.7	32.8	20.9	30.7	23.3	31.6	23.3	33.1	22.4	31.8	25	31.3	22.9
18	33.2	23.2	32.2	23.8	32.5	22	31.9	24.3	31.6	23.6	31.7	24.4?	31.4	24.8	29.1	23
19	31.4	22.4	31.7	23	32.6	21	31.6	22.8	31.6	23.2	31.5	23.4	30.9	25	30.7	23.2
20	31.9	22.2	32	23.5	33.8	21.8	32.6	23.7	32.5	23.5	31.5	23.4	31.3	24.2	31.5	22.8
21	33.1	23.4	31.9	23.5	32.6	21	31.7	23.4	32	22.4	32.5	24	30.3	24	30.6	22.7
22	33.8	22	32.9	22.3	34	20.8	33.1	21.1	32.2	21.7	31.7	21.9	33.5	23	32.2	22.1
23	33.5	21.7	33.9	23.2	34.6	21.9	34	22.2	34.2	23.2	32.5	21.4	33.4	24.7	33	22.6
24	35.8	23.7	33.6	23.4	34.5	21.8	34.3	22.8	32.2	23.5	34.6	22.9	33.3	25.1	32.7	23.6
25		23.2	32.4	23	33.2	21	33.2	22.7	32	22.8	32.7	23.9?	32.7	24.9	31.3	23.5
26	32.8	21.7	33.2	22	33.8	21.3	33.6	21.6	33	22.6	32	22.9	32.7	23.5	32.5	22.4
27	32.5	23.5	33	24	32.5	21.6	33.5	23.5	33	23.2	33.2	24.6	32.2	25	32.5	24.1
28	33.2	21.7	33.2	22.5	32.9	21	33.7	22.1	33.5	22.2	33	22.4	33.3	24.7	31.7	23.5
29	33.5	22.7	33	23	33.3	21.2	33.4	22.3	32.3	23.2	32.5	23.6	34.3	24	31.8	23.1
30	34.3	22.4	33.6	22.3	33.9	20.5	33.5	21.9	33	22	33.1	22.4	33.8	25.3	33.5	22.8
31	32.5?	21	32.9	23	32	19.5	33.4	22.8	33.2	22.2	33.6	23.6	33.3	25.1	33.3	23.4
Mean	33.9	22.8	32.9	23.2	33	21.1	33.3	22.9	32.9	22.6	33	23	32.6	24.6	32.2	23.3

Day.	Tuburan.		Cuyo.		Hacienda Ila-ya, Victorias.		Hacienda Bil-bao, Manapla.		Cadiz.		Ormoc.		Guiuan.		Tacloban.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33	23	33	24.6	32.5	23.1	31.6	22.5	33.2	22.3	33.9	21.1	32.8	23.3	32.6	23.8
2	33.1	22.7	33	25.4	32	23	32.7	22.7	32.7	22.8	33	20.9	33.5	21.6	32.4	24
3	34.5	22.7	33.7	24.8	31.7	23.8	33.4	21.9	32.8	22.8	34	19.9	33.6	21.6	33.1	22.8
4	34.1	22.8	33.6	24.1	31.2	23.5	33.2	21.7	33.3	23.2	34.6	20.6	33.6	23	33.3	23.2
5	33.5	23.8	32.5	25	33	24.3	33.5	22.5	33.5	23.1	33.6	21.6	31	23.2	34.1	24.5
6	33.5	24.8	33.4	27.3	33.6	24.1	33.6	22.8	36.3?	24.1	33.7	24.7	32.5	24	34.2	24.5
7	35.4	25.1	32.7	25.8	34.4	24.5	35.6	22.2	35	23.6	33.7	25	32.6	27.8	34.5	24.6
8	34.1	25	33	25.2	31.2	24.3	34.7	21.9	33.5	23.2	34.2	25	32	26.3	35.3	23.7
9	34.4	25.2	31.7	27.3	33.8	22.5	35.4	22.5	35	22.7	33.9	24.2	32	23.3	33.1	23
10	32.9	24.3	30.7	24.2	34.5	22.6	34.7	22.8	33	22.7	33.7	23.5	31.6	25.1	35.1	24.2
11	32.2	24.2	30.5	24.7	33.5	23.5	32.9	21.9	32.2	23.8	33.1	24	32	25	32.6	24.4
12	34.3	25.2	31.1	25.3	34	23.3	32.8	22.3	35	24.1	33.1	23.9	32	23.4	33.6	23.8
13	33.9	25.1	31	26.1	32.1	23	32.4	22.6	34.3	24	33.4	24.1	31.4	24.7	32.4	24.5
14	33.5	24.4	29.9	24.7	32.2	23.2	33.6	21.2	34	23.5	33.4	24.7	31.7	27.2	33	24
15	33.4	24.7	30	24.5	31	23.8	34.1	22.3	31.1	23.2	33.2	22.9	31.8	24.8	34	23.5
16	33.1	24.4	30.8	24.5	32.5	23.3	33.2	21.6	32.5	23	33.8	23.8	32.6	25.1	31	23.9
17	34	24	30.9	26	32	23.4	30.8	21.8	31.1	22.5	32.2	23.7	31	26.3	32	24.2
18	33.9	24.8	29.9	25.5	32.8	22.5	31.2	22.2	31.2	22.6	33.2	24.1	31.9	25.2	32.8	23.2
19	34	24.8	29.7	24.5	32.2	23.6	31.6	22.5	32.7	22.4	32.6	23.4	31.5	25.1	30.8	24.5
20	33	24.5	30.4	24	32.5	23.5	30.5	21.8	31.7	23	32.4	24.2	29.6	25.5	29	23.5
21	34.1	24.3	28.8	24.4	31.9	23.3	32.6	22.1	31.3	23	32.3	23.2	33.4	25	32.6	23
22	31.1	22.9	32	23.7	31.5	23	33.5	21.7	32.3	21.7	33.6	21.4	33.4	23.5	31.7	22.2
23	33	23.2	33.2	24.6	31.2	23.5	33.8	20.9	32.1	23.5	33.4	21.9	33.6	24.1	33.4	23.3
24	34	23.8	32.5	27.8	31.7	24	32.7	21.2	32.3	23.6	33.9	23	34	24.5	33.8	23.8
25	32.1	24.3	32.3	25	32.5	23.5	33.9	22.8	31.5	23.6	34.6	22	34	23.3	34.4	23.8
26	35	24.2	33	24.6	33.2	23.5	34.2	21.9	32.3	22.9	34.6	22.3	34.2	23.5	34.4	24
27	32.3	24.5	32.5	24.8	33.2	23.2	33.5	22.6	33.1	23.3	34.7	23.4	33.5	23.4	34.1	23.8
28	33.2	24.3	31.5	25.9	32.2	23.5	33.8	22.5	33.5	22.8	34.6	22.4	33.8	22.8	34	23.2
29	33	24	32.9	24.7	31.7	22.3	32.6	22.7	32.1	24	34.5	22.9	34	23.1	33.9	23.5
30	34.6	24	33.4	25.6	30.3	23.7	31.5	22.8	32.7	23.8	35.2	22.4	33.6	24	35.3	24.3
31	33.9	24.8	33.2	27.5	31.4	24	32.8	20.6	32.6	23.5	34.7	23.4	32	24	32.6	24.8
Mean	33.6	24.2	31.8	25.2	32.4	23.4	33.1	22.1	32.9	23.2	33.7	23	32.6	24.3	33.2	23.8

Maximum and minimum temperatures at the stations of the Weather Bureau, May, 1920—Ctd.

Day.	Capiz.		Borongan.		Catbalogan.		Calbayog.		Masbate.		Batag Light-house, Laoang.		Sorsogon.		Legaspi, Albay.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	35	23	31.8	23.3	32.9	21.9	32.2	22.8	34	24.6	31	23.9	33	21.9	33.4	24.5
2	34.8	23.6	31.6	23.1	33	22.6	32.5	22.6	33.2	25.2	31.2	23.7	33.5	21.5	33.3	24.1
3	34.8	22.6	32	22.2	32.8	21.5	33	22	32.8	24.4	31.8	23.4	33.5	22	33.3	22.4
4	34.8	22.5	32.3	23.2	33	22	32.7	22.7	33.6	25.2	31.8	24.6	33.5	22.6	34.2	23.3
5	34.8	24.1	32.5	23.1	33.3	21.1	33	24.5	34	25.5	32.7	24.2	33.8	22.4	33.8	24.4
6	34.9	23.5	32.9	24.3	33.4	22.2	33.2	23.9	33.8	25.2	33.6	24.3	32.5	21.8	35.1	23.4
7	35.4	25.5	35.6	24.4	35.5	23.4	34	25	34	25.2	34	24.4	34	24.4	34.6	25.5
8	34.8	24.5	33	24.2	33.4	23.5	33.1	24.7	32.6	26.5	34	25	32.7	25.4	33.8	25.3
9	35.3	24.4	33	23	32.7	23.6	32.5	25.4	32.6	26	31.2	23.4	32.9	24.5	33.3	24.1
10	33.3	23.9	32.2	23.9	32.2	25	32.7	25	32.8	23.2	32.8	24.7	33	24.6	34.3	24.4
11	31.7	23.4	32.6	23.3	33.2	23.8	32.7	24	32.8	25.8	32.5	23.7	32.5	23.7	33.9	24.1
12	34.3	24.1	34	23.9	32.8	23.8	32.4	26.1	32.8	25	32.5	23.7	32.2	23.2	33.3	24.2
13	35.1	24.4	34	24.1	32.6	24.8	32.7	24.8	32.8	26.2	32.3	23.7	32.5	22.9	33.3	24.8
14	34.7	24.5	34.8	24.3	33	23.2	32.4	25.2	31.6	25.2	31.1	23.4	32	22.7	32.9	25
15	34.4	23.7	34.4	23.7	32.4	25	32.1	24.3	30.8	24.6	31	24.3	31.2	21.2	31.8	23.7
16	33.4	22.9	32.6	24.1	32.5	23.4	31.5	23.9	31.8	25.2	32	24.3	31.6	21.6	32.4	23.4
17	33.8	24	31.6	23.9	31.9	23.4	31.7	24.8	31.8	24.6	31.2	23.6	31.5	23.3	31.2	24.2
18	33.9	23.5	32.3	23.8	33	22.8	31.4	24.3	31.4	24.4	32.8	23.6	31.9	23.9	32.6	24
19	33.9	24	32.2	23.7	31	23.5	31.2	24	31.6	24.6	31	22.5	30.6	24	31.3	24.1
20	33.8	23.8	28.3	23.8	30	23.2	30	25.1	31.4	26	30.3	22.5	31.9	24.7	32.8	23.2
21	33.3	23	32.1	23.5	31.9	24.7	32.3	24.2	32.6	23.5	31.5	23.3	31.5	23.3	32.2	24.5
22	33.8	22.2	32.2	22.6	32.6	22.1	31.7	23.2	32	24.2	31.2	23.4	33.1	22.2	33.4	23.3
23	33.8	23.9	32.2	23.5	34	23.1	32.9	23.2	33	25.2	31	24.4	33.5	21.5	33.4	23.8
24	34.3	24	32.3	24.3	32.2		31.8	23.5	32.4	26	32.3	21.7	34.5	22.4	33.9	24.7
25	34.7	25	32	23.7	33.8		32.3	23.3	33.2	25.5	32.4	24.3	34.6	22.2	34.2	23.5
26	34.7	24.1	33	24.2	32.5	22.6	32.5	23.4	33	25.2	32.2	24.3	34	22.5	35.3	23.6
27	34.7	23.8	33	24.2	32.2	22.1	32.7	24.3	33	25.6	32.5	24.4	33.8	22.6	34.9	24.1
28	34.8	23	33	23.8	33.6	22.4	33	23.3	33.4	25.2	33.5	24.2	33.7	22.6	34.8	24.2
29	33.8	23	32.8	24.2	33.9	22.8	33.1	22.8	34	25.6	32	23.8	34.6	22.4	34.3	23.1
30	34.7	25	33	23.3	32.8	22.4	32.5	22.5	33	26	33.9	24.8	34	23.4	34.3	26.5
31	34.4	25	32.6	24.6	33.4	22.8	33.8	23.6	32.4	27	33.9	24	33.1	23.9	34.1	25.6
Mean	34.3	23.8	32.6	23.7	32.8	23	32.4	23.9	32.7	25.2	32.2	23.9	32.9	23	33.6	24.2

Day.	Sumay, Guam.		Calapan.		Virac.		Naga, Camarines Sur.		Tigaon.		Batangas.		Calatagan.		Balayan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31	25	32.8	23.1	31.8	23	34.5	22.8	31.8	21.3	34.4	23.7	35.6	23.7	34	23.5
2	31.4	26	32.6	23.9	32	21.3	35.4	22.4	32.3	21.3	35.3	25.7	35.6	23.2	33.5	23.2
3	31.8	24.5	32.6	24.6	31.5	21.5	35.9	21.6	32.3	20	36.5	24.9	35.6	24.2	33.2	24
4	31.6	25	32.5	25	32.7	21.2	35.7	19.3	32.3	19.7	36.2	24.6	35.1	26.2?	33.3	24.2
5	32	22.5	33	23	33.8	22.1	35.6	21.4	33.1	20.6	35.4	23.7	37	22.7	33.6	23.2
6	32	22.2	34	23	34.3	23	35.2	23.4	34.7	20.5	34.8	23.7	34.6	22.7	33.6	23.3
7	32.8	23	34	24.5	34.6	23.2	35.5	25	34.6	24.8	34.7	24.9	34.6	24.2	33	23.4
8	32.5	24.5	32.2	24.4	36.4	23.5	32.5	24.2	33.2	23	34.2	25.2	34.1	23.2	32.4	23.1
9	33	24.5	33.5	24.5?	34.1	23.7	35.7	24.5	34.5	25	33.8	24.8	33.1	24	33	24.7
10	32.5	23.8	32.6	22.5	32.5	23.3	34.8	22.5	33.3	22.8	33.2	24.7	32.1	22	31.6	23.1
11	32.2	25	33	22.5	32	22.8	32.1	23.9	31.1	21.5	32.9	23.6	33.1	22.5	32	23.4
12	31.9	25.2	32.5	23.1	32.8	23.1	32.5	22.9	31.5	22	33.2	24.1	30.6	23.7	30.4	23.1
13	31.4	24.6	32.6	23	35.2	22.6	33.4	24.1	33.2	23.3	32.7	23.7	31.6	23.2	32	23.2
14	31.5	25.5	32.9	23.5	33	23	32.9	24.5	33.1	24	31.9	24.4	33.6	23.7	31.5	23.8
15	31.6	25.7	32.5	23.4	32.2	23.2	31.2	22.8	28.8	22.2	33.7	24.4	34.1	23.2	30.4	23.6
16	31	24.4	33	21.8	32	23	33.3	22.5	31.7	21	32.8	24.2	34.1	23.2	30	23.2
17	30.7	23.3	32	22.5	32.2	23.2	30.9	23	31.6	22.2	32.3	24.3	34.6	22.7	31.4	22.7
18	30	23.8	32.4	22.5	33	22.5	32.9	22.6	31.8	22.1	33	23.8	34.1	23	31.9	22.6
19	32	24.2	32.5	23.1	35.1	22	31.3	22.9	32.6	21.8	31.8	24.9	32.6	25	31.5	22.4
20	32.2	24	32.4	24	31.8	22.6	32.9	22.5	32.6	21.8	31.5	24.9?	33.1	23.7	31	22.5
21	31.4	25.5	31.5	22.5	31.6	22.4	29.9	23	30.6	22.4	31.5	24.7	33.6	23.2	31.5	22.8
22	31.4	26.6	32.1	22.9	30.8	22.1	33.3	23.4	32.1	21.6	32.8	23.9	33.6	22.2	32	22.6
23	31	25.2	32.4	22	32.1	22.3	34.3	22.3	32.7	22.2	35.2	23.6	34	22.7	32.9	
24	31.4	25.2	32.6	22.6	30	22.7	33.9	22.3	32.9	22.8	33.7	24.2	34.6	22.7	32.9	
25	31	24.5	33.5	22.5	31.1	22.5	34.2	22.6	33.2	21.9	35.4	24.3	35.1	24.2	33	23
26	31.5	24.5	34	22.6	31.7	23	34.5	23.5	33.6	21.8	34.5	24.5	34.6	24	33.2	22.7
27	32.2	24.4	33.6	23.6	33.2	22.2	34.6	23.1	33.8	22.4	34.3	24.6	34.6	24.2	33	23.7
28	32.7	25.4	34.2	23.5	30.1	21.5	34.4	23.3	34.2	22.4	34.3	24.4	34.1	23.5	33	22.8
29	32	26.5	33	23	34.8	22	35	23.1	33.8	21.3	34.5	24	35.1	22.7	33.2	23.5
30	31.5	26.3	34.2	23.1	32.6	21.1	34.4	21.5	34.3	22.5	35.5	24.4	34.6	22.7	33.2	23.2
31	31.2	24.5	33.5	22.6	32.3	23.2	33.1	22.2	33.8	21.8	35.9	24.5	34.1	22.7	32.2	23.1
Mean	31.7	24.7	32.9	23.2	32.7	22.5	33.7	22.9	32.7	22.1	33.9	24.4	34.1	23.4	32.4	23.2

Maximum and minimum temperatures at the stations of the Weather Bureau, May, 1920—Ctd.

Day.	Lipa.		Lucena.		Atimonan.		Nasugbu.		Ambulong, Tanauan, Batangas.		Mendez Nueñez.		Alfonso.		Indang.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.1	22.9	31.9	21.9	36.2	24.8	32.6	21.6	33.8	24.4	35.87	20.7	30.5	21.4	32	22.5
2	31.7	21	31.8	23.5	34.9	24.5	33.7	22.1	34.2	24.8	81	20.3	31.6	22.6	32.2	22
3	32.3	22.1	32.2	23	35.6	25.2	32.4	22.2	34.8	24	30.2	22	30.9	22.8	31.3	23.7
4	33.1	22.4	33.7	23	33	24	33.4	21.5	34.9	23.2	29.8	21.2	32	22.5	32.1	22.2
5	33.4	21.5	32.1	21	35.1	23.1	33.2	20.5	34.2	24	31	21.5	33.1	21.5	33.8	22.3
6	32.5	21	33	21.9	35.6	24.3	32.3	21.9	33	23.9	29.3	20.7	30.3	21.9	31.7	22.4
7	31.6	20.5	35.5	24.2	35.6	25	33.9	22	33.2	24.9	28.9	20.2	29.8	23.1	31.7	23.9
8	32.3	23.4	33.3	22.4	34.2	24.5	32.5	22.5	30.8	24.8	28	21.2	27	22.5	28.7	23.5
9	32.1	22.3	33.5	22.6	34.4	24.1	33.2	21.8	33.8	23.9	34.27	21	30.2	22.4	31.7	22.9
10	32.2	22.2	31.6	21.6	33.1	24.3	32.1	22.9	33.3	24.8	28.5	19.5	29.1	21.4	30.8	21.9
11	31	21.8	31.5	21.8	33.3	23.9	33.8	20.9	32.8	24	28.5	18.2	29.5	21.6	31.3	22.4
12	32.8	22.5	31.3	22.5	32.7	23.7	32.5	21.5	31.3	23.4	27	17.7	28	21.8	29.7	21.9
13	31.9	23.1	31.6	21.6	33.2	23.8	33	22	32.5	24.4	28.5	19.5	29.1	21.5	31.8	22.3
14	29.3	22.7	28.6	22	32	24	33.2	21.5	31.6	24.2	26.5	19.7	27.1	22	29.9	22.8
15	30	21.5	27.5	22.5	30.7	23.5	32.3	21.9	31.3	23.1	28	18.7	27.6	22	29.5	22.4
16	31.5	22.5	30.2	21.4	31.2	23	33	21.5	30	23	26.3	18.8	28.8	21.3	28.4	22
17	30.4	21	30	22.2	31.8	23.2	32.7	22.5	30	28.1	27.2	19.2	28	20.3	29.2	21.3
18	30.8	20.4	30.7	21.5	32.8	23	32.1	22	32.2	23	28.5	19.8	28.9	28.9	28.8	21.9
19	29.9	22.1	30.5	22.7	30.8	24	---	21.5	30.7	24.6	27	19.9	27	22.2	28.4	22.7
20	30.1	20.4	30	22.6	32	24.1	33.2	20.5	31.6	24	27.8	19.5	28	21.3	29.5	22.3
21	30.7	21.8	30.4	21.6	31.2	23.5	32.2	20.9	31	23.7	28.5	19.8	28.7	21.1	29.5	21.8
22	31.4	21.4	31	22.5	32.9	24	32.1	20.5	32	23.2	29	17.3	30.3	20.1	31.2	20.6
23	31.9	21.5	32.4	21.4	32	23.1	32.3	21.9	34	22.4	30.3	19	30.5	21.2	31.8	21.5
24	---	22.6	31.5	23.5	31.8	24.2	33.2	21.5	33.6	23.4	32	19.3	30.6	21.6	32.3	22.8
25	31.7	21.7	32	22.5	34.1	24.1	32.5	21.9	32.5	23.8	29	19.2	30.1	21.6	32	22.6
26	32.7	22	32.2	22.4	33.9	24.8	32.5	21.9	34	24.2	28.8	16.37	30.1	21.1	31.3	22.2
27	33.1	22.8	32.5	22.5	34.4	24.1	33.9	22	34.2	23.8	27.5	19.2	30	21.5	31	22.3
28	32.1	20.5	32.6	21.6	34.2	24.4	32.6	21.8	34.3	23	30	19.5	30.1	20.7	31.2	21.7
29	32.2	21.6	32.9	21.9	32.8	24.1	33.6	23.1	32.3	23.4	30.3	19.5	30.5	21.7	32	21.7
30	32.4	22.5	32.8	22.8	33	23.8	32.5	24	34.5	23.5	29.5	17.9	30.2	21	32.2	21.4
31	32.1	22.3	33.3	24	33.3	27.7	32.9	20.9	35	24.4	30	19.8	31	22	32.2	23.2
Mean	31.7	21.9	31.7	22.3	33.3	24.1	32.8	21.8	32.8	23.8	29.3	19.5	29.6	21.7	31	22.3

Day.	Canluban, Calamba.		Silang.		Maragondon.		Santa Cruz, Laguna.		Buenavista, Malabon, Cavite.		Manila.		Antipolo.		Balanga.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	34.9	23.6	32.3	21.1	35.4	22.9	37.2	23.5	34.5	23.9	34.2	25.2	35.7	24.4	36.4	24
2	33.9	23.4	32	22.1	34.4	21.8	35.9	23.8	34	23.8	34.9	24.7	36.5	23.3	36.1	24.4
3	34.5	23.3	32.5	22.6	34.7	23.2	34.8	25	34.4	24.7	35.6	25.4	35.4	24	36.1	25
4	33.6	23.4	31.5	22.1	35.5	21.7	34.3	25	34.7	22.9	35.9	24	34.8	22	36.1	23.5
5	36.3	22.6	32.2	21.5	36	22.4	36.6	23.4	34.3	23.4	34.9	25	34.9	23	35	23.8
6	36	23	31.4	22.3	35	23.3	35.5	23.9	34.6	23.5	34.2	24.7	33.2	23.6	34.1	23.9
7	35.6	23.6	31.3	23	35	21.5	36.3	24.6	34.2	23.9	33.7	26.4	33.2	23.4	34	25.7
8	30.4	24.1	30.4	22.2	36.5	22.3	33.1	24.3	32.5	22.9	32	25.3	31.2	24.4	32.7	24.1
9	33	23.7	31.5	22.3	34	22.2	34.1	23.5	32.7	23.8	32.7	25	32	24.1	35.3	24.5
10	33.5	23.8	30.6	22.1	38.1	21.2	33.2	24	32.8	22.7	33.2	24.6	32.6	23.3	33.6	23.9
11	33.3	23	30.7	22.8	34.2	22	33.3	23.5	32.7	21.6	33	24.2	31.9	23.3	33	23.7
12	32.8	22	29.5	22	31.5	23.7	32.8	22.9	31.9	22.4	31	24.1	29.2	22.5	28.3	23.3
13	33.2	23.6	30	21.5	32.5	21.6	33.7	23.3	33.7	23	31.9	25.1	31.4	22.7	32.7	23.3
14	31	23	29.5	22	32.7	21.6	33.1	23.7	32.4	23.8	32.2	23.2	30.6	23.2	32.6	23.4
15	31.2	22	29.4	22.2	31.2	19.1	32.9	23.7	32.9	20.6	31.9	23.6	31.3	23.1	32.2	23.4
16	31	22.2	29	22.3	29.9	21.4	33.3	22.8	30.5	22.8	31.4	23.4	31.7	23.2	31	23.3
17	29.9	22.1	28.7	21.5	30	20.1	33.5	24.5	30.4	22.3	32.2	23.3	31.2	22	30.3	23.6
18	31	21.8	29.6	21.7	32.5	21.5	33.1	22.9	31.8	22.3	32.4	23.9	31.6	22	31.4	22.8
19	30.8	23	28.7	22	31.1	22.5	32.3	24.3	31.8	22.9	31.2	23.9	30	22	31.9	22.9
20	32	23	29.8	21.9	31.7	22.3	33.7	23.5	31.2	22.5	31.7	24	31.3	23	32.4	23.2
21	31.2	22.5	29.1	21.5	30.7	21.5	33	23.3	30.3	22.9	31.8	23.9	31.8	22.5	32	24
22	32.9	22	30.8	21.1	32.4	21.3	33.4	23	32.1	21.4	33.2	23.6	32.7	22.4	33.2	23
23	33.8	22.1	31.2	21.5	32.8	21.2	34.8	22.3	33.4	21.8	34.2	23.6	33.8	21.8	34.4	23.1
24	33.4	21.8	31.8	22.5	33	21.5	35.3	23.5	34.3	23.3	34.8	24.7	33.4	23	35.3	25.5
25	34.5	24	31.3	22.4	32.7	22.8	34.7	23.6	33.3	23.8	33.3	25.7	34	23.3	34.8	24.1
26	34	23.4	31.7	22.1	33.3	22.6	34.7	23.8	32.7	23.8	33.8	25.5	34.9	24.2	34.3	24.8
27	34.4	23.4	31.7	22	33	22.3	35.2	24	32.6	21.9	33.4	24.5	34	23	34	23.7
28	34.5	23	31.2	22	33.4	21.6	35.7	22.9	32.4	23.3	33.5	24.8	33.8	23.5	34.2	23.5
29	33.7	22	30.37	21.8	33	---	35.3	22.5	33.8	21.8	35	24.8	35.6	23.7	34.6	23.9
30	34	22.5	30.27	22	33.4	21	34.6	23.1	32.9	23.1	33.3	24.1	33.4	22	35.2	23.4
31	34.4	23.2	31	22.6	33.5	20.3	33.6	23.4	33.5	22.4	34.5	23.7	33.8	21.8	34.2	23.7
Mean	33.2	22.9	30.7	22	33.2	21.8	34.3	23.6	32.9	22.9	33.3	24.4	32.9	23	33.6	23.8

Maximum and minimum temperatures at the stations of the Weather Bureau, May, 1920—Ctd.

Day.	San Isidro, Nueva Ecija.		Iba.		Tarlac.		Baler.		Dagupan.		Bolinao.		Baguio.		San Fernando, La Union.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	37.4	23	34.2	23.8	38.2	20.6	33.7	22.9	33.5	24.3	33.5	24.4	26.5	16.2	34.7	24
2	37.3	23.8	33.8	24.6	38	20.4	33.1	22.3	36.6	24.4	35.6	24.7	25.8	16.6	35.4	24
3	37	23.8	34.5	24.7	38	21	32.2	24.5	34.3	25.5	33.2	26.2	25.8	17.5	34.9	24.1
4	35.5	23.1	34.2	24	38.4	21.4	32.5	23.8	38.4	24.5	37.7	25	25.6	16.6	35.9	24.2
5	35.5	23.9	33.9	24.7	35.8	21.6	33.3	23.4	35.6	24	33.7	25.2	25.7	16.4	35.6	24.6
6	34.7	24	31.5	24.2	34.67	21.4	36.4	23.4	33.8	24.5	33.7	25.3	20.8	15.4	33.4	26.6
7	35.4	24.6	32.1	25.1	37.6	21.8	36.5	24.2	34.5	24.7	32	25.5	22.5	15.5	33.6	26.7
8	32.9	24.5	29.4	24.5	33.4	21.5	36.6	24	32.4	25.5	32	25.9	21.3	16.5	31.2	25.3
9	34.7	23.4	32	24.3	33	21.2	36	22.7	31.3	24.4	31.8	25.5	22.8	16.3	32.7	24.2
10	34	23.1	31.8	24.9	34.4	22.6	32.5	23.3	35.4	24.6	33.7	25.2	24	15.6	35.7	24.6
11	33.6	23.8	30.6	23.7	33	21.8	33.5	22.5	33.4	24	33.5	23.9	22.4	15.3	34	23.9
12	31.8	23	29.1	23.6	32	21.6	34.6	23	34.5	23.5	33.1	24	23.7	15.5	34.4	24.8
13	32.6	24.1	29.5	23.8	32.5	20.8	33.4	23	34	24.3	32.1	24.2	23	15.7	32.6	24.1
14	33.9	23.9	31.1	23.8	34.2	22	32.2	23.5	33.1	24.1	32.6	24.3	23.5	15.5	33.9	24.2
15	33.1	23.6	30.3	23.8	35.4	22	33.1	23.5	33.5	23.4	32	25.7	23.4	15.2	34.4	25.1
16	33.5	23.5	30.9	24	34.5	22	32	22.1	32.7	23.7	32.1	24.7	21.3	15.5	33.1	24.4
17	31.9	23.2	30.1	24	32	21.2	33.3	22.2	32.9	23.3	32.9	24.7	22.3	15.5	33	23.4
18	32.2	23.4	31	23.5	34.2	22.5	32.1	22.3	33.1	23.9	31.6	24.2	23.2	15.3	33.9	24
19	31.4	23.2	30.9	23.7	34.2	21.4	31.7	23.1	33.3	23.7	32.5	24.2	22.4	15.6	32.8	23.6
20	32.4	23.7	30.7	24	33.8	21.4	32	22.4	33.2	24	31.3	24.8	23.4	15.6	33.2	25.1
21	31.1	23.2	31.1	24.8	34	22.3	33	22.6	34.2	24	32.5	25	23	15.6	33.7	24.4
22	33	23.5	31.6	23.8	34.5	21.6	32.7	22.4	34.5	23.9	33.2	24.8	23.3	15.8	33.9	24
23	34.6	23	32.3	23	35.5	21.4	34.5	23	33.5	23	32.8	24.7	25.1	16	33.8	23.5
24	35.4	24.4	32.5	24.2	36.5	22.8	34	23.3	35.5	26.1	33.4	25.4	25.3	16.4	34	24.5
25	35.1	25	32.8	23.9	36	23	32.8	23.5	34.3	25.4	32.6	25	25.7	16.3	34.4	23.5
26	34.6	24.5	32.4	24.8	36	23.2	34.4	22.9	33.9	25.4	32.3	24.8	24.5	16.7	34.4	24.3
27	34	24.4	32.1	23.8	36.2	22	35.7	23.5	34.5	24.5	32.2	24.3	23.7	16.5	34.4	24.5
28	34.4	24	32.2	23.9	36.4	22.8	37.3	22.8	35.5	25	32.2	25.2	24.2	15.7	35	24.7
29	33.9	23.4	32.6	24.4	36.5	22.8	36.2	22.9	36.9	24.3	33.4	24.9	25.3	16.5	35	24.9
30	34	24.2	33	23.9	35.8	22.6	36	23.5	36.8	24.9	32.5	25.9	23.8	16.8	34.3	24.4
31	34.6	23.8	33	23.3	36.6	22.8	36.2	22.7	36.8	24.2	34.6	25.8	24.6	15.9	33.9	23.8
Mean	34	23.7	31.8	24.1	35.1	21.9	34	23.1	34.4	24.4	33	25	23.8	16	34	24.4

Day.	Candon.		Vigan.		Tuguegarao.		Laoag.		Aparri.		Cape Bojeador.		Basco.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	34.4	25.5	33.9	24.4	37.8	24.6	36.6	23.9	33.5	23.4	33.8	25.5	30.4	25
2	33.9	25.2	34.5	25.7	37	24.2	35.8	23.7	34.6	23.2	32.8	25.5	31.3	24.1
3	33.9	25.9	34.1	24.4	38	23.8	36.4	23.5	33.5	24.3	33	24.8	31.2	23.8
4	33.6	25.4	34.5	25.2	37.4	23.4	37.7	24	34.3	23	32.2	24.7	29.5	22.6
5	33.5	26	33.8	26	36.6	24	35.6	25.4	34.5	23.2	32.7	25.4	29.8	23.9
6	32.2	26.6	31.2	24.5	34	23.3	33	24.8	32.8	23.3	30.6	23.3	29.9	23.5
7	31	26.5	28.7	23.2	33.3	24.6	27.6	22.5	29.3	24	28.5	23	27.7	22.4
8	31	25.6	30.2	24	36.2	23.6	31.2	24	31.7	23.5	29.9	22.7	27.9	21.6
9	33	30.1	25.2	26.4	36.4	24	29	24.4	31.2	23.5	30.1	24	30.7	22.6
10	32	24.8	32.2	24.9	37.4	23	32.8	23.7	34.2	22.8	30.6	25.3	30.6	23.5
11	31.8	25.1	30.9	24	34.4	23.4	32.2	24	33.8	22.5	30.7	24	30.4	24
12	31.1	25.9	31.8	24.5	33.9	22.8	33	24.1	34.3	23	30.6	25.6	30	25.6
13	32	25.1	32	24.6	33.7	22.8	32	23.6	33.3	22.5	30.9	22.9	29.8	23.2
14	31.6	25.5	30.6	25.1	33	23	31.6	23.6	32	22.6	30.7	23.9	30.4	20.4
15	32.5	25.5	32.7	24.7	35	23.4	32.4	23.8	33.6	23	31	25.4	31.1	22.7
16	32.5	26.2	33.1	24.1	33.5	23	32.8	24.2	33.6	22.5	32.1	24.4	29.7	22.7
17	32.4	26	33	23.6	34.4	23	32.8	23.5	32.6	22.5	31.9	24.4	31.1	22.5
18	32.2	25.4	32.6	23.7	35	23	32.8	23.4	33.3	22	31.2	24.3	31.4	22.8
19	32	25.5	33.2	24.1	34.3	23.5	32.9	23.5	34.1	23	33.1	24.3	31.5	22.7
20	32.2	25.6	33	23.5	32.6	23.7	33.2	23.5	34.2	22.8	32.8	25	32	22.8
21	32	25.3	32.4	23.7	35.6	24.8	32.2	23.4	33.8	23.5	31	23.9	31.5	22.5
22	31.5	25	33	24.5	35.2	23.2	32.7	24.3	35.3	24	31.1	24	31.5	22.5
23	32.5	24	34	24.6	34.8	23.2	33	23.7	34.4	23	32.3	25.5	30.7	22.5
24	33	26.1	34	25.4	36	24.4	33.3	23.7	35.6	24.5	31.7	25.7	30.7	22.4
25	33	26.4	33.9	25.7	36.5	24.2	33.6	24.3	37	24	32.9	26.1	31	22.5
26	33	24.9	33.6	24.5	37.2	24.7	33	23.8	35.3	24.1	32.4	25.8	31.5	26.1
27	32.9	25.8	33.9	25.4	38.2	23.6	33.6	23.7	35.6	23.2	31.4	25.5	31.1	26.7
28	33	26	34.2	25.6	37	24	34.2	23.7	36.3	23.6	31.8	26	31.6	25.8
29	33.5	25.9	34.5	25.9	37.4	22.6	34.2	23.9	36	22.6	34	26.3	31.1	23.9
30	33.5	24.5	34.1	25.3	36.4	22.6	34.4	24.4	34.2	22.1	33.1	25.7	31.5	22.8
31	33.5	24.6	34.1	24.9	35.6	23.3	33.9	24.2	34.8	23	34.4	28 ?	30.7	23.5
Mean	32.6	25.5	32.8	24.7	34.6	23.6	33.2	23.9	34	23.2	31.8	24.9	30.6	23.3



SEISMOLOGICAL BULLETIN FOR MAY, 1920.

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EARTHQUAKES FELT IN THE PHILIPPINES.¹

2, 22^h 30^m [3, 6^h 30^m]. Nasugbu (SW Luzon). Earthquake shock of intensity II-III. It repeated with the same intensity at 23^h 50^m (3, 7^h 50^m).

3, 5^h 09^m 33^{s*} [3, 13^h 09^m 33^s]. Iba (W Luzon). Oscillatory earthquake of intensity III. At 5^h 28^m 00^{s*} (13^h 28^m 00^s) occurred a second shock of intensity IV. Their origin lay seemingly in the China Sea, close to the coast and Zambales range. These shocks were also felt at Nasugbu some 120 kilometers farther south on the same western coast of Luzon.

6, 12^h 33^m [6, 20^h 33^m]. Moncayo (E Mindanao). Earthquake of intensity III felt along a narrow zone running from the southern portion of the Agusan Valley to the Pacific coast. Its feeble intensity and the fact that it was but lightly recorded at Butuan show its local and shallow origin.

7, 5^h 43^m 10^{s*} [7, 13^h 43^m 10^s]. E Mindanao. Extensive earthquake felt with intensity VI-VII through the eastern portion of Mindanao. Northwards it shock also the Eastern Visayas and SE end of Luzon, while southwards it was noticed as far as the Moluccas Islands. Consequently the shaken area extended itself about 2,000 kilometers in a N-S direction. Its epicenter lay some distance from the east coast of Mindanao in the *Philippine Deep*. Some of the reporters of eastern Mindanao, describe the shock as consisting of long slow waves without vicious and sudden jerks, a circumstance which avoided much damage to be feared from the great amplitude of the movements and their long duration. It was recorded throughout the Globe.

The seismograph at Butuan registered only two instrumental aftershocks; one of them at 11^h 00^m (19^h 00^m) was felt in the town of Moncayo, southern Agusan, near to the parallel 8° N.

9, 17^h 11^m 02^{s*} [10, 1^h 11^m 02^s]. Central Visayas. Earthquake felt in the Islands of Cebu, N Negros and Panay, Leyte and N Mindanao. Its occurrence in such an unpropitious time of the night is responsible for the incorrectness about its intensity of the reports at hand. It seems that the region shaken with greatest intensity, IV-V, were N Cebu, N Negros and W Leyte. Ormoc, W Leyte, reported also a foreshock of intensity III which occurred few minutes earlier. The epicenter apparently lay between the Islands of Cebu and Leyte; but the fact that in such region does not pass any known seismotectonic line leads us to believe that it must be located farther to the W, some distance S of Masbate.

¹ The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that 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 report. All time indications are in Greenwich mean time (midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

10, 18^h 54^m 13^{s*} [11, 2^h 54^m 13^s]. Butuan (N Mindanao). Earthquake shock of intensity II-III. The origin of this shock lay very far away in the neighbourhood of New Guinea; it was lightly perceptible at Butuan due, as we have often remarked, to the special conditions of the soil of this station. Recorded over the Glove.

11, 11^h 38^m 49^{s*} [11, 19^h 38^m 49^s]. Vigan (NW Luzon). Earthquake shock of intensity III.

16, 7^h 45^m 31^{s*} [16, 15^h 45^m 31^s]. SE Luzon. Earthquake of intensity III in the provinces of Sorsogon, Albay and E Camarines; origin in the Pacific, E of San Bernardino Strait.

16, 21^h 13^m 12^{s*} [17, 5^h 13^m 12^s]. Cuyo, Sulu and W Mindanao. Earthquake of intensity VI, felt in the Island of Cuyo, Sulu Archipelago and the western portion of Mindanao with Basilan Island. Its epicenter lay in the Sulu Sea between the meridian 121° and 122° E and the parallels 7° and 8° N. The mezoseismic area must have been extraordinarily long and narrow in a N-S direction, in order to explain why shocks had intensity VI and V in Sulu and Cuyo, some 500 kilometers apart, while they were unnoticed in the western portion of Panay and Negros islands to the east and much closer to the origin. Recorded in the Far East and America.

23, 6^h 00^m [23, 14^h 00^m]. Camp Keithley (N Mindanao). Earthquake of intensity III: three successive shocks were distinctly noticed.

24, 11^h 43^m 04^{s*} [24, 19^h 43^m 04^s]. Lais (SE Mindanao). Earthquake of intensity III; origin in the W of Davao Gulf.

25, 2^h 57^m [25, 10^h 57^m]. Butuan (N Mindanao). Oscillatory earthquake, direction WNW-ESE, intensity IV, duration 20 seconds.

29, 20^h 07^m 00^{s*} [30, 4^h 07^m 00^s]. SW Luzon. Earthquake of intensity III, felt in the western portion of the provinces of Cavite and Batangas along the China Sea coast.

30, 2^h 33^m 08^{s*} [30, 10^h 33^m 08^s]. E Mindanao. Earthquake of intensity III-IV felt in the southern portion of the Agusan Valley and northern of Davao Province. Origin probably insular.

30, 14^h 40^m [30, 22^h 40^m]. Bogo (N Cebu). Earthquake shock of intensity III. Probably originated in the epicenter of the earthquake occurred on the 9th.

RECORDS OF THE MICROSEISMOGRAPH.

(Time: Greenwich mean. Midnight=0^h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T₀=6.25, ε=2,906, $\frac{r}{T_0^2}$ =0.058; A_E: T₀=6.18, ε=2,393, $\frac{r}{T_0^2}$ =0.042. Alluvium. 2.40 meters above sea level.)

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A _N μ	A _E μ	
108	2	I	e	h. m. s.	s.			
			F	8 38 34				
109	2	I _r	eP	14 57 03				
			L	15 01 43				
			M _N	05 29	13	27		
			M _E	06 00	13		18	
			F	42				
110	3	I _v	eP	5 09 33				Zambales (W Luzon).
			L	09 48				
			M _N	10 30	4	130		
			M _E	10 50	4		77	
			F	18				
111	3	I _v	eP	5 28 00				Zambales (W Luzon).
			L	28 15				
			M _E	28 30	4		70	
			M _N	28 55	4	134		
			F	38				

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A _N μ	A _E μ	
112	4	Iv	eP	9 15 05				
			L	15 34				
			M _E	15 49	4		87	
			M _N	15 50	4	80		
		F	28					
113	4	I	e	11 52				
			F	12 14				
114	5	I	e	8 44				
			F	9 06				
115	5	Iv	eP	11 41 49				
			F	47				
116	5	Iv	eP	12 00 30				
			F	04				
117	5	Iv	eP	17 04 47				
			F	11				
118	5	IIv	eP	17 59 20				
			L	59 49				
			M _N	59 55	3	518		
			M _E	59 57	3		200	
			F	18 14				
119	6	I	e	9 48				
			F	10 12				
120	6	I	e	21 56				
			F	22 19				
121	7	IIIr	(PS)	5 43 10				E Mindanao.
			L	45 11				
			M _N	46 20	4	1,200		
			M _E	46 27	4		989	
			F	7 53				
122	7	I	e	21 39				From Omori seismograph.
			F	22 52				
123	8	Iv	eP	7 17 56				
			F	22				
124	9	Iv	eP	17 11 02				NE Mindanao and E Visayas. From Omori and
			F	35				Vicentini seismographs.
125	10	IIr	eP	18 54 13				Felt at Butuan (N Mindanao).
			L	58 53				
			F	20 36				
126	11	Iv	eP	11 38 49				NW Luzon.
			F	44				
127	12	Ir	eP	21 59 04				
			L	22 06 18				
			F	52				
128	13	IIr	e	1 54 38				
			L	2 02 52				
			M _N	05 00	5	427		
			M _E	05 06	5		200	
			F	4 12				
129	14	Iv	eP	21 38 35				
			F	46				
130	15	Iv	eP	3 52 00				
			F	4 00				
131	15	Iv	eP	4 44 35				
			F	54				
132	16	IIv	eP	7 45 31				SE Luzon.
			L	46 07				
			M _N	46 12	3	206		
			M _E	46 12	3		132	
			F	8 17				
133	16	Iv	(PS)	21 13 12				Sulu Sea.
			L	14 36				
			M _N	15 03	4	87		
			M _E	15 22	4		65	
			F	22 08				
134	17	Iv	eP	6 53 35				
			F	7 05				

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.			Period.	Amplitude.		Remarks.
								A _N μ	A _E μ	
135	19	I _r	e	h.	m.	s.	s.			
			P	3	13	36				
			S		13	43				
			L		16	03				
			L		16	30				
M _E		17	19	5	164					
M _N		17	37	6	222					
F		4	28							
136	19	I _r	eP	12	46	31				
			S		50	26				
			L		52	05				
			F	13	38					
137	20	I	e	7	35	11				
			F	9	02					
138	21	I	e	8	55					
			M _N		57	17	16	9		
			F	9	24					
139	22	I _v	eP	5	59	00				
			F	6	02					
140	22	I	e	17	02	36				
			F		55					
141	23	I	e	20	22	00				
			F		47					
142	24	I	e	6	25	02				
			F		38					
143	24	I _v	eP	11	43	04				Felt at Lais (SE Mindanao).
			F	12	02					
144	24	I	e	12	17	10				
			F		31					
145	25	I	e	10	04	42				
			F		46					
146	25	I	e	13	08	22				
			F		49					
147	25	I	e	14	28	16				
			F		54					
148	25	I	e	15	13					
			F		26					
149	26	I	e	12	33	29				
			F	14	45					
150	27	II _r	eP	5	52	32				
			S		54	54				
			L		55	45				
			M _{N1}		55	52	5	375		
			M _{E1}		56	14	5		323	
			M _{E2}		56	53	5		314	
			M _{N2}		57	18	5	291		
			F	7	05					
151	29	I	e	12	25	45				
			F		55					
152	29	I	e	17	12					
			F		27					
153	29	I _v	eP	20	07	00				SW Luzon.
			F		12					
154	30	I _v	eP	2	33	08				E Mindanao.
			F		50					
155	31	I _v	eP	7	32	55				
			F		36					

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.¹

2, 22^h 30^m [3, 6^h 30^m]. Nasugbú (SW de Luzón). Temblor de tierra de intensidad II-III. Repitió con el mismo carácter a 23^h 50^m (3, 7^h 50^m).

3, 5^h 09^m 33^s* [3, 13^h 09^m 33^s] Iba (W de Luzón). Temblor oscilatorio de intensidad III. Repitió a 5^h 28^m 00^s* (13^h 28^m 00^s) con intensidad IV. El origen se hallaba muy cerca de la costa de Zambales. Estos temblores se sintieron también en Nasugbú situado unos 120 kilómetros al sur sobre la misma costa occidental de Luzón.

6, 12^h 33^m [6, 20^h 33^m]. Moncayo (E de Mindanao). Temblor de tierra de intensidad III, sentido en una estrecha zona que se extendía desde la parte sur del valle del Agusan hasta la costa oriental de la isla. Su poca intensidad y el haberse registrado solo débilmente en la estación de Butúan indica que era de carácter superficial y originado del valle.

7, 5^h 43^m 10^s* [7, 13^h 43^m 10^s]. E de Mindanao. Extenso terremoto sentido con intensidad VI-VII en toda la parte oriental de la Isla de Mindanao. Hacia el norte fué también perceptible en casi todas las islas Visayas y en el extremo SE de Luzón: según informes de Batavia lo fué asimismo hacia el sur en las islas del Mar de Célebes y en los Molucas; el área afectada tenía por consiguiente una extensión de cerca de 2,000 kilómetros en dirección N-S. El epicentro se hallaba algo distante en la fosa de Filipinas en el Pacífico. Los observadores de la parte oriental de Mindanao llaman la atención sobre el carácter ondulatorio de los movimientos, sin golpes bruscos, circunstancia que evitó daños de consideración atendida su violencia y duración. Registráronlo todos los observatorios sísmicos del globo.

El sismógrafo de Butúan solamente registró dos choques que pueden considerarse como *aftershocks*: en el pueblo de Moncayo, parte sur del valle del Agusan cerca del paralelo 8° N, se sintió una repetición de intensidad II-III a 11^h 00^m (19^h 00^m).

9, 17^h 11^m 02^s* [10, 1^h 11^m 02^s]. Centro de Visayas. Temblor de tierra sentido en las islas de Cebú, N de Negros y de Panay, Leyte y N de Mindanao. Lo intempestivo de la hora hace que las noticias recibidas sean algo incoherentes e incompletas, y las intensidades algo dudosas. Parece que donde se sintió con más intensidad fué al norte de la Isla de Cebú, norte de la Negros y al W de la de Leyte; no pasó sin embargo del grado IV-V. En Ormoc, W de Leyte, se había sentido otro choque de intensidad III pocos minutos antes. El epicentro se hallaba aparentemente entre las islas de Cebú y Leyte. Sin embargo el no existir en esta región ninguna línea sismotectónica nos hace sospechar que en realidad estaba algo más al W, hacia el sur de Masbate.

10, 18^h 54^m 13^s* [11, 2^h 54^m 13^s]. Butúan (N de Mindanao). Temblor de tierra de intensidad II-III. Este temblor, cuyo epicentro se hallaba cerca de Nueva Guinea, llegó a ser algo perceptible en Butúan por circunstancias locales del terreno, como hemos hecho notar en otras ocasiones. Registrado en todo el globo.

11, 11^h 38^m 49^s* [11, 19^h 38^m 49^s]. Vigan (NW de Luzón). Temblor de tierra de intensidad III.

16, 7^h 45^m 31^s* [16, 15^h 45^m 31^s]. SE de Luzón. Temblor de tierra de intensidad III. Su epicentro se hallaba algo lejos en el Pacífico, al E del estrecho de San Bernardino.

16, 21^h 13^m 12^s* [17, 5^h 13^m 12^s]. Cuyo, Joló y W de Mindanao. Temblor de tierra de intensidad VI sentido en la Isla de Cuyo, en todo el Archipiélago de Joló y en la parte W

¹ La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos 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 medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

de Mindanao. Su epicentro se hallaba en el Mar de Joló entre los meridianos 121° y 122° E y los paralelos 7° y 8° N. La forma del área meizosísmica debía prolongarse mucho en la dirección N-S, solo así se explica que habiendo tenido intensidad VI y V respectivamente en Joló y en la Isla de Cuyo, situada a más de 500 kilómetros al N, no se recibiesen noticias de la parte occidental de las islas de Panay y Negros que distan poco al E. Registrado en el Extremo Oriente y en América.

23, 6^h 00^m [23, 14^h 00^m]. Camp Keithley (N de Mindanao). Temblor de tierra de intensidad III; distinguiéronse bien tres choques sucesivos.

24, 11^h 43^m 04^{s*} [24, 19^h 43^m 04^s]. Lais (SE de Mindanao). Temblor de tierra de intensidad III. Originado al W del Golfo de Dávao.

25, 2^h 57^m [25, 10^h 57^m]. Butúan (N de Mindanao). Temblor oscilatorio, dirección WNW-ESE, intensidad IV, duración 20 segundos.

29, 20^h 07^m 00^{s*} [30, 4^h 07^m 00^s] SW de Luzón. Temblor de tierra de intensidad III, sentido en la parte W de las provincias de Cavite y Batangas costera del mar de la China.

30, 2^h 33^m 08^{s*} [30, 10^h 33^m 08^s]. E de Mindanao. Temblor de tierra de intensidad III sentido en la parte sur del valle del Agusan y norte del seno de Dávao. Origen probablemente insular.

30, 14^h 40^m [30, 22^h 40^m]. Bogo (N de Cebú). Temblor de tierra de intensidad III. Originado seguramente en el epicentro del temblor del día 9.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

BULLETIN FOR JUNE, 1920.

PREPARED UNDER THE DIRECTION OF

REV. JOSÉ ALGUÉ, S. J.

DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
1921

BULLETIN FOR JUNE, 1920.



METEOROLOGICAL BULLETIN FOR JUNE, 1920.

By Rev. JOSÉ CORONAS, S. J.,
Chief, Meteorological Division of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure of this month for the Philippines is slightly below that of the preceding year and the normal of June. The highest pressures were generally observed on the 17th, while the lowest were recorded on the 2nd or 3rd in central and southern Luzon, the Visayas, and Mindanao, and either on the 4th or on the 30th in northern Luzon.

The monthly mean temperature differs very slightly from both the normal of this month and the mean of June, 1919. The absolute maximum temperature for Manila, 34.7°C., was registered on the 17th and 20th, and the absolute minimum, 23.2°C., was observed on the 21st. The extreme temperatures for Baguio were 26.0°C., 15.0°C. on the top of Mirador, and 26.4°C., 14.5°C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR JUNE, 1920.

Station.	Pressure.							Temperature.						
	Mean.	Departure from June, 1919.	Departure from normal.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from June, 1919.	Departure from normal.	Highest.	Day.	Lowest.	Day.
	mm.	mm.	mm.	mm.		mm.		°C.	°C.	°C.	°C.		°C.	
Zamboanga	757.74	-0.84		759.17	26	756.17	2	26.6	+0.1		31.6	15	22	13
Meeth Yap, Western Carolines	57.43	-.54		58.70	25	55.95	1	27.7	+.4		33.3	20	23	6, 29, 30
Tagbilaran	57.15	-.79	0.82	58.70	17	55.01	2	28	+.5	+0.6	33.7	5	22.4	19
Surigao	57.09	-.80	.94	58.70	17	54.53	2	27.8	+.7	+.6	33.7	29	23.2	20
Cebu	57.18	-.86	.85	58.74	17	55.01	2	28.7	+.5	+.8	33.5	11	24.2	25
Iloilo	57.13	-.75	.72	58.71	17	55.02	2	27.9	+.3	+.5	34.7	12	22.4	28
Taoblan	57.15	-.76	.99	59.01	17	54.41	2	27.8	+.4	+.4	35.8	22	22.9	21
Capiz	56.99	-.59	.99	58.74	17	54.73	2	27.9	+.2	+.4	35.8	3	23	13
Calbayog	57.29	-.57	.81	59.37	17	54.55	2	27.7	+.7	+.9	35.3	16	22.7	21
Legaspi, Albay	56.94	-.60	.91	58.95	17	54.20	2	28.4	+.4	+.5	34.7	22	22.8	2
Atimonan	56.77	-.42	.83	59.07	17	54.32	3	28	-.2	+.1	35.3	23	23.4	10
Ambulong, Tanauan, Batangas	56.32	-.56		58.16	18	54.26	2	27.3	-.6		36.2	20	23	Various.
Manila	56.87	-.33	.98	58.83	17	54.78	3	27.6	0	-.2	34.7	17, 20	23.2	21
San Isidro, Nueva Ecija	56.89	-.38	.83	58.86	17, 18	54.60	3	27.2	-.4	-.4	35.5	20	22.8	18
Dagupan	55.87	-.35	1.24	58.05	17	53.79	30	27.7	-.2	-.3	36.6	17	23	18
Baguio ^a	635.17	-.35	.74	637.88	17	633.01	30	18.6	+.1	-.2	26	18	15	8
Vigan	755.99	-.17	1.24	758.52	17	752.96	30	28.1	-.8	0	34.7	17	22.1	26
Tuguegarao	55.91	-.136	1.36	58.73	17	52.92	4	28.1	-.8	-.6	37.5	24	23	Various.
Laog	55.69	-.60		58.41	17	52.74	29	27.8	-.5		34.5	20	22.5	5
Aparri	55.91	-.51	1.15	58.88	17	53.04	4	28.2	-.8	+.1	36.6	23, 28	22.5	6, 11

^a The barometric readings of this station are not reduced to sea level.

Rainfall.—With the exception of northern Luzon, where the monthly rainfall is generally in excess, the great majority of our stations reported a total amount of rain for this month below that of the preceding year and below the normal of June, the differences in a good number of stations being quite remarkable. The total monthly rainfall for Manila is 346.6 mm., and differs from the normal by +109.9 mm. That for Baguio is 494.5 mm., its difference from the normal being +90.3 mm.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JUNE, 1920.

Station.	Total.	Departure from June, 1919.	Departure from normal.	Days of rain.	Departure from June, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from June, 1919.	Departure from normal.	Days of rain.	Departure from June, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.
	mm.	mm.	mm.				mm.			mm.	mm.	mm.				mm.	
Jolo	248.4	+ 23.8	+ 39.6	16	0	0	49	12	Sumay, Guam	139.3	- 44.5	+ 1	22	+14	+ 5	39.7	23
Malamai, Isabela, Zamboanga	55.2	-158.9		7	- 1		17.3	12	Calapan	128.1	-147.8	-107.8	13	+ 1	- 4	48.5	27
Zamboanga	77.6	- 6.1	-23.3	8	- 5		34.8	12	Virac	58.3	-165.1	-165.2	5	- 9	-13	40.6	24
Davao	200.4	+ 19.4	-45.9	14	- 1	+ 1	33.3	24	Naga, Camarines Sur	180.4	-129.8	- 21.6	18	- 2	+ 4	48	22
Cotabato	146.7	-172.9	-110.7	19	- 2	0	37.8	7	Tigaon	236.5			21			58.9	27
Cagayan	101.1		-86.9	10		- 7	25.4	20	Batangas	176.4	-167.1	+ 12.3	14	+ 2	+ 2	62.3	27
Butuan	175.6	+ 5.2	+ 7.9	19	- 4	0	50.6	13	Lucena	74.1	-192.4		11	- 1		25.6	24
Mambajao	58.2	-126.6		11	- 1		20.3	24	Atimonan	194.4	-136.7	+ 5.9	11	- 5	- 3	88.7	9
Dumaguete	41.6	- 67.2	-104	10	+ 1	- 3	27.4	12	Ambulong, Tanaunan, Batangas	183	- 73.3		19	+ 5		46.7	9
Meeth, Yap, Western Carolines	266.3	+153.8	+ 20.6	20	+ 1	- 4	79.7	5	Daet	60.2			10			20.8	9
Tagbilaran	19.2	-101.5	-124.6	7	-12	- 6	5.7	12	Canluban, Calamba	229.8	-154.6		21	+ 5		42.6	10
Iwahig Penal Colony, Puerto Princesa	185.6	+ 76.1		15	- 3		54.4	21	Paracale	7.6	-195.7	-186.4	3	-16	-12	3.8	27
Surigao	97.9	- 25.5	-26.8	7	- 8	- 5	51.6	18	Santa Cruz, Laguna	138.2	-100.5	- 55.8	16	- 3	- 2	28.7	7
Maasin, Leyte	39.9	-390.4	-127	2	- 9	- 7	22.4	24	Manila	346.6	+ 80.9	+109.9	17	+ 4	+ 2	62.9	27
Cebu	79.3	- 46.4	-96.5	15	- 4	- 2	20.6	24	Antipolo	387.9	+ 48.7		21	+ 2		91.7	27
Iloilo	274.1	+ 40.7	+ 34.3	19	0	+ 1	103.6	27	San Isidro, Nueva Ecija	164	- 56.5	- 36.3	21	0	+ 5	46.3	29
San Jose de Buenavista	362.9	-172.3	+ 3.8	22	+ 1	0	84.3	27	Iba	666.8	-132.5	+170.4	22	0	+ 2	144.4	27
Cuyo	265.4	-144.5	-25.2	23	- 3	+ 3	47	23	Tarlac	243.4	- 78	+ 18.4	19	- 4	+ 3	57.4	29
Ormoc	186.6	-146.3	- 20.5	19	0	+ 2	46.2	27	Baler	116.7	- 71.7	-152.8	9	- 6	- 7	54.9	22
Guiuan	126.2	-210.6		15	+ 1		31.2	24	Dagupan	280.6	+ 55		16	+ 4	+ 3	38.3	6
Tacloban	135.7	-114.9	- 63.4	13	0	- 4	27.9	20	Bolinao	591.9	+266.4	+199.9	18	- 5	- 1	104.7	5
Capiz	393.8	+265.4	+115.7	18	+ 3	0	61.2	9	Baguio	494.5	+185.4	+ 90.3	24	- 5	+ 2	62.3	4
Borongan	67.9	-258.6	-180.5	8	-10	-11	26.2	25	San Fernando, La Union	329.9	+159.4	+ 44.9	15		- 2	56.4	5
Calbalogan	126.2	-435.9		14	- 4		42.5	1	Candon	377.4	+129.6	+ 60.3	13	- 3	- 3	163.8	5
Catbayog	109.2	-260.3	-102.8	11	-10	- 7	41.8	27	Vigan	449.3	+247.9	+146.9	18	+ 3	0	97.1	4
Masbate	74.5	-227.6	- 67.2	10	- 4	- 1	28.2	9	Tuguegarao	192.8		+ 59	13		+ 3	75.4	7
Romblon	97.9	-315.5	-123.5	8	-11	- 8	31.6	27	Laog	255.9	- 40	- 40.5	16	- 2	- 1	72.6	5
Batag Light-house, Laoang	76	-169.4		6	- 9		32.8	25	Aparri	114.3	+ 50.5	- 14.6	10	- 2	0	24.6	5
Sorsogon	44.4	-289.4		7	- 5		17.5	27	Cape Bojeador	321.1	+135.9		13	0		102.9	5
Legaspi, Albay	179.3	- 79.2	- 26.9	18	+ 1	+ 3	62	27	Basco	109.6	+ 77.2	- 41.2	15	+ 6	+ 2	49.3	4

DEPRESSIONS AND TYPHOONS.

The first typhoon of this year appeared to the south of Yap, Western Carolines, on the 29th of May, and moved WNW until June 1, when it began to incline northward about 150 miles to the east of Samar. It moved almost due north on the 2nd and 3rd, until finally it recurved northeastward on the 4th. The center of the storm was over northeastern Japan on June 6. The whole tract of the typhoon may be seen in Plate I.

At the end of the month another typhoon formed over the northern part of the China Sea; but its track will be given in the Bulletin for next month, to which it properly belongs.

Two or three times during the month low-pressure areas were observed extending from the China Sea to the Pacific across the Balintang Channel or northern Luzon. Also signs of a depression were noticed on June 2 and 3 over the northern part of the China Sea, to the west of Balintang Channel, and on June 8 in the neighborhood of the Loochoos; but they soon disappeared without showing any considerable development.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes en Filipinas es ligeramente menor que la del año pasado y que la normal de junio. Las presiones más altas se observaron generalmente el día 17, al paso que las más bajas se registraron el 2 ó 3 en el centro y sur de Luzón, en Visayas y Mindanao, y el día 4 ó 30 en el norte de Luzón.

La temperatura media mensual difiere muy ligeramente tanto de la normal de este mes como de la media de junio de 1919. La temperatura máxima absoluta de Manila, 34.7°C., se registró los días 17 y 20, y la mínima absoluta, 23.2°C., se observó el 21. Las temperaturas extremas de Baguio fueron 26.0°C., 15.0°C. en la cumbre del Mirador, y 26.4°C., 14.5°C. en la llanura cerca del *City Hall*.

Precipitación acuosa.—A excepción del norte de Luzón, en donde la lluvia mensual fué generalmente abundante, la gran mayoría de nuestras estaciones registraron este mes una cantidad total de lluvia menor que la del año pasado y menor también que la normal de junio, resultando bastante notables las diferencias en un buen número de estaciones. La lluvia total del mes en Manila es 346.6 mm., y difiere de la normal en +109.9 mm. La de Baguio es 494.5 mm., diferenciándose de la normal en +90.3 mm.

DEPRESIONES Y TIFONES.

El primer tifón de este año apareció al S de Yap, Carolinas Occidentales, el día 29 de mayo, y se movió al WNW hasta el 1 de junio, en que comenzó a inclinarse al N, hallándose entonces a unas 150 millas al E de Sámar. Se movió casi directamente al N los días 2 y 3, hasta que por fin recurvó al NE el día 4. El centro del temporal se hallaba en el NE de Japón el 6 de junio. Toda la trayectoria del tifón puede verse en la Lámina I.

A fines del mes se formó otro tifón en la parte septentrional del Mar de China: pero su trayectoria se dará en el Boletín del mes de julio, a que propiamente corresponde.

Dos o tres veces durante el mes se observaron áreas de baja presión que se extendían desde el Mar de China hasta el Pacífico a través del Canal de Balintang o del norte de Luzón. También se observaron los días 2 y 3 de junio indicios de una depresión en la parte norte del Mar de China, al W del Canal de Balintang; y el día 8 de junio en los alrededores de Loochoos: pero ambas desaparecieron pronto sin haber adquirido ningún desarrollo considerable.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.^a

[$\phi=14^{\circ} 34' 41''$ N; $\lambda=120^{\circ} 58' 33''$ E; barometer above sea, 14.2 meters; gravity correction not applied, -1.72 mm.]

Day.	Pres- sure (mean).	Air temperature. ^b			Underground temperature.						Relative humid- ity (mean).	Vapor pres- sure (mean).	Radiation.			Evaporation. ^b	
		Mean.	Maxi- mum.	Mini- mum.	0.25 meter.		0.50 meter.		1.50 meters.	2.50 meters.			Mini- mum on grass	Maxi- mum in sun. Black bulb in vacuo. ^c	Free expos- ure (to- tal).	Shelter (total).	
					8 a.m.	2 p.m.	8 a.m.	2 p.m.	8 a.m.	8 a.m.							
1	756.09	28.1	33.7	24	31.3	33.1	31.6	31.8	30.2	29.1	73.8	20.7	22.4	52.3	5.4	3.3	
2	54.88	27.9	33.1	23.6	31.6	33.2	31.6	31.7	30.3	29.1	77.1	21.4	22.4	55.3	4	2.4	
3	54.78	28.1	33.2	24.6	31	33	31.6	31.7	30.3	29.1	80.1	22.4	22.9	55.7	4.8	2.8	
4	55.19	28.3	33.1	24.3	31.3	33	31.6	31.8	30.5	29.2	79.2	22.5	24.7	55.1	4	2.5	
5	55.68	26.3	29.1	24.1	30.1	30.9	31.1	31.3	30.3	29.1	90	22.8	23.1	46.8	1.5	1	
6	55.78	26.9	32.8	24.2	29.2	31.4	30.6	30.8	30.4	29.2	86.6	22.5	23.7	54.4	3.1	1.7	
7	56.56	26.6	31.5	24.1	29.3	31	30.5	30.7	30.4	29.2	86.5	22.2	23.5	54.5	1.8	1.3	
8	57.13	27.1	32.2	23.8	29.1	30.9	30.2	30.6	30.9	29.2	84.8	22.4	23.3	54.1	3.2	1.8	
9	57.07	26.7	32.2	24	30.1	31.5	30.5	30.7	30.5	29.2	85.6	22	23.2	54.8	2.9	1.7	
10	56.87	27.6	32.5	24	29.7	31.5	30.6	30.7	30.4	29.2	82.8	22.6	23.3	51.9	3.6	1.9	
11	56.71	28.3	33	24.8	30.5	32.1	30.7	31	30.5	29.3	80.6	22.8	23.4	53	3.6	2.1	
12	57.09	27.5	32.6	24.5	30.6	31.7	31	31.1	30.3	29.3	84.4	22.9	23.3	52.6	2.3	1.4	
13	57.57	28.6	33.4	24	30.7	32.2	31	31.2	30.5	29.4	78.2	22.5	23.3	53.7	4.6	2.8	
14	58.20	27.9	34	24.3	30.7	32.6	31.1	31.4	30.4	29.3	82.4	22.8	23.3	52.6	3.4	2.2	
15	58.09	28.2	33.5	23.6	31	32.5	31.3	31.5	30.5	29.4	80.5	22.5	22.6	55	4	2.3	
16	58.13	28.9	33.5	25.4	31.4	33	31.3	31.6	30.5	29.4	79.5	23.3	24.2	52.8	4.2	2.5	
17	58.83	28.5	34.7	24.4	31.5	33.5	31.6	31.9	30.4	29.5	80	22.8	23.5	54.7	3.8	2.9	
18	58.65	28.2	34.3	23.8	30.6	32.5	31.4	31.7	30.5	29.3	77.1	21.6	22.7	54.5	4	2.2	
19	57.63	28.1	33.9	24.5	31.3	33	31.6	31.7	30.5	29.4	80	22.3	22.7	53	3.5	2.2	
20	57.56	28.1	34.7	23.6	31.3	32.8	31.5	31.8	30.5	29.5	79.9	22.3	22	53.8	3.5	2.2	
21	57.26	28.4	34.3	23.2	30.8	32.7	31.3	31.6	30.6	29.3	76.6	21.6	21.6	52.5	5	3.2	
22	57.23	28.6	33.1	25.4	31.5	33	31.7	31.7	30.5	29.4	77.7	22.4	24.2	54.6	3.8	2.4	
23	57.57	28.7	33	25.2	31	33	31.6	31.7	30.6	29.4	80.2	23.2	24.3	53.2	4.7	2.3	
24	57.47	28	33.5	24.7	31.2	32.6	31.6	31.8	30.5	29.3	83.5	23.2	23.6	54.2	3.4	2	
25	57.80	27.9	32.3	24.1	30.5	32	31.3	31.5	30.6	29.5	83.4	23	23.4	52.4	3.5	2	
26	57.55	27.2	30.8	24.6	30.2	31.5	31.3	31	30.7	29.4	84.7	22.7	23.7	52	4	2.3	
27	55.66	25.8	27.9	24.3	29.5	28.8	30.7	30.5	30.7	29.5	90.7	22.4	23.9	51.3	.1	.7	
28	55.73	26.5	30	24.4	28.5	29.7	30.1	30.1	30.7	29.4	86.2	22.2	23.4	51.9	2.5	1.6	
29	55.37	25.8	29.3	23.6	28.9	29.2	30	30	30.5	29.3	88.6	21.7	23.3	38.8	.9	2.5	
30	56.09	24.6	26.2	23.7	27.8	28	29.4	29.3	30.5	29.3	93	21.4	23.2	31.5	0	2.5	
Mean Total	756.87	27.6	32.4	24.2	30.4	31.9	31	31.2	30.5	29.3	82.5	22.4	23.3	51.4	3.3	2.2	
Departure from normal	-0.98	-0.2	-0.1	+0.3							+1.6	+0.1			-10.4		

Day.	Wind.				Amount (mean).	Clouds.			Sun- shine.	Rain, 24 hours beginning 6 a. m.		Miscellaneous.
	Prevailing direction.	Total move- ment.	Maxi- mum hour- ly veloc- ity.	Direction at the time of the maximum velocity.		Form and direction.		Sun- shine.		On the tower.	In the park.	
						Upper.	Lower.					
1	NE, WSW	185	17	NE	0-10.	Ci.	W	Cu.	h. m.	mm.	mm.	☉ ☁ p.
2	NE, W	177	22	WSW	7.5	Ci.	SE by E	Cu. NE by N	7 05			☉ ☁ d ☁ p.
3	W quad.	267.5	29	WSW	8.2	Ci.	NE	Cu.-N. W	3 00			☉ ☁ d ☁ p.
4	WSW, NW	34	34	SW	8.9	Ci.	NNE	Cu.-N. w, wnw	2 40			☉ ☁ d ☁ p.
5	SW	266.5	31	SW	10	Ci.-S.		Cu.-N. SW	3 15	20.4	20.9	☉ ☁ p.
6	WSW	272	32	SW, WSW	8.3	Ci.-S.		Cu.-N. SW	0 00	28	28.8	☉ ☁ p.
7	SE, SW	175.5	23	SW	8.9	A.-Cu.	WNW	Cu.-N. W	4 10	16	16.8	☉ ☁ p.
8	SW quad.	201.5	20	WSW	8.4	A.-Cu.	W	Cu.-N. W	1 55	41.7	41.5	☉ ☁ a. d p.
9	WSW	182	33	WSW	7.5	A.-Cu.	WNW	Cu. W	2 15		1.6	☉ ☁ d p.
10	SW, WSW	135.5	16.5	SW	5.9	A.-Cu.	NE	Cu. WSW	5 00			☉ ☁ a.
11	W, WNW	130.5	16	W	6	A.-Cu.	SW	Cu. SE	6 35			☉ ☁ a.
12	Variable	87	14	W by S	8.2	Ci.-S.		Cu. ESE	3 05			☉ ☁ p.
13	SW, WSW	169	18	W	5.2	Ci.		Cu. E	6 25			☉ ☁ d ☁ p.
14	WSW	169	20	SW	6	Ci.-S.	ESE	Cu. S	4 40	1	1.3	☉ ☁ ☉ ☁ p.
15	W quad.	168	16	SW	5.9	Ci.		Cu.	6 00			☉ ☁ p.
16	SE, WSW	209.5	20	WSW	5.7	Ci.	NE	Cu. E	8 00			☉ ☁ d ☁ p.
17	SE	124	13	NNW	6.3	Ci.		Cu. E	6 35			☉ ☁ d ☁ p.
18	SE	119.5	13	SE	7	A.-Cu.	SE	Cu. E	4 40			☉ ☁ p.
19	E quad.	127.5	15	SE	5.8	Ci.		Cu., Cu.-N. E	5 45	1		☉ ☁ p.
20	E quad.	136.5	18	WNW	5.8	Ci.	SW	Cu. ENE	7 30	2	2.3	☉ ☁ a. p.
21	NE	146	16	W	3.9	Ci.	E	Cu. E	9 05			☉ ☁ a. p.
22	W quad.	227.5	19	WSW	7.9	Ci.	ENE	Cu. ENE	4 55	1.8	1.8	☉ ☁ a. p.
23	W	241.5	24	WSW	6.2	Ci.-S.	SSE	Cu. W	7 15	19.5	20.3	☉ ☁ a. p.
24	SW, W	159.5	17	SW	5.8	Ci.-S.	SE	Cu. E	6 10	48.3	50	☉ ☁ a. p.
25	WSW	252.5	28	WSW	6.2	A.-Cu.	S, SW	Cu. WSW	8 15	27.7	28.2	☉ ☁ a. p.
26	WSW	444	42	WSW	8.8	Ci.-S.		Cu. W	3 45	5.4	5.6	☉ ☁ a. p.
27	SW, W	301.5	24	W	10			N. WSW	0 00	62.9	66.9	☉ ☁ a. p.
28	SW	407	36	WSW	9.3	Ci.-S.	A.-Cu.	Cu. WSW	1 35	2.8	2.8	☉ ☁ a. p.
29	SW	212	20	WSW	10	Ci.-S.		N. WSW	0 00	49.3	51.5	☉ ☁ a. p.
30	S quad.	184	15	SW, SE	10	Ci.-S.		N. SW	0 00	18	19.9	☉ ☁ a. p.
Mean Total		208.8	22		7.3				4 30			
Departure from normal		-450.7			+0.3				-34 46	+109.9		

^a All the mean values given in this table are deduced from hourly observations.
^b These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
^c Maximum of hourly observations taken from 6 a. m. to 6 p. m.

METEOROLOGICAL DATA FOR MIRADOR OBSERVATORY, BAGUIO.*

[φ=16° 25' N; λ=120° 35' E; barometer above sea, 1,512.5 meters; gravity correction not applied, -1.65 mm.]

Day.	Pres- sure (mean). ^b	Air temperature at Mirador (on the top of the mountain).				Air temperature in the pla- teau near the City Hall.				Relative humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation.		
		Mean.	Maxim- um.	Hour.	Mini- mum.	Hour.	Maxim- um.	Hour.	Mini- mum.			Hour.	Mini- mum on grass.	Maxim- um in sun. Black bulb in vac- uo. ^c	Free ex- posure (to- tal).	Shel- ter (to- tal).
		mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.			°C.	Per ct.	mm.	°C.	°C.
1	634.70	18.4	23.9	0.20p.	15.8	5.45a.	24.9	1.35p.	15.5	12m.n.	91.5	14.4	14.5	57.5	1.7	1.1
2	33.66	18.4	23.2	11.50a.	16	5.00a.	24.2	0.30p.	14.5	5.30a.	88.7	14	13.6	58.8	1.5	1
3	33.45	17.6	22.7	11.20a.	15.7	6.00a.	22.7	0.35p.	15.9	0.05a.	97.3	14.6	15.1	58.5	1.1	1.5
4	33.33	17.1	18.5	11.00a.	15.2	7.00p.	18.9	10.30a.	15.5	6.25p.	99.7	14.5	15.6	30	0	0
5	33.49	17.7	20.4	2.25p.	15.4	2.00a.	20.8	2.00p.	15.8	1.45a.	95.3	14.3	14.5	43	.2	.2
6	33.67	17.2	21.6	11.00a.	15.5	3.00a.	21.5	10.40a.	15.6	4.00a.	96.3	14.1	14.5	50	.7	.5
7	34.45	16.8	18.3	11.15a.	15.4	5.00p.	19.3	11.15a.	15.6	5.15a.	99	14.1	15.2	40.8	0	0
8	35.15	17.2	21.2	10.50a.	15	3.00a.	21.3	10.15a.	15.2	3.00a.	97.3	14.3	14	53.4	.3	.2
9	34.98	17.3	22.6	0.05p.	15.1	9.30p.	22.5	1.15p.	15.7	10.05p.	98	14.4	14.8	51.4	.6	.3
10	35.16	17.8	23.2	11.00a.	15.1	4.20a.	22.8	11.30a.	14.6	4.30a.	88.2	13.3	13.2	60.5	1.9	1
11	35.84	18.7	22.7	1.00p.	16	6.00a.	23.2	0.45p.	15.5	2.35a.	85.2	13.7	13.5	58.1	2.8	1.6
12	35.72	19.3	23.5	0.05p.	17.1	12m.n.	23.7	11.30a.	15.6	4.00a.	84.3	14.1	13	54.9	2	1.2
13	36.24	19.4	24.5	Noon.	16.7	2.05a.	24.3	11.00a.	16	3.00a.	89.5	15	14	58.2	1.5	.9
14	36.71	19.6	25.2	Noon.	17.2	5.00a.	25.7	11.30a.	16.8	3.40a.	90.7	15.3	15.2	58.6	2.7	1.5
15	36.55	19.8	23.7	2.15p.	16.9	6.00a.	25	10.30a.	16.8	4.40a.	86	14.8	14.3	58.2	2.3	1.2
16	36.67	20.3	25.6	1.10p.	15.9	5.55a.	25.5	0.45p.	17	4.50a.	90.2	15.9	15.2	60.6	2.2	1.2
17	37.38	19.6	24.7	10.50a.	16.4	8.30p.	25.8	11.00a.	16.6	8.20p.	89.7	15.2	14.6	59	2.5	1.4
18	37.15	19.8	26	0.20p.	15.3	4.40a.	26.4	1.00p.	15.3	4.20a.	83.7	14.2	13.1	58.8	3.5	2.1
19	36.43	20.2	25.6	11.00a.	16.6	4.30a.	26.1	11.30a.	15.7	4.45a.	85.3	15	13.5	59.3	2.4	1.3
20	36.34	19.9	25.2	2.00p.	16.5	4.20a.	25.3	2.00p.	16	4.40a.	89.3	15.5	13.1	61.4	1.8	1.3
21	35.87	19.5	24.5	0.45p.	17	4.40a.	24.4	1.10p.	16.5	5.55a.	91	15.4	14.4	60.5	1.7	.9
22	35.66	20	25.5	1.15p.	16.9	4.30a.	25.5	2.30p.	16.6	2.45a.	89.2	15.5	12.1	60.4	2	1.1
23	35.95	19.2	25	0.50p.	17	6.00a.	25.1	1.00p.	17.4	3.30a.	93.5	15.5	13.5	59.2	1.1	.7
24	35.98	19.5	24.9	9.50a.	16.8	5.25a.	24.7	9.50a.	17	11.55p.	91.7	15.3	15	59.5	1.4	.9
25	35.98	18.4	23.6	0.45p.	16.1	10.00p.	23.7	0.30p.	16.8	11.40p.	94.5	15	14.7	56.4	.7	.4
26	35.38	17.6	21.2	1.00a.	16	4.00a.	21.8	11.05a.	15.8	0.10a.	97.3	14.6	14	56.4	4	.3
27	33.87	17.8	21.6	11.45a.	15.5	4.10a.	21.8	11.20a.	16	3.00a.	99.8	15.2	14.2	50.3	.1	1
28	33.62	18.3	22.3	1.30p.	16.2	7.30p.	23	2.00p.	17	6.30p.	95.2	14.9	16	55.8	0	0
29	33.08	17.6	20	2.20p.	16.5	9.10a.	20.3	2.00p.	16.6	10.30p.	96.2	14.3	15.8	55.8	.5	.7
30	33.01	17.3	20	11.00a.	16.1	2.30a.	20.8	10.30a.	16.1	3.10a.	95	14	14.8	53.6	1.6	1.4
Mean	635.17	18.6	23		16.1		23.4		16		92.3	14.7	14.3	55.3	1.4	.8
Total															41.2	25

Day.	Wind.				Clouds.		Sun- shine.	Rain, 24 hours begin- ning 6 a. m.	Miscellaneous.			
	Prevailing direction. ^d	Total move- ment.	Maxim- um hour- ly veloc- ity.	Direction at the time of the maximum velocity.	Form and direction.							
					Upper.	Lower.						
1	W, N	288.3	26.9	W	6.1	Ci.	Cu.	SW	3 20	50.3	☉ a. ☉ < ☉ p.	
2	NW quad.	408.7	24.7	W	6.4	Ci.	Cu.	NNE, NW	4 25	4.4	☉ a. ☉ ☉ ☉ p.	
3	W	570.4	40.8	W	9.7		N.	NW, WNW	2 20	34.6	☉ a. ☉ a. p. ☉ p.	
4	W	782.5	48.8	W	10		N.	SW	0 00	62.3	☉ a. ☉ a. p. ☉ p.	
5	SW	506.2	38.4	SW	9.7	Ci.	N.	SW	0 00	46.7	☉ a. ☉ a. p.	
6	SW, W	394.5	34.8	W	9.4	Ci.-S.	N.	SW	0 10	23.6	☉ a. d ^e ☉ ☉ p.	
7	W	676	39.7	SW	10		N.		0 00	25.2	☉ a. ☉ a. p. ☉ p.	
8	W	421.3	37.2	W	9.1	Ci.-S.	Cu.-N.	SW	0 35	17.6	☉ a. ☉ a. p. ☉ p.	
9	W	408.1	32.4	W	8.9	Ci.-S.	Cu.-N.	W	0 55	59.2	☉ a. ☉ a. p. ☉ p.	
10	W	318.1	27.2	SW	6.4	Ci.	S.-Cu.	SW	4 05	8.6	☉ a. ☉ a. p. ☉ p.	
11	W	287.5	28.7	W	6.9	A.-Cu.	Cu.	SW	3 30		☉ a. p. ☉ ☉ d ^e p.	
12	E, W	220.1	22.8	W	7.9	A.-Cu.	E	Cu.	SW	1 40	7.1	☉ a. ☉ a. p. ☉ p.
13	SE, W	263.6	22.3	W	7.3	A.-Cu.	SE	Cu.-N.	SW	1 55	1.5	☉ a. ☉ a. p. ☉ p.
14	E quad.	300.8	28.2	W	7.6	A.-Cu.	SE	Cu.	SE	4 45	1.3	☉ a. ☉ a. p. ☉ p.
15	E, W	206.8	23.3 ^e	W	7.4	A.-Cu.	E, W	Cu.-N.	SW	2 45		☉ a. ☉ a. p. ☉ p.
16	E, W	273.3	23.5	W	6.9	Ci.	Cu.	SW	4 25		☉ a. ☉ a. p. ☉ p.	
17	E, SE	357.9	30.4	W	6.3	Ci.	Cu.-N.	SW	4 20	1.3	☉ a. ☉ a. p. ☉ p.	
18	E quad.	287.3	22.7	W	5.7	Ci.	Cu.	SE	5 35	7.4	☉ a. ☉ a. p. ☉ p.	
19	E	213.2	19	SW	4.4	Ci.	Cu.	E	4 15		☉ a. p. ☉ ☉ d ^e p.	
20	W quad.	228.9	19.5	SW	6	Ci.	Cu.	E	4 05	.5	☉ a. p. ☉ ☉ d ^e p.	
21	W	208.1	21.1	NW	7	Ci.-S.	Cu.-N.	W	2 40		☉ a. p. ☉ ☉ d ^e p.	
22	W quad.	261.5	21.5	W	7.6	Ci.-S.	Cu.	E	4 20	1.8	☉ a. p. ☉ ☉ d ^e p.	
23	W	223.8	16.4	W	8.1	Ci.-S., A.-Cu.	Cu.	E	0 50		☉ a. p. ☉ ☉ d ^e p.	
24	W	267.9	25.5	W	5.7	Ci.	Cu.	SW	4 45	5.5	☉ a. p. ☉ ☉ d ^e p.	
25	W	348.6	30.3	W	7.3	Ci.	Cu.	S, SW	3 00	3	☉ a. p. ☉ ☉ d ^e p.	
26	W, SW	418.6	35.4	SW	8.3	Ci.-S.	Cu.-N.	SW	0 30	27.2	☉ a. p. ☉ ☉ d ^e p.	
27	SW	581.8	37.3	W	8.3		Cu.	SW	0 10	25.7	☉ a. p. ☉ ☉ d ^e p.	
28	SW	368.1	32.8	SW	8.2		N.	SW	1 50	43	☉ a. p. ☉ ☉ d ^e p.	
29	SE, SW	270.4	23.3	SW	9.9		N.	SW	0 00	32.9	☉ a. p. ☉ ☉ d ^e p.	
30	SE	558.9	32.8	SE	8.7	Ci.-S.	N.	SE	0 45	3.8	☉ a. p. ☉ ☉ d ^e p.	
Mean		363.7	28.9		7.8				2 24			
Total		10,911.1							71 55	494.5		

* All the mean values given in this table are deduced from six daily observations taken at 2, 6, 10 a. m. and 2, 6, 10 p. m.
 b The barometric readings of this station are not reduced to sea level.
 c Maximum of hourly observations taken from 6 a. m. to 6 p. m.
 d This element is based on hourly observations taken from a quadruple register, which gives only eight possible directions of the wind.
 e 6 hours missing.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, JUNE, 1920.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Lapac Agricultural School, Siasi, Sulu †			6.4				7.6	1.3		10.2	0.8	2	4.8	19.1	5.3	3
Glan, Cotabato †	5.1						2					2.5	2.5	27.4	7.6	
Jolo, Sulu						29	17.7	20.5	1.3	26.7	1.3	49	1.3	34.8		5.7
Lais, Malita, Davao		26.2					1					2.8	2	83.3	2	
Lebak, Cotabato	6.6			42.4			4.6		8.1				41.7	38.1	35.1	28.4
Lamitan, Isabela, Zamboanga					9.4	22.6			3.6			34.3	18.8			
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †					2.5	5.1			2.5	24.6		20.5	4.3	29.5		
Basilan Plantation Office, Isabela, Zamboanga †	5.8				3.8	2.5			12.7	5.1		20.3	5.1	40.7		5.6
La Union, Sigaboy, Davao †	3.6	4.6	15.5	11.2		11.7	22.1		16						13.7	
Paranglialap, Isabela, Zamboanga †	2.8				25.4	33				15.2		30.5		1.3	22.9	
Latuan, Isabela, Zamboanga †					1.8	3.8			6.6			34	4.1	.5		
Buluang, Cotabato †	3.8					20.3					4.1		21.3		6.1	
Malamau, Isabela, Zamboanga								5.1				17.3	6.1	7.6		
Zamboanga, Zamboanga									1.3			34.8	4.8	1.3		
Cagayan de Sulu, Sulu †	37.3			5.1					13.2		6.4		27.9	43.9		3.6
Kidapawan, Cotabato †			27.9	7.6		10.2					5.1	7.6		10.2	2.5	
Davao, Davao				6.6	2.5	4.6			19.8	6.6				29		
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †	5.9			13.7								2	6.9	27.9	1.5	2
Pikit, Cotabato	17.5			1.5			15.5	15.5					2	10.9	5.6	
Cotabato Seed Station, Pikit, Cotabato †				8.9			13.7	8.9	.8					17		
Awang, Cotabato †			17.8	15.2	2.5		7.4	18.8							5.1	2.3
Kabakan, Cotabato †	5.8			2			23.9		2.5					55.1		.8
Bual, Dulauan, Cotabato		25.4	.3					17.8			8.9	12.7		8.9		
Cotabato, Cotabato	8.6	7.1	3.3				37.8		.1	8.4	11.4	.5	15	23.6	.6	
Kabasaran, Buldun, Cotabato †	50.8	22.6	3.8				15.2	23.4		40.1			38.1	9.4	20.3	13.2
Naganaga, Margosatubig, Zamboanga				1.5					55.4			26.4		43.2	26.4	
Malabang, Lanao	31.2		29	46.5	24.4	6.9		2.8							58.4	
Compostela, Monkayo, Davao †	13.5	12.7			8.4				3.3	8.4					5.1	5.1
Lumbatan, Lanao †	40.6	24.1	2.5				7.6		45.7							
Cateel, Davao	4.6	2.8		4.1	1.3								21.1			
Ganasi, Lanao	91.7				20.1	19.8	58.2	13.2	22.4				33.5	9.9	.8	.5
Camp Kalao, Monkayo, Davao	11.7				50.8		25.4	38.4					1.3	3.8		5.1
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon	115.3	8.4		1.8	8.6	20	21.3	55.6	1				1.8	2	1	3.6
Camp Keithley, Dansalan, Lanao	44				.3		8.6	.5	10.2	1	7.6	16.3	21.8	18.6	.8	.8
Veruela, Agusan	.5	2.5		1.3	63.5							8.9			20.3	5.3
Sindangan, Zamboanga †	10.2			3					1.3	3	9.7	28.4	3.8		1.8	1.3
Sumilau, Bukidnon	1.8	5.4	10.9	52.1	6.9	20	23.9	7.1		13.7	6.4	20.3	1.3		5.3	
Diklom, Tangkulan, Maluko, Bukidnon †	6.6	12.9		1.3		.3	5.1	3.6				34.8		22.9	46.7	
Cagayan, Misamis		2				9.4			.8							
Talacogon, Agusan		24.4	5.4						12			3.8	1	14.7		
Butuan, Agusan	1.3	.8							2.3		15	2.3	8.4	50.6	11.7	3.6
Mambajao, Misamis	3.6	1.5	7.4	3		2.3						15				
Dumaguete, Oriental Negros	.3	.3						1.5		.3		27.4	6.9			
Meeth, Yap, Western Carolines	.3			2.3	79.7	1	13.2	.3	4.1	2.8		1			3.8	
Hacienda San Jose, Tanjay, Oriental Negros †																
Hacienda Palanas, Bais, Oriental Negros †	22.3	3.8									10.2	10.9				
Hacienda Tamugon, Bais, Oriental Negros †		38.1	12.7										50.8	7.6		
Tagbilaran, Bohol		.3											5.7	1.4	.8	
Iwahig Penal Colony, Puerto Princesa, Palawan		6.9	.5	.8	11.4	14.5	2	4.1	19.3					1.3	1	
Dalaguete, Cebu	7.1	4.1						17.3	16.3	3.8			4.1	.8		
Surigao, Surigao	4.6			2.3												
Central Palma, Ilog, Occidental Negros						1	1.3	1.8	1.5		2		9.4	8.9		38.1
Hacienda Naval, Himamaylan, Occidental Negros		9.9							35.6			5.3	8.6	6.9		8.1
Biaong Cui's Farm, Barili, Cebu												26.7				7.6
Maasin, Leyte	17.5									35.9	25.7	1.5	.5	49		
Isabela, Occidental Negros		1											48.8	1.5	11.2	10.2
Hacienda Tanolo, Hinigaran, Occidental Negros				2	13				50.3	.8	3	11.7	4	.5		1.3
Cebu, Cebu	1.8			1.5												
La Castellana, Occidental Negros	10.7	5.8		4.1	1.8	.3			12	2.3		11.7	25.7			
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †								.8							25.7	19
Central Azucarera de La Carlota, La Carlota, Occidental Negros	.5	10.2	10.7	12.5	4.6	.8			6.1			21	1.8			28.7
Hacienda Canlaon, La Castellana, Occidental Negros	7.7	3.6		6.3	2.5		.3		13				8.9	4.3	.5	
La Carlota Experimental Station, La Carlota, Occidental Negros †		5.8	3	21.6	1.3				17.7				6.6	3.3		26.4
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	.3	3.3	13.7	4.6	10.7	1.5			21.3		.3	1	1.3	23.4		5.6
Hacienda San Antonio, San Carlos Occidental Negros †				25.4											27.9	
Valladolid, Occidental Negros		7.1	7.3	30.5	22.6	21.8			7.6			31.7	12.2	2.8	.8	23.4
Central San Carlos, San Carlos, Occidental Negros †												23.6			102.6	
Hacienda Refugio, San Carlos, Occidental Negros †																
Murcia, Occidental Negros	1.8		6.9	14.5	11.9	4.3			3.3	2.8	8.4	14.8	3	4.1	14.5	45.2
Concepcion, Talisay, Occidental Negros			3.8	21.8	1.3	4.8			65		14	9.4	4.6	11.4	3.3	34.3
Iloilo, Iloilo	4.6		.5	18.6	.8	1.3			2.3			31.7	4	1		4.3
Lapu-lapu, Iloilo, Iloilo †	18.3		.5	20.3	.5	1.3			1.8		.8	29.7	3.6	2		7.6
San Jose de Buenavista, Antique		25.4	2	32.3	3.5		1.3			15.7	3	1	1.5	23.6	1.5	

† Voluntary or coöperative station.

Daily rainfall at the stations of the Weather Bureau, June, 1920—Continued.

Station.	Day of month.														Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
Lapac Agricultural School, Siasi, Sulu	0.8			7.9						2.5				45.5	117.1
Glan, Cotabato †		3.8	27.4			7.6			6.1			7.6			99.6
Jolo, Sulu			5.6	12.7	0.5		19.1	18.3	4.9						248.4
Lais, Malita, Davao	2.8	2.5		3			2.3				1.5	2	9.7	8.1	149.2
Lebak, Cotabato			39.3	50.8	55.9	42.2				37.8	24.3	39.6	29.9	16.8	541.6
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †	24.9	29	4.3	8.6	17.5	21.8	12.4								260.8
Basilan Plantation Office, Isabela, Zamboanga †		2.5		20.3			3.8	2.5							15.5
La Union, Sigaboy, Davao †		1.3	8.9	13.2		.8	4.3	.8							23.1
Paranglalap, Isabela, Zamboanga †			8.1				18.8	31.7	39.1	53.8	62	79.2	17.8		408.9
Latuan, Isabela, Zamboanga †			5.1	10.2			7.6								197.2
Buluang, Cotabato †	1.5		2	14.5	1.5		10.2								106.7
Malamau, Isabela, Zamboanga		8.1			12.7	53.3				.8		.5	2		133
Zamboanga, Zamboanga			6.4			6.1									6.6
Cagayan de Sulu, Sulu †			4.1	.3			16.8								77.6
Kidapawan, Cotabato †			17.8	14.5	1.3	7.4							2		180.4
Davao, Davao	7.6		12.7		50.8	38.6	43.2	5.1		33					262.1
Piang Agricultural School, Kudaran, Dulauan, Cotabato †	21.3				2.5	1.3	9.9	33.3	14.5			26.7	21.8		200.4
Pikit, Cotabato		10.9		6.1			4.3								81.2
Cotabato Seed Station, Pikit, Cotabato †				12.4	.5		13							.8	95.2
Awang, Cotabato †	20.3	17.8		5.6	.8	10.9			10.2	10.2	11.9		8.6	1	66.6
Kabakan, Cotabato †						14	5.1							.3	109.5
Bual, Dulauan, Cotabato	35.6		18	2.3	.5		.5	.8							135.5
Cotabato, Cotabato		3.8	9.9	6.1			1		1	2			6.4	.1	146.7
Kabasaran, Buldun, Cotabato †		22.4	22.9	17.8						3.8	5.1				308.9
Naganaga, Margosatubig, Zamboanga				12.7		4.8	73.9		7.1	2					253.4
Malabang, Lanao				46.7	38.9	10.7	36.6			50.8	10.2	53.3			501.5
Compostela, Monkayo, Davao †	5.1				5.3		50.8					43.2			160.9
Lumbatan, Lanao †							7.6	12.7	2.5	7.6	2.5	6.4	15.2	15.7	190.7
Cateel, Davao		3		26.2			.5			9.1			7.6	19.6	99.9
Ganasi, Lanao		1.8	3.8	3.8	2.8	2			7.4	14.7	4.8	7.3	3.3		321.3
Camp Kalao, Monkayo, Davao		10.7	1.3	13	17	.5	13.5		1.3	24.4		2	4.3	7.4	231.9
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon			.8	9.7	40.6	2	7.9	16.5	5.1			.8	33.5	16.5	373.8
Camp Keithley, Dansalan, Lanao	11.9	9.1	5.3	55.1	2.8		1.6	27.2	6.6	29.4	3		16	24.1	319.9
Veruela, Agusan	3	3.6	.3	4.1	12.4	7.4	17	8.1	74.9	14.2		46.2	2.5	8.6	304.6
Sindangan, Zamboanga †				85.8	1.3	46			46	22.4	10.7	1.3			279
Sumilau, Bukidnon	2.3	11.9	10.7	14.2	.5	62.2	24.6	19.3	13.2	33.8				7.4	375.2
Diklom, Tangkulan, Maluko, Bukidnon †			24.6	6.4	4.6		27.2	7.4	9.1	53.1			18.3		284.9
Cagayan, Misamis				25.4		22.9	20.3	2.3	3	5.1	8.9				101.1
Talacogon, Agusan		5.3		2	5.1	6.1	21.3	4.6		30.2	19.6			1	156.5
Butuan, Agusan	3.6	2	15	.3			38.1	11.2	1				2.8	4.6	175.6
Mambajao, Misamis					.5			20.3	2.8	.8					58.2
Dumaguete, Oriental Negros				1.5			.3	2.8		.3					41.6
Meeth, Yap, Western Carolines	4.6		.5		37.8	25	6.1		2.5	1.3	4		71.9	4.1	266.3
Hacienda San Jose, Tanjay, Oriental Negros †															0
Hacienda Palanas, Bais, Oriental Negros †															47.2
Hacienda Tamugon, Bais, Oriental Negros †								7.6				10.2			127
Tagbilaran, Bohol		5.1	5.1						.8						19.2
Iwahig Penal Colony, Puerto Princesa, Palawan					54.4	18.8		21.1		28.7				.8	185.6
Dalaguete, Cebu		3.3		2.6					7.4						66.8
Surigao, Surigao	.3	51.6	.3						17.3	21.5					97.9
Central Palma, Ilog, Occidental Negros			.5	9.6			42.7	54.1	19.3	4.3	17.3	12.7	6.3	2.6	233.4
Hacienda Naval, Himamaylan, Occidental Negros	4.3	19		33.8					17.8	13.7	26.7	8.4	37.8	3	238.9
Biaong Cui's Farm, Barili, Cebu	2.5		8.6					2		25.4					72.8
Maasin, Leyte							22.4		.3						39.9
Isabela, Occidental Negros	2		1.5	.5	1.5		2.3	.3	9.9	26.4	8.1	11.4	31.8	4.6	216.9
Hacienda Tanolo, Hinigaran, Occidental Negros	1.3	.3						.8	1.6	.3	11.2	16.5	36.4	10.7	244
Cebu, Cebu		8.4		4.6	3.3			20.6	16.5	3	1	16	26.4		79.3
La Castellana, Occidental Negros	38.6			45.2	2.8		3.6	7.4	9.4	20.1	15.5	6.1	54.7	9.9	276.3
Hacienda Vallehermoso, Vallehermoso, Oriental Negros	11.4					3.8				14.2		2.3			77.2
Central Azucarera de La Carlota, La Carlota, Occidental Negros	34.8	16.8	6.9	19.8	7.6			4.6	23.9	21.9	62.8	5.6	20.1	14.5	336.2
Hacienda Canlaon, La Castellana, Occidental Negros		1		12.7	6.1			11.7	22.4	21.6	22.9	1.8	30.5	14	194.8
La Carlota Experimental Station, La Carlota, Occidental Negros †	1.3	4.8	59.7	5.8			5.1	14	24.6	27.7	45.2	8.4	21.3		303.6
Maao Sugar Central, Santa Cecilia, Bago, Occidental Negros	11.7	2.5	3.6	2.8	.8	.3	.3	4.3	30.2	10.2	59.4	9.1	7.4	5.8	235.4
Hacienda San Antonio, San Carlos, Occidental Negros †							23.4								76.7
Valladolid, Occidental Negros					14.7	1		11.4	1.5	25.4	83.3	6.9		.8	312.8
Central San Carlos, San Carlos, Occidental Negros †				1.3		1	3.8	3.6							135.9
Hacienda Refugio, San Carlos, Occidental Negros †							8.6							7.6	64.4
Murcia, Occidental Negros			18.8	31				7.1	7.4		50.8	10.9	10.7		224
Concepcion, Talisay, Occidental Negros	31.2	10.2		16.5	.5		3.8	36.3	10.4		38.1	4.6	2.5	4.8	332.6
Iloilo, Iloilo	.8				1.8	1		31.8	1.3		103.6	13.2	51.2	.3	274.1
Lapuslapus, Iloilo, Iloilo †	.3		1		6.4			38.1	2		50.8	18.8	55.4	1	260.2
San Jose de Buenavista, Antique			20.1		24.1	1.5	1.8	1.3	4.5	11.7	84.3	47.7	32.5	22.6	362.9

† Voluntary or cooperation station.

Daily rainfall at the stations of the Weather Bureau, June, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Tuburan, Cebu	0.3								6.4	5.3			18.8			
Silay, Occidental Negros				21.8					1.5			0.5	2.8	15.2		14
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros†				14.2	2				1.5			.5	11.7			3.6
Cuyo, Palawan			7.4	.5	3.8	1.8	5.8				5.6	1.5	6.6	2.3	11.5	1
Lucena, Santa Barbara, Iloilo†		18		11.7					32.3			25.9				13.2
Hacienda Ilaya, Victorias, Occidental Negros				13.7					1.3	.8		.8		5.6		1.3
Hacienda Bilbao, Manapla, Occidental Negros			2.5		4.6				3.8				11.4			
Cadiz, Occidental Negros	6.4			.8				4.6		.8	76.7		39.4			12.2
Ormoc, Leyte	12.7	1.3	.5	17.3	.5				2.5			.8	2			2.5
Guiuan, Samar	4.6		.5			2.5						11.9	9.4	2.3		6.1
Bogo, Cebu			2.3												22.9	4.1
Dueñas, Iloilo†			2.3					58.4					25.2	12.4	5.1	
Bitaoagan, Passi, Iloilo†				1.3	1.8								15.7	3.8		
Tacloban, Leyte	1.3		20.3	21.6	7.6											
Dumarao, Capiz†			1.3	2.5		.3	.5	1.3				39.1	5.1			1.3
Dao, Capiz†			9.4		21.6	1	4		8.6	10.7		20.4	2		50.2	4.6
Capiz, Capiz				56.2	4.6	58.2	11.7		61.2		.5	52.6	53.1	.5		2
Borongon, Samar	7.9						4.3	1.5				7.9				
Catbalogan, Samar	42.5					13	.8	3.8				17.8	2.5	5.8	7.6	
Calbayog, Samar																
San Jose Estate, Robles Camp D-17, San Jose, Mindoro†			.5	24.1					17.8		6.4				45.7	
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro†	5.6		.8	12.2	4.9	.3			8.9		17.8	6.4		.8	3.3	
San Jose Estate, San Agustin, San Jose, Mindoro†			.8	12.2	9.9		9.9		33.3		2	34.8				
San Jose Estate, San Jose, Mindoro†	1.8		2.8	3.8	6.6	1.5			23.9		15.2	63.5		3.6	15.7	
Masbate, Sorsogon		2	.5					2.8	3.6							
San Jose Estate, Tunnel D-12, San Jose, Mindoro†	.8		8.7	5.8	2.3	1.3			45.7		31.7	97.8		.5	9.4	
Romblon, Romblon					2											
Batag Lighthouse, Laoang, Samar	6.4					1.3										
Irosin, Sorsogon		5.1			3.3		1.3			1	6.3					
Sorsogon, Sorsogon																
Legaspi, Albay, Albay		2.5		.3	3		1.6		33.8	2.5						6.4
Sumay, Guam, Ladrone Islands	13	6.4	1	.3	.6	1.5	.3	1.3		10.5	10.1				1.5	
Calapan, Mindoro						.8	3	.5	3	4.6						
Virac, Albay													3	2.5	2.8	
Naga, Camarines Sur		1			.4		19.8	5.6	5.8				3.1	30.7	13.2	
Tigaon, Camarines Sur			1	1.8	7.6	.8	3.3	2	26.2				.8	1.8		
Batangas, Batangas	2.8	9.1		.8	9.4				20.1	1.8	.5					
Calatagan, Batangas	4.8			36.8	21.6											
Balayan, Batangas	9.7	7.1	37.8	11.2				5.3	31.2							
Lipa, Batangas	4.1		19	9.7											22.7	1.5
Lucena, Tayabas	1.3	3.3							25.7	1.3						3
Atimonan, Tayabas	10.4	1				13.2	10.2		3.3	1.8				1.3		
Lian, Batangas	6.9	2.3	33.5	10.4	4.8	5.1			88.7							
Nasugbu, Batangas	15.5	9.1	33.3						11.7							
Ambulong, Tanauan, Batangas	3.3		1.5	14.2	5.8	3	5.1		46.7	2				2	2	
Daet, Camarines Norte			3.6					5.1	20.8	.3			7.1	1.3		
Mendez Nuñez, Cavite	25.7	.3	20.3	24.1	6.1	.3			24.9							
Alfonso, Cavite	18.8	3	28.7	27.2	9.7	7.6	12.7	7.9	5.8		22.1				.8	
Indang, Cavite		2	95.5	39.4	5.6	6.4	11.4	2	16.2		3.9	2			32	11.2
Canluban, Calamba, Laguna		.8	19.3	24.1	4.8	1.3	1.3	4.8	23.8				9.7	3.8		4.3
Silang, Cavite		8.4	43.6	33.3	2.3	9.9	4.3	8.4	1	42.6	15			.5	18.5	21.6
Maragondon, Cavite		4.1	37.6	74.9	11	16.5	7.1	8.6	14.4	.3						.5
Paracale, Camarines Norte																
Santa Cruz, Laguna		5.1	10.2	6.9	2.3		28.7	6.9				6.6	13		1.3	
Buenavista, Malabon, Cavite			33.8	49.3	5.1	11.2	2.8		17.5				1.5	25.7		3.6
Imus, Cavite		1.8	28.2	25.1	7.4	17.8	28.5	1.5					.3			
Alabang Stock Farm, Alabang, Muntinglupa, Rizal†		19	17.8	20.3	11.4	11.4	8.9					2.5		5.1	6.4	
Lamao Horticultural Station, Lamao, Limay, Bataan†			18.3	18.3	17.5		10.2				15.2					
Manila, Manila				20.4	28	16	41.7		1.7					1		
Antipolo, Rizal	9.1	.5		26.5	10.1	20.8	24.2		13.7		.3			9.4		10.2
Bosoboso, Antipolo, Rizal†		1.8	5.3	9.7	22.9	25.4	50.8	25.4	20.3				12.4			
Balanga, Bataan		.5	13.5	33.8	17	10.1	13.7	.8				1.8				
Montalban, Rizal†	1.5		28.7	14.7	50.8	11.7		24.9	.8				48.2		8.1	6.4
Hacienda Pintong Sapang, San Jose del Monte, Bulacan†				12.7	17	25.7	2.8	6.4	2.3					5.8		
Mabayuan Dam, Olongapo, Zambales†		5.1	33	50.8		94	22.9	60.9	10.2						7.6	12.7
Pampanga Sugar Mills, Del Carmen, Pampanga†				31.7	8.7	29.5	1.3	1.3	15.2	2.5						
San Isidro, Nueva Ecija	1.8	.5		38.8	3.3	6.9	.3	22.7	2.1	2.5	.3			.8		1.3
Iba, Zambales	15.5	20.8		52.4	38.4	78.5	16.7	3.3	23.4					4.1		
Hacienda Luisita, San Miguel, Tarlac, Tarlac†		3	20.3	33.8	6.4	12.7		3.8	.3	21.6						
Tarlac, Tarlac	1.5			57.1	2.8	23.6		11.7	6.1	2		4.1		2.5		
Muñoz Agricultural School, Muñoz, Nueva Ecija†	56.1		6.6	11.2		21.1	25.4	50.8	2.5				8.1	6.4	17.8	
Baler, Tayabas				14	.3	1.3	2.3		29.2	5.1						
Dagupan, Pangasinan	4.3	13	7.1	28.8	12.6	38.3	8.9		2					.5		
Bolinao, Pangasinan		11.7	43.2	48	104.7	36.3	52.3	3.3								
Baguio, Mountain Province	50.3	4.4	34.6	62.3	46.7	23.6	25.2	17.6	59.2	8.6		7.1	1.5	1.3		
San Fernando, La Union		49.5	26.7	41.7	56.4	10.4	13.9		18.5	3.3						
Sagada, Mountain Province†	.8		6.1	19.3	21.8	7.6	5.8	6.1	11.7	15.2	.5		10.9	16.5	13	15.2
Bontoc, Mountain Province†			1	1	6.4	20.1	3.8	1	12.7	10.2				19	1.5	2.8
Candon, Ilocos Sur	6.4	41.4	58.9	163.8	2	2.5			54.1							8.1
Vigan, Ilocos Sur	4.3	18.3	97.1	96.3	69.2	11.7	3.5	2.1								2.5
Tuguegarao, Cagayan	4.1	.3		27.9	29.2	75.4	1.5				1.3			3.6	3.3	21.3
Laoag, Ilocos Norte	1.3	17.8	31.8	72.6	42.5	7.4	.8									.5
Aparri, Cagayan	5.8			24.6	15.5	9.1	2				5.3					1.3
Cape Bojeador, Burgos, Ilocos Norte	12.7	23.6	43.4	102.9	19	44.4	5.9									2.8
Basco, Batanes		.5	20.9	43.9		10.2	15.7	2.1	.3	2.8	3.8				.3	

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, June, 1920—Continued.

Station.	Day of month.														Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Tuburan, Cebu	13.2	0.5		21					18						65.6
Silay, Occidental Negros	15.5	66.6		26.2					3.6						234.5
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros†	.3	6.4		5.6	1		0.6	6.6	.3		60.4	8.9	2.8	.3	126.7
Cuyo, Palawan		.8	22.1	8.2	5.3	7.2	47		20.6	5.6	39.1	20.3	30.5	10.9	265.4
Lucena, Santa Barbara, Iloilo†	40.9		22.9	30.5	5.3	6.9					32				239.6
Hacienda Ilaya, Victorias, Occidental Negros			3				1.3		1.3		41.1	8.3	3.3		81.8
Hacienda Bilbao, Manapla, Occidental Negros							6.3					1.5	2.3	1.3	33.7
Cadiz, Occidental Negros		3.6						52.1	41.1		5.1				242.8
Ormoc, Leyte	10.2	6.8	23.6	7.4				9.9	25.4	3.8	46.2		10.7	2.5	186.6
Guiuan, Samar	22.4	2.3	.5	25.4	3			31.2	1.3	2.3					126.2
Bogo, Cebu	.5				21.3			18.8		20.6	1.8		2.5		98.9
Dueñas, Iloilo†		68.6		14.5							13.5	5.1			205.1
Bitagoan, Passi, Iloilo†		1.8			3		14.2	6.4	7.6		1.3				56.9
Tacloban, Leyte		7.6		27.9		12.4	2	6.6	1		1.8		20.8	4.8	135.7
Dumarao, Capiz†		1.3		11.4			19	5.1		10.2	1.3				99.7
Dao, Capiz†		5.1		.5	19		5.3	38.1	6.9	8.6	35.6	.3	.3		252.2
Capiz, Capiz	6.1		1.5					8.1		3.8	58.9	.8	13.7	.3	393.8
Borongan, Samar		16						3.3		26.2	.8				67.9
Catbalogan, Samar		3.6	.6	5.3				7.6	.3	.8		27.9		3.6	126.2
Calbayog, Samar	5.1		.8	.8		1.8				36.9	.8	41.8	3.6		109.2
San Jose Estate, Robles Camp D-17, San Jose, Mindoro†				24.1				15.2	43.2	29.2	176.3	24.9	88.9	15.2	511.5
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro†				75.2	.3			68.1	6.9	72.9	118.4	87.6	94	67.3	651.7
San Jose Estate, San Agustin, San Jose, Mindoro†				6.9	2			1.8	23.1	63.5	104.1	73.7	86.6	39.4	504
San Jose Estate, San Jose, Mindoro†	.5			16.6				29	9.9	90.7	146.8	61.9	86.9	64	644.7
Mashate, Sorsogon						4.1		3.6	5.1		22.6	2			74.5
San Jose Estate, Tunnel D-12, San Jose, Mindoro†	2			.5	12.9			.3		3	5.8	68.6	134.6	58.2	116.6
Romblon, Romblon	21.1		5.8		1.6						31.6	5.5	28	2.3	647.9
Batag Lighthouse, Laoang, Samar		9.1								32.8		15.7		10.7	97.9
Irosin, Sorsogon		1.8		8.4				11.4	16.3	4.8	15.2	2.8	4.6		82.3
Sorsogon, Sorsogon								4.1	5.6	4.5	17.5	8.6	3.8	.3	44.4
Legaspi, Albay, Albay	2.8			2.5	21.1		.3	5	.6	15.3	62	17.8	1.5	.3	179.3
Sumay, Guam, Ladrone Islands				11.9	6.6	12.4	39.7	3	2.5	2.3	2.6	2.5	10.4	1.6	139.3
Calapan, Mindoro	3	1.8	.5	.3							48.5	23.1	25.6	13.4	128.1
Virac, Albay				9.4				40.6							58.3
Naga, Camarines Sur	8.9				4.6	48		1	12.7	8.6	6.4	4.1	6.9	.5	180.4
Tigson, Camarines Sur	9.1		15.5		9.4	40.1	1.3	15.5	.5	.5	58.9	10.7	21.3	8.4	236.5
Batangas, Batangas	1							2.5	7.9	62.2	13.7	36.8	7.8		176.4
Catagan, Batangas		3.6		6.9	7.6			.3	2.3	13.7	4.8	97.5	69.8	76.2	417
Balayan, Batangas							14	27.7		29.2		135.9	29.4	67.8	445.6
Lipa, Batangas												31.8	9.9	17.3	164.3
Lucena, Tayabas		.8			20.3			25.6				8.1	3		74.1
Atimonan, Tayabas		.5												11.9	8.1
Lian, Batangas				10.9		38.6	14		48.3		24.1	107	85.6	94.3	536.8
Nasugbu, Batangas									4.8	17.8	49.5	20.1	58.4	82.8	222.7
Ambulong, Tanauan, Batangas	15			8.9				8	1	3.6	17.3	1.3	35.3	14.2	183
Daet, Camarines Norte								11.5		4.1		5.6			60.2
Mendez Nuñez, Cavite	6.1				2			8.4	37.3	16.5	17.8	34.6	8.4	47.8	307.5
Alfonso, Cavite	2.6				2.3			20.1	21.8	22.1	49.5	15	55.6	32.3	365.6
Indang, Cavite	10.7							7.1	44.5	3.3	3	48	2.5	36.9	409
Canluban, Calamba, Laguna	3.8				5.1			29.7	8.6	.8	7.4	2.5	23.9	7.4	229.8
Silang, Cavite	2			4.8	5.9			7.4	16	3	2.8	19	5	41.4	284.6
Maragondon, Cavite	4.3				38.9	6.1		13.5	24.9	10.5	18	59.7	8.9	34.8	423.1
Paracale, Camarines Norte		2.5										3.8			7.6
Santa Cruz, Laguna						1.3		26.4	3.3	2.6	10.9		6.1	5.1	138.2
Buenavista, Malabon, Cavite								8	5.6	6.9	37.4	3.8	36.1	16.5	257.6
Imus, Cavite							1	21.8		6.1	65.8	3.8	34.6	16.3	260
Alabang Stock Farm, Alabang, Muntinlupa, Rizal†						11.4	10.2	5.1	12.7			50.8	14	33	247.6
Lamao Horticultural Station, Lamao, Limay, Bataan†	9.1			2	.3	1	1.8	19.5	48.3		6.4	56.9	35.6	60.2	273.4
Manila, Manila			.1								5.4	62.9	2.8	49.3	346.6
Antipolo, Rizal				3.8	71.9	1.5	1	11.7	6.1	13.7	91.7	6.4	43.6	11.7	387.9
Bosoboso, Antipolo, Rizal†				51.3	17.8	34.3					7.6	68.8	5.3	8.9	368
Balanga, Bataan	11.4	8.6		1	2					1.5	60.7	11.9	56.9	16.8	263.8
Montalban, Rizal†			17.3	14.2	14	13.5	3	21.6	7.4	40.1	40.1	3.3	58.7	9.2	433.2
Hacienda Pintong Sapang, San Jose del Monte, Bulacan†	1.8			5.1		4.6		1	6.6	7.9	34.6	1.3	55.9	14.2	205.7
Mabayuan Dam, Olongapo, Zambales†	5.1		10.2		.3	.8			1.3	25.4	48.2	88.9	132.1	94	703.5
Pampanga Sugar Mills, Del Carmen, Pampanga†		30.5	3	1.8					.1	4.6		23.9	17.8	94	279.6
San Isidro, Nueva Ecija	.5			2.5	.8				16	.8		6	4.5	46.3	107
Iba, Zambales	.8	2.3	12.7	14.5	1.5			5.3	54.9	7.9	9.9	144.4	40.9	72.6	666.8
Hacienda Luisita, San Miguel, Tarlac, Tarlac†					8.9							3.8	6.4	49.5	184.5
Tarlac, Tarlac	2			4.1		16.5			10.7	9.7		2.8	10.7	57.4	243.4
Muñoz Agricultural School, Muñoz, Nueva Ecija†				4.6	3.8	4.6	45.5	6.4	3.8	3		31.7	7.6		317
Baler, Tayabas						54.9							2	9.4	116.7
Dagupan, Pangasinan	2.5	15.2	14.2	29	2.5			1.5	9.7	5.3	24.6	26.4	29.6	4.6	280.6
Bolinao, Pangasinan			4.3	11.2	2.8			39.4	6.1	28.2	61.2	58.7	16.8	34.5	591.9
Baguio, Mountain Province	1.3	7.4		5		1.8		5.5	3	27.2	25.7	43	32.9	3.8	494.5
San Fernando, La Union							2	8.9		38.2	16.2	34.8	10.7	.5	329.9
Sagada, Mountain Province†	7.1	4.1		6.9	10.2	2.3	68.6	1	6.9	3.6	14.8	16.3	4.9	.5	297.7
Bontoc, Mountain Province†	14			5	22.9	1.8		22.1	1.8		5.1	4.1	1.8		152.6
Candon, Ilocos Sur								2.3			20.3	4.6	10.2		377.4
Vigan, Ilocos Sur	.5			3				8.1	16.5		33.8	43	18.8		449.3
Tuguegarao, Cagayan										.8	1.8	22.3			192.8
Laoag, Ilocos Norte								7.4	3	.6	45.8	6.8	16.8	2.5	255.9
Aparri, Cagayan											20.8		21.3		114.3
Cape Bojeador, Burgos, Ilocos Norte										1.6	36.1	17	1.8	8.6	321.1
Basco, Batanes	.5		.8									1.3	.8	.3	109.6

† Voluntary or coöperative station.

MAXIMUM AND MINIMUM TEMPERATURES AT THE STATIONS OF THE WEATHER BUREAU, JUNE, 1920.

Day.	Jolo.		Lais, Malita.		Lebak, Cotabato.		Lamitan, Isabela, Zamboanga.		Malamau, Isabela, Zamboanga.		Zamboanga.		Davao.		Pikit.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.3	23	33.6	23	32.1	24	32.1	20.6	30.8	24.1	29	24.3	32.1	22.9	33.1	23.1
2	31.2	23.2	33.2	22.4	32.3	24.1	33.4	21.8	33	24.1	28.8	23.5	31.7	22.1	32.1	21.9
3	32	23.5	34.1	23	30.3	25	31.9	21.5	34	24.4	28.8	24.3	32.2	23.4	33.7	22.9
4	32.6	23.6	33	23.2	31.2	23	32.5	20.4	33.6	24.2	29.7	23.1	32.2	24.6	33.1	23.1
5	32.7	23	32	23.4	32.1	23	31.6	21.2	32.5	24.4	29.3	23.3	31.7	22.9	34.5	24.1
6	31.3	23.5		22.9	31.2	24	31.7	21.6	33.6	24.3	29	24	31.2	23.6	33.4	22.5
7	31.3	22.7			30.2	24.1	30.2	22.6	33	23.1	29.2	23.6	31.2	23.1	35.5	23
8	30.3	22.6	33.5	22.4	32.1	22.3	33.6	21.5	32.7	24.2	31	24.9	31.2	23.3	34.2	23.7
9	30.3	23.1	34.2	22	31.2	24.7	32.5	21.3	31.5	24	29.4	24.7	31.2	22.5	34.8	23.9
10	31.4	23	33.4	21.9	32.8	23	33.6	20.6	33.4	23.9	30.2	24.5	31.7	23	35.3	23.7
11	31.6	22.6	33.5	22.3	31.7	25	31.8	20.4	33.5	23.4	29.5	24.5	32.6	23.5		24.5
12	30.6	22.8	32.5	22.5	30.2	24.1		21.8	32.8	23.4	29	22.2	33.2	23.6	34.2	25.4
13	30	23.3	33.4	22.2	31.5	23.1	29.2	23.4	32	21	28.9	22	31.7	23.5	34	24.8
14	28.5	24	32.4	22.3	30.6	24	32.5	20.6	31.4	24	28.3	22.1	31.9	23.5	32.1	24.5
15	30.4	23.1	29	22.2	31.2	23.3	32.6	21.4	31.1	22.5	31.6	23.5	30.8	23	30.7	23.8
16	30.1	23.4	31.7	21	30.3	23.1	33.4	20.7	32.5	24	28.4	24.9	31.6	21.5	34	22.5
17	29.9	23.3	32.3	21.3	32.1	22.2	31.7	22.4	31.6	24	28.7	23.4	32.2	21.5	35.2	23.2
18	29.2	23	28.8	23		25.3	32.1	21.5	31.4	23.4	29	24.9	29.7	22.1	32.1	22.4
19	29.8	22.1	32.3	22.3	30.7	23.1	30.6	22.4	30.2	24.4	27.5	24	32.5	22.9	34.8	22.5
20	29.5	24.6	32.4	22.2	29.2	22.1	33.7	21.5	31.5	24	28.2	24.3	32	22.9	34.4	24
21	29.9	22.4	33.2	21.3	31.2	22	32.5	21.3	32.5	23	28.2	23.2	31.4	23.9	33.5	23.4
22	29.9	23.7	32.6	22.5	32.1	23.1	33.8	22.8	33.1	24	29.2	23.3	31.3	23	32.8	23.1
23	28.9	23	33	23	32	24.1	32.5	20.5	28	23	27.1	23	31.2	23.9	32.4	23.6
24	31.2	22.2	33.2	22.5	32.1	24.3	32.4	21.5	33.3	23.1	29.3	23	31.2	22.9	33.4	22.2
25	30.6	22.9	33.4	22.3		25.3	32.2	20.4	33.5	24.5	29.7	24.2	30.4	22.3	32.9	23.7
26	30.5	23.8	33.4	21.8	30.2	22.2	34.2	22.1	33.7	25	28.8	24.3	31.2	22.8	33.5	22.7
27	31.3	23.2	33.6	23		23	32.6	20.1	34.6	21.4	29.2	24.1	31.2	23.5	33.8	23.8
28	33	24.3	34.5	21.6	30.2	23	33.2	21.5	35.1	20.7	30	24.4	31.5	23.7	34.2	22.2
29	31.6	25.7	34	24	31.2	22.1	33.2	21.4	33	20.5	29.7	24.2	30.7	22.5	34.6	23.4
30	30.3	23.8	31.2	23.9	32.7	23.1	31.8	20.2	33.2	20.2	29	22.7	31.5	22.5	33	23.1
Mean	30.7	23.3	32.8	22.5	31.3	23.5	32.4	21.4	32.5	23.3	29.1	23.8	31.5	23	33.6	23.4

Day.	Cotabato.		Naganaga, Margosatubig.		Cateel.		Camp Kalao, Monkayo.		Mailag, Malaybalay.		Camp Keithley, Dansalan.		Veruela.		Sumilau.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32	23.3	34.7	23.5	31.9	22.2	33.9	22	31.5	20	27	18.3	33.4	22.3	28.1	19.3
2	30.2	22.1	34.5	22.3	34.9	22.3	33.5	21	31.5	21.1	26.5	19	32.8	22.2	27.4	19.7
3	29.8	23.4	33.4	23.2	34	22.7	32.5	21.9	28.8	21.4	27.7	20.5	33.4	23	31	18.8
4	30.5	22.8	33.2	23.5	32	23.5	35	22.2	29	21.5	27	21.3	32.2	24	28.1	21
5	31.5	22.5	34.3	23.2	32.3	22.4	31.4	22	31.4	20.4	28.7	20	34.5	22.2	29.8	18.9
6	32.1	22.5	34.5	22.5	31.6	23.7	32.2	21.5	31.4	21.5	27.3	20	31.3	23.4	28.5	19.9
7	31.9	23	34.3	23.2	32	23.6	33.5	21.1	31.3	21	29.3	18.3	33	22.5	29.3	18.1
8	32	23	33.7	23.7	32.1	22	32	22.6	33	19.5	29.3	19.3	33.5	22	30.3	18.4
9	32.9	24	34.3	22.5	32.2	22.5	33.6	21.9	35	21.2	28.3	19.5	33.7		30	19.3
10	33	23.6	34.5	23	32.4	23.5	33.6	22.9	35	21.1	29.3	20.5	33.5	24.4	29.5	20.1
11	33.6	23.5	34.6	22.2	32.6	22.6	33.2	22.1	36	20.2	29.3	19.7	32.5	23.4	30.6	18.5
12	31.8	24.8	33.7	22.5	33.1	23.1	33.5	23.4	34.2	19.2	28.8	19.6	32.3	24	30	19.2
13	32	23.6	33.5	22.2	32.1	23.6	32.5	22.5	35	20	28.5	18.7	32.5	23.2	29.7	19.6
14	32	24.6	33.5	22.5	31	23.5	33	22.4	32	22	27.5	19.6	31	23.2	29	19.6
15	31.8	23.5	34	22.3	32.3	22.6	32.2	23.5	32.2	21.4	27.9	20	32.2	23.9	29.4	20.8
16	32.4	23	33.2	23.5	32.5	21	33	21.5	34	19.3	29.4	18.5	32.8	22.6	30.3	17.5
17	31.6	24.1	34.5	23.3	32.8	21.6	29.6	21.5	34.1	19.5	28.8	18.7	32.6		30	18.9
18	31.5	23	33.7	22.2	32.4	22	32.5	22	32	19.9	26.8	18.3	27.8	23.2	28.6	19
19	32.8	23.4	34.3	22.5	32.7	21.9	33.6	22	31.9	18.7	28.9	18.1	31.3	23.2	30.3	18.7
20	30.8	23.5	35.2	23.2	32.8	23.5	33.1	23	32.3	21.8	27.8	20.6	32.2	23.2	29	18.9
21	30.5	23.2	34.5	23.5	31.6	24	33.6	22.6	33	21.5	28.3	19.7	33.5	23.7	29.1	19
22	31	23	34.5	23.2	31.5	22.7	31.7	21.9	31.7	21.3	27.8	20.4	33.2	23.2	30.1	18.7
23	29	23.1	33.7	23.5	29.8	23	32.6	22.4	30.6	22.5	27.5	20.5	31.4	23.2	27.6	20
24	30.8	21.9	33.2	22.3	31.8	24.8	32.8	21.5	31.5	21.7	27.8	18.9	31.8	22.8	27.6	19.4
25	31.4	23.5	32.7	22.7	31.8	23.6	33.5	22.1		23.1	27.5	19.5	32.3	23	28.1	19.4
26	30.6	23.5	33.5	23.2	31.9	22.8	31.5	21.9	32.1	22	26.5	20.7	32.8	22.7	26.3	19.5
27	32	23.2	34.2	22.2	30	23	33.6	21.5	30	22.7	27.5	19.5	32.8	22.5	28	19.1
28	31	22.4	33.7	22.2	32	23	33.1	21.5	32	21.7	28.8	20.9	33.3	23.5	29.6	18.8
29	32.2	23	34.5	22.5	32	23.4	33.1	22	31.8	21.9	28.3	20.4	33	22	30.3	20.1
30	31.8	23.4	33.7	23.2	31	22.7	31	21.3	31.6	19.3	27.3	19.5	32.3	22.2	30.2	19.5
Mean	31.6	23.2	34	22.8	32.1	22.9	32.8	22.1	32.3	20.9	28.1	19.6	32.5	23	29.2	19.3

Maximum and minimum temperatures at the stations of the Weather Bureau, June, 1920—Ctd.

Day.	Cagayan.		Butuan.		Mambajao.		Dumaguete.		Meeth, Yap.		Tagbilaran.		Iwahig Peñal Colony, Puerto Princesa.		Dalaguete.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33.8	21.8	28.7	23.2	31.7	23.4	31.9	25.1	30.9	25.6	32.2	23.5	31.8	22.1	31.7	22.3
2	33.8	22.5	31.1	23.2	31.3	23.8	32.1	24.7	32.2	24.5	32.3	25.6	32.8	21.9	31.1	23.3
3	33.2	20	34.4	23	33	25.3	33	24	32	24.6	33	25.8	32.6	23	33.7	24.4
4	33.8	20.5	34.6	24.4	33.8	25.3	32.7	24.8	32.1	24.3	33.3	26	33.5	22.8	34.2	24
5	33.6	21.8	34.4	23.2	33.5	23.8	32.7	23.4	30.4	23.7	33.7	25.9	32.9	22.2	32.2	21.1
6	33.5	23.2	31.7	23.7	29.8	24.8	30.8	24.4	31	23	32.1	25.2	33	22.3	31.1	23
7	33.5	22.2	34.9	23.2	31.3	23.3	32.5	23.8	31.2	24.3	32.7	23.4	32.4	22.2	32	23.4
8	33.6	22.4	35.4	23.2	32	23.1	32.4	24.6	31.7	24	33.6	24	32.6	22.4	32.5	23.5
9	33.7	23.5	34.9	23.9	31.8	23.4	32	25.8	32.2	24.3	32.9	24.3	32.4	22.4	32.3	23.8
10	33	22	35.4	23.9	31	24.2	31.8	24.8	31.5	25.1	33	24.4	31.8	21.8	31.8	22.8
11	33.8	23.4	34	23.6	31.3	23.9	32.1	25	31.6	25.1	33.2	24.2	32.8	22.1	32.8	24.6
12	34	22.7	33.9	23.8	31.2	25.1	31.7	24	31.9	28	33.4	24.5	32.8	22.3	32.6	23.2
13	33.2	23.5	33.3	24	30.9	24.7	31.2	25.3	31.8	27.6	32.3	24.9	32.7	22.3	32.3	25.9
14	32.8	21.5	32.1	23.2	31.7	24.5	31.2	24.4	32.6	27.7	32	24.1	31	22.7	32	23.9
15	33.3	22.7	32.9	22.9	30.3	24.5	31.2	24.9	32.2	25.9	32	23.6	31.7	22.6	31.7	25
16	34.2	23.7	34.3	22.9	31	23.2	32	24.2	32.4	27.3	32.5	23.9	32.6	22.7	32.1	24.3
17	34	22.7	34.3	21.6	30.6	23.1	32.4	24	32.4	25	33	23.9	32.8	22.6	32.5	23.5
18	34.2	22.5	31.1	22.9	30.3	24.3	32.2	25.2	32.7	24.1	31.3	23.3	32.7	22.2	31.8	21.9
19	33.3	21	33.6	22.4	30.6	24.3	32	24.5	32.4	24.2	32.9	22.4	32.8	21.7	31.7	23.7
20	33.5	21.5	32.4	23.3	30.8	23.7	32.3	25.3	33.3	24.1	32	22.7	33.2	21.5	31.7	23.3
21	33.5	21.5	33.6	23.4	33	23.9	32	24.9	32.2	24.6	33	23.5	32.7	22.3	32.3	24.7
22	33.8	22.7	34.6	23.4	32.5	24.4	31.8	23.5	33.2	24.2	32.9	23.9	32.4	22.8	32.1	22.7
23	32	20	33.6	23.9	31.7	25.5	32.8	24	32.3	24.4	32.8	25.6	30.6	23.2	32.6	24
24	33.2	21.2	31.6	23	32.9	24.3	31.9	23.3	31.9	24.3	33.6	25	32.2	22.4	32.6	23.3
25	33.3	22.3	31.4	22.7	32.3	23	31.6	24.9	33.2	24.9	31.5	24.3	33.1	22.7	32.3	23.5
26	33.2	21.8	32.6	22.9	31.7	24.7	31.9	24.9	32.7	24.2	32.2	24.2	29.8	22.7	31.5	23.5
27	33.5	21.5	32.8	23.7	33.4	25	32.1	24.7	30.4	24.5	33.3	26	32.8	22	34.2	24.3
28	33.6	22	33.6	23.6	33	24	31.1	24.4	31.6	24.6	32.6	26.9	32.7	23.2	31.7	24.5
29	34.5	23.2	35.2	23.4	34.4	25.9	34.4	24	31.9	23	33.6	25.3	30.5	23.6	31.9	22.9
30	32.5	21.8	32.2	22.4	32.3	23.8	31.4	23.8	31.1	23	32.9	25.4	30.4	22.8	32.5	23
Mean	33.5	22.1	33.2	23.3	31.8	24.2	32	24.5	32	24.8	32.7	24.5	32.3	22.4	32.2	23.6

Day.	Surigao.		Hacienda Naval, Himamaylan.		Biaong Cui's Farm, Barili.		Maasin, Leyte.		Isabela, Occ. Negros.		Hacienda Tanolo, Hinigaran.		Cebu.		La Castellana.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.1	23.9	31.4	22.4	32.5	23.6	34	24.2	32.2	22.4	31.3	22.5	30.3	25.7	31.3	22.5
2	29	25.7	32	23.6	33.8	23.5	31.2	24.4	30.1	22.4	30.6	22.2	30.5	26.3	30.1	22.1
3	32.3	27.6	32.2	23.5	34.1	24.6	33	24.2	31.9	24.9	31.6	24.4	30.6	27	31.8	23.2
4	32.3	25	32.2	24.2	34.5	24.2	33.4	24.8	31.7	24.1	31.7	21.3?	30.8	25.6	31.7	23.6
5	32.4	24.6	33	23.2	32.6	23.2	32.6	25	32.7	22.3	31.8	22.4	31.7	26.6	32.3	23
6	30.4	24.4	32.8	25	33.4	23.6	34	24.8	32.6	24	31	23.4	31.3	27	32.6	23.8
7	31.7	23.5	32.2	22.2	34.8	21.5	33.6	24.5	32.8	23.4	31.2	24.3	32.7	25.7	32.5	23.5
8	31	24	32.5	23	35.5	22.6	32.2	24.9	33	22.4	31.4	22	32.7	25.7	33.5	22.5
9	32.2	24.2	33.1	22.8	35.2	21.5	32.5	23.8	33.4	21.9	31.8	20.4	32.7	26.4	33.5	22.6
10	32.3	24.6	31	22.4	33.8	22.6	35.6	24.6	-----	22.7	31	21	33.3	26	33	22.3
11	32.4	24.5	32.4	23.5	33	26	34	23.5	33	23.6	32.5	23.3	33.5	25.4	34.1	23.5
12	32.1	24.7	32.5	24.5	34.5	24.5	33	23.9	33.2	24	32.5	24.2	33.3	24.4	33.7	23.6
13	33	25.3	31	24	35.5	25	33	24.8	31.6	23.7	31.5	22.6	32.4	25.2	32.8	23.7
14	31.1	24.9	32.8	24.2	31.5	22.5	34	24.5	34.5	23.5	32	24.1	31.8	25.5	-----	21.7
15	31.6	24.7	32.4	24.6	32.5	22.6	34.2	24	33.6	23.6	31.4	24.3	32.3	26.2	34.1	24.2
16	32.2	24.4	31.8	23.4	32.5	21.5	34	24.1	33.3	22.3	31.6	23.5	31.8	26.1	33.6	23.3
17	32	23.9	31.5	24.2	31.5	22.8	35	24.4	33.6	23.9	31.2	24.2	32.2	26.2	33.7	22
18	29	24.4	30.5	23	32.5	22.5	33	24	33.4	22.2	32.1	-----	31.5	25.9	32.8	22
19	29.2	23.3	32.4	22.6	33.3	24.5	32.2	23.6	34.5	22.4	32.1	21?	32.6	25.8	33	21.8
20	31	23.2	30	23.2	32.5	22.6	34	23.8	31.7	22.9	31.6	23.3	32	25.9	32.9	22
21	31.4	24.2	31.2	22.4	30.5	21.8	33.5	23.6	32.3	22.8	31.4	22.8	30.9	25.5	34.5	21.5
22	32	24.8	31.5	22.2	33.5	21.9	34	23.2	31.6	23	30.7	23.1	31.3	25.4	32.3	23.5
23	31.5	24.5	31.2	22.5	33.5	22.5	34.8	25	31.5	23.4	30.3	23.1	32.3	26.7	31.6	23.5
24	31.2	25.2	31	22.6	33.8	24.3	34	25.6	31.2	21.5	30.5	21.8	31.3	24.7	31.7	21.2
25	32.5	24.4	33	22.8	33.6	22.4	35	23	32.5	23.2	31.3	21.6	31.5	24.2	32.5	23.2
26	30.4	23.5	31.5	23.7	30.8	19.8?	34.2	23.6	28.2	24	29	24.2	31.3	25.6	28.3	22.6
27	31.2	23.6	32.6	22.2	33	20.5	34.4	25	32	22.9	31.6	23	31.3	26.8	32.1	23.2
28	31.9	25.2	31	22.6	31.1	22	34.2	24	30	22.4	29.5	22.6	30	27.2	29.8	22.1
29	33.7	24.6	29.3	22.7	32.9	19.5?	34	24.6	29.3	23	29.5	22.1	30.9	26.4	30.5	22.7
30	31.3	25.4	30.2	22.9	30.8	23.4	33	24.4	30.4	22.2	30	22.5	32.6	26.5	31.6	22.5
Mean	31.5	24.5	31.7	23.2	33.1	22.8	33.7	24.3	32.1	23	31.2	22.7	31.8	25.9	32.5	22.8

Maximum and minimum temperatures at the stations of the Weather Bureau, June, 1920—Ctd.

Day.	Central Azucarera de La-Carlota.		Hacienda Canlaon, La-Castellana.		Maoa Sugar Central, Bago.		Murcia.		Concepcion, Talisay, Occ. Negros.		Iloilo.		San Jose de Buenavista.		Tuburan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.9	22.5	31.2	20.1	32.3	22.2	30.8	20.2	32	22.6	33.1	23.7	33	23.2	33.1	23.8
2	30.9	22.3	29	20.9	29.8	22.4	29.4	21.1	33.5	23	30.8	22.9	32	22.9	32.2	24.2
3	32.1	24.3	30.9	21.9	31.7	23.8	31.8	24	29.3	23.2	32.4	27.4	32	23.9	35	25
4	31.4	24.3	31	22.5	30.4	24.5	31.1	23.5	31.2	23	29.7	25.6	34.2	24	35.2	25.8
5	32.4	23.7	31.6	21.9	32.1	24.2	31.6	23.8	29.5	23.9	31.9	25.5	30	23.8	35.4	25.9
6	31.9	23.5	32.2	21.4	32.7	23.2	31.7	23.2	31.3	23.9	31	25.9	31.7	23.4	35	24.6
7	32.9	24.3	31	22	32.6	24.2	32.2	23.4	31.8	23	31.6	25.5	31.6	24	33.4	25
8	32.1	23	31.5	20.7	33.3	22.6	32.6	22.9	33.3	23.4	32.5	24.3	33	23.2	34	24.3
9	32.6	23.3	33.8	20.8	33.6	22.9	32.3	23.4	33	24.4	31.8	25.3	32.2	23.5	33.2	24.3
10	32	22.7	32.6	19.5	32.1	22.4	32.4	23.1	33	22.9	32.4	24.3	32.8	23.2	31.8	24.2
11	33.4	23.6	32.4	21.5	34.1	23.4	33.8	23.1	32	23.4	33.5	24.7	32.5	22.7	32.4	25
12	33.7	24.8	32.3	21.9	34.7	24.3	33.4	23.6	32.8	23.9	34.7	22.5	32.8	23.5	34.5	24.6
13	33.1	23.6	31.7	21.5	33	23.6	32.5	23.4	33.2	22.9	33	23.8	32.8	23.5	32.5	25.3
14	33.6	24.7	32.2	21.9	34.3	24.4	32.8	23.8	33.2	23	33.2	25	33	24.3	31.8	24.3
15	33.9	24.3	32.6	22.3	32.3	24.2	32.2	23.2	32.4	24.9	31.8	25.1	32.7	23.1	31.7	24.9
16	32.4	24	31.5	21.5	33.8	23.3	31.4	22.6	32.4	23.9	32.7	25	32.7	23.5	32.4	24.4
17	32.4	23.4	32.1	21.9	33.5	23.5	31.6	23.67	31	24	32.1	25.2	31.7	24.5	32	24.3
18	32.4	22.6	31.8	20.5	34.5	22.4	31.8	22.3	30.5	22.4	33.2	24.5	32.5	23.8	32.6	23.2
19	33.8	23	33.5	20.9	34.4	22.7	33.6	22.7	32.5	22.9	32.5	25.5	33.4	23	33.3	23.8
20	32.3	23.6	32.1	20.9	33.7	23.4	33.1	23.4	33.5	23.9	33.2	25.2	31.3	24	32.9	24.2
21	32.4	23	31	20.6	33	22.6	32.9	22.1	31.4	22.9	31.8	24	31.3	22.9	31.1	23.6
22	32.6	23.5	31.5	21.6	33.2	23.2	32.5	22.2	32.2	23.47	32	25.4	31.8	22.1	33	24.5
23	31.4	23.7	31.7	20.9	31.8	24	30.8	23.6	33	24.97	29.9	24.5	31.4	23.5	32.5	25
24	31.6	22.2	30.8	19.87	33.4	21.9	31.2	21.9	30.6	23.7	31.3	24.3	31.3	23	32.7	23.8
25	32.5	23.2	32	21	32.3	23.2	31.8	23.7	31.2	23.6	31.5	26.3	31.4	23.5	33.5	24.8
26	28.9	23.5	28.3	21.3	29.8	23.6	29	22.5	31.7	23.2	30.7	26	29.8	22.6	30.7	24.6
27	32.7	23.5	32	21.2	33.3	23.4	31.6	23.7	29	23.3	31.7	25	31.7	23.5	34.1	24.6
28	29.7	22.1	29	18.97	30	21.9	29.5	21.6	30.7	22.1	28.7	22.4	28.5	22.6	31.5	26
29	30.6	22.8	30.9	20.7	31.7	22.5	31.4	22.3	30.7	22.7	30	23.9	28.8	22	34.3	25.2
30	31.4	22.8	31.1	21.4	31.6	23.2	31.1	23.6	29.7	23.3	29.4	23.6	27.3	21.7	32.5	23.7
Mean	32.2	23.4	31.5	21.1	32.6	23.2	31.8	22.9	31.7	23.4	31.8	24.7	31.7	23.3	33	24.6

Day.	Cuyo.		Hacienda Ilaya, Victorias.		Hacienda Bilbao, Manapla.		Cadiz.		Ormoc.		Guiuan.		Bogo.		Tacloban.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33.7	24.6	31.6	22.3	32.6	21.8	31.6	23.5	32.4	23.2	30.7	24	32.8	24.2	31.7	24.5
2	31.8	25.8	32.5	22	33.7	22.5	32.6	22.2	32.4	23.6	30.6	24.8	31.2	24.4	31.3	24.1
3	32	27.7	31.5	22	32.9	21.7	34.1	25.5	33.9	23.9	30.9	27.7	31	24	34.2	24
4	30.6	25.2	32.6	21.5	31.5	21.9	33.5	24.1	33.9	25	31.1	24.8	32.9	24.1	34.1	23.2
5	31	26.6	32.2	22.8	31.8	22.2	34.5	23.1	33.8	25.2	32	26.6	31.17	24.1	33	23.6
6	31.4	26.4	32	23.2	33.2	21.7	32.5	23.4	33.4	24.2	30.8	26.2	31.2	24.6	32.6	24.6
7	31.4	25.5	32.5	23.5	33.9	22.6	32.6	24.2	34	24.4	32.5	26	---	24.4	34.2	24.1
8	32.7	25.3	32.2	23.8	34.5	21.8	32.1	23.1	34.2	22.6	32.4	26.4	31	24	33.9	24.1
9	31.2	25.2	32.2	23.7	34.6	22.7	32.5	24.4	34.6	23.5	33	26.2	32	24	34	24.6
10	32.6	24.3	31.5	22.7	34.3	21.9	32.1	24.2	34.8	23.3	33	26	32.1	23.5	34.6	24.4
11	33.1	24.8	32	23.8	33.9	22.4	33.1	24.3	35	23	34	23.2	31.7	24	34.8	24.3
12	33.5	26.5	32.7	23	33.5	22.3	32.2	23.6	34.7	23.3	32.6	24.8	32.4	24	33.9	24.6
13	32.3	24.1	33	23	33.8	22.7	32.5	23.7	34.4	23.7	32.6	24.8	32.8	24.5	34.1	24.6
14	30.9	24.9	33	23.2	34.9	22.9	32	23.6	33.9	23.1	33.5	24.5	32.9	24.1	33.8	24.6
15	32.2	24.9	32.2	23.5	32.8	22.2	32.7	23.4	33.2	22.6	34.5	24	32.5	24	33.6	25
16	31.7	25.7	32.7	23.5	33.2	21.8	31.1	23	33.4	22.6	33.9	24	---	24	34	23.9
17	32	24.6	33	23.8	33.8	22.1	31	23	33.7	22.4	32.6	23.5	31	24	33.8	25
18	32.5	24.9	32.2	23	32.4	22.4	31.6	23.4	31.2	22.2	33.5	24.1	31.47	24.1	29.8	24.2
19	32	25.2	32.3	24	31.6	21.9	31.9	25.3	34.6	22.2	33.8	23.7	32	24.2	35.2	23.5
20	33.5	24.8	32.5	23.3	30.8	21.7	32	24.1	34.4	22.7	33.4	24.2	32.8	24.1	34.1	23.5
21	32.8	25	32.7	22.8	31.9	22.8	32.7	23.6	34	21.9	33	24	32.8	24	35.1	22.9
22	31	25.5	32	23.4	32.8	22.6	33	24.8	33.8	23	33.4	24	32.7	24.2	35.8	24.1
23	28.9	24.1	32.2	24	30.8	21.9	32.7	23.9	33.9	24.6	31.1	27	32.2	24.5	35.8	25.2
24	30.9	24.4	31	23	29.9	21.7	31.7	22.8	33.4	24.4	31.5	24.1	31	24.7	33.5	25.2
25	31.4	26.4	31.2	23.5	30.6	22.6	33.1	23.4	31.7	24.4	31.5	24.1	31	24.8	31	24.5
26	29.7	24.1	30	23.2	31.7	22.2	32.1	22.8	32.4	23.5	31.5	25.9	31	24.2	31.9	23.5
27	30.7	26.8	30.3	22	32.4	21.9	33.1	23.7	32.7	24.4	31.2	26.4	31.4	24.3	32.9	24
28	29.3	23.5	30	22	31.6	22.3	33	21.8	32.4	23.1	31.8	27	31.6	24.3	32.9	24
29	27.9	23.6	30	22.5	31.8	22.4	33	24.2	32.9	25	32.5	27.2	31.7	24.2	34.9	23.9
30	28	24.6	31	23.8	30.7	21.7	32	22.8	33.1	23.6	32	24.9	31.9	24	31.8	23.5
Mean	31.4	25.2	31.9	23.1	32.6	22.2	32.5	23.6	33.5	23.5	32.4	25.2	31.9	24.2	33.5	24.1

Maximum and minimum temperatures at the stations of the Weather Bureau, June, 1920—Ctd.

Day.	Capiz.		Borongan.		Catbalogan.		Calbayog.		Masbate.		Batag Light-house, Laoang.		Sorsogon.		Legaspi, Albay.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	34.2	25.3	31.8	23.9	31.3	22.6	32.8	23.4	32.6	26.4	31.4	23.8	34.5	23	34.4	23
2	34.7	23.7	32.6	22.6	32	22.6	32.5	23.1	32	25.8	29.8	26.3	34.2	19.9	33.8	22.8
3	35.8	24.5	32.6	24.8	33.4	26.2	30.7	27.3	31.6	27	29.5	25.5	31.5	24.9	32.7	25.4
4	34.3	24.1	34.6	24.4	33	25.4	33	27.6	32.8	27	33	24.5	32.9	26.4	33.3	25.8
5	33.9	24.5	35.6	24.8	33.1	32.2	32.2	26.4	32	27	32.7	24.9	32.5	25.6	32.8	25.4
6	34.3	24	31.7	24.3	33	25.8	33.9	25.9	33.6	25.6	32.5	24.6	33.2	25.5	34.3	25.4
7	33	24.5	32.6	23.5	32	31.2	31.2	25.2	32	25	32.5	24.5	31.4	24	31.3	25
8	34.3	24	33	23.8	32.9	23	31.9	23.6	31.4	24.4	32	23.7	32.7	22.1	31.8	24.8
9	35.3	23.5	33.2	23.9	33	25	32.3	24.5	31.8	25.6	32.5	24.6	33.2	22.4	33.4	24.6
10	33.8	23.5	32.6	23.6	33.3	22.8	33	23.7	32.6	25	33.6	24.4	33.6	22.4	33.3	23.8
11	34.8	24.2	32.6	23.5	34.5	23.4	32.9	24.4	32.4	26	32	25	33.4	21.5	33.6	23.7
12	34.8	24.2	33.6	24.7	33.4	22.8	35	24.1	32.8	25.6	32.7	25.3	34.9	24.4	33.9	26.1
13	34.8	23	32.8	24.3	33	23.7	33.8	24	33.8	26.8	32.9	25	35	23.9	34.2	25.8
14	34.8	24.1	32.6	24.6	33.2	23.9	35.1	24.1	33.4	26.2	33	24.8	35.5	23.9	34.3	25.5
15	34.7	25.5	31.8	23.9	33.5	22.6	34.9	23.7	32.8	25.6	32.5	24.6	34.9	22.5	34.3	25.1
16	34.4	24.6	33	23.8	33.5	24	35.3	23.5	34	26	32.8	25	35.2	22.5	34.2	25.2
17	34.3	25	33	24.2	32.7	24	34	23.6	32.8	26	32.4	25.5	33.3	23.9	33.3	25.8
18	34	24.5	31.5	23.6	33.7	22.5	30.2	23.2	32.8	25.8	30.8	24.3	34	23.5	33.1	25.4
19	34.6	25.1	33	23.2	33.5	21.7	33.2	23.2	33.6	25.2	32.7	24.2	34.4	23.6	34.4	27.1
20	33.3	25.1	32.6	23.7	32	22.3	33.2	23.6	33.8	26	33.3	25.2	35	21.5	34.4	25.1
21	34.8	24	32.6	23.6	32	24.2	34.2	22.7	33.2	26.5	33.3	24.2	32.5	22.9	34.2	24.4
22	34.8	24.5	33	24.2	32.5	33.8	24	33.8	24	34	25.5	33.9	24	35.9	34.7	24
23	34.3	24.3	33.6	25.3	33.7	23.5	33.1	24	32.8	26	33.7	24.9	34.1	22.7	34.2	25.8
24	34.4	24.1	34	24.2	32.7	24.5	33.8	24.2	33.4	26.2	33	24.8	32.7	22.5	34.4	24.6
25	34.8	24.9	32.4	24.2	31.7	23.7	32	25.2	33.4	26.4	32.4	24.8	33	24.5	34.1	24.6
26	33.8	24.6	32.3	23.8	33	24	31.3	24	30.4	24.6	29.6	24.6	30.5	24	32.1	24.8
27	34.8	24.8	33.6	23.6	32.5	23.5	32.6	25.2	32.4	26.8	32.1	24.5	32	25	31.9	25
28	30.8	23.8	33.3	25	33	23.8	30.5	23.7	29.6	24.5	29.7	22.8	29.5	23.8	30.1	24
29	34.3	23.5	35	24.7	32.7	33	25.6	32	30.6	24.5	32.6	24.5	32	22.9	32.3	23.2
30	32.4	24.1	32.7	22.6	33.5	23	33.1	24.6	30.6	26.4	32.6	23.5	31.5	24.1	31.3	23.1
Mean	34.2	24.3	33	24	32.9	23.7	33	24.4	32.5	25.8	32.2	24.6	33.3	23.4	33.3	24.8

Day.	Sumay, Guam.		Calapan.		Virac.		Naga, Camarines Sur.		Tigaon.		Batangas.		Calatagan.		Balayan.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.8	25	34	23.6	33	24.3	33.3	21.9	34.7	20.8	34.9	23.2	34.6	22.7	33.2	22.8
2	31	25.4	32.6	23	32	22.5	34.2	21.6	34.8	19.6	33.9	24.2	34.1	22.7	32.5	23.2
3	29.8	24	34	23	29.9	33.4	22.8	31.7	22.4	33.4	25.7	34.1	24.2	31.3	24.8	
4	31.4	24.5	34	23.5	31.7	23.2	33.6	24.5	32.6	25.4	31.4	25.2	33.1	23.5	31.3	26
5	31	24	29.3	24	32.6	22.1	33.5	25.3	32.8	24.8	28.1	24.6	31.6	23.2	30	24
6	31.7	24.5	32.6	23.5	31.9	23.6	33.3	23.5	31.8	22.7	32.7	24.4	32.1	23	29.9	24
7	32.1	26.8	33.2	24.4	31	22.7	33.1	24.5	32.4	24.3	32.8	24.8	32.6	23.2	29.8	24
8	30.5	26.7	31.5	23.9	30	21.6	31.1	23.5	31.4	22.9	31.7	23.4	32.1	23.6	30.5	23.7
9	31.7	24.8	33	23.5	33.1	23.3	32.5	24.2	31.1	22.4	32.7	24.8	30.6	22.6	31.8	23.5
10	32.3	24.2	32	22.8	34.3	23.1	33.9	23.5	32.8	21.3	32.7	24.3	31.6	23.6	32	23
11	30.6	24.8	32.7	22.5	34	23	34.7	23.4	33.1	21.8	33.4	23.8	32.1	22.6	31.9	22.9
12	31.8	24.2	33	22.7	33.3	21.2	35.4	23.2	33.6	23.2	33.6	23.2	34.6	22.1	33	23.1
13	32.3	24.6	33.4	23.5	32	23.4	35.5	23.5	33.8	23.1	33.5	24.1	33.7	22.6	33.5	23.1
14	32.4	25	33.5	23.5	30.8	23.2	35.1	24.7	33.8	23.8	34	24.4	35	23.9	33.5	23.8
15	33	26.1	33.5	23	30.4	22.9	34.2	23.5	33.4	23.2	33.3	24.6	34.4	23.6	33.6	24.2
16	32.7	24.9	33.5	23.2	33.5	23	34.7	22.7	33.8	22.6	34.2	24.2	34.5	23.3	33.3	23.7
17	33.7	26.2	33.5	24.5	31.8	22.6	33	23.4	33.1	23	32.8	25.3	34.8	24	33.1	24.3
18	32.7	24.4	33.1	23.5	31	22.5	33.1	22.6	33.6	22.8	34.3	25.3	33.5	24.3	33	24.6
19	32.2	24.6	33	23.4	31	22.4	33.2	22.9	34.1	21.5	34.1	25	34.1	24.7	33.3	23.6
20	31.8	26.6	34	24.3	33	24.2	34	23.8	33.9	22.1	33.8	25.3	33.8	23.5	32	23.8
21	32.1	24.6	34.6	23.9	30.8	24.1	34.9	23	34	21.7	34.4	23.8	33.6	23.4	32.5	23.5
22	30.8	25.5	32.6	23.6	31.5	23.2	34.7	23.5	33.8	21.8	31.9	25.5	33.7	24.4	32	23
23	31.6	24.4	34	24.8	30.4	23.5	33.4	23.5	33.3	23.6	33.7	25.3	32.7	24.1	32.3	24.8
24	32	24.2	35	23.5	32.6	22.1	33	24.6	32.3	22.1	34	25.3	33.5	24.7	32.1	25.2
25	32	24.5	34.5	23.6	30.8	23.3	32.5	23.9	32.1	23.6	33.3	25.6	32.6	25.8	32	25
26	31.6	24.5	33.6	23.6	33.6	22.8	30.7	23.2	30.7	22.8	30.9	24.4	31.1	23.3	29.8	23.4
27	31.8	24.7	34.2	24.2	31.3	24.4	32.5	24.5	31.5	23.8	32.9	24.5	30.7	24.3	29.9	23
28	31.6	23.8	27.5	23.1	33.2	24.9	30.7	23.8	28.6	22.3	27.7	24.2	27.5	22.5	27.5	23
29	30	25.4	31.1	23.5	31.4	23.1	31.8	24.5	31.1	24	30.8	24	29.1	23.3	29.9	23.3
30	31.2	23.7	27	23.5	31.5	22.7	31	23.1	31.1	22.6	26.4	23.2			26.4	23.2
Mean	31.7	24.9	32.8	23.6	31.9	23.1	33.3	23.6	32.7	22.7	32.6	24.5	32.8	23.5	31.6	23.8

Maximum and minimum temperatures at the stations of the Weather Bureau, June, 1920—Ctd.

Day.	Lipa.		Lucena.		Atimonan.		Nasugbu.		Ambulong, Tanauan, Batangas.		Daet.		Mendez Nuñez.		Alfonso.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.9	21.9	33.5	21.9	33.8	24.4	32.1	22	34.7	23.4	31	17.5	31	31	21.1	21.1
2	31.6	21.8	32.3	22	33.7	24.4	33	21.5	32.5	23	29	18	29	18	29.7	20.4
3	32.6	20.1	31.7	23.9	32.8	24	32	22	30.3	24.8	26.5	18.5	27	27.3	27	22.3
4	30.2	22	32	24	32.2	26	32.7	22.5	31	24.8	27.3	19.8	28.1	23	28.1	23
5	31.4	21.5	28.5	23	30.7	25.6	33.7	22.1	28.8	24.8	25.5	19.3	26.1	21.9	26.1	21.9
6	30.9	21	31.4	22.1	34.1	24.3	32.4	22.2	31.6	24	28.5	19.5	28.5	22.4	28.5	22.4
7	32.7	20.1	32.6	22.9	33.2	23.2	33.4	21.5	31	23.8	27.3	18.7	27.6	22.5	27.3	22.5
8	31.5	22.3	31	22.9	31.6	24.8	33.2	20.5	30	24.8	28.5	19.2	27.9	21.7	28.5	21.7
9	30.9	21.2	32.7	22.4	33.6	23.8	32.2	20.5	30.4	23	28.5	19.9	29.5	20.4	28.5	20.4
10	31.1	22.1	31.7	21.5	33.2	23.1	32.1	20.5	30.4	23.2	29.5	19.5	27.9	21.3	29.5	21.3
11	31.5	20.2	32.9	20.9	33.8	23.2	32.3	21.9	33.2	23.4	29	19.5	29.2	20.2	33.5	20.2
12	32	21.9	33.2	21.8	34.2	23.7	32.2	21.5	31.3	23.7	30	19.8	30.6	20.2	33.1	20.2
13	30.3	20.5	33.1	22.4	34.3	24.1	32.1	22	33.7	24.1	30	18.2	29.2	21	33.4	21
14	32.6	21.7	33.4	22.4	32.9	25	32.8	22	33.4	24	30.5	19.5	30.9	20.8	34.6	20.8
15	31.1	20.8	33.1	21.5	33.8	24.4	32.8	21.9	33.8	23.7	30	19.5	29.7	21.6	33.8	21.6
16	32.2	21.3	33.3	21.7	34.4	24.5	32	23	33.2	24	30	19	30.5	20.6	34.8	20.6
17	31.9	22.1	32.3	22.9	33.2	24.6	32.1	22	33.2	24.7	30.2	19.3	31.3	21.5	34	21.5
18	32.5	22.5	32.4	23.1	32.9	25.1	32.3	20.4	30.5	24.2	30.5	18	31.4	22.7	32.8	22.7
19	32	21.2	32.5	23	33.1	24.4	32.9	22.6	33.5	23.8	29.5	19.7	30.4	23.1	33	23.1
20	33.1	20.1	34.8	23.6	32.8	25.7	31.9	20.9	36.2	24	30.5	18	31.4	22.7	33	22.7
21	33.9	21.7	33.5	22	33.4	24.4	31	21	35.2	23	33.8	18.5	31.4	21.3	34	21.3
22	32.5	22.1	32.1	22	33.6	24.3	33	20.9	34.3	24	30.5	18.7	29.6	22.5	33.5	22.5
23	31.4	21	32.9	23.4	35.3	25	32.9	20.8	33	24.7	29.5	19.2	28.7	22.4	33.7	22.4
24	32.3	22.4	32.2	22.4	33.8	25.1	32.9	21.9	33	25	33.6	19	30	22.6	33.6	22.6
25	31.9	21.9	33.7	21.6	33.1	24.2	31	20.9	31.4	23.7	28.5	19	28.9	22.1	34.4	22.1
26	31.4	22.3	31.5	23.5	31.3	23.9	33.4	21.8	29	23	25.3	19.2	25.5	21.7	33.1	21.7
27	30.1	22.7	32.3	21.9	32.6	25.6	34.1	21.2	29.8	24.8	27	19.7	27	21.2	34.3	21.2
28	29.5	21.9	28.8	22.2	28.8	26	32.5	21.9	27.4	24.2	25	19.8	25	21.6	32.5	21.6
29	28.6	22.6	30	22.7	30.9	24.4	32.7	22.5	28.7	24	25.3	19.9	25.2	21.6	31	21.6
30	27	21.3	27	22	28.8	24.9	32.8	21.4	26	23	22	22.6	22.6	21.2	30	21.2
Mean	31.5	21.5	32.1	22.5	32.9	24.5	32.6	21.6	31.7	24	33.4	19.1	28.7	21.6	33.4	21.6

Day.	Indang.		Canluban, Calamba.		Silang.		Maragondon.		Santa Cruz, Laguna.		Buenavista, Malabon, Cavite.		Manila.		Antipolo.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	
1	32.3	22.3	35	22.2	31.1	22.6	33.5	21.1	35.6	22.5	32.8	22.9	33.7	24	33.9	22
2	31.2	21.5	35.2	22	30.3	21.7	32.6	22.1	34.4	22.4	35	22.8	33.1	23.6	32.6	21.5
3	27.5	23.3	32	23.6	30.2	22	31.8	22.3	32.3	23.8	30.8	22.5	33.2	24.6	31.2	23
4	29.2	23	33	23.1	29.6	22	32.4	20.6	33.5	24.5	31.8	23.8	33.1	24.3	31.3	23.7
5	26.5	22.5	29.9	22.2	29.4	22.1	31.5	22.8	29.4	24	28.6	22.8	29.1	24.1	27.3	22.5
6	29.7	23.3	32	23.1	29.7	23	32.3	20.2	33.7	23.9	31.5	23.6	32.8	24.2	31.1	22.9
7	28.9	22.3	32.5	22.5	29	22.7	31	23.1	32.2	23.8	29.8	22.9	31.5	24.1	29.9	22.2
8	28.7	22.5	32	22.4	29.7	22.2	31.3	23.1	31.8	23.2	30.4	22.5	32.2	23.8	30.8	22.5
9	29.8	22.1	31.6	22.8	30.2	22.6	31.3	22.4	33.6	23.8	31.5	22.5	32.2	24	31.6	22.8
10	30.4	22	31.8	22.4	30.6	22.7	32.2	22.2	33.6	23.4	31.4	22.9	32.5	24	31.6	22.2
11	30.9	20.9	33	21.6	30.1	22	32.6	22.7	34.4	23.3	31.7	22.1	33	24.8	32.8	23.2
12	31.8	21.4	34.1	22.5	30.4	22	32.5	22.1	34.3	23.5	32.6	22.5	32.6	24.5	32.4	23.3
13	31.4	22.4	34.4	22.7	31.8	22.3	33.1	22.8	34.7	23.2	33.1	23.1	33.4	24	33.3	22.9
14	31.9	22	34.2	22.5	31.2	21.7	33.5	22.9	35.1	24	32.9	22.7	34	24.3	34.7	23.1
15	30.4	22.8	33.9	22.7	30.7	21.4	32.8	23.7	34.4	23	32.1	22.5	33.5	23.6	34.2	22.6
16	31	22	34.6	22.6	31.1	21.5	33	24.1	35.5	23.2	32.7	23.4	33.5	25.4	34.5	24.2
17	32	22.8	34	23	31.8	21.7	33	23.3	34.6	24	34.3	23.6	34.7	24.4	35	23.2
18	30.8	22.6	33.2	23.5	30.2	22.7	33.3	23.2	33.6	24	32.5	22.3	34.3	23.8	34.5	22.7
19	30.5	23.8	32.4	23.1	30	22.4	33.6	24.3	32.5	24	32.3	23.9	33.9	24.5	35	22.7
20	32.2	23.6	34.7	23	30.8	22.2	34	24.1	35.1	23.2	34.1	23.9	34.7	23.6	33.9	22
21	32.7	22.4	35	22.5	30.1	22.5	33.5	23.5	35.1	23	33.9	23.3	34.3	23.2	33.8	22
22	31.2	22.6	33	22.5	30.5	22.3	32.1	22.3	35.7	24	32.4	22.9	33.1	25.4	32.6	22.9
23	30.2	23.5	33.5	23.3	30	22.6	32.3	24.9	34.3	24.1	33.4	23.4	33	25.2	32.5	23.3
24	32.2	23.4	33.5	23	30.3	22.3	32.9	23.6	35.4	24.5	33	22.9	33.5	24.7	32.9	23
25	30.7	22.5	32.6	23.1	30	22.2	32	23	33.3	24.2	30.5	23	32.3	24.1	30.8	22.5
26	27.1	22.5	31.8	22.5	29.2	22.3	29.1	23.1	32.6	23.9	30.3	22	30.8	24.6	29.2	22.5
27	29.1	22.5	32	22.6	29.1	22	30.5	23.2	33.6	24.5	30.7	22.5	27.9	24.3	27.1	23
28	26.3	22.5	30	22.6	28	21	28	23.6	31.1	24.3	28.6	22.9	30	24.4	28.5	22.5
29	26.5	22.3	30.2	22.8	28.3	21.5	29	23.6	31.6	23.5	28.3	23.1	29.3	23.6	28.3	22.5
30	23.4	21.8	26	22.5	28.8	21.5	25.1	22.6	28.7	23.7	30.6	22.4	26.2	23.7	25.7	22.2
Mean	29.9	22.5	32.7	22.7	30.1	22.1	31.9	22.9	33.5	23.7	31.8	22.9	32.4	24.2	31.8	22.7

Maximum and minimum temperatures at the stations of the Weather Bureau, June, 1920—Ctd.

Day.	Balanga.		San Isidro, Nueva Ecija.		Iba.		Tarlac.		Baler.		Dagupan.		Bolinao.		Baguio.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33.5	24.	34.4	23.5	32.1	23.9	35.4	21.8	34.2	22	34.8	24.9	32.5	26.3	23.9	15.8
2	32.5	23.5	34	23.4	33.1	22.9	34.8	22.2	33.5	22.4	33.5	24.1	32.4	26.3	23.2	16
3	32.3	24.5	33	23.3	31.3	23.9	33.5	21.7	35.8	23.6	32.4	25	31.8	25	22.7	15.9
4	31.8	24.4	32.5	23.2	32	25	33.2	22.8	37	25	31	23.9	30	25	18.5	15.9
5	31.8	24.1	30	23.1	27.5	23.3	30.2	22	33.7	23.6	28.3	23.3	27	24	20.4	15.2
6	30.1	24.1	30.5	24	30.2	23.2	32.4	21.6	32.2	23.7	31.1	23.5	31.3	23.9	21.6	15.5
7	31.1	24	31.4	23.9	30.4	23.1	33	22.4	31.1	23.8	30	23.8	31	23.7	18.3	15.7
8	31.1	24	31.9	23.8	29.4	24.5	32.5	23.2	34.2	24.2	31.7	24.3	31.6	23	21.2	15
9	31	22.5	32.4	22.9	29	22.8	33	21	34.3	23.5	32	23.2	28.8	24.2	22.6	15.6
10	32.3	23	32.5	23	30.1	22.4	34	21	34.2	23	32.2	23.1	32.2	24	23.2	15.1
11	33.3	23.1	33.4	23.4	31.4	23	34.5	21.4	34.6	22.4	32.8	24	32.5	24.8	22.7	16
12	33.5	23.2	33.4	24.4	31	24.4	34.2	22.5	34.2	23.4	33.5	24.5	32.6	25.2	23.5	17.2
13	34.1	23.5	34.2	23.9	31.3	23.3	35.6	22.2	35.7	23.7	34.6	24.5	34.3	25.3	24.5	16.7
14	34.7	23.2	34.4	23.4	32	23.4	35.5	22.2	37	24.3	36.1	24.1	33.4	25.5	25.2	17.2
15	33.8	23.5	33.6	23	32.1	25.1	34.6?	22.4	36.3	23.1	34.5	24	33.7	25.7	23.7	16.9
16	33.8	24.2	34.9	24.7	32.8	25	36.4	21.6	35.9	24.1	34.6	25.8	33	25.7	25.6	15.9
17	35.6	24.7	34.7	23.6	32.9	24.1	36.2	23.2	34.4	25	36.6	23.7	32.5	25	24.7	16.8
18	33.8	23	34.7	22.8	33.2	23	35.4	21.6	33.7	23.5	35.7	23	33.8	25.1	26	15.3
19	33.8	24.5	34.8	23	32.9	19.6	36.1	22.1	33.8	23.1	36.1	24.4	34	25.3	25.6	16.6
20	36	24.5	35.5	24	32.2	21.2	36.8	22.6	36.2	22.8	33.5	24.9	32.4	25.6	25.2	16.5
21	33.9	25.1	35.3	24.4	32.7	24.3	34.5	24	37.4	22.5	33.4	25.5	32.3	25.3	24.5	17
22	34.6	25	33.6	24	32.8	22.7	33.2	23.2	35.1	24	33.7	24.2	32.5	26	25.5	16.9
23	33	25.4	34.1	24.2	31.5	23.1	36.2	22.2	32.9	23.3	33.4	24.7	32.4	25.8	25	17
24	33.5	24.5	35.4	24.1	32.5	22.9	-----	22.3	33.9	23.5	34.5	24.8	32.5	24.9	24.8	16.8
25	33.4	24.4	33.9	24.6	31.8	22.4	34	23	35.4	24.5	34.3	24.9	32.5	25.1	23.6	16.5
26	29.4	24.3	32.2	23.4	29.6	21.2	32	22	37.6	24.2	32.6	24.4	32.5	24.2	21.2	16
27	29.6	24.5	32	23.4	26	23.4	31.4	22.2	37.7	25.2	31.7	23.9	29.9	24.8	21.6	15.5
28	28.3	23.7	31.5	24.8	27	22.1	32.4	21.5	36.3	25.6	32.1	24.8	30.5	24.2	22.3	16.6
29	26.1	24.7	25.6	23.4	26.2	23.5	28	21.4	29.8	24.5	26.2	23.4	28.3	24.4	20	16.2
30	28.6	23.3	26.7	23.5	29.2	21.4	28.4	22.2	30	23.2	29.4	23.3	30.8	24.2	19.2	16.1
Mean	32.3	24	32.9	23.7	30.9	23.1	33.7	22.2	34.6	23.7	32.9	24.2	31.8	24.9	23	16.2

Day.	San Fernando, La Union.		Candon.		Vigan.		Tuguegarao.		Laoag.		Aparri.		Cape Bojeador.		Basco.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	34.2	25.8	33.5	25.9	34	25.2	36	24.4	34.2	23.6	34	23.5	33.4	24.7	31	23.1
2	35	23.8	33.6	25.5	33.5	25	35.2	23.2	34.4	23.8	34.2	22.6	34	26.2	31.1	24
3	33.6	23.6	33	26.5	33.3	24.1	35.7	23.4	33.5	24	34	25.2	29.2	24.6	31.9	23.7
4	28.5	24.1	28	25.5	28.7	23.4	34.8	24.2	30	24.4	33.7	24.1	29.2	25	31	24.5
5	30	23.5	29.1	24.4	28.2	23	35.6	23.1	29.1	22.5	32.9	23.7	25.6	22.5	28.6	25
6	32	23.9	29.5	24.2	30.5	23.5	33.2	23	28.8	22.6	32.5	22.5	25.6	22.9	30	24.6
7	31.4	24	32	25.2	29.8	23.4	33	23	30.2	23.8	31.3	23	28.7	23	29.2	24.3
8	32.5	23	31.5	25	30.9	23.5	34.2	23	31	23.7	32.1	23	30	22.3	30.6	23.8
9	31	23.2	28.5	24.8	27.7	23.4	33.4	23	30.6	24.6	33.2	22.7	27.3	23.6	31.5	21.5
10	32	22.6	30.6	23.8	31.7	23.8	33.3	23.2	33	24.2	33.8	23.1	32	25	31.2	23.7
11	33	23.2	31.4	24.6	32.4	24.6	33.8	23	32.2	23.2	33.3	22.5	30.2	24.9	32	24
12	32.6	24.8	32	24.7	32.6	25.3	32	23.3	32.8	24.4	32.4	23.1	30.5	26.1	31	25
13	34.4	24.8	32.8	26.5	32.5	25.4	36	24	31.8	24	33.7	24	30	25.8	30.5	26.4
14	34	25	32.8	26.2	33.3	25.3	36.6	24	32.9	23.5	33.8	23.6	30.2	26.3	31.5	26.6
15	35	25.5	33.5	26.6	33.9	26.4	35.6	23.5	33.6	23.9	35.7	23	31.2	25.8	31.4	26.6
16	34.5	25.5	32.9	27	34.1	25.4	36.8	23	34.1	24.4	36	24.1	31.5	26.4	31.6	26
17	34	25	32.2	26	34.7	25	35.6	23.1	34	24.2	35.8	23.7	33.2	25	33.5	25
18	34.5	23.2	33	24.6	34.1	24.6	36.2	24.6	33.9	23.6	36	24.2	33.1	25.5	33	25
19	34.5	24.2	33.5	26.2	33.9	25.4	36.8	25.4	34.3	24.6	35.5	24.1	32.9	25.3	34	24.5
20	34.6	25.7	33.5	27	34.6	26.9	36.7	25.2	34.5	25.5	35.5	24	32.2	26.1	34	24.5
21	34.3	25.8	34	27.5	34	25.3	37	24.7	34.1	25.9	35.8	23.5	33.7	26.2	32.5	24.2
22	34.2	26	33.5	26.9	34.2	26	37.2	25.6	34.1	23.9	36.2	24.3	33.8	25.4	32.5	23.5
23	35	25.9	33.5	26.8	34.1	24.5	37.2	25.2	34.3	25	36.6	24.1	33.2	25	33.3	23.5
24	34.5	25	33.6	26.5	33.6	24.5	37.5	24.8	33.8	24.8	35.8	24.5	33.1	25.2	33	24
25	33.6	25	32.6	26.8	32.6	25	36.4	24.4	33.5	24.8	36.4	24.5	31.5	25.1	33.1	25.3
26	33	25.6	32.5	26.4	31.6	22.1	36	24.7	32.9	23.3	35.3	24	31.2	25	30.9	24
27	33.5	24.5	30	25.5	32.6	23.5	37.2	24	32.5	23.4	35.2	23.6	30.5	23.2	32.4	24.1
28	32	25	31.5	26.8	30.6	23	36.6	24.4	31.3	23.9	36.6	23.6	29.6	23	-----	25
29	30.4	24.4	29.5	25.5	29.3	23	33	24.5	31.8	23.5	34	23.7	30	24	32	24.8
30	32.4	25.2	32.5	24.5	31.7	24.5	31.7	25	32.8	24.1	33.1	23.7	30.7	23.2	33	25
Mean	33.1	24.6	32	25.8	32.3	24.5	35.3	24	32.7	24	34.5	23.6	30.9	24.7	31.8	24.5

SEISMOLOGICAL BULLETIN FOR JUNE, 1920.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Chief, Seismic and Magnetic Divisions, Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.¹

1, 7^h 11^m 06^{s*} [1, 15^h 11^m 06^s]. W Luzon. Oscillatory earthquake of intensity IV, felt in the provinces of Benguet, La Union, and northern Pangasinan. The epicenter lay close to the coast of Luzon.

5, 4^h 23^m 45^{s*} [5, 12^h 23^m 45^s]. Laoag (NW Luzon). Earthquake shock of intensity II-III. The origin was very far away near E Formosa, where it caused great damage. Surely it shook feebly other provinces of northern Luzon and with greater intensity the islands of Babuyan and Batanes, but it only was reported by the observer at Laoag.

6, 7^h 04^m [6, 15^h 04^m]. Tuburan (N Cebu). Earthquake shock of intensity III.

9, 6^h 25^m [9, 14^h 25^m]. Lais (SE Mindanao). Earthquake of intensity III. Recorded at Butuan.

10, 2^h 31^m 15^{s*} [10, 10^h 31^m 15^s]. E Mindanao and Visayas. Extensive earthquake felt with intensity VI-VII in the eastern portion of Mindanao, and III-IV farther to the west and in the islands of Samar and Leyte. It originated in the *Philippine Deep* near to the parallel 9° N, some distance from the Mindanao coast. Recorded in the Observatories of the Far East.

At 3^h 53^m [11^h 53^m] an aftershock of intensity III was reported by some stations of NE Mindanao. Another aftershock of intensity III-IV at 8^h 22^m [16^h 22^m] was felt through NE Mindanao. The seismograph at Butuan recorded only four instrumental disturbances previous to this last and stronger aftershock.

10, 20^h 12^m [11, 4^h 12^m]. Ormoc (W Leyte). Earthquake of intensity III. It repeated at 21^h 01^m [11, 5^h 01^m] with the same intensity. Local and shallow origin.

26, 12^h 57^m [26, 20^h 57^m]. Moncayo (E Mindanao). Earthquake shock of intensity III, felt in the southern portion of the Agusan Valley. Recorded at Butuan as a disturbance of regional origin.

28, 0^h 43^m 28^{s*} [28, 8^h 43^m 28^s]. N Luzon. Earthquake felt with intensity III-IV in the provinces of Ilocos Norte, Apayao, and Cagayan. The origin was located close to the northern coast.

29, 14^h 30^m [29, 22^h 30^m]. Naga (SE Luzon). Earthquake shock of intensity II-III.

30, 13^h 44^m [30, 23^h 23^m]. Guam (Mariana Islands). Earthquake of intensity III.

¹ The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that 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 report. All time indications are in Greenwich mean time (midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Greenwich mean. Midnight=0^h. Instrument: Wiechert seismograph; 1,000 kilograms. $A_N: T_0=6.25, \epsilon=2.906, \frac{r}{T_0^2}=0.053$;
 $A_E: T_0=6.18, \epsilon=2.393, \frac{r}{T_0^2}=0.042$. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.		Period.	Amplitude.		Remarks.
				h.	m.		A_N μ	A_E μ	
156	1	Iv	(PS) L F	1	28 31 29 52 47				
157	1	Iv	eP L M _N M _E F	7	11 06 11 32 11 42 11 43 23		4 4	273 136	W Luzon.
158	3	I	e F	0	04 41				
159	4	Iv	eP L F	12	58 00 58 20				
160	5	IIIv	iP iL M _N M _E F	4	23 45 25 31 25 42 26 07 6 23		4 4	1,013 890	Felt in N Luzon. Origin E of Formosa.
161	5	I	e F	6	42 53 7 00				From Vicentini's seismograph.
162	6	Iv	eP F	5	46 10 57				
163	6	I	e F	11	20 12 00				
164	6	Iv	eP F	19	35 15 56				
165	6	I	e F	22	55 23 27				
166	7	I _r	e L F	16	23 08 25 37 55				
167	9	Iv	eP F	3	24 37 32				
168	9	III _r	eP iS iL M _{E1} M _{N1} M _{N2} M _{E2} C F	11	35 17 38 30 39 26 39 29 40 50 42 18 43 07 12 54 15 13 25		8 9 9 9	525 604 700 505	
169	10	IIv	eP eS L M _{E1} M _{N1} M _{N2} M _{E2} C F	2	31 15 32 31 32 51 33 09 34 08 34 51 34 55 3 38 43 4 33		6 8 8 7	276 909 574 395	E Mindanao and Visayas.
170	10	Iv	eP F	5	17 10 21				
171	10	I	e F	18	01 50				
172	12	Iv	eP F	11	35 00 47				
173	12	I	e F	15	36 57				
174	12	Iv	eP F	23	52 57 57				
175	15	I	e F	3	08 4 01				

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.			Period.	Amplitude.		Remarks.
								A _N μ	A _E μ	
176	15	I	e F	h. m. s.	s.					
				5 17 44						
177	16	Iv	eP F	13 47 37						
				54						
178	16	I	e F	16 52 39						
				17 13						
179	18	Iv	eP F	6 50 35						
				55						
180	18	Iv	eP F	16 13 00						
				16						
181	19	Iv	eP F	13 40 47						
				45						
182	20	Iv	eP F	1 50 27						
				54						
183	20	I	e F	2 55 3 08						
184	20	Iv	eP F	9 02 26						
				06						
185	21	Iv	eP F	19 25 36						
				31						
186	23	Iv	eP F	17 43 15						
				46						
187	24	Iv	eP F	9 04 40						
				12						
188	25	Iv	eP F	23 31 48						
				38						
189	26	I	e F	13 05 05						
				32						
190	27	Iv	eP F	0 24 40						
				28						
191	28	IIv	eP L M _N M _E F	0 43 28 44 15 44 18 44 20 1 00		3 3	447	320	N Luzon.	
192	28	Iv	eP F	10 36 45						
				39						
193	30	Iv	eP F	3 48 48						
				50						
194	30	I	e F	15 46 00						
				54						
195	30	Iv	eP F	16 52 53						
				55						

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.¹

1, 7^h 11^m 06^{s*} [1, 15^h 11^m 06^s]. W de Luzón. Temblor oscilatorio de intensidad IV sentido en las provincias de Benguet, La Unión y parte N de Pangasinán. El epicentro parece se hallaba cerca de la costa.

5, 4^h 23^m 45^{s*} [5, 12^h 23^m 45^s]. Laoag (NW de Luzón). Temblor de tierra de intensidad II-III. El origen de este temblor se hallaba al E de Formosa donde causó mucha destrucción; seguramente fué también algo perceptible en toda la parte N de Luzón y más en las islas Babuyanes y Batanes pero solamente se recibió aviso del observador de Laoag.

6, 7^h 04^m [6, 15^h 04^m]. Tuburan (N de Cebú). Temblor de tierra de intensidad III.

9, 6^h 25^m [9, 14^h 25^m]. Lais (SE de Mindanao). Temblor de tierra de intensidad III. Registrado por el sismógrafo de Butúan.

10, 2^h 31^m 15^{s*} [10, 10^h 31^m 15^s]. E de Mindanao y Visayas. Extenso terremoto sentido con intensidad VI-VII en toda la parte más oriental de Mindanao y III-IV hacia el W y en las islas de Sámar y Leyte. Su epicentro se hallaba en el Abismo del Pacífico cerca del paralelo 9° N, algo distante de la costa de Mindanao. Registróse en todos los Observatorios del Extremo Oriente.

A 3^h 53^m [11^h 53^m] ocurrió una réplica de intensidad II-III, de la que se dieron cuenta solo en pocas estaciones del NE de Mindanao. Otra de intensidad III-IV a 8^h 22^m [16^h 22^m] se sintió en toda la provincia de Surigao y parte N del valle del Agusan. El sismógrafo de Butúan había registrado otras cuatro réplicas instrumentales antes de la ocurrida a 16^h la cual fué la última registrada el día 10.

10, 20^h 12^m [11, 4^h 12^m]. Ormoc (W de Leyte). Temblor de tierra de intensidad III. Repitió con la misma intensidad a 21^h 01^m [11, 5^h 01^m]. Origen cercano y superficial.

26, 12^h 57^m [26, 20^h 57^m]. Moncayo (E de Mindanao.) Temblor de tierra de intensidad III: sentido en la parte sur del valle del Agusan. Registrado en Butúan como de origen regional.

28, 0^h 43^m 28^{s*} [28, 8^h 43^m 28^s]. N de Luzón. Temblor de tierra sentido en las provincias de Cagayán, Apayao e Ilocos Norte con intensidad III-IV. El epicentro probablemente se hallaba cerca de la costa N de la isla.

29, 14^h 30^m [29, 22^h 30^m]. Naga (SE de Luzón). Temblor de tierra de intensidad II-III.

30, 13^h 44^m [30, 23^h 23^m]. Guam (Islas Marianas). Temblor de tierra de intensidad III.

¹ La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos 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 medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

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MAR 22

THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

BULLETIN FOR JULY, 1920.

PREPARED UNDER THE DIRECTION OF
REV. JOSÉ ALGUÉ, S. J.
DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
1922

BULLETIN FOR JULY, 1920.

METEOROLOGICAL BULLETIN FOR JULY, 1920.

By Rev. JOSÉ CORONAS, S. J.,

Chief, Meteorological Division of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure for this month is slightly to moderately below that of the preceding year and below the normal for July, the differences being much greater in the northern part of the Archipelago. The highest pressures of the month were generally observed on the 3rd and 31st, and the lowest, on the 21st, when a typhoon was passing along the Bashi Channel.

The mean monthly temperature is slightly below the normal of this month in central and northern Luzon, and slightly above, in southern Luzon, the Visayas and Mindanao. The absolute maximum and minimum temperatures of the month for Manila were 33.8° C. and 23.0° C., observed, respectively, on the 2nd and 1st. The extreme monthly temperatures for Baguio were 25.9° C., 15.5° C., on the top of Mirador, and 25.8° C., 15.6° C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR JULY, 1920.

Station.	Pressure.							Temperature.						
	Mean.	Departure from July, 1919.	Departure from normal.	Highest mean.	Day:	Lowest mean.	Day.	Mean.	Departure from July, 1919.	Departure from normal.	Highest.	Day.	Lowest.	Day.
	mm.	mm.	mm.	mm.		mm.		°C.	°C.	°C.	°C.		°C.	
Zamboanga.....	757.90	-0.86		759.28	31	756.09	21	26.6	+0.5		30.9	14, 23	22.5	Various
Meeth, Yap, Western Carolines.....	56.87	-.84		58.77	28	58.16	21	26.6	-.1		32.7	5	22.3	20
Tagbilaran.....	56.95	-.69	0.69	58.38	31	54.60	21	27.9	+1.1	+0.5	33.9	24	22.9	8
Surigao.....	56.51	-.98	-1.01	58.23	31	53.80	21	28.3	+1.3	+ .9	34.2	23	23.7	9, 14
Cebu.....	56.73	-.94	-.80	58.30	31	53.90	21	28	+ .4	+ .6	31.9	25	22.7	27
Iloilo.....	56.71	-.94	-.71	58.34	31	53.93	21	27.2	+ .2	+ .4	31.4	2	23.2	30
Tacloban.....	56.17	-1.39	-1.23	58.08	3, 31	53.12	21	28	+1	+ .7	37.3	24	22.5	24
Capiz.....	56.14	-1.16	-1.17	58.15	31	52.96	21	27.5	+ .3	+ .4	36.6	25	23.5	Various
Calbayog.....	56.38	-1.10	-1.03	58.46	31	53	21	27.9	+1.2	+ .8	33.3	23	22.9	6
Legaspi, Albay.....	55.59	-1.67	-1.81	58.21	3	51.78	21	27.7	+ .6	+ .4	34.3	1	23.4	3
Atimonan.....	55.30	-1.82	-1.34	58.35	3	51.02	21	27.5	-.1	+ .1	34.2	31	23.3	7
Ambulong, Tanauan, Batangas.....	54.95	-1.69		58.04	3	50.87	21	27	-.2		32.8	2	22.2	2
Daet.....	55.24			58.41	3	51.21	21	27.2			34	2, 25	22.4	7
Manila.....	55.85	-1.80	-1.80	58.58	3	50.90	21	26.9	+ .3	-.1	33.8	2	23	1
San Isidro, Nueva Ecija.....	55.20	-1.98	-1.53	58.62	3	51.14	21	26.4	-.2	-.1	33.8	3	22.5	2
Dagupan.....	54.03	-2.11	-2.10	57.75	3	49.63	21	26.5	-.7	-.5	35.3	9	22.6	2
Baguio ^a	633.20	-1.99	-1.49	636.80	3	628.89	21	18.1	0	+ .1	25.9	9	15.5	28, 29
Vigan.....	753.81	-2.37	-2.27	753.16	3	743.68	21	27.1	-.7	-.1	34	3	22.6	18, 19
Tuguegarao.....	53.71	-2.65	-2.11	58.18	3	48.51	21	27.5	-.2	-.3	37.4	2	23	26
Laoag.....	53.43	-2.31		58.21	3	48.28	21	26.9	-.2		33.8	2, 3	22.5	19
Aparri.....	53.66	-2.79	-2.14	58.47	3	48.05	21	27.6	0	-.1	35.1	3, 10, 17	22.3	22

^a The barometric readings of this station are not reduced to sea level.

Rainfall.—The distribution of rainfall in the Philippines for this month is very extraordinary. While, with a few exceptions, it is below the normal of this month in southeastern Luzon, the Visayas and Mindanao, it is considerably above the same in central and northern Luzon, where the rains were so heavy for several successive days as to cause very extraordinary floods in several provinces to the north of Manila. Some interesting details will be given presently on these heavy rains and consequent floods.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF JULY, 1920.

Station.	Total.	Departure from July, 1919.		Days of rain.	Departure from July, 1919.		Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from July, 1919.		Days of rain.	Departure from July, 1919.		Greatest rainfall in a single day.	Day.
		mm.	mm.		mm.	mm.					mm.	mm.		mm.	mm.		
Jolo	74.4	-95.9	-86.9	11	-6	-2	26.9	5	Sumay, Guam	706.8	+508.4	+339.8	29	+7	+5	106.6	22
Malamau, Isabela, Zamboanga	25.3	-121.9	-28.6	4	-11	-	14.2	11	Calapan	140.7	-166.3	-85.8	22	+5	+3	30.7	18
Zamboanga	74.5	-8	-28.6	9	-5	-3	16	8	Virac	131.5	-61.3	-98.2	12	-7	-5	27.2	9
Davao	60.6	-132.7	-129.3	5	-6	-5	19.3	2	Naga, Camarines Sur	125.2	-126.3	-109.4	16	-1	-2	25.7	4
Cotabato	246.6	+55.2	-25.3	18	+1	+1	35.6	3	Tigaon	319.9	+81.1	-	24	+5	-	63.2	5
Cagayan	140.6	-	-10.8	11	-	-4	40.6	5	Batangas	302.7	+61.7	+41.1	23	+7	+5	42.1	18
Butuan	99	-2.3	-21.6	12	0	-1	35.8	4	Lucena	141.4	+9.5	-	21	+7	-	42.2	9
Mambajao	143.1	-	-	13	-	-	39.9	9	Atimonan	183.7	-44.6	-32.8	16	0	-1	76.8	9
Dumaguete	95.2	-94.5	-41.8	17	-1	+3	24.1	5	Ambulong, Tanauan, Batangas	394.7	-49.3	-	24	+7	-	68.1	18
Meeth, Yap, Western Carolines	790.9	+366	+367.9	27	+4	+2	97	26	Daet	156.8	-	-	16	-	-	34.8	9
Tagbilaran	69.3	-107.8	-165.5	10	-7	-3	26.4	8	Canluban, Calamba	323.9	-112	-	24	+7	-	51.8	18
Iwahig Penal Colony, Puerto Princesa	141.4	-82.1	-	16	-6	-	30.2	4	Paracale	120.7	-134.1	-149	10	-6	-7	54.9	7
Surigao	65.2	-210.8	-77.5	12	-5	0	20.8	9	Santa Cruz, Laguna	307.8	-100.3	+40.8	25	+5	+3	50	9
Maasin, Leyte	198.8	-23.8	-48.1	9	0	-1	41.4	9	Manila	702.7	-107.4	+236.7	30	+10	+7	85	18
Cebu	62.1	-256.8	-107	14	-4	-2	17.2	27	Antipolo	746.7	-173.7	-	30	+8	-	117.1	18
Iloilo	437.4	+67	+12.5	27	+4	+7	78.7	8	San Isidro, Nueva Ecija	653.8	+371.6	+230.5	28	+7	+5	130.7	18
San Jose de Buenavista	758.9	+204	+181.8	21	-5	-2	134.1	27	Iba	1,092.9	+256.8	+104.3	30	+9	+4	136.4	13
Cuyo	429.7	+75.4	+42.4	22	-2	-1	89.9	27	Tarlac	859.3	+425.2	+418.6	29	+7	+6	93.4	20
Ormoc	227.8	+19	-52.5	14	3	-4	51.6	6	Baler	367.7	-175.9	+56.4	20	-1	+5	49.8	11
Guiuan	96.9	-39	-	11	-6	-	56.4	26	Dagupan	1,522.6	+1,110.7	-920.1	26	+7	+4	577	18
Tacloban	57.3	-123.3	-109.5	10	-3	-6	18.3	3	Baguio	2,750.6	+1,912.7	+1,636.3	29	+3	+2	372.4	19
Capiz	123.6	-12.5	-182.6	17	-3	-1	48.7	8	San Fernando, La Union	1,158.5	+741.9	+535.7	30	+14	+8	310.1	18
Borongan	79.5	-71.4	-103.6	11	-2	-5	15.5	9	Candon	1,656.6	+1,064.3	+914.3	29	+15	+8	464.8	18
Catbalogan	202.6	-15	-	13	-5	-	52.6	9	Vigan	1,660.6	+1,056	+933.9	26	+12	+4	454.1	18
Calbayog	246.2	+119	+33.6	15	-7	-3	71.9	9	Tuguegarao	978	+100.8	+149.8	19	+9	+5	81.9	12
Masbate	134.1	-1.9	-48.4	15	0	-1	33.5	9	Laoag	1,526.2	+878.3	+774.7	26	+11	+4	430.4	18
Romblon	256.8	+36.2	-11	24	+1	+4	37.6	26	Aparri	453.5	+229.4	+269.4	19	+4	+6	135.9	22
Batag Light-house, Laoang	200.1	-7.6	-	11	-4	-	134.9	9	Cape Bojeador	1,372.8	+873.9	-	24	+11	-	238	22
Sorsogon	103.7	-268.5	-	12	-8	-	32.2	27	Basco	481.2	+315.5	+186.3	17	0	0	141	22
Legaspi, Albay	105.2	-154	-124.4	19	+1	+1	24.2	6									

HEAVY RAINS AND FLOODS IN CENTRAL AND NORTHERN LUZON.

According to several reports received in Manila, it would seem that the period of floods of this month can be considered as one of the severest ever experienced in some of the provinces of central and northern Luzon. The floods lasted for several days particularly from the 17th to the 25th. From what we will say later on the typhoons of this month, it will appear that in this case, as it has been noticed in many other similar cases, the floods occurred when no typhoon was actually over Luzon, although the whole Island was well under the influence of two typhoons, one over the Continent near the China coast, and the other over the Bashi and the Formosa Channels (see their tracks in Plate II). In the following rainfall table we include all the stations of Luzon which have reported a monthly amount of rainfall greater than 1,000 mm. The corresponding differences from July's normal, and the greatest amount in 24 successive hours are also given.

Station.	Monthly rainfall.	Departure from normal.	Greatest rainfall in 24 hours.	Day.
Bojeador	1,372.8		237.5	21
Laoag	1,526.2	+ 774.7	300.4	18
Vigan	1,660.6	+ 933.9	594.1	18
Candon	1,656.6	+ 914.3	464.8	18
Sagada	1,573.7		295.7	20
San Fernando, La Union	1,158.5	+ 535.7	310.1	18
Baguio	2,750.6	+1,636.3	372.4	19
Dagupan	1,522.6	+ 920.1	577	18
Hacienda Luisita, San Miguel, Tarlac, Tarlac	1,046		188.2	20
Iba	1,092.9	+ 104.3	136.4	13
San Fernando, Pampanga	1,192.4		281.3	19
Pampanga Sugar Mills, Del Carmen, Pampanga	1,661		504.2	18
Mabayuan Dam, Olongapo	1,782.9		271.8	17
Montalban	1,126.4		160.5	18
Bosoboso	1,025		136.4	21

There were eight successive days (15th to 22nd) with more than 100 mm. of rain in Baguio, five days (18th to 22nd) in Laoag and Sagada, and three days (17th to 19th) in Candon. In Baguio there were no less than six days with more than 200 mm.

As to the floods caused by so heavy continuous rains, this Office has been furnished with many reports from which we will copy here what may be of more interest to our readers. The following report was received from the Division of Farm Statistics, Bureau of Agriculture:

Floods were reported in July from the Provinces of Ilocos Norte, Ilocos Sur, Isabela, Nueva Vizcaya, La Union, Pangasinan, Tarlac, Nueva Ecija, and Pampanga, doing damages both to animal and plant life, and property, in considerable extent. In Nueva Ecija alone, on account of this flood, 5,600 hectares of cultivated crops were destroyed, and a big percentage in Ilocos Sur, Isabela, Nueva Vizcaya, La Union and Tarlac was washed away, while Ilocos Norte, Pampanga and Pangasinan suffered heavy losses. Systems of irrigation in Ilocos Norte were destroyed, and the terrible inundation buried the farmers' farm implements in Pampanga, while the crops were greatly damaged, and many domesticated animals lost their lives. Likewise, Pangasinan suffered—even heavier; the flood lasted for fourteen days; not only her crops were subjected to destruction, but also, many of her carabaos, horses, hogs, chickens, and other animals perished altogether.

From the Philippine Constabulary the following interesting information was received, at our request, concerning the duration of the floods and damages caused by same in several provinces north of Manila:

Provinces.	Date and duration.	Depth of water.	Damages caused.
Benguet	July 17-23, 1920.....	Unusual rain and strong winds caused barrios Bayen and Bokod with 132 persons to be buried by the falling of "Lacadoran Mountain." Crops were destroyed and many animals killed.
Bulacan.....	July 18-21	Fish-ponds overflowed; crops destroyed; Manila North Road damaged.
Cagayan and Batanes	July 18-24	Corn and rice plantations overflowed. Lost: 15,000 caretas of corn, 10,000 pompones of palay and 6 carabaos.
Ilocos Sur.....	July 15-21	About two-thirds of the corn crops and palay seedlings were destroyed. Roads were badly damaged, and temporary bridges washed away. Estimated cost of damage, ₱28,000.
La Union	July 19-30	3 feet.....	Temporary bridges and Government raft were destroyed and carried away by current. Several roads badly damaged by water. Damages amounted to about ₱20,000.
Pampanga	July 17-25	5 feet.....	Due to heavy rains, the Pampanga River overflowed its bank and flooded the towns of Candaba, Arayat, San Fernando, Mexico, etc. Amount of damages: crops, ₱80,000; domestic animals, ₱8,000; large cattle, ₱6,000, and sugar deposited in <i>camarines</i> , ₱60,000.
Pangasinan	July 15-24	7 feet.....	10 houses washed away by current; 4 persons drowned, and crops heavily damaged.

The *Manila Times* of July 26, published the following information given out by the Chief of the Irrigation Division of the Bureau of Public Works after an inspection trip to the provinces which suffered most from the floods:

The portion of the Tarlac or Forbes dike torn out by the rise of the Tarlac River extends for a distance of about 800 meters and forms that part of the embankment shielding the business section of the town of Tarlac, according to A. D. Williams, Chief of the Irrigation Division of the Bureau of Public Works, who, with Engineers Stroebe and Wrentmore of that same office, left for Tarlac on Friday morning, returning to Manila Saturday night.

Mr. Williams estimates that about ₱100,000 will be needed to build up the broken dike, and says that efforts are being centered toward keeping the standing portion of the wall from collapsing. The

Tarlac dike was completed in 1912, and is 2 kilometers in length. On Saturday, when Mr. Williams left Tarlac, the water had not yet subsided.

He reports that about 200 light material houses in the municipality of Tarlac were swept away by the current, and that the damage to property and to the rice crops is tremendous. No estimate has been made of the value of the destruction wrought, owing to the presence of high water. The business quarter of the town has been converted into a veritable stream, the current being so swift and deep as to be dangerous to pass through. People beyond the flooded area desiring to go to the Government buildings or to other places in the plaza, have to make a circuit around the rice fields and wade through water waist deep. Although no personal accidents have been reported, Mr. Williams says, much livestock perished.

Great as the damage is to property in Tarlac, the destruction there is only a drop in a bucket of water, compared to the loss occasioned by the flood in Pampanga, declares Mr. Williams, who had a chance to observe the devastation caused in the latter province. Nearly all the highways and extensive stretches of sugar land are buried under water in an inundation believed to be even greater and more disastrous than the flood of August last year. The Pampanga River has topped the dike in several places, and points which have never been before reached by water, as the Apalit Railroad Station, are now inundated.

In Bulacan, the same story of destruction is observable, and Mr. Williams says that the damaged region extends from the Angat River in this province to the Tarlac River in Tarlac. The giving way of the Forbes dike, according to Mr. Williams, was due to the deflection of the course of Tarlac River owing to the formation of sand bars up streams. The direction of the stream was swerved in such a way that it headed direct for the dike protecting the business section of the town. The current was so strong that no earth could have probably stayed it, stated Mr. Williams.

According to the *Manila Daily Bulletin* of July 24, the Chief Engineer of the Manila Railroad Co. reported as follows after an inspection trip to the Pampanga lines:

Besides the washouts on Calumpit-Malapit line, the permanent bridge and both abutments between Santo Tomas and San Fernando have fallen into the river. At present there are four feet of water in the streets of San Fernando, the highest recorded in the past fourteen years.

The following is also taken from the same paper:

The heavy rains of the past fortnight have caused the Pampanga River to rise above the Arnedo dike, flooding nine towns of the Province of Pampanga and the rice and corn plantations of the province, according to a telegraphic report received yesterday at Constabulary Headquarters from the provincial commander of the place. The report adds that in most places the water has risen to a height of five feet and that it still continues rising.

The report also states that hundreds of houses of light materials were washed away by the strong current which accompanied the overflow of the dike, rendering homeless hundreds of families. One casualty is reported in the telegram. Domestic animals of all kinds have been killed. The report also states that, unless the water subsides soon, all the crops that have been flooded would be totally ruined.

Also as a result of the inundation, the report states, all means of communication, with the exception of the Angeles road, have been rendered useless. The town of San Fernando, the capital of the province, is *incomunicado*. The flooding of the portion of Pampanga, where the railroad track is laid, has caused the suspension temporarily of trains to the province. The loss cannot yet be estimated, the report says, but it is considered to be enormous.

Our observer at Tarlac gives the following details in a letter to the Director of this Bureau:

On July 21, the water in the river rose up to seven feet high. On July 22, at 5.30 a. m., the water destroyed the dike and inundated the town. The dike being eroded, the water destroyed houses, properties and rice-fields. Animals such as pigs, goats, and chickens were drowned by the rapid flowing of the water. The flood stayed four days, that is, from July 22 till July 25.

Mr. Jaime Masferré, our volunteer observer at Sagada, Mountain Province, says, among others things, concerning this period of rains and floods:

We had thirteen days, from the 15th to the 27th, with not sunshine but continuous heavy rains. I have no doubt that this is the worst period of rainy stormy weather I have experienced in my

twenty-six years of residence here: not because of the great force of the winds, but because of the extraordinary duration, without interruption, of strong winds and rainy weather for so many days.

DEPRESSIONS AND TYPHOONS.

No less than seven typhoons were shown in our weather maps during the month of July, six of them having occurred between the 10th and the 31st. Although none of these typhoons crossed the Island of Luzon, and only one traversed the Philippines through the Batanes Islands, yet heavy rains were caused by them, particularly in the western part of Luzon, as stated above.

Two China Sea typhoons: June 30 to July 4, and July 29 to August 1, 1920.—These two typhoons formed in the China Sea west of northern Luzon, one at the end of June, and the other at the end of July. The first was shown by our weather maps of June 29 and 30 as forming between 18° and 19° latitude N, and in about 117° longitude E. It appeared north of the Paracels on July 1, moving westward; it traversed Hainan and the Gulf of Tongking on the 2nd and 3rd, moving NW; and finally it traversed Tongking on the 4th, moving westward.

The other China Sea typhoon appeared on July 29 in about 19° latitude N and 115° longitude E: it was formed in the western extremity of a trough of low pressure that was extending for several days from the China Sea to the Pacific across northern Luzon. It moved northwestward and entered China about 100 miles to the west of Hongkong.

The typhoon of Meiacosima and China: July 10 to 23, 1920.—The track of this typhoon is one of the most abnormal observed in the Far East. It formed on the 10th to 12th to the east of Luzon between 15° and 16° latitude N, 126° and 127° longitude E; it moved practically NNW and N until the 14th when, after crossing the Meiacosima group of islands, it recurved unexpectedly to NW and WSW between Shanghai and Formosa; then it entered China on the 16th near Wenchow, and continued moving WSW not far from the China coast, until it filled up in the Gulf of Tongking on the 23rd. The barometric minimum observed at Ishigakijima was 738.4 mm. (not corrected for gravity) at 6 a. m. of the 14th. In order that our readers may follow easily the abnormal track of this typhoon, we reproduce in Plate III the isobars for 6 a. m. of the 13th, 14th, 15th, 16th, 17th and 19th.

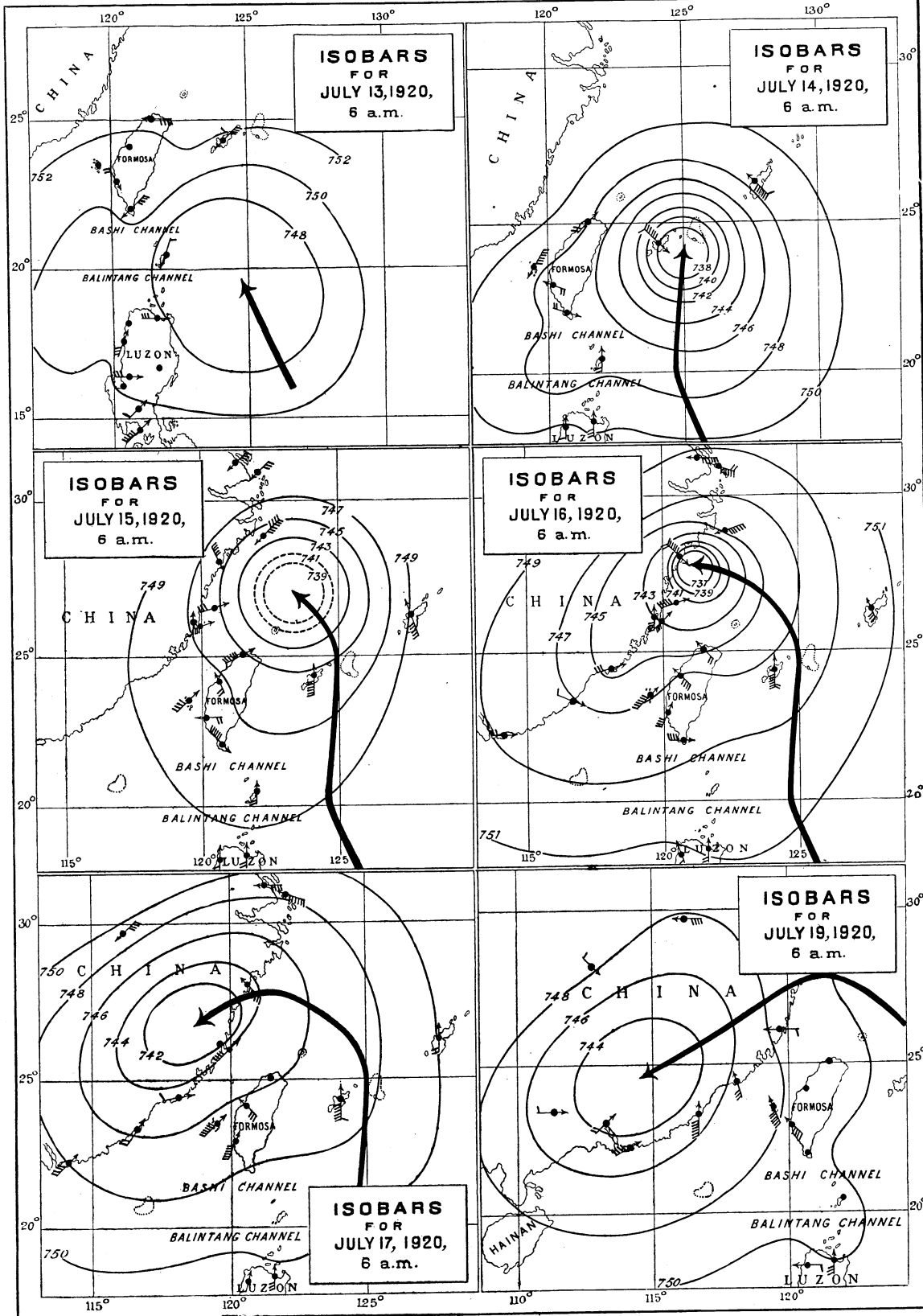
The steamer *Tyndareus* was under the influence of this typhoon while on the Eastern Sea on her way from Keelung to Kobe, experiencing strong winds from N and NNE veering to E and SE, the highest force having been 11, from ESE, on the 15th. The steamer *Columbia* was also under its influence between the Formosa Channel and Shanghai, on her way from Hongkong to Shanghai, the winds backing from WSW to SSW, SE and ESE: the highest force was 10, from SSW.

The typhoon of Formosa: July 20 to 25, 1920.—The track of this typhoon was as abnormal as the preceding one, although it lasted only for six days. It was formed on the 20th over or very close to the Batan Islands, to the north of Basco; then it moved west along the Bashi Channel, it made a sharp recurving almost to the east on the 23rd, when the center was near 22° latitude N and in about 117° longitude E; on the 24th it took a NNE direction toward the Pescadores Islands, where a barometric minimum as low as 726.1 mm. (not corrected for gravity) was observed at 8.30 p. m. of the 24th. On the 25th the typhoon recurved again northwestward and filled up very soon in China near the coast.

In the table given below we publish the observations made during the typhoon in Basco (Batan Islands) and Hokoto (Pescadores Islands). As the typhoon was just forming when it was near Basco, no much damage was done there. On the contrary, it was very severe when it struck Pescadores, causing great destruction there and on

ISOBARS FOR THE TYPHOON OF JULY 10 TO 23, 1920.

Plate III.



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

the west coast of Formosa. The following information concerning this damage was received from the Director of Taihoku Observatory:

Persons wounded	2
Persons missed	40
Houses totally destroyed	223
Houses damaged	1,149

METEOROLOGICAL OBSERVATIONS FOR JULY 20 TO 25, 1920.

Basco, Batanes Islands.					Hokoto, Pescadores Islands.					
Date and hour.	Pressure. ¹	Wind.		Rainfall.	Date and hour.	Pressure. ¹	Wind.		Rainfall.	
		Direction.	Force.				Direction.	Force.		
	<i>mm.</i>		(0-12)	<i>mm.</i>		<i>mm.</i>	<i>m. p. s.</i>	0-12	<i>mm.</i>	
July 20:					July 24:					
6 a. m.-----	749.95	SW	1	7.1	2 p. m.-----	742.6	ENE	15.1	7	9.6
2 p. m.-----	47.70	SW	2	-----	3 p. m.-----	41.5	ENE	16.7	7	-----
7 p. m.-----	46.71	WSW	3	-----	4 p. m.-----	40.5	NE	20.1	8	31.4
July 21:					5 p. m.-----	39.5	NE	21.2	9	21.8
6 a. m.-----	42.32	WSW	6	55.9	6 p. m.-----	38.2	NE	25.0	10	54.7
7 a. m.-----	42.13	WSW	7	12.7	7 p. m.-----	33.7	ENE	26.5	10	36.6
8 a. m.-----	41.47	W	7	7.6	7.30 p. m.---	30.9	NE	39.4	12	-----
9 a. m.-----	41.30	W	7	10.2	7.50 p. m.---	-----	NE	50.0	12	-----
10 a. m.-----	40.45	WNW	7	8.9	8 p. m.-----	26.3	E	(²)	-----	11.6
2 p. m.-----	39.12	S	6	2.5	8.30 p. m.---	26.0	N	-----	-----	-----
4 p. m.-----	39.90	S	6	2.5	9 p. m.-----	27.2	NW	-----	-----	2.9
5 p. m.-----	41.48	E	1	-----	9.30 p. m.---	31.7	NW	-----	-----	-----
6 p. m.-----	42.68	S	4	-----	10 p. m.-----	37.5	WNW	-----	-----	41.4
7 p. m.-----	43.69	S	4	5.1	11 p. m.-----	41.3	WNW	(³)	-----	0.3
July 22:					Mdt.-----	43.4	W	14.7	7	0.1
6 a. m.-----	47.81	E	2	39.4	July 25:					
8 a. m.-----	48.64	ESE	2	5.1	1 a. m.-----	44.7	W	10.4	5	1.5
2 p. m.-----	48.84	ESE	1	24.1	2 a. m.-----	45.3	WNW	12.6	6	0.9
6 p. m.-----	49.47	SE	1	59.7	3 a. m.-----	46.3	WNW	15.7	7	0.5
July 23:					4 a. m.-----	47.3	W	12.9	6	0.2
6 a. m.-----	50.15	E	2	52.1	5 a. m.-----	48.0	WSW	10.3	5	0.1
2 p. m.-----	49.50	ESE	1	30.5	6 a. m.-----	48.7	SW	8.3	5	0.3

¹ Gravity correction not applied.

² The wind cup was broken.

³ New anemometer installed.

In Plate IV our readers may see the isobars for 2 p. m. of the 21st and 23rd, 5 p. m. of the 24th, and 6 a. m. of the 25th.

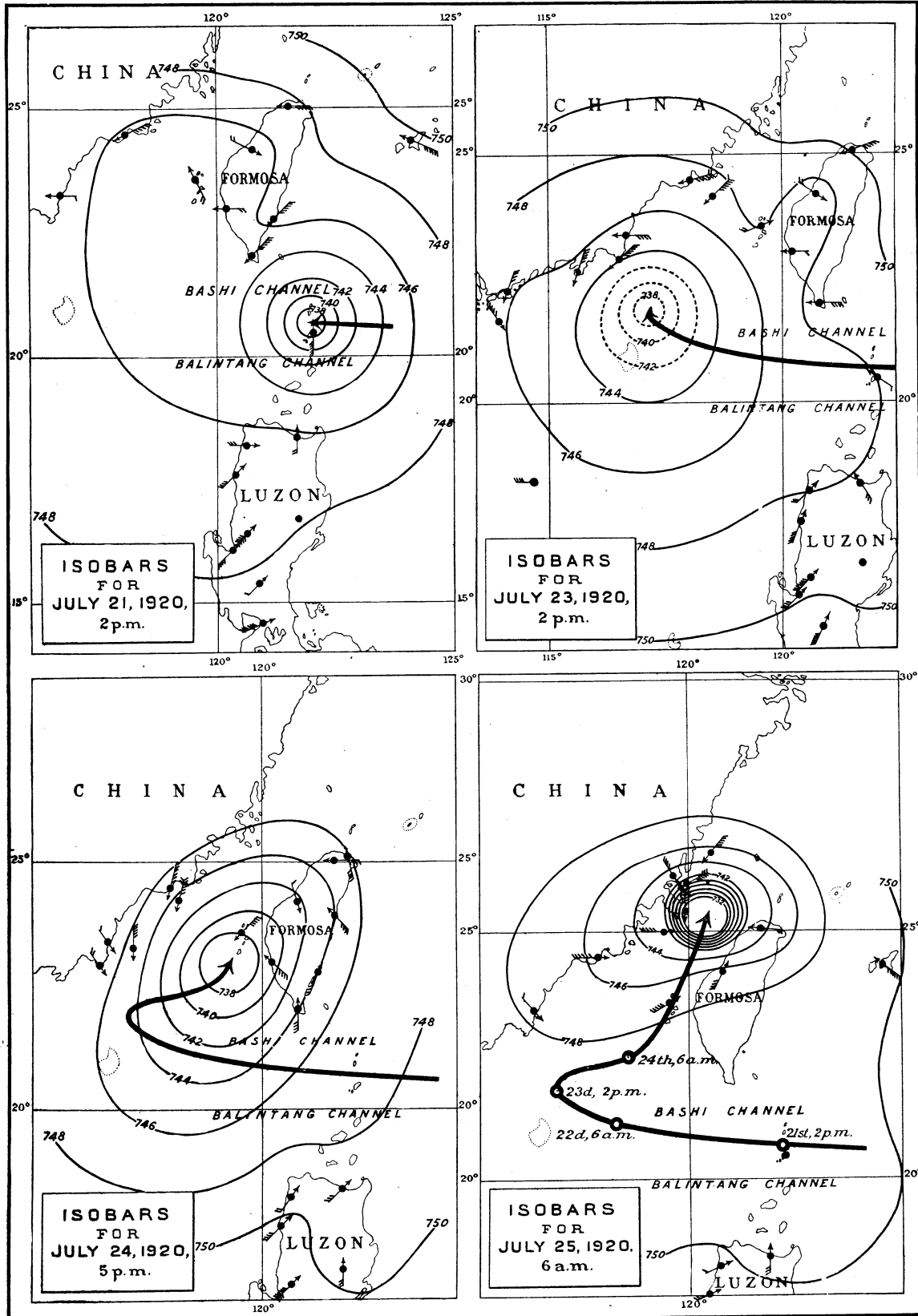
The typhoon of Japan: July 19 to 25, 1920.—This typhoon was shown by Guam observations as forming near or over the northern part of the Ladrone Islands on August 19 to 21. It moved northwestward until the 24th, when it took a northerly direction crossing the southwestern part of Japan on that day; then it filled up on the 25th over the southern part of the Sea of Japan.

Two Pacific typhoons: July 20 to 24 and July 25 to 29, 1920.—The first of these typhoons formed on the 20th to the east of Yap between 9° and 10° latitude N, 141° and 142° longitude E. According to the observations of Yap and Guam, and those made on board the steamer *Great Northern*, on her way from Guam to Manila, it would seem that the typhoon, after moving NW for two days, recurved sharply to NE and ENE on the 23rd in about 135° longitude E and 17° latitude N. The steamer *Great Northern*, while in 15° latitude N, between 138° and 135° longitude E, experienced on the 24th continuous heavy winds and squalls varying between SW and NW. On the 27th the observations of Guam, as compared with those of the Bonins, showed the center over the northern part of the Ladrone Islands near 145° longitude E and 20° latitude N.

The other typhoon was probably formed on the 24th to 25th over the Western Carolines, to the east of Yap in about 144° longitude E and 9° latitude N. It moved northwest for two days, and then recurved northeastward to the west of the Ladrone Islands.

ISOBARS FOR THE TYPHOON OF JULY 20 TO 25, 1920.

Plate IV



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

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes es ligera o regularmente menor que la del año pasado, y menor que la normal de julio, siendo las diferencias mucho mayores en la parte septentrional del archipiélago. Las presiones más altas del mes se observaron generalmente los días 3 y 31, y las más bajas el 21, cuando pasaba un tifón a lo largo del Canal de Bashi.

La temperatura media mensual es ligeramente menor que la normal de este mes en el centro y norte de Luzón, y ligeramente mayor en el sur de Luzón, en Visayas y Mindanao. Las temperaturas máxima y mínima absolutas del mes en Manila fueron 33.8° C. y 23.° C., registradas los días 2 y 1, respectivamente. Las temperaturas extremas del mes en Baguio fueron 25.9° C., 15.5° C. en la cumbre del Mirador, y 25.8° C., 15.6° C. en la llanura cerca del *City Hall*.

Precipitación acuosa.—La distribución de la lluvia en Filipinas durante este mes es sumamente extraordinaria. Mientras, con raras excepciones, la cantidad total de lluvia es menor que la normal de este mes en el SE de Luzón, en Visayas y Mindanao, es considerablemente mayor que la misma normal en el centro y norte de Luzón, en que las lluvias fueron tan copiosas durante varios días consecutivos que causaron inundaciones muy extraordinarias en varias provincias situadas al norte de Manila. A continuación damos algunos detalles interesantes relativos a estas copiosas lluvias y consiguientes inundaciones.

LLUVIAS COPIOSAS E INUNDACIONES EN EL CENTRO Y NORTE DE LUZÓN

Según varios informes recibidos en Manila, parece que el período de inundaciones de este mes puede considerarse como uno de los más extraordinarios que se han experimentado en algunas de las provincias del centro y norte de Luzón. Las inundaciones duraron varios días, particularmente desde el 17 hasta el 25. De lo que diremos más adelante sobre los tifones de este mes, aparecerá que en este caso, como se ha anotado en otros muchos casos semejantes, las inundaciones ocurrieron cuando no había tifón alguno en Luzón aunque toda la isla estaba completamente bajo la influencia de dos tifones más o menos lejanos, situados, uno en el Continente cerca de la costa de China, y otro en los canales de Bashi y de Formosa (véanse sus trayectorias en la Lámina II). En una tabla de lluvia mensual, que va en el texto inglés, incluimos todas las estaciones de Luzón que registraron una cantidad mensual de lluvia mayor de 1,000 mm. También se da en dicha tabla la correspondiente diferencia de la normal de julio, y la cantidad máxima en 24 horas.

Hubo ocho días consecutivos (del 15 a 22) con más de 100 mm. de lluvia en Baguio; cinco días (del 18 al 22) en Laoag y Sagada, y tres días (del 17 al 19) en Cándón. En Baguio hubo no menos de seis días con más de 200 mm.

En cuanto a las inundaciones causadas por tan abundantes y continuas lluvias, muchos informes han sido facilitados a esta Oficina, de los cuales copiaremos aquí lo que puede ser de mayor interés para nuestros lectores. El siguiente informe se recibió de la División de Estadísticas Agrícolas, de la Oficina de Agricultura:

De las provincias de Ilocos Norte, Ilocos Sur, Isabela, Nueva Vizcaya, La Unión, Pangasinán, Tárlac, Nueva Écija y Pampanga se han recibido noticias de inundaciones que han causado considerables daños, tanto a los animales y plantas como a las propiedades, durante el mes de julio. Sólo en Nueva Écija, debido a esta inundación, quedaron destruídas las cosechas de 5,600 hectáreas de terreno; y en Ilocos Sur, Isabela, Nueva Vizcaya, La Unión y Tárlac gran parte de las cosechas fué llevada por la corriente, habiendo experimentado también grandes pérdidas Ilocos Norte, Pampanga y Pangasinán. Los sistemas de riego de Ilocos Norte quedaron destruídos, mientras en Pampanga la terrible inundación dejó enterradas las herramientas agrícolas, las cosechas fueron gravemente dañadas y muchos animales domésticos muertos. Asimismo Pangasinán sufrió aún más;

la inundación duró catorce días: no solo las cosechas fueron destruidas, sino también muchos carabaos, caballos, cerdos, pollos y otros animales perecieron.

De la Constabularia Filipina se recibió, a petición nuestra, la siguiente interesante información referente a la duración de estas inundaciones y los daños causados por las mismas en varias provincias al norte de Manila:

Provincias.	Fecha y duración.	Altura del agua.	Daños causados.
Benguet	Julio 17-23, 1920		La lluvia extraordinaria y los fuertes vientos fueron causa de que 132 personas de los barrios de Bayen y Bokod quedasen enterradas por la caída del "Monte Ladoran." Las cosechas quedaron destruidas y muchos animales muertos.
Bulacán	Julio 18-21		Las pesquerías inundadas; las cosechas destruidas; la línea férrea al norte de Manila, dañada.
Cagayán y Batanes	Julio 18-24		Las plantaciones de maíz y palay inundadas. Pérdidas: 15,000 caretas de maíz, 10,000 pompones de palay, y 6 carabaos.
Ilocos Sur	Julio 15-21		Próximamente dos tercios de los semilleros de maíz y palay destruidos. Caminos seriamente dañados, y puentes provisionales llevados por el agua. Valor calculado de los daños, P28,000.
La Unión	Julio 19-30	3 pies	Puentes provisionales y balsas del gobierno destruidos y llevados por la corriente. Varios caminos gravemente dañados. Las pérdidas subirán a unos P20,000.
Pampanga	Julio 17-25	5 pies	Debido a las abundantes lluvias, el río de la Pampanga salió de madre e inundó los pueblos de Candaba, Arayat, San Fernando, México, etc. Valor de los daños: cosechas, P80,000; animales domésticos, P8,000; ganado mayor, P6,000, y azúcar depositado en los camarines, P60,000.
Pangasinán	Julio 15-24	7 pies	Diez casas arrastradas por la corriente; cuatro personas ahogadas, y las cosechas notablemente dañadas.

El *Manila Times* del 26 de julio publicó una información facilitada por el Jefe de la División de Irrigación de la Oficina de Obras Públicas, después de un viaje de inspección a las provincias que más sufrieron por las inundaciones, la cual traducida al castellano es del tenor siguiente:

La porción del dique Tárlac o dique Forbes derribada por la subida del río Tárlac llega a una extensión de 800 metros próximamente y forma la parte de la base fundamental de defensa de la sección comercial del pueblo de Tárlac, según el Sr. A. D. Williams, Jefe de la División de Irrigación de la Oficina de Obras Públicas, quien, con los Ingenieros Stroebe y Wrentmore de la misma Oficina, salió para Tárlac la mañana del viernes, volviendo a Manila la noche del sábado.

El Sr. Williams calcula en unos P100,000 la cantidad necesaria para reparar el dique destruido, y dice que se están haciendo esfuerzos para evitar que se derrumbe la parte del dique que quedó en pie. El dique de Tárlac quedó terminado el 1912, y es de 2 kilómetros de largo. El sábado, cuando el Sr. Williams salió de Tárlac, el agua no se había retirado aún.

Él informa que unas 200 casas de materiales ligeros en el municipio de Tárlac fueron arrastradas por la corriente, y que los daños causados a las propiedades y a las cosechas de palay son tremendos. No se ha hecho aún cálculo del valor de la destrucción causada, debido a la altura en que está aún el agua. La sección comercial del pueblo se ha convertido en un verdadero arroyo, siendo tan arrolladora y profunda la corriente que es peligroso atravesarla. La gente del otro lado del área inundada, queriendo ir a los edificios del gobierno u otros lugares de la plaza, tiene que dar una vuelta redonda por los campos palayeros y vadear con agua hasta la cintura. Aunque no se ha llegado a saber de algún accidente personal, el Sr. Williams dice que muchos ganados perecieron.

Grande como es el daño causado a la propiedad en Tárlac, la destrucción de allí es sólo como una gota en un balde de agua, si se la compara con las pérdidas ocasionadas por las inundaciones en Pampanga,

declara el Sr. Williams que tuvo ocasión de observar la devastación causada en la provincia últimamente mencionada. Casi todos los caminos y grandes extensiones de terrenos de caña-dulce estaban enterrados debajo del agua, y la inundación se cree ser aún mayor y más desastrosa que la de agosto del año pasado. El río de la Pampanga rebasó el dique en varias partes; y sitios que nunca hasta entonces habían sido alcanzados por el agua, como la estación ferroviaria de Apalit, están ahora inundados.

En Bulacán hubo también mucha destrucción, y el Sr. Williams dice que la región dañada se extiende desde el río Angat de esta provincia hasta el río Tárlac, de la de Tárlac. La destrucción del dique Forbes, según el Sr. Williams, fué causada por la desviación del curso del río Tárlac, debido a la formación de bancos de arena por la corriente. La dirección de la corriente se desvió de tal manera que fué a parar directamente a la parte del dique que protege la sección comercial del pueblo. La corriente era tan impetuosa que ningún obstáculo de tierra podría probablemente haberla contenido, dice el Sr. Williams.

Según el *Manila Daily Bulletin* del 24 de julio, el Jefe Ingeniero de *Manila Railroad Company*, después de un viaje de inspección a las líneas férreas de Pampanga, relata lo siguiente, que traducimos al castellano:

Además de los hundimientos o derrumbes ocurridos en la línea de Calumpit a Malapit, el puente permanente y ambos estribos entre Santo Tomás y San Fernando cayeron al río. Actualmente hay cuatro pies de agua en las calles de San Fernando, que es la mayor altura registrada durante los últimos catorce años.

Del mismo periódico tomamos estos detalles que, traducidos al castellano, dicen:

Las abundantes lluvias de la quincena pasada hicieron que el río de la Pampanga se elevase más que el dique Arnedo, inundando de esta manera, nueve pueblos de Pampanga y las plantaciones de palay y maíz de la misma provincia, según informe telegráfico del comandante provincial recibido ayer en el cuartel general de la Constabularia. También se dice en el informe que en la mayor parte de los sitios anegados el agua ha llegado a elevarse hasta cinco pies, y que continúa elevándose aún.

En el mismo informe se dice que centenares de casas de materiales ligeros fueron arrastradas por la impetuosa corriente que acompañó al agua al rebosar el dique, quedando así centenares de familias sin hogar. En el telegrama se da cuenta de un accidente personal. Animales domésticos de todas clases perecieron ahogados. También se hace constar en dicho informe, que, si el agua no se retira pronto, volviendo a su cauce normal, todas las cosechas que han sido inundadas pueden darse por completamente perdidas.

A consecuencia de esta inundación, según el mismo informe, todos los medios de comunicación, excepción hecha del camino de Angeles, han quedado interrumpidos. El pueblo de San Fernando, cabecera de la provincia, está incomunicado. El hecho de haberse quedado inundada la porción de la provincia de Pampanga en que está la vía férrea ha sido el motivo de la suspensión temporal del viaje de los trenes a dicha provincia. En el citado informe se dice que no se pueden calcular aún las pérdidas causadas por esta inundación, pero se cree que deben ser enormes.

Nuestro observador de Tárlac facilita los siguientes detalles en una carta al Director de esta Oficina:

El 21 de julio creció el agua del río hasta llegar a una altura de siete pies. El 22 de julio, a las 5.30 a. m., el agua destruyó el dique e inundó el pueblo. Una vez roto el dique, el agua destruyó casas, propiedades y sembrados de palay. Muchos animales, como cerdos, cabras, pollos, se ahogaron por la rápida corriente del agua. La inundación duró cuatro días, esto es, desde el 22 hasta el 25 de julio de 1920.

El Sr. Jaime Masferré, nuestro observador voluntario en Sagada, Provincia Montañosa, dice, entre otras cosas, refiriéndose a este período de lluvias e inundaciones:

Tuvimos trece días, desde el 15 hasta el 27, de continuas y copiosas lluvias, sin haber visto brillar el sol. No dudo que este es el peor período de tiempo lluvioso y tormentoso que he experimentado en mis 26 años de residencia en este pueblo, no por la mucha velocidad del viento, sino por la extraordinaria duración, sin interrupción, de vientos fuertes y tiempo lluvioso durante tantos días.

DEPRESIONES Y TIFONES.

No menos de siete tifones se echaron de ver en nuestros mapas del tiempo durante el mes de julio, habiendo ocurrido seis de ellos entre el día 10 y el 31.

Aun cuando ninguno de estos tifones atravesó la Isla de Luzón, y solamente uno cruzó las Filipinas a través de las Islas Batanes, con todo, produjeron abundantes lluvias, particularmente en la parte occidental de Luzón, como queda dicho arriba.

Dos tifones en el Mar de China: 30 de junio a 4 de julio, y 29 de julio a 1 de agosto, 1920.—Estos dos tifones se formaron en el Mar de China al W del norte de Luzón, uno a fines de junio, y otro a fines de julio. El primero apareció en nuestros mapas del tiempo de 29 de junio, como formándose entre 18° y 19° latitud N, y en los alrededores de 117° longitud E. El día 1 de julio se hallaba este tifón al N de Paracels, moviéndose al W; atravesó Hainán y el Golfo de Tongking los días 2 y 3, moviéndose al NW; y finalmente cruzó Tongking el día 4, moviéndose hacia el W.

El otro tifón del Mar de China se echó de ver el 29 de julio en los alrededores de 19° latitud N y 115° longitud E, habiéndose formado en la extremidad occidental de un área grande de baja presión que por varios días se venía extendiendo desde el Mar de China hasta el Pacífico a través del norte de Luzón. Se movió hacia el NW y penetró en China a unas 100 millas al W de Hongkong.

El tifón de Meiacosima y China: 10-23 de julio, 1920.—La trayectoria de este tifón es una de las más anómalas observadas en el Extremo Oriente. Se formó del día 10 al 12 al este de Luzón entre 15° y 16° latitud N, 126° y 127° longitud E; se movió prácticamente al NNW y N hasta el día 14 en que, después de cruzar el grupo de las Islas de Meiacosima, recurvó inesperadamente al NW y WSW entre Shanghai y Formosa; luego penetró en China el día 16 cerca de Wenchow, y continuó moviéndose al WSW no lejos de la costa de China, hasta que se deshizo en el Golfo de Tongking el día 23. La mínima barométrica observada en Ishigakijima fué 738.4 mm. (no corregida de gravedad), la cual tuvo lugar a las 6 a. m. del día 14. Con el fin de que nuestros lectores puedan fácilmente seguir la anómala trayectoria de este tifón, reproducimos en la Lámina III las isobaras de 6 a. m. de los días 13, 14, 15, 16, 17 y 19.

El vapor *Tyndareus* estuvo bajo la influencia de este tifón mientras se hallaba en el Mar del Este en su viaje de Keelung a Kobe, y así experimentó fuertes vientos del N y NNE que rolaron al E y SE, habiendo llegado a 11 (escala Beaufort) la máxima fuerza, que fué del ESE, el día 15. El vapor *Columbia* estuvo asimismo bajo la influencia de este tifón entre el Canal de Formosa y Shanghai, en su viaje de Hongkong a Shanghai, rolando los vientos del WSW al SSW, SE y ESE: la máxima fuerza del viento fué 10, del SSW.

El tifón de Formosa: 20-25 de julio, 1920.—La trayectoria de este tifón fué tan irregular y anormal como la del anterior, aunque el tifón sólo duró seis días. Se formó el día 20 en, o muy cerca de, las Islas Batanes, al N de Basco; luego se movió al W a lo largo del Canal de Bashi, formó un ángulo muy agudo recurvando casi al E el día 23, cuando su centro se hallaba cerca de 22° latitud N y en los alrededores de 117° longitud E; el día 24 se movió al NNE en dirección a las Islas Pescadores, donde se registró a las 8.30 p. m. del día 24 la mínima barométrica 726.1 mm. (no corregida de gravedad). El día 25 el tifón recurvó de nuevo hacia el NW y se deshizo muy pronto en China cerca de la costa.

En el texto inglés damos en una tabla las observaciones hechas durante el tifón en Basco (Islas Batanes) y Hokoto (Islas Pescadores). Como el tifón estaba precisamente formándose mientras se hallaba cerca de Basco, no causó mucho daño en las Islas

Batanes. Por el contrario, era muy intenso cuando desfogó en las Islas Pescadores, en donde causó gran destrucción, así como también en la costa occidental de Formosa. La siguiente información relativa a estos daños se recibió del Director del Observatorio de Taihoku:

Personas heridas.....	2
Personas perdidas.....	40
Casas totalmente destruídas.....	223
Casas dañadas.....	1,149

En la Lámina IV nuestros lectores pueden ver las isobaras de 2 p. m. de los días 21 y 23, 5. p. m. del 24, y 6 a. m. del 25.

El tifón de Japón: 19-25 de julio, 1920.—Este tifón se echó de ver, por las observaciones de Guam, como formándose en, o cerca de, la parte septentrional de las Islas Ladrones del 19 al 21 de julio. Se movió hacia el NW hasta el día 24, en que se dirigió al N, cruzando la parte SW de Japón en dicho día; pero pronto se deshizo, el día 25, en la parte meridional del Mar de Japón.

Dos tifones en el Pacífico: 20-24 de julio, y 25-29 de julio, 1920.—El primero de estos tifones se formó el día 20 al E de Yap entre 9° y 10° latitud N, y 141° y 142° longitud E. Según las observaciones de Yap y Guam y las que se hicieron a bordo del vapor *Great Northern* en su viaje de Guam a Manila, parece que el tifón, después de moverse al NW por dos días, recurvó rápidamente al NE y ENE el día 23, en los alrededores de 135° longitud E y 17° latitud N. El vapor *Great Northern*, mientras se hallaba en los 15° latitud N, y entre 138° y 135° longitud E, experimentó, el día 24, vientos y chubascos fuertes y continuos, variando entre el SW y NW. El día 27, según las observaciones de Guam comparadas con las de Bonins, el centro se hallaba en la parte septentrional de las Islas Ladrones cerca de 145° longitud E y 20° latitud N.

El otro tifón se formó probablemente del 24 al 25 en las Carolinas Occidentales, al E de Yap, en los alrededores de 144° longitud E y 9° latitud N. Se movió al NW durante dos días, y luego recurvó hacia el NE al W de las Islas Ladrones.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.*

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

Day.	Pres- sure (mean).	Air temperature. ^b			Underground temperature.				Relative humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation. ^b			
		Mean.	Maxi- mum.	Mini- mum.	0.25 meter.		0.50 meter.				1.50 meters.	2.50 meters.	Mini- mum on grass.	Maxi- mum in sun. Black bulb in vacuo. ^c	Free exposure (total).	Shel- ter. (total).
					8 a.m.	2 p.m.	8 a.m.	2 p.m.								
1	757.19	26.1	31.7	23	27.6	29.5	29	29.3	30.6	29.3	85.4	21.3	22.4	51.5	2.5	1.5
2	57.72	28.1	33.8	24.2	29	30.6	29.5	29.6	30.6	29.5	80.3	22.4	23	52.8	3.8	2.4
3	58.58	26.3	32	24	29.5	29.9	29.8	29.7	30.6	29.7	88.9	22.5	23.1	53	1.5	1
4	57.83	26.2	30.6	24	29	29.7	29.7	30	30.3	29.2	92.6	23.3	22.7	40.2	3	1.1
5	56.80	26.9	32.2	24.2	29.3	29.9	29.8	29.8	30.2	29.5	87.6	23	23.1	55	1.6	1.2
6	56.95	26.4	31.8	24.1	29.3	30.3	29.7	29.9	30.1	29.5	89	22.7	23.7	51.1	1.6	1
7	56.34	26.4	32.6	23.7	29.1	30.5	29.7	29.9	30.1	29.5	89.4	22.8	23.1	55.1	1.7	1
8	55.61	27.2	33.3	24	29.3	30.8	30	30	30.2	29.7	86.5	22.9	23.1	53.2	2.5	1.6
9	55.74	26.6	32	24.1	29.4	30.7	30	30.1	30.3	29.7	89.2	22.9	23	52.4	1.5	1
10	55.45	26.5	30.3	24.6	28.8	30	29.8	30	30	29.6	90	23.1	24.1	50.8	1.6	1.2
11	54.78	25.4	28.5	24.1	28.7	29.2	28.8	29.7	30.1	29.5	91.6	22.1	23.9	40.7	1	1.3
12	53.36	26.3	27.4	24.3	28.5	28.7	29.5	29.5	30	29.6	87.8	22.3	23.3	35.6	1	1.2
13	53.28	27.1	29.3	24.4	28	29	29.2	29.3	30	29.6	85.1	22.7	24.3	42.4	1.9	2
14	54.81	27.5	32	25	28	29.4	29	29.1	30.1	29.6	84.8	23.1	23.9	52.5	2	2.3
15	55.44	27.3	30.9	24.8	28.3	29.2	29.1	29.1	30	29.5	86	23.1	24.1	50.5	1.5	2.1
16	55.16	28.5	31.5	25	28.7	30	29.1	29.3	30	29.6	82.3	23.7	24.1	60	3.7	2.8
17	54.78	27.2	31.3	23.9	29.2	29.3	29.5	29.3	30	29.6	86.8	23.1	24.8	50.5	1.6	1.7
18	55.12	25.5	27.7	23.6	28.2	28	29.3	29	29.5	29.4	92.9	22.5	22.7	26.7	2	1
19	54.14	27.5	30.4	23.7	27.5	28.6	28.4	29.5	29.5	29.5	87.5	23.8	23.2	46	2.9	2.8
20	52.72	27.6	29.6	25.4	27.8	27.9	28.5	28.4	29	29.5	88.2	24.4	24.2	41	1	2.5
21	50.90	27.4	29.2	24.7	27.6	27.8	28.3	28.3	29	29.5	90	24.4	24.2	45.6	3	2.6
22	51.72	27.9	29.8	24.9	27.3	27.7	28.2	28.2	28.7	29.5	85.2	23.8	24.3	45.5	3.1	2.7
23	53.86	28.4	31.4	25.9	27.5	28.3	28.2	28.4	28.9	29.5	79	22.7	24.3	51.5	5.6	3.8
24	54.71	28.5	31.2	26.9	28	28.9	28.4	28.6	29.1	29.5	78	22.5	24.8	53	4	3.1
25	54.80	27	30.4	24.8	28	28.4	28.5	28.6	29	29.5	87.3	23.2	24.7	45.3	3	1.3
26	55.56	26.1	29	24.8	28	28.1	28.6	28.5	29.2	29.5	91.4	22.9	24	40.2	7	1.9
27	55.30	26.3	30	24.5	27.6	28.7	28.3	28.5	29.1	29.4	86.8	22.1	23.7	52.7	1.7	1.2
28	56	24.6	27	23.3	28.1	28.3	28.5	28.5	29.1	29.4	92.5	21.2	22.9	33.5	0	1.5
29	56.59	25.4	30.7	23.1	27.8	28.8	28.5	28.5	29.2	29.5	89.9	21.6	22.7	53	1.1	1.2
30	56.89	27.5	31.6	23.1	28.4	29.5	28.6	28.7	29.2	29.5	84.4	22.8	22.3	51.7	3.2	2.3
31	57.84	27.4	31.7	24.6	29	30	29	29.1	29.2	29.4	86.9	23.5	23.5	52.5	3	2.1
Mean Total	755.95	26.9	30.7	24.3	28.4	29.2	29.1	29.1	29.7	29.5	87.2	22.9	23.6	47.9	1.9	1.7
Departure from normal	-1.80	-0.1	-0.3	+0.6							+2.2	+0.5		-14.7		

Day.	Wind.				Clouds.			Sun- shine.	Rain, 24 hrs. beginning 6 a. m.		Miscellaneous.
	Prevailing direction.	Total move- ment.	Maxi- mum hour- ly veloc- ity.	Direction at the time of the maximum velocity.	Amount (mean).	Form and direction.			On the tower.	In the park.	
						Upper.	Lower.				
1	ESE, SE	166	27	WNW	9.9	Cl.-S.	Cu.-N. SW	0 35		● a. d° p.	
2	SW quad.	121	11	S	4.8	Cl.-Cu. ESE		8 10	28	● p.	
3	NE	104.5	15	W	6.7	Cl.	Cu. ENE	3 35	9.2	● p.	
4	Variable	50.5	14	WNW	9.1	Cl.-S.	Cu.-N. NNE	0 05	1	● a. p° p.	
5	SE	76	10	SSW	8.1	Cl.-S.	Cu.-N. E	3 00	1.2	● d° p.	
6	NE, SE	120.5	16	WNW	8	Cl.	Cu.-N. SE	2 55	20.8	● p.	
7	NE, SE	128	15	SE	8.6	A.-Cu.	Cu. ESE	2 25	22.7	● p.	
8	SE	169.5	22	SE	8.3	Cl.-S.	Cu. SE, SSE	4 10	32.8	● a. p.	
9	WSW, E	74	10	WSW	8.1	Cl.	Cu. E	3 55	30.1	● p.	
10	SW	244	26	SW	9.6	Cl.-S.	N. Variable	0 00	12.9	● a. p.	
11	SW quad.	120	15	SW	10	A.-S.	Cu.-N. WSW	0 00	4.4	● a. d° p.	
12	SW	397	30.5	SW	9.9	Cl.-S.	Cu.-N. Wquad.	0 00	7.7	● a. p.	
13	SW, WSW	860	60	WSW	9.8	Cl.-S.	N. WSW	0 00	36.8	● a. p.	
14	SW	653	39	WSW	9	Cl.-E.	Cu.-N. SW	4 05	33.9	● a. p.	
15	SW	657	52	W	9.2	Cl.-S.	Cu.-N. SW	3 10	49	● a. p.	
16	WSW	725	51	WSW	7.2	Cl.	Cu. W, WSW	5 10	5.9	● a. p.	
17	WSW	692	58	WSW	8.8	Cl.-Cl.-S.	N. WSW	2 00	76.2	● a. p.	
18	SW	521	40	SW	10	N.	WSW	0 00	85	● a. p.	
19	SW	711	49	SW	10	Cl.-S.	N. WSW	0 00	22.9	● a. p.	
20	SW	944	55	WSW	10	Cl.-S.	N. WSW	0 00	33.4	● a. p.	
21	WSW	1,023	62	WSW	10	Cl.-S.	N. WSW	0 00	63.7	● a. p.	
22	SW	943	67	WSW	9.9	Cl.-S.	S.-Cu. WSW	0 00	10.2	● a. p.	
23	SW	758	51	WSW	8.3	Cl.-S.	Cu. WSW	4 00	2.3	● a. d° p.	
24	SW	702	47	SW	7	A.-Cu.	S.-Cu. WSW	5 20	4.6	● a. p.	
25	SW, WSW	682	44	WSW	9.5	Cl.-S.	Cu.-N. WSW	1 25	38	● a. p.	
26	SW	408	32	WSW	9.8	Cl.-S.	Cu.-N. W	0 05	17.4	● a. p.	
27	SSW	237	24	WSW	9.2	A.-Cu.	Cu.-N. W, SW	0 55	6.9	● a. p.	
28	SW quad.	114.5	17	SSW	9.9	Cl.-S.	N. SW	0 00	28.2	● a. p.	
29	SW quad.	190	26	WSW	7.5	A.-Cu.	Cu. SW, WSW	2 45	16.5	● a. p.	
30	WSW	299.5	28	W	8.9	Cl.	Cu. SW	9 30	.8	● a. p.	
31	WSW	264	28	W	7	Cl.	Cu. WSW	6 45	.2	● a. p.	
Mean Total		424.4	33.6		8.6			2 23			
Departure from normal		+4,717.6			+0.7			-66 08	+286.7		

* All the mean values given in this table are deduced from hourly observations.
 b These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
 c Maximum of hourly observations taken from 6 a. m. to 6 p. m.

METEOROLOGICAL DATA FOR MIRADOR OBSERVATORY, BAGUIO.*

[$\phi = 16^{\circ} 25' N$; $\lambda = 120^{\circ} 35' E$; barometer above sea, 1,512.5 meters; gravity correction not applied, -1.65 mm.]

Day.	Pres- sure ^b (mean).	Air temperature at Mirador (on the top of the mountain).				Air temperature in the pla- teau near the City Hall.				Relative humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation.		
		Mean.	Maxi- mum.	Hour.	Mini- mum.	Hour.	Maxi- mum.	Hour.	Mini- mum.			Hour.	Mini- mum on grass.	Maxi- mum in sun. Black bulb in va- cuo. ^c	Free ex- posure (total)	Shel- ter (total)
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per cent.	mm.	°C.	°C.	mm.	mm.	
1	634.44	17.2	20.2	1.00p.	16	9.30p.	20.8	11.35a.	16.4	8.55p.	93.2	13.6	15.5	0.6	0.5	
2	635.92	18.8	24.2	3.05p.	16	5.10a.	24.3	2.30p.	16.2	5.30a.	87.7	14.1	14.6	60.3	2.4	1.3
3	36.80	18.4	23.2	Noon	16	5.55a.	24.4	11.55a.	16	4.40a.	91.7	14.5	14.5	57.7	1.5	.9
4	36.19	19.2	23.2	1.30p.	16.5	4.30a.	23.9	0.40p.	15.7	4.00a.	91.7	15.2	14.3	60	1.4	.7
5	35.52	19.2	23.8	1.00p.	17	5.30a.	24.4	10.05a.	16.2	5.20a.	93.3	15.4	15	57.4	1.2	.9
6	35.16	19.3	24.6	11.00a.	16.1	4.40a.	24.8	11.30a.	15.8	5.10a.	88.7	14.7	14.5	58	2.2	1.4
7	34.76	18.9	23.4	2.40p.	16.4	1.25a.	23.9	9.15a.	16.3	4.50a.	88.7	14.4	14.7	59.8	2.6	1.5
8	34.11	19.6	24	10.30a.	16.6	5.20a.	24.4	0.30p.	16.8	5.10a.	81.8	13.8	15	56.1	4.8	2.4
9	34.26	19.6	25.9	10.30a.	16.7	5.50a.	25.8	2.25p.	16.4	5.30a.	85.3	14.4	14.5	58.6	2.4	1.4
10	33.88	18.2	24.3	11.35a.	16.2	4.05a.	23.2	11.50a.	16.1	6.00a.	96.5	15	14.8	45.7	.6	.3
11	33.16	18.7	21.2	11.00a.	17.3	4.55a.	21.8	0.15p.	17.8	5.45a.	96.5	15.5	16.5	45.7	.3	.1
12	31.86	18.8	21.1	0.25p.	17.5	11.30p.	21.4	11.35a.	17.6	11.30p.	99.2	16	16.8	49.2	.5	.2
13	31.38	18.3	22.7	11.30a.	16.7	11.35p.	23.2	0.30p.	17	11.45p.	96.8	15.2	16.4	56.5	1.2	.4
14	32.34	17.7	18.7	2.50p.	16.4	1.40a.	19.5	2.15p.	16.6	1.00a.	98.5	14.8	15.8	27	0	0
15	33.05	17.8	18.8	11.20a.	16.6	5.00p.	19.1	10.00a.	17.3	4.45p.	99.5	15.1	16.3	36.8	0	0
16	33.28	17.7	18.7	0.30p.	16.5	6.05a.	20.6	Noon	16.8	7.30a.	98.7	14.9	16.2	27	0	0
17	32.55	17.6	18.6	11.10a.	16.6	5.15a.	19.4	10.30a.	16.7	3.35a.	98.8	14.8	16	26.1	0	0
18	32.41	17.5	18.1	5.55p.	15.7	5.50a.	18.7	5.45p.	16.7	5.00a.	98.8	14.7	15.1	20.2	0	0
19	31.43	17.7	18.3	11.50p.	16.8	11.45a.	19	10.30p.	16.8	3.10p.	99.2	14.9	16	21.6	0	0
20	30.04	18	18.8	6.50p.	17	9.25a.	18.8	7.00p.	17	8.30a.	99.2	15.2	16	20.5	0	0
21	28.39	17.7	18.3	3.45p.	16.3	6.55p.	18.2	2.45p.	17.2	5.30p.	99.8	15.1	16	21.9	0	0
22	28.52	17.8	18.2	3.55p.	16	11.30p.	18	9.30a.	16.9	6.25a.	99.8	15.2	15.3	21.2	0	0
23	30.83	17.5	17.9	Noon	16	4.05a.	18.9	0.35p.	17	1.10a.	99.7	14.8	14.8	20.7	0	0
24	31.74	17.6	18.3	3.20p.	16.2	9.30p.	19	1.15p.	16.8	8.15p.	99.7	14.9	14.4	20.3	0	0
25	32.30	17.7	18.3	3.50p.	16.5	2.45a.	19.2	0.15p.	16.8	3.25a.	99.2	15	15.5	21.5	0	0
26	33.45	17.8	19.8	11.45a.	16.7	11.10p.	20.8	11.30a.	17.1	1.30a.	98.5	15	16.3	21.9	0	0
27	33.23	18.2	21.8	3.35p.	16.6	3.40a.	22.3	2.30p.	16.4	12m.n.	96.3	15	15.8	46.1	1.5	.7
28	33.26	16.7	19.1	11.00a.	15.5	6.35a.	20.3	10.25a.	16	9.25p.	95.5	13.5	14.8	51.3	1	.5
29	34.29	17.1	19.4	1.50p.	15.5	5.00a.	21.1	11.00a.	15.6	2.30a.	93.8	13.6	14	59.5	.7	.6
30	34.82	17.7	20.7	11.00a.	16.4	4.50a.	21.3	10.30a.	16.3	1.30a.	95.7	14.4	14.2	51	.3	.2
31	35.79	18.1	22.9	0.25p.	16.5	3.00a.	22.5	0.10p.	16.7	2.15a.	97.5	15.1	14.8	51.7	.3	.1
Mean	633.20	18.1	20.8		16.4		21.4		16.6		95.5	14.8	15.3	41.4	0.8	0.5
Total															25.5	14.1

Day.	Wind.				Clouds.		Sun- shine.	Rain, 24 hours begin- ning 6 a. m.	Miscellaneous.	
	Prevailing direction. ^d	Total move- ment.	Maxi- mum hour- ly velo- city.	Direction at the time of the maximum velocity.	Amount (mean).	Form and direction. Upper. Lower.				
		Km.	Km.		0-10.		h. m.	mm.		
1	SE	401	22.2	SE	9.6	Cl.-S.	Fr.-N. SE	0 30	5.9	☉ d a. ● d° p.
2	E, SE	264.3	28.8	SE	7.7	A.-Cu.	SE Cu.-N. SSE	2 10		☉ ☉ p.
3	E quad.	249.3	23.6	W	6.4	Cl.	Cu.	2 35	23.4	☉ ☉ a. d° p.
4	SW, W	229.6	17.5	W	8.4	Cl.	Cu.-N. ENE, wsw	1 25	2.8	☉ ☉ a. d° p.
5	E, W	240.8	19.3	W	7.7	Cl.	Cu. N, NNW	3 10	27.5	☉ ☉ a. d° p.
6	E	321.6	26	SW	5.9	Cl.	Cu. SW	5 00	4.5	☉ ☉ a. d° p.
7	E	344.4	28	E	7	A.-Cu.	E Cu.-N. SE, WNW	3 30	1.1	☉ a. d° p.
8	E	454.6	35.9	E	6.1	A.-Cu.	WNW Cu. ENE, SE	3 00		☉ a. d° p.
9	E quad.	224	15	SW	6.3	Cl.	Cu.-N. SE	4 50	1.3	☉ ☉ a. d° p.
10	W quad.	206.5	15.1	E	9.4	Variable.	Cu. E	0 05	22	☉ a. d° p.
11	W	177.8	12.4	W	10		Cu.-N.	0 00	6.3	☉ a. d° p.
12	SW	406.3	31.4	SW	10	Cl.-S.	Cu.-N.	0 10	29	☉ a. d° p.
13	SW	505.8	32	SW	9.6		Cu.-N.	1 20	80	☉ a. d° p.
14	SW	1,020.9	55	SW	10		N.	0 00	85	☉ a. d° p.
15	SW	1,036.7	58.7	SW	10		N.	0 00	118.9	☉ a. d° p.
16	SW, W	1,081.2	52.3	SW	10		N.	0 00	120.1	☉ a. d° p.
17	SW	974.2	51.2	SW	10		N.	0 00	218.6	☉ a. d° p.
18	SW	847	71.8	SW	10		N.	0 00	284.2	☉ a. d° p.
19	SW	1,519.1	78.7	SW	10		N.	0 00	372.4	☉ a. d° p.
20	SW	1,891.7	87.4	SW	10		N.	0 00	271	☉ a. d° p.
21	SW	2,157.1	100.6	SW	10		N.	0 00	296.9	☉ a. d° p.
22	SW				10		N.	0 00	277.9	☉ a. d° p.
23	SW				10		N.	0 00	95.3	☉ a. d° p.
24	SW				10		N.	0 00	81.8	☉ a. d° p.
25	SW				10		N.	0 00	256.3	☉ a. d° p.
26	SW				10		N.	0 00	51	☉ a. d° p.
27	E				9.6	Cl.-S.	Cu.-N. SSW	4 50	7.1	☉ a. d° p.
28	SE	375.3	28?	E	9.6	Cl.-S.	Cu.-N. ESE	0 10	6.3	☉ a. d° p.
29	S quad.	249.7	19.6	W	10	Cl.-S.	Fr.-N. wsw, sw	0 00	4.7	☉ a. d° p.
30	SW	337.9	29.2	SW	10	Cl.-S.	Fr.-N. WSW	0 00	11.4	☉ a. d° p.
31	SE, SW		26.4	SW	10	Cl.	Cu.-N. WSW	0 45	7.9	☉ a. d° p.
Mean		646.5	38.6		9.1			1 05		
Total								33 30	2,750.6	

* All the mean values given in this table are deduced from six daily observations taken at 2, 6, 10 a. m. and 2, 6, 10 p. m.
 b The barometric readings of this station are not reduced to sea level.
 c Maximum of hourly observations taken from 6 a. m. to 6 p. m.
 d This element is based on hourly observations taken from a quadruple register, which gives only eight possible directions of the wind.
 e 3 hours missing.
 f 1 hour missing.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, JULY, 1920.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Lapac Agricultural School, Siasi, Sulu †			27.1		32			17								
Glan, Cotabato †		4.8		21.6	11.7			5.1			2.3					
Jolo, Sulu					26.9	1.8	5.8	5.8	0.3		4.8				0.5	22.6
Lais, Malita, Davao		5.6	1.5	2		63.5	38.1	1.3	1	4.8	15.2					18.5
Lebak, Cotabato	40.1	28.9	10.7	63.8	20.3	25.7	81		36	37.6	24.4				9.7	14.7
Lamitan, Isabela, Zamboanga		20.1		16.3	3.3			6.6							39.6	
Basilan Plantation, Kabunbantan, Isabela, Zamboanga †				24.9		6.9										8.1
Basilan Plantation Office, Isabela, Zamboanga †				14.5		6.1	1.3	2.3			12.7					14.7
La Union, Sigaboy, Davao †	.5	1.3	.5		.8	52.1										2
Paranglalap, Isabela, Zamboanga †				10.2	8.9			20.3			10.2					
Latuan, Isabela, Zamboanga †				1.3	12.7			31.2		3.3	16.8					
Buluan, Cotabato †	2	2.1	2.6	6.7	15.7	10.7	1.8			5.5					8.6	13
Malamaui, Isabela, Zamboanga					3.8					3	14.2					4.3
Zamboanga, Zamboanga			2.4	15.3	11.4		1.8	16		14.3	7.7					4.3
Gayagan de Sulu, Sulu †		3.8			8.1		12.7	38.9			6.1					
Kidapauan, Cotabato †			78.7	7.6	20.3	10.9			21.1	9.4					20.3	
Davao, Davao	14.2	19.3	14.2				6.6	6.3								
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †		9.1	6.1						9.1	11		1.5				
Pikit, Cotabato		5.8	18.8		3.3		6.1	1	5.8	5.3	.3					1.3
Cotabato Seed Station, Pikit, Cotabato †		8.1	15.2	2			6.9	2.3	6.4	17.3					1.3	12.7
Awang, Cotabato †	15.2	10.2	20.3	15.3	20.3			3.6	4.8		17		13.2		7.1	
Sirib, Guianga, Davao †	1	26.4			30.5		4.1									
Kabakan, Cotabato †	1	14.5	33.5	1.3					9.4	14.5						1.8
Bual, Dulauan, Cotabato	1.8	3.3	4.1	10.7				.8	16.2	23.9	1.5					1.3
Cotabato, Cotabato	1.3	32.5	35.6	12.4	15.5	1	2.5	4.8	34.8	23.4	12.7	.8				18.3
Kabasaran, Buldun, Cotabato †		50.8	58.4	12.2	23.4		11.7		1		18.8					17.5
Naganaga, Margosatubig, Zamboanga	5.1		12.7		44.4	2.5		10.2	7.1	48.3		16.8				2.5
Malabang, Lanao		50.8	108	7.1	18.3	26.2	12.7	27.2	9.7	8.6	15.5	13.2				5.8
Compostela, Monkayo, Davao †		2.5	6.1	20.3	3.3	38.1	21.6	17.5								
Lumbatan, Lanao †	22.8	2.5	7.6	25.4	1.8	2.5	.8				38.1			3.3		5.9
Cateel, Davao		1	9.9	2	5.3	5.1	1.5	1.3	.8						34	47.2
Ganasi, Lanao	4.8		8.4	5.8			33.5	9.7	12.4		15		4.1	7.4	4.6	8.1
Camp Kalao, Monkayo, Davao	6.9	2.3	30.2	5.8	5.8	24.1	12.4	.5							1.3	44.7
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon	7.6	2.5	28.7	5.6	19.8	10.2	50.8	.3	30.7		.3			.3	.8	20.3
Camp Keithley, Dansalan, Lanao		39.1	19.8	24.1	5.3	3.3	23.4	1.8	2.3	4.6	7.8	1.5				2.8
Veruela, Agusan	1	6.6	.3	5.1	4.8	40.4	2	.5	11.9		6.9	1	12.4		53.3	23.1
Sindangan, Zamboanga †		21.8	15.2	1.8				1	10.4	5.6		7.1			6.4	7.4
Sumilau, Bukidnon,	1	24.9	1	23.4	33.7	5.1	12.7	1.3	7.1		.8					5.8
Diklom, Tangkulan Maluko, Bukidnon †		18.5	2	21.8	26.9	8.9	14			8.6	41.7			3.8		3.8
Cagayan, Misamis	6.6	22.6	12.7	38.1	40.6	1.5				2	3					5.1
Talacocon, Agusan	6.1		26.9	22.9	25.4	3.3					11.4					5.1
Butuan, Agusan	.3	1	18.2	35.3	2	25.4	.3	4	10.9	.3						5.1
Mambajao, Misamis		.8	18.8	8.6	13.8	.5	3.8	6.9	39.9	5.1	.3					
Dumaguete, Oriental Negros	15.2		4.1	.3	24.1	2.8		2.8	5.6	11.1	7.6	.8				2.3
Meeth, Yap, Western Carolines	24.6	5.3	38.3	81.5	7.4	1.6	29.2	79.3	14.5	4.1	31.2	8.7	2.8		35.3	15.8
Hacienda San Jose, Tanjay, Oriental Negros †											106.4	14.7	5.8	30.5		
Hacienda Palanas, Bais, Oriental Negros †						30.5		10.2	14		22.9	34.5	2			7.4
Hacienda Tamugon, Bais, Oriental Negros †			7.6		8.9		48.3	55.9	10.2		38.1				5.1	
Tagbilaran, Bohol		1.6	18.4	.5	.5			26.4	8.9		3.9					7.6
Iwahig Penal Colony, Puerto Princesa, Palawan		4.6	10.7	30.2	23.9		1	1.8	4.1	10.4	9.9	3.3		1.8		.5
Dalaguete, Cebu		27	8.1					16.3	39.9		2.8				.3	
Surigao, Surigao		5.3	3.1	10.6	1.8	3.8		3.1	20.8	11.7	.6	.3				
Central Palma, Ilog, Occidental Negros	17.3	9.9	45.7	25.7	8.6	22.8	11	29.2	10.1	5		7.6			13.2	9.7
Hacienda Naval, Himamaylan, Occidental Negros		2.8	38.3	39.9	9.4	14.7		16.5	78.7	28.2	34.8	24.6				12.7
Biaong Cui's Farm, Barili, Cebu		12.2	47					13	7.7		13.2			10.7		
Maasin, Leyte		8.1	28.9	19	15	16		41.4		40.1						
Isabela, Occidental Negros		1.3	31	62	3	21.8		18.3	74.4	28.2	69.1	25.7	1.3		1.3	21.6
Hacienda Tanolo, Hinigaran, Occidental Negros		1.5	20.6	58.2	1.8	36.1	.3	17.1	74.9	36.4	60.4	42.6	.5		2.8	53.3
Cebu, Cebu	.3	2.3	7.4		4.1			6.3	6.1		7.1	4.3			1.6	
La Castellana, Occidental Negros		3	38.3	27.9	20.8	15.5		21.3	91.4	36.3	74.4	47	.3		1.3	20.8
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †				27.9		19	23.4	24.9	13.7	26.2	8.4					
Central Azucarera de La Carlota, La Carlota, Occidental Negros		6.1	32.5	10.9	1	30.7		4.9	65.5	25.1	160.8	46.5	.8		2.8	12.2
Hacienda Canlaon, La Castellana, Occidental Negros		1.8	38.1	7.6	11.4	26.2		22.3	66.1	46.7	128.8	46.8				13.5
La Carlota Experimental Station, La Carlota, Occidental Negros †		8.6	74.1	14.5		22.9		13.2	75.2	38.6	175.8	41.7	.3			15.7
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros		9.7	45.4	29.5	2.3	47.2	1.5	9.7	69.1	18.6	83.3	60.2	1.3		1.8	3
Hacienda San Antonio, San Carlos, Occidental Negros †				20.3							50.8					
Valladolid, Occidental Negros		10.7		3.3	9.4	31.5	2.8	20.1	63.2	8.4	30.3	67.3	.5		6.1	24.9
Central San Carlos, San Carlos, Occidental Negros †		57.7		6.1			12.2	16		27.7	7.4					
Hacienda Refugio, San Carlos, Occidental Negros †		22.9		8.1					15.7	14.5	18.3	.3				
Murcia, Occidental Negros		4.1	51.1	11.2	3	25.7	26.4	3.6	64.5	11.7	64.1	71.2	2.3		4.1	7.9
Concepcion, Talisay, Occidental Negros		.8	42.4	1.3	27.5	1.3		.3	41.9	2.5	24.1	47.2			4.6	1.6
Iloilo, Iloilo		10.7	17	22.9	18.8		16.3	18.7	57.5	6.6	13.1	16.5	3.8	4.7	22.1	7.9
Lapuslapus, Iloilo, Iloilo †		11.2	17.8	23.9	17.8		3.8	42.9	46.7	14.2	15	21.6	9.9	2.5	18.8	8.9
San Jose de Buenavista, Antique	4.1		80.8	27.4	24.4	16.5	6.1	23.1	122.7	5.8	29.2	24.1		9.1	11.4	66.6

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, July, 1920—Continued.

Station.	Day of month.														Total.	
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.		31.
Lapac Agricultural School, Siasi, Sulu	mm.	mm.	5.6													mm.
Glan, Cotabato †	3				14.7	6.9							25.9			96
Jolo, Sulu	3.8									3			1.8			74.4
Lais, Malita, Davao	2.5												.5	1.5		156
Lebak, Cotabato	28.4	21.4		9.1						30.5	18.8					501.1
Lamitan, Isabela, Zamboanga								4.1								117.9
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †															4.3	44.2
Basilan Plantation Office, Isabela, Zamboanga †															2.6	54.2
La Union, Sigaboy, Davao †	2									19					.8	79
Paranglalap, Isabela, Zamboanga †	4.3															53.9
Latuan, Isabela, Zamboanga †	4.1															69.4
Buluang, Cotabato †							.8		3.8			1.3		46	68.6	189.2
Malamau, Isabela, Zamboanga																25.3
Zamboanga, Zamboanga	1.3															74.5
Cagayan de Sulu, Sulu †													10.2		12.4	92.2
Kidapawan, Cotabato †						18.5				11.2					26.4	224.4
Davao, Davao																60.6
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †	9.4					5.8						2				53.9
Pikit, Cotabato	11.2									3.6					.5	68.9
Cotabato Seed Station, Pikit, Cotabato †	.3								2.8	.3					5.1	80.7
Awang, Cotabato †	10.2	8.6			12.7	15.2	2.5								15.2	191.4
Sirib, Guianga, Davao †	8.9		2.5												4.1	77.5
Kabakan, Cotabato †	10.2			6.6												92.8
Bual, Dulauan, Cotabato	18.5															77.1
Cotabato, Cotabato	3									10.4		6.6			8.1	246.5
Kabasaran, Buldun, Cotabato †				12.2	20.8					24.4	34.5	4.6				290.3
Naganaga, Margosatubig, Zamboanga	33.3									26.7		11.9			17.8	239.3
Malabang, Lanao	25.4	16.3		1.3	3.8					36.1	19.6	.8			40.6	447
Compostela, Monkayo, Davao †										3.8						113.2
Lumbatan, Lanao †	7.6	12.7				4.3			7.6		2.5	7.6		1		154
Cateel, Davao										8.1		2.3				118.5
Ganasi, Lanao	10.5	6.3	10.9	10.7	41.1	18.6	11.2	4.1		1.3	8.4	6.4				243.3
Camp Kalao, Monkayo, Davao	5.6									24.4			2.8			166.8
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon	70.9			.3						14	.3		2.3	8.6	42.2	316.5
Camp Keithley, Dansalan, Lanao	1									21.3	1.3			1.3	4.6	165.3
Veruela, Agusan	14.7									.3	.5	8.9	10.9	13.2	.3	218.1
Sindangan, Zamboanga †	3.8									3.8			3	1.3		88.9
Sumilau, Bukidnon	32												21.1		8.1	178
Diklom, Tankulan, Maluko, Bukidnon †	38.1													75.4		263.5
Cagayan, Misamis	6.4										2					140.6
Talacogon, Agusan	17.5					1.3							1.3		4.3	125.5
Butuan, Agusan						1										99
Mambajao, Misamis	9.4	1										31.5				143.1
Dumaguete, Oriental Negros	5.1	3.8			2.5						5.3	.8	1			95.2
Meeth, Yap, Western Carolines	17.3	47	78	64.3				4.1	45.5	97	20.8	3	13	.5	20.8	790.9
Hacienda San Jose, Tanjay, Oriental Negros †			26.7	17.8	45.7	24.4				16.3	7.6					295.9
Hacienda Palanas, Bais, Oriental Negros †	15.8	1.5	11.4	74.4	82.5	52.1				13	5.6		.8	9.9		388.5
Hacienda Tamugon, Bais, Oriental Negros †		15.3		28	58.4	35.6	7.6		10.2							329.2
Tagbilaran, Bohol	1				.5											69.3
Iwahig Penal Colony, Puerto Princesa, Palawan	3.3											17.5	4.1		14.8	141.4
Dalaguete, Cebu				1.8	4.1	1.3						3.6	.5			101.6
Surigao, Surigao																65.2
Central Palma, Ilog, Occidental Negros				2.5		.5				15.3	27.1	5.1	25.4			291.7
Hacienda Naval, Himamaylan, Occidental Negros	71.6					2.5				6.9	63.3	3.6	7.3			455.8
Biaong Cui's Farm, Barili, Cebu						8.6					7.6					120
Maasin, Leyte											10.7					198.8
Isabela, Occidental Negros	43.4			.5	3	2.5				11.4	85	1.3	2.3			506.4
Hacienda Tanolo, Hinigaran, Occidental Negros	126.5			4.1	15	7.6				25.4	170.9	.8	4			760.8
Cebu, Cebu	1			1	.5						17.2		3			62.1
La Castellana, Occidental Negros	36.8	.3		.8	9.4	1.6				42.4	130.1	.8	.5			621
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †				16.5	1.5		13.2			10.4	3.8	.3				189.2
Central Azucarera de La Carlota, La Carlota, Occidental Negros	101.1			15	5.8	.8				52.6	155.4	5.8	2.5			738.8
Hacienda Canlaon, La Castellana, Occidental Negros	52.8			10.7	6.6	3.3				50	109.7	1	2.1			645.5
La Carlota Experimental Station, La Carlota, Occidental Negros †	74.4		1	14.7	5.8	26.2	79.5			51.6	58.7	3.8	2			798.3
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	47		.3	9.6	11.6				.3	97.8	142.4	5.6	1.5			698.7
Hacienda San Antonio, San Carlos, Occidental Negros †																71.17
Valladolid, Occidental Negros	35.8		.8	12.9	.5				.8	137.1	135.4	16.8	2.5			675.6
Central San Carlos, San Carlos, Occidental Negros †			2.5	1.3	9.4					31.2		.8				172.3
Hacienda Refugio, San Carlos, Occidental Negros †					13.2						17.3					110.3
Murcia, Occidental Negros	39.4	4.6	9.1	13.2	19.6	1.8			.8	83.1	64.5	6.4	1			593.9
Concepcion, Talisay, Occidental Negros	5.9		13.5	7.1	4.3	6.9				58.9	51.5	19.1	1			363.7
Iloilo, Iloilo	19.8	2	35.2	14.7	19.9	2.5				13.2	13.5	9.9	.3	4.6	.3	437.4
Lapuslapus, Iloilo, Iloilo	20.3	2.5	36.6	18.8	8.9	1.8				10.2	16.3	8.6	.5	2.5	4.6	386.6
San Jose de Buenavista, Antique	57.2									2.3	75.7	134.1	12.1	22.6	3.6	758.9

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, July, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Tuburan, Cebu	29.2	60.6	6.4	17.7							8.1	5.4				
Silay, Occidental Negros	.8	38.5	85.3	15.5				2.6	24.6		3.6					
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros †		.5	42.7	15.5	10.2			4.4	14.2	0.3	1.5	46.3	0.8		2.5	1.5
Cuyo, Palawan	25.7	17.3	60.7	16.8	19.8		17.6		23.9	9.1	17	30		9.4	1.5	
Lucena, Santa Barbara, Iloilo †	19.6	45.7	52.6						29	10.2				8.6		
Hacienda Ilaya, Victorias, Occidental Negros					1.8		1	4.6	5.8		7.4	42.7			2.8	6.4
Hacienda Bilbao, Manapla, Occidental Negros		44.4	19.1	12.7						17.8		3.8	8.4		2.5	3.6
Cadiz, Occidental Negros			30.7	9.7								15.2				
Ormoc, Leyte	16.8	45.5	25.4	25.9	51.6			3.6	8.1	5.1		6.1				
Guiuan, Samar	4.6	8	2.5	.8	3			7.6	9.1	.5		4.3				
Bogo, Cebu	3.8	17	10.2	8.1					4.6							
Dueñas, Iloilo †	12.4	6.4	28	18.3				34.3	20.8	6.6	7.6					
Bitagagan, Passi, Iloilo †	6.4	36.6	19.6	20.3	15.5		3.3		2	8.8		15.5				
Tacloban, Leyte		8.4	18.3	2	.5	1.5			11.7	.5		8.8				
Dumarao, Capiz †	5.1	14	52.1					22.9		4.1	10.2					
Dao, Capiz †	8.4	2	27.9	5.1	5.8		21.8	1.5	7.4	1.3						.5
Capiz, Capiz	2.3	2.3	43.7	1.3	2.8	7.1	.3		2.1	1	12.7	3.6				21.1
Borongan, Samar	11.9	3.3	2			6.1		5.8	15.5	5.1	.8	1.8				
Catbalogan, Samar	.5	8.8	27.2	3.3	1.8	26.7	.5	2.6	52.6	26.9	15.2	27.9				
Calbayog, Samar	.8	12.7	27.4	10.9	.5	58.6	.3	.3	71.9	12.5	19.8	2.6				
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †	7.6		63.5				20.8	22.8	48.8	51.3	22	25.4		28.7	10.2	17.8
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †	5.1	2.5	5.3	25.7	49.8	10.7	12.2	8.4	65.6	99.1	27.4	96.3	4.8	20.6	15.3	.5
San Jose Estate, San Agustin, San Jose, Mindoro †			.3	29.2	40.4	4.1	17.8	21.8	43.2	111.7	29.7	28.7	3.3	6.4	5.3	
San Jose Estate, San Jose, Mindoro †	18.8	1.5	5.9	30.2	48	24.1	10.2	2	76.2	111.5	30.8	42.7	14.5	10.2	16.8	3.3
Masbate, Sorsogon		11.7	9.9			2.5		10.6	33.5	2.8	4.6		8.4			
San Jose Estate, Tunnel D-12, San Jose, Mindoro †	14.2	2.5	9.4	26.1	41.1	11.9	26.9	9.4	37.8	121.6	65	43.2	27.7	10.2	10.4	7.4
Romblon, Romblon			11	35.9	34.8	.6	2.5		2.4	.6	8.2	.8	6.7	11.4	.6	
Batag Lighthouse, Laoang, Samar		2	18.6	3	19	1.5		6.9	134.9		3	2.5				
Irosin, Sorsogon	2		12.2	1.8	.5		7.1	.5	26.4	53	44.7	14.2		.8		
Sorsogon, Sorsogon	1		4.9	7.4	20.3				13.5	1.8	5.6	11.1				
Legaspi, Albay, Albay		5.6	.3	12.2	13	24.2			11.2	2	1.8	9.3	1			1.6
Tabaco, Albay	1		.3						17.6	.3	20.8	8.1	1.3	.8		
Sumay, Guam, Ladrone Islands			19.3	85.1	.8	4.1	3.3	36.1	8.3	6.1	16.7	15.2	10.6	20.3	16.5	16.5
Calapan, Mindoro	.8		4.3	2.8	8.1	6.4	.3	1.3	5.1	5.4		13.2	12.2			
Virac, Albay	17.5		5.6					24.9	27.2	7.6	1.5	2				
Naga, Camarines Sur		8.1	.8	25.7	2.1	12.2	.5		15.2	7.9	1.8	3.6	5.1			
Tigaon, Camarines Sur	1.8	14.5	3.6	1	63.2	10.2			82.5	1.8	5.6	18.8	12.7	.8	2.5	2.1
Batangas, Batangas	1		17.5	5.6	13.2	1.3		2.5	89.4	6.8	32.3	19.8	27.2	1.3	6.1	1.5
Calatagan, Batangas	1.6		1.3	22.1	2.5			3.8	50	3	12.7	66.3	21.6	3	26	8.1
Balayan, Batangas			.8	2.3		8.3		21.6	16.5	11.2	56.6	33	10.7	2.5	25.9	13.2
Lipa, Batangas	3		8.1	4.6	26.6	24.4			10.1	2.1	44.5	26.6	2.5	8.4	2.8	
Lucena, Tayabas			1.5	3.1	13.9	2.8	6.3	12.2	42.2	3.3	.8	11.4	5.6		1.5	
Atimonan, Tayabas			11.2	36.8	7.1	18.8			76.8	8		9.4	8.8			
Lian, Batangas					3.8	6.4		25.9	30.5	88.4	46.5	62.3			38.9	12.7
Nasugbu, Batangas	22.9	21.3	12.7	31.8		35.6	7.4	27.9	29.2	53.8		14.2	7.4			7.9
Ambulung, Tanauan, Batangas	.8		23.3	4.4	1.5	31.2			2.8	5.8	9.9	34.6	21.8	8.9		9.6
Daet, Camarines Norte			2.4	34.3	25.2	19		.5	54.8	12.4	3.1	3				3.6
Mendez Nuñez, Cavite			34.8	5.1	27.9		4.1	3.8	15.2	13.2	81.2	66.9	20.3	81.3	30.5	30.5
Alfonso, Cavite		1.3	52.1	2.3	2	11.9	.8	3	32.5	20.8	28.7	38.6	16.7	65.3	32.5	32.5
Indang, Cavite	.3		53.1	1.5	1.8	24.4	1.8	4.8	1.8	20.9	15.7	26.7	45.7	19	35.3	9.9
Canluban, Calamba, Laguna			17.6	9.1	11.4	17.5	18.3		24.1	21.3	11.1	14.2	1.5	8	2.1	1.8
Silang, Cavite		.5	20.6	43.2	4.1	48.5	.3	3.8	10.4	6.6	6.6	17.8	45.8		14.3	13.8
Maragondon, Cavite	.3	1.8	.8		11.7	36.9		1.8	6.1	17.8	2.8	79.5	18.8	9.1	16.5	24.9
Faracale, Camarines Norte				3.8	6.4	1.8	54.9	3.8	12.7	7.6	14.2	11.4	12.7	1.8	4.1	8.3
Santa Cruz, Laguna			34	18.3	4.6	15.2	10.2		50	17.5	6.8	7.6	12.7	1.8	3.8	8.3
Buenavista, Malabon, Cavite	3.3		4.1		7.9	54.1	10.9		15.5	41.7	4.6	47.2	9.6	8.4	13.2	8.7
Imus, Cavite		2.3	1.8	.3	6.4	23.6	29.7	.5	11.2	16.7	17.3	3.3	16.7	6.7	14.2	5.8
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †			5.1	3.8	.8	18.8	1.3	1.3	.8	4.6	16.5	6.9	2.5	2.3	18.8	2.8
Lamao Horticultural Station, Lamao, Limay, Bataan †	6.3				1.3	.8	14.7			1.5	3.6	12.4	46.2	57.9	35.3	19.5
Manila, Manila		28	9.2	1	1.2	20.8	22.7	32.8	30.1	12.9	4.4	7.7	36.8	33.9	49	5.9
Antipolo, Rizal	4.3		29.7		1.5	.5	12.7	2	6.9	20.3	28.7	5.9	17.8	45.2	24.9	32.5
Bosoboso, Antipolo, Rizal †	5.8		30				13.3	5.1	3.6	13.5	59.7	20.9	32	66.8	26.7	52.3
Balanga, Bataan	.3		7.6	2.5	1.8	20.6	6.5	7.1	9.4	9.1	1.8	8.4	40.6	44.7	106.5	13.8
Montalban, Rizal †	.8	7.1	19	2.8	1.3	39.4	8.6		64.5	17	21.8	60.2	76.2	42.7	35.5	4.6
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †		15.2	33.8	10.9	3.3	14.2	15.2	24.6		4.8	28.4	69.3	12.4	36.9	27.2	4.1
Mabayuan Dam, Olongapo, Zambales †	53.4			7.6	2.5	7.6	22.8	15.2		10.2		30.5	60.9	55.9	68.6	55.8
Pampanga Sugar Mills, Del Carmen, Pampanga †	9.9		12.7	20.3	20.3	43.2	8.4	3	3		17.8		18.6	22.9	17.8	1.3
San Fernando, Pampanga	15		2.8			25.7	32.3	25.9	2.5	22.6	2.5	1	13.5	6.1	2	2.3
San Isidro, Nueva Ecija	6.1	1	.8	3.6		21.6	56.9	37.3	22.9	37.7	.8	22.1	13.8	1.1	1.8	4.4
Iba, Zambales	41.6	14.2	.8	1.3	19	20.6	14		18.5	10.9	4.1	64.5	136.4	61.5	48	35.1
Hacienda Luisita, Comillas, La Paz, Tarlac †	8.1	7.6	7.8	7.1	12.7	31.8	36.1	41.4	23.9	10.2		2.5	8.6	7.1	8.1	14.4
Hacienda Luisita, San Miguel, Tarlac, Tarlac †	37.6	2.3		21.3		69.6	5.8	58.4		56.1	1.8	6.1	33.8	5.8	2.5	2.8
Tarlac, Tarlac	10.5	11.1	1.5		.8	54.9	10.7	38.6		52.3	3.6	11.2	29.5	10.6	5.1	4.1
Muñoz Agricultural School, Muñoz, Nueva Ecija †	50.8					31.5	21.1		5.1	45.7	10.2	34.5	10.4			57.2
Baler, Tayabas		23.1		15.7	34.5	46.2	11.4	27.2	.5	14.4	49.8	11.1	11.1	65	40.4	23.6
Dagupan, Pangasinan	6.2		11.2			109.8	56.6		5.6	8.2	2.8	6.8	45.9	15	80	120.1
Baguio, Mountain Province	5.9		23.4	2.8	27.5	4.5	1.1		1.3	22	6.3	29	6.3	65	118.9	37.7
San Fernando, La Union	.5		10.2	1.5	15	1.6	1.3	1.9	4.3	50.3	12.8	4.5	68.6	14.7	96.3	18
Sagada, Mountain Province †	3.3	4.3	19.8	13.2		35.8	14.7		3.8	.3	12.2	5.1	6.9	6.6	1.3	3.5
Bontoc, Mountain Province †	2		3.9	2.8		9.9	1.5		1.3	14.5	.5	11.5	2.5	8.6	1.3	8.5
Candon, Ilocos Sur		1.8	5.6	17.3	34.3	2.8	4.1		3.8	35.3	21.6	21.5	61.8	62.8	91.2	71.3
Vigan, Ilocos Sur		1.8	.8	3.3			.5	4.8	30.5	65.3	.5	28.4	61.8	39.9	54.1	18
Tuguegarao, Cagayan			.8			.3			1		4.6	31.9	18.6	97.9	86.1	52.6
Laoag, Ilocos Norte	.3	.3	32.2			4.6	26.2	5.6	39.1	2.3		9.7	3	4.1		
Aparri, Cagayan			.3			3.3					59.9	24.2				
Cape Bojeador, Burgos, Ilocos Norte		2.5	36.8				1.3		2.5	45.5	2.3	69.6	68.9	64.8	20.9	19
							21.3	7.3		3	6.6	11	6.7			

Daily rainfall at the stations of the Weather Bureau, July, 1920—Continued.

Station.	Day of month.															Total.		
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.			
Tuburan, Cebu	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.		
Silay, Occidental Negros	16.5		43.9	8.6	1.8	2.3				7.1	1.3	4.1					135.6	
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros †	5.9	2.8	18.5	6.1	2	1				5.1	1.5	7.9	2.5				190.4	
Cuyo, Palawan	30.7					3.3		0.8			10.4	89.9	23.1	12.5	6.4		429.7	
Lucena, Santa Barbara, Iloilo †						40.6					11.2						220.8	
Hacienda Ilaya, Victorias, Occidental Negros	2.8	17.5	3.6		4.8	3.8				5.1	6.6	6.1	1.5				122.8	
Hacienda Bilbao, Manapla, Occidental Negros	3			2.5													117.8	
Cadiz, Occidental Negros					1.3						1.3	27.4	.5	9.7			55.6	
Ormoc, Leyte											66.4	5.1					227.8	
Guiuan, Samar												12.4	.3				96.9	
Bogo, Cebu												3.3	5.8				56.7	
Dueñas, Iloilo †												5.1	3.6	8.6		8.9	143	
Bitagoan, Passi, Iloilo †				11.4													155.1	
Tacloban, Leyte											5	10.1					57.3	
Dumarao, Capiz †			1.3							43.2			30.5				183.4	
Dao, Capiz †													3.3	5.3			92.8	
Capiz, Capiz	.5			.8									7.2		11.4		123.6	
Borongon, Samar					2												79.5	
Catbalogan, Samar											13.5	14.2					202.6	
Calbayog, Samar												8.6					246.2	
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †	29.3	6.4	5.1							61.5	102.6	9.4	21.3	12.7	31.8	5.1	603.6	
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †	22.6	8.9	2.5	13.5					.5	66.3	135.9	26.6	4.5	4.3	7.6		682.5	
San Jose Estate, San Agustin, San Jose, Mindoro †	22.4		2	6.1						22.4	56.1	129.8	27.9	2.8	19.8		631.2	
San Jose Estate, San Jose, Mindoro †	38.9	7.1	3	4.4						44.5	57.1	127.5	1.8	.8	18.6	11.2	780.9	
Masbate, Sorsogon	32.3	2.3	1.3								.5	21.6	.5				134.1	
San Jose Estate, Tunnel D-12, San Jose, Mindoro †	35.3	26.9	11.5	3.3						30.5	88.1	143.3	23.9	3.5	6.1	10.9	852.6	
Romblon, Romblon	5.8	10.7	11	2.9	5.1	4.8				8.9	16.1	37.6	15.7	21.6		1.3	256.8	
Batag Lighthouse, Laoang, Samar																	200.1	
Irosin, Sorsogon	5.1	4.8										6.9	1.8				215.8	
Sorsogon, Sorsogon		1										2	41.2				103.7	
Legaspi, Albay, Albay	.5	1.8	.3									3.6	32.2	1.3			105.2	
Tabaco, Albay												9.7	8.4	.8			48.6	
Sumay, Guam, Ladrone Islands	19.3	27.9	17.8	23	77.8	106.6	.3	15.2	24.4	6.9	8.8	19.3	35.9	61	8.7		706.8	
Calapan, Mindoro	4.6	30.7	4.8	3.1	1.5	.8			2	1.1	20.1	16.6	.5				140.7	
Virac, Albay			4.1	12.4	12.7						.8		15.2				131.5	
Naga, Camarines Sur			2.5		17.8					8.6	18.5						125.2	
Tigaon, Camarines Sur		16.7	51.6	1.3	32	.3				3.8	34.8	7.4	.6	.3			319.9	
Batangas, Batangas	20.6	42.1	2.5	1.8						27.7	6.1	2.5	21.9	2.5			302.7	
Calatagan, Batangas	57.4	49.3	25.9	14.8	17.5	1.1	1.3	.3	134.9	34.8	7.4	52.8	2.3				618.8	
Balayon, Batangas	35.8	81	26.4	16.1	14					59.5	49.5	11.4	39.1				574.4	
Lipa, Batangas	22.6	25.7	4.3	3.8	17.6	.5		2	21.3	7.1	1.3	12.2	2		2		288.1	
Lucena, Tayabas	1.5	2.3	1.3		1.5					1.3	12.7	3	17.1	.3			141.4	
Atimonan, Tayabas		1.3	.5		.5					.8	4.6	3.8	.8				183.7	
Lian, Batangas	59.7	16.5										42.9					375	
Nasugbu, Batangas	11.4		23.1	58.4								44.2	63.5				522.7	
Ambulong, Tanauan, Batangas	34	68.1	30.7	25.7	11	27.9			82.6		23.1	8.5		29.4	3.5		394.7	
Daet, Camarines Norte	3		12.2			1.8			.8			2.3		1.9			156.8	
Mendez Nuñez, Cavite	108	142.2	27.2	18.5	10.7	10	2.8	5.8	56.7	41.7	3	36.8		5.5		.8	760.3	
Alfonso, Cavite	69.9	147.9	27.5	10.7	24.6	16.7	4.8	19.8	58.6	78.7	4.8	44	14.5			3	911.5	
Indang, Cavite	55.8	87.2	25.7	10.9	17.7	30	3.6	11	46	62.3	1.3	30.2	16.5	1.8		1.9	664.1	
Canluban, Calamba, Laguna	23.6	51.8	2.8	3.5	12.1	6.1			14	8.1	1.5	20.5				4.8	323.9	
Silang, Cavite	5.6	43.7	59.7	20.8	10.2	35.6	73.7	23.9	89.6	32	5.1	14.7	5.3				605.2	
Maragondon, Cavite	65.6	35.5	10.7	10.4	13.3	2.3	.8	1.3	36.8	47.3	8.6	55.6	18.3	1	2.5		538.3	
Paracale, Camarines Norte																	120.7	
Santa Cruz, Laguna	27.2	33	7.4	1.3	2.3	1			8.6	17.8	3.3	15.3	3			3.3	307.8	
Buenavista, Malabon, Cavite	49.8	70.6	16.5	15.5	19.3	4.3	10.4	3.6	24.9	48.8	9.4	19.8					522.1	
Imus, Cavite	129	38.9	15.5	17.3	7.4	5.1	.5		27.9	18.8	5.3	34.5	4.8				465.1	
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †	49	54.6	17.5	10.2	2.8	.8			8.8	3.6	18.2	5.1	39.4	12			2.5	300.3
Lamao Horticultural Station, Lamao, Limay, Bataan †	58.4	88.2	58.5	20.8	17.3	30.4	28.2	31.8	47.5	24.7	8.9	114.8	14	8.9		2.5	743.9	
Munila, Manila	76.2	85	22.9	33.4	63.7	10.2	2.3		4.6	38	17.4	6.9	28.2	16.5	.8		2	702.7
Antipolo, Rizal	76.2	117.1	14.5	51.8	60.5	2.8	1	1.8	62	28.4	9.6	38.3	37.9	.5		4.8	746.7	
Bosoboso, Antipolo, Rizal †	87.4	130.6	18.5	91.7	136.4	6.4			5.6	67.6	35.6	9.2	34.3	52			3	1,025
Balanga, Bataan	94.7	78.4	73.7	86.1	66.8	24.6	17.5	28.5	95.5	29	1.3	61.7	42.9	4.1		.8	979.8	
Montalban, Rizal †	99.3	160.5	109.5	58.4	71.4	17.2	11.7	9.9	54.6	59.4	13.5	22.1	35.8	.8			.8	1,126.4
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †	45.5	198.6	45.2	18.3	78.7	22.6	12.2	14.7	31.5	11.4	7.1	23.9	43.7	1.3				850
Mabayuan Dam, Olongapo, Zambales †	271.8	188	109.2	58.4	58.4	55.9	76.2	185.4	55.9	12.7	129.5	81.3	45.7	5.1	1,782.9			
Pampanga Sugar Mills, Del Carmen, Pampanga †	200.7	504.2	149.9	48.3	76.2	152.4	101.6	48.2	19	.3	.3	124.5	85.6	7.7	.6	1,661		
San Fernando, Pampanga	100.6	224.7	281.3	93.8	70.9	99.4	39.6	18.1	18.5	6.4	8.3	23.4	50.8	6.6	1.8	1,192.4		
San Isidro, Nueva Ecija	19.4	130.7	56.4	68.1	52	25.1		1.6	4.1	23.6	1	8.1	34.8	2			653.8	
Iba, Zambales	94.5	104.4	24.4	22.8	38.5	12.7	4.9	20.1	28.9	67.3	56.1	62.8	50.7	17	7.8	1,092.9		
Hacienda Luisita, Comillas, La Paz, Tarlac †	34.1	96.3	142	119.9	40.6	19.8	16.5	5.6	4.3	1.3	6.9	55.4	18.7	.3				784.1
Hacienda Luisita, San Miguel, Tarlac, Tarlac †	46.2	125.2	176.8	188.2	85.1	23.6		7.9	8.1	45.2		20.3	11.2	5.3				1,046
Muñoz Agricultural School, Muñoz, Nueva Ecija †	52.9	86.3	92.9	93.4	67.1	57.4	28.2	6.6	6.6	74.6	6.6	18.8	19.8	2.8	1.8			859.3
Baler, Tayabas	84.8	96.8	64.5	26.7	50	52.1	19.5	19.4	12.4		13.2	10.2	5.1	1				722.2
Dagupan, Pangasinan	198.3	577	118.5	54.4	59.5	70.4	14.2	27.6	19.6	15	1	2.8	9.9	.8				367.7
Baguio, Mountain Province	218.6	284.2	372.4	271	296.9	277.9	95.3	81.8	256.3	51	7.1	6.8	4.7	11.4	7.9	2,750.6		
San Fernando, La Union	71.1	310.1	88.9	32.8	47.8	27	16.5	35.5	115.6	66.5	13.7	1	2.3	7.6	.5	1,158.5		
Sagada, Mountain Province †	69.1	160.5	215.2	295.7	293.9	161	72.4	48.8	51.6	17.3	23.6	1.8	3		1.9	1,573.7		
Bontoc, Mountain Province †	25.4	127.5	167.9	141.2	166.9	84	19.6	13.9	9.4	10.9	16.							

MAXIMUM AND MINIMUM TEMPERATURES AT THE STATIONS OF THE WEATHER BUREAU, JULY, 1920.

Day.	Jolo.		Lais, Malita.		Lebak, Cotabato.		Lamitan, Isabela, Zamboanga.		Malamaui, Isabela, Zamboanga.		Zamboanga.		Davao.		Cotabato.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.3	23.1	31.1	21.3	31.7	22.5	30.2	22.6	32.7	20.2	29.5	22.9	31.2	22.9	32	23
2	31.2	23.4	31	21.9	31.5	23.2	32.4	20.6	32	20.8	29	23.9	31.7	22.2	32	23.1
3	31.5	24.4	30.9	23.5	30.2	24.1	31.8	21.7	32.8	21	28	24.3	31.2	23.5	30.9	23.8
4	30	24.5	32	22.3	31.3	23.1	31.5	21.5	29.7	20.1	28.6	23	31.2	23.4	27.4	23
5	30.5	22.1	32.2	22	31.8	24.3	32.3	22.1	31.5	20	28.9	22.5	31.7	22.5	29.8	22.5
6	31.3	22.5	32.7	22.5	31.1	24	32.1	21.4	32.5	18	29	23.4	31.8	23.6	30	22.5
7	27.7	23.7	31	21.4	29.2	23	32.8	21.7	31.5	20	27.9	22.8	30.9	23.3	30.2	22.8
8	31.8	24.3	29	21.5	31.5	23.1	31.5	21.2	30.5	19.5	29.7	22.5	28.7	23.2	29.2	22.8
9	29.5	23.2	29.9	22.4	28.1	23	32.7	21.3	31.9	18	28.2	22.5	29.5	23.4	29	22.6
10	29.9	24.5	30.9	22.5	29.6	23.1	30.8	22.3	32.7	22	28.1	22.5	30.8	23.5	28.1	22.4
11	31	23.7	31.3	22	31.4	23	29.3	22.4	32.2	18.7	29.8	22.5	32.2	23.4	30	22.5
12	31.1	23.3	32.1	22.2	31.5	23.1	31.5	21.6	34.3	19.5	29.7	23.1	32.4	23.6	29.5	21.9
13	31.4	24.9	33	21.4	32.7	24.2	32.7	21.5	33.5	20	30.5	23.5	32.7	22.9	30.5	22.5
14	31.8	25.3	33.1	21.7	31.8	23.5	31.5	20.9	34.5	20.1	30.9	23.3	32.8	23.5	31.6	22.6
15	32.2	25.4	33	22.9	32.1	25	27.3	---	35	20	30.5	23.2	33.2	23.9	30.9	22.6
16	31.5	23.1	33.1	21.9	32.4	24	32.9	21.4	30.7	19.7	28.5	22.8	32.3	23.5	30.6	23.4
17	30.1	23.1	32.3	22.5	31.6	24.1	33.5	21.6	33.2	19.7	29.2	23.6	32.3	23.8	28.6	22.2
18	31.2	25.5	31.4	22.8	31.7	24	32.7	20.2	33.2	19.9	29.5	24.1	30.2	22.6	29.2	22.5
19	31.6	24.9	32.4	21.8	31.9	25	32.3	21.2	35.1	20.6	30.2	25.4	32.7	23.4	30.1	24
20	32.5	25.3	32.1	21	32.3	24.7	33.5	22.1	35.2	20	30	25.4	32.9	22.4	32.5	22.9
21	32.4	25.1	33	21.2	32.7	25.1	32.6	20.4	34.2	20.3	29.6	25.5	33.5	23	32	23.4
22	31.3	26	33.1	23.3	33.7	24.6	33.4	21.5	35.7	21	30.5	24.8	31.7	23.9	32.5	23.2
23	32.3	23.6	34	20	33.8	23	34.2	21.7	35.5	18.9	30.9	23.5	31.7	22.5	31.6	22.1
24	31.8	24.5	32.5	20	34.5	23	32.5	21.8	33.3	19.3	30.5	23.6	32.7	22.2	31.2	22.9
25	32.3	24.8	32.6	20	32.7	23.4	31.6	20.9	33.5	19.6	29.5	23.3	31.8	22.9	30.8	21.4
26	32.3	24.5	32.5	20.6	32.8	23.3	32.4	21.6	35.3	20.5	30	23.8	32.7	23.4	31.3	22
27	32.7	24.7	31.4	22.9	30.5	24.2	32.2	20.2	34	23	29.8	25.7	29.4	23.9	27.5	22.2
28	31.9	25.6	33	22.2	32.8	24.6	32.9	21.4	35.5	24.2	30.6	25.5	32.7	22.9	30.9	22.3
29	31.8	23.5	34	20.4	32.9	23.5	31.8	21.7	34.5	23.7	29	24.1	32.2	23	31	22
30	31.8	22.3	33.5	21.5	32.7	24.5	32.4	21.5	33.5	23	29.4	23.4	31.7	23.5	30.9	22.9
31	32.8	23.3	33.3	21.4	32.5	24.7	31.8	21.7	35.2	20	29.9	23.8	32.2	24.5	31.5	22.7
Mean	31.4	24.1	32.1	21.8	31.8	23.8	32	21.5	33.4	20.4	29.5	23.7	31.8	23.2	30.4	22.7

Day.	Naganaga, Margosatu-big.		Malabang.		Cateel.		Ganasi.		Camp Kalao, Monkayo.		Mailag, Malaybalay.		Camp Keithley, Dansalan.		Súmilau.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	34.5	23.3	32	22.5	31.4	23	28.9	18.3	31	21.5	31	19.2	27.8	19.5	29	19.9
2	34.3	22.5	32	22.6	32.1	22.1	28.6	19.3	33	21.5?	34	20	29.3	19	30.5	19.4
3	33.2	21.7	32.4	22.5	28.9	23	30.8	18.9	30.3	22.4	34.2	20	26.4	20	28.7	19.4
4	34.3	22.2	32.5	23.4	30.3	22.3	29.8	18.7	31	21.5	31	22	25.9	19.5	26.5	19.6
5	33.5	20.7	32.6	22.3	31.6	23.6	28.4	18	33	21.3	28.7	21.4	27	19.2	27.7	18
6	32.5	23.7	33.2	22.4	31	---	29.6	17.8	33.9	22	28.8	21.4	27.3	20.6	26.6	19.1
7	32.7	22.2	32.5	21.2	31.2	23.7	29.5	20.9	31.1	21.3	29.7	22.1	26.5	20.1	27.2	18.7
8	30.2	23.5	31.3	22.4	27.5	23.5	27.6	18.6	27.4	21.5	29.7	23	24.6	19	27.4	19.4
9	31.5	22.2	29.8	22.6	31.5	23.1	27.4?	17.6	30.1	21.7	26.4	21.6	25.4	20.3	25.6	19.7
10	32.7	22.5	30	22.2	31	23.1	26.5	21	31.4	21.9	27.8	22	26.3	19.5	26.4	19.6
11	33.5	22.2	33.3	22.3	34.6	23.3	29.6	19.2	31.8	21.1	27.2	21.9	28.6	20.3	26.7	19.6
12	33.5	22.5	31.1	21.5	34.5	23	29	17.6	33.5	21.3	29.3	20.7	26.3	20	29.7	18.5
13	34.5	23.3	32.4	22.2	34.5	22.6	29.5	20.9	34.5	21	29.5	20	28.8	20.3	30.5	19.8
14	34.7	22.2	32.2	21.5	33	22.8	29.8	17.2	35.3	21.9	29	19.2	28.7	18.2	31	18.8
15	33.7	22.5	32	21.7	32.6	23.5	31.6	17	34	23	32.2	20.1	28.5	19	30.5	18.8
16	32.5	24.3	33	22.7	32.6	22.5	29.5	18.7	33.5	21.4	35	21.4	28.3	18.7	30.4	19
17	34.7	23.5	32.7	22.5	32	22.5	29.4	17.5	31	21.4	32.7	20.1	25.8	20.3	28.4	19.6
18	34.5	23.2	32.5	22.6?	29.9	22.4	31.2	20	32.2	21	29.7	20	25.7	20.4	27.2	19
19	35.5	22.3	31.4?	22	33.4	22.5	28.2	18.7	32.9	21.3	29.5	21	26.8	20.8	30	19
20	---	22.5	32.3	23	34.7	22.3	27.8	20.8	33.2	20.5	30	21.1	26.9	21.4	30.7	19.8
21	---	22.2	32.1	---	33.1	24.6	---	21.5	33.2	21	29.6	21.2	26.3	21	31	20.5
22	32.5	23.5	32	---	32.9	22.3	---	20.8	33	21.1	29	20.3	26.2	21	28	19.3
23	32.5	22.2	31	23	32.8	20.8	---	---	33.9	20.4	30	19	28	21.4	29.5	18.6
24	34.5	24.1	32.6	22	31.9	20.6	---	18.2	34.2	20	31	17.5	27.6	20.5	31.8	17.1
25	35	23.5	32.7	22.4	32	22	30.5	18.5	34	20.9	31	17	28.3	20	30.5	17.4
26	33.7	23.2	---	22	31.9	21.9	---	17.8?	35	22	31	---	28	17.8	29.8	18.8
27	---	22.5	32.7	22	28	23.2	29	16.8?	28	21.6	30	20.8	25.3	21	26.4	20.2
28	---	23.5	31.6	21.7	32.5	22.5	32.1?	19.4	33.5	21	28.7	19.8	26.8	20.1	30.7	18.5
29	34.5	22.7	32	22.7	32.4	21.8	28.7	19	34.5	21.1	30	18.1	27.6	20.6	29.8	18.2
30	35	23	32.4	21.1	32.1	22.6	29	17	33.5	21.4	30.1	20	28.3	18.6	29.6	19
31	34.7	21.5	32.6	22.7	33	23.5	28.9	17.4	33.5	22.5	34	20.5	28.3	19.1	30.2	20
Mean	33.6	22.7	32.1	22.3	32	22.7	29.2	18.8	32.6	21.4	30.3	20.4	27.1	19.9	29	19.1

Maximum and minimum temperatures at the stations of the Weather Bureau, July, 1920—Continued.

Day.	Cagayan.		Butuan.		Mambajao.		Dumaguete.		Meeth, Yap.		Tagbilaran.		Iwahig Penal Colony, Puerto Princesa.		Dalaguete.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33.5	21	33.6	22.8	32.4	25.3	32.3	24	28.7	24	32.7	24.6	31.5	22.3	31.7	22.7
2	33.3	21.2	33.9	22.8	31	23.5	31.9	23.3	31.4	24.4	32.6	23.9	32.4	23.4	31.1	22.8
3	32.5	20.5	32.1	23.5	30	24.3	29.9	24.7	30.3	24	30.4	23.4	32.7	22.2	30.9	23
4	33	20	31.5	22.5	30.3	23.9	30.5	23.6	30.3	23.3	28.9	23	32.7	23	30	23.2
5	32	20.3	32.4	22.4	31.9	24.3	30.7	23.6	32.7	23.2	32.2	23.3	30.7	22.8	31	22.6
6	32	20	32.4	22.3	31.8	24	31.6	23.8	31.7	24.8	33	24.5	29.5	22.3	33.7	23
7	32.3	20	31.6	23	31.6	24.4	31.1	24.8	31	25	32.9	24.8	32	23	33.7	23
8	28.8	18	27.6	23.6	29.3	24.4	29	24.3	31.2	22.8	28.4	22.9	32.3	23.3	28.6	23.1
9	32	19	29.2	22.7	28.6	23.4	29.9	23.4	28.2	22.7	29.4	23.5	31.5	22.8	29.9	20.9
10	29.77	19.2	30.9	22.9	30.4	23.5	28.1	24.1	30.2	24	29.9	24.3	31.4	23	28.8	23.8
11	31.2	19.5	33.5	23.6	29.6	24	27.2	24.2	29.8	24	29.2	25	31.6	23	28.4	24.1
12	33.2	22	33.4	22.8	31.9	24.4	30.2	24.9	30.7	23.4	31.1	26.1	31.8	24	31.5	24.1
13	35	23.8	34.7	23.3	33.8	24.4	32.1	25.7	30.7	24	32.2	25.9	32.2	25.37	32.4	22
14	34.8	23.7	35.9	23.4	34.5	25.6	32.1	24	30.1	24	33	24.7	31.8	22.3	33.5	20.6
15	33.4	22.6	35.1	23.2	33.9	25.1	32.7	24	30.7	23.7	32.4	25.9	32.6	22.4	32.3	23.5
16	33.5	22	34.2	22.9	34.3	25.4	32.1	24	28.3	24.8	33.4	24	33.5	22.6	31.6	21
17	32	18	32.9	23.2	31.9	25.4	31.4	24.4	29.6	24.6	30.3	25.5	32.3	22.6	30.3	24.87
18	29	19	32.8	22.5	28.9	22.6	28.7	23.3	31.4	23.6	30.3	25.1	33.1	22.7	29.5	24.2
19	32.7	22.5	34.2	22.6	33.3	25.4	31.8	25.4	29.6	23	32.5	26.5	33.4	22.6	32.7	23.2
20	33.3	22.4	35.1	23.4	31.8	25.2	30.9	26.7	28.8	22.3	32.5	26.6	33.6	26.2	33.1	25.7
21	33.4	21.8	35.4	23.6	33.4	27.9	30	25.5	30.1	26.6	29.6	26.4	33.6	24.4	31	
22	32.6	19.2	32.8	23.5	33.8	27.9	31.4	26.5	32.4	27.6	31.9	26.8	33.4	23.3	33.2	24.2
23	35	22.8	35.7	23.2	34.2	25.8	33.2	25.9	32.6	27.2	33.2	25.6	33.5	23.2	33.9	23.2
24	34.7	22.77	36.2	22.8	35.5	26	33.8	24.9	31.3	24	33.9	24.8	33.8	22.8	34.3	21
25	34.8	23	35.2	23.3	34.5	25.6	34.8	23.8	30.2	24.8	33.7	25.9	33	20.7	34.8	21
26	33.5	22.5	34.6	23.1	34	25.8	33.8	23.9	29.8	23.6	33.1	26.3	33.4	22.5	34.6	21.1
27	33.2	20	28.6	23.7	29.3	23	29.9	23.2	31.2	23.9	30.6	25	34.4	22.4	31.2	23.8
28	31.2	20.5	34	22.9	30.5	23	28.7	23.9	31.9	23.6	30.1	24.8	31.4	22	30	22.7
29	32.6	22	35.6	23.3	33.6	24.9	30.5	23	32.6	23.9	32.9	23.8	32.4	22.5	31.5	21.2
30	32.8	21.7	35.9	23.6	33.8	25.5	32.8	24	32.2	24	33.7	23.6	33	22	34.3	20.4
31	33.2	21.6	36.4	23.8	34.3	26.4	32	22.7	27.7	24	32.6	24.1	33.2	21.3	32.5	21.5
Mean	32.7	21	33.5	23.1	32.2	24.8	31.1	24.8	30.6	24.1	31.7	24.9	32.5	23	31.8	22.7

Day.	Surigao.		Hacienda Naval, Himamaylan.		Biaong Cui's Farm, Barill.		Maasin, Leyte.		Ysabela, Occ. Negros.		Hacienda Tanolo, Hinigaran.		Cebu.		La Castellana.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.3	24.2	32	22.8	33.5		34	24	31.8	22.6	31.3	22.7	31.1	25.5	32.7	22.5
2	31.9	24.1	31.2	22.8	34.5		32	23.5	32.3	23	30.6	23.4	31.6	24.7	33.1	22.4
3	29.7	24	30.5	23.2	30.5		30	23.9	30.2	23.97	30	23.6	30	25.1	30.3	23
4	29.3	23.8	28.5	23.6	29.5		30.2	23.6	28.8	23	29.6	24	29.3	24.6	31.4	23.4
5	31	24.4	30	22.3	29.8		31	23.6	29.9	22.2	29.9	23.57	30.5	24.7	31	22.2
6	31	24.5	30	22.5	31.5		32	23.8	29.7	22.6	30	22.7	31.3	24.6	30.7	22.1
7	31.2	25.2	30.5	23.2	30.8		33	23.5	30.6	23.1	30.5	23.5	31.7	26.4	30.6	23
8	27.8	26	28.4	22.8	27.5		33	24.6	27.6	22.4	27	22.5	29	25	30.1	22.6
9	27.6	23.7	29.5	23.5	29.5		30.8	24	29.6	22.7	29.4	23.2	29.5	24	30.5	22.4
10	29.1	26.4	29.3	23.2	30	23.4	32.4	24.4	28	22.8	29	24	29.2	25.3	28.4	22.3
11	28.6	25.1	29	23.7	29.8	23.6	32	23.8	27.3	23		24.5	25.8	25.5	26.9	22.9
12	31.7	27.5	29.5	24.5	30	22.8	32	24.8	28.8	22.4	28	23.3	30	25.7	29.4	22.1
13	33	25.8	32.5	22.6	30.5	22.8	33	24.8	31.7	22.6	31	22.6	30	24.8	31.4	22.4
14	34	23.7	32	21.5	33.5	24.2	33.2	25	32	23.4	31.4	24.2	30.7	26.6	31.5	23.1
15	33.1	24.6	31.3	22.7	31.5	24.1	33.1	24.8	31.7	23.4	30.5	23.6	30.2	25.7	31.6	23.9
16	32.5	27.5	31.5	23.2	30.2	22.8	33	24.5	31.6	22.9	31	22.5	30.3	26.4	31.2	22.4
17	31.8	27.5	27.8	23.8	31	23.8	33.8	24.6	26.9	22.7	27	22.7	30.1	26.8	27.2	23.2
18	29.7	25.9	31	23.5	30.5	24	33	24.5	30.4	22.8	31.3	23	29.2	26.4	31.3	22.4
19	32	27.4	30.3	22.5	32.3	22.6	34	23.4	30.2	22.4	31.1	25.2	30.2	27.2	29.8	
20	31.9	27.9	31	22.7	31.5	24.2	32	23.2	30.7	25	30	25.5	30	25	30.5	24.4
21	32.3	28.4	31.5	22.2	32.1	25.2	32	23	30.6	25.2	30.5	24.8	29.8	25.9	30.1	23.9
22	33	28.1	32	23.7	32	24.6	32.4	24.8	31.7	24.2	31.3	24.5	30.2	27.8	31.6	23.4
23	34.2	25.8	32.5	23	32.1	24.5	34	24.4	32.9	22.4	32.1	24.6	30.5	27.2	32.7	23.97
24	33.7	24	33	22.5	30.6	24.3	34	24.6	33.1	21.2	31.8	24.1	30.7	27.1	32.3	22.8
25	33.3	26.1	32.6	23	30.1	24	34.1	24.3	32.4	22.4	31.5	24.1	31.9	26.5	31.7	22.7
26	32.7	28	31.8	24	31.5	24.5	33.2	24.4	32.3	23.6	31.2	24.9	30.9	27.4	31.7	23.8
27	29	24.2	29.5	24.2	30	24	30.3	24.2	29.4	22.4	28.5	23	29.4	22.7	28.5	22.8
28	31	24.7	31.6	22.5	30.1	23.9	34	24	30.3	21.9	29.6	22.7	29.6	25.2	30.8	21.7
29	33.4	24.2	30.2	21.5	31	23	32.6	24	30.1	21.1	30	21.8	29.5	25.1	30.6	21.9
30	33	25.4	30.5	22.5	33.9	24.2	33.8	23.8	32	22.4	31	22.5	30	25.9	32.3	22
31	33.3	24.9	32.2	22.3	30.2	24.8	33.3	24	31.9	22.1	31.1	22.5	30.5	26.2	31.17	22.4
Mean	31.5	25.6	30.7	23	31	23.9	32.6	24.1	30.5	22.8	30.2	23.5	30.2	25.7	30.7	22.8

Maximum and minimum temperatures at the stations of the Weather Bureau, July, 1920—Continued.

Day.	Central Azucarera de La Carlota.		Hacienda (1) Canlaon, La Castellana.		Mao Sugar Central, Bago.		Murcia.		Concepcion, Talisay, Occ. Negros.		Iloilo.		San Jose de Buenavista.		Tuburan.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.6	22.6	32.3	20.5	32.3	22.8	32.5	20.2	31.6	23.3	30.8	25	32.7	22.5	32.8	23.6
2	32.7	23.4	33	20.6	33.3	22.7	32.4	22.4	31.7	22.9	31.4	24.1	32.7	22.6	32.5	24.6
3	30.8	23.9	30	21	32.2	22.9	30.7	22.6	32.5	23.4	31.2	24	32	22.4	28.8	23.9
4	29.6	23.5	27.5	20.6	31.6	22.8	31.5	23.2	31.5	22.9	29.5	24.2	29	23.1	27.9	24.2
5	31.4	22.5	30.3	19.6	30.7	21.9	30.2	22.4	29.8	22.4	29.3	23.3	28.4	22.2	31.3	23.4
6	31.2	22.8	29.9	20.6	30.1	23.2	29.5	22.6	23	23	29.6	24.1	30.5	23	32.2	23.9
7	30.9	22.5	30.6	20	30.8	22.6	31.2	22.2	31	22.9	30.8	23.6	30.2	22.8	32.2	25
8	28.4	22.7	28.1	20	29	22.8	23.3	23	30	23	28	24	26.8	23.2	30.7	23.6
9	30.6	23.2	29.5	21	30.3	23.3	23.3	23.3	28.2	23.4	26.9	23.9	27.4	23	29.2	25.5
10	29.4	22.6	19.9	19.9	29.4	22.2	28.7	22.5	28	22.4	28.7	23.8	28.5	22.2	30.5	24.7
11	26.9	22.7	26.1	20.5	27.5	23.2	22.2	20.5	29	23.4	29.2	24.5	31.4	23.7	29.9	25
12	28.9	22.9	27.6	19.3	28.2	22.4	27.5	21.9	27	22.4	28.6	23.5	30.8	22.7	30.5	24.3
13	31.6	22.9	31.2	20.2	31.3	22.7	30.6	22.4	28.5	22.3	29.3	24.8	31.2	22.3	32.3	23.8
14	32.2	23.8	32	21.3	31.8	24.1	22.4	22.4	29.6	23	30.4	25	22.4	22.4	33.2	25.6
15	31.4	24	31.4	21.9	32	24.2	30.4	22.3	30.5	23.4	30.2	24.4	22.4	26.6	33.1	24.4
16	31.9	22.7	31.1	20.5	31.9	22.9	31.3	23.1	29.7	28.4	30.8	25	24.5	24.5	33.7	25.2
17	27.7	23	26.6	20.6	27.7	22.7	28.7	22.4	30.2	22.4	28.5	23.8	23.6	23.6	32.4	24.7
18	31.8	23	31.3	20.4	31.3	22.8	30.5	22.5	29	22.9	29.5	25.6	23	31.4	25.9	
19	30.4	24.2	29.6	20.4	30.8	24.3	29.7	24.6	29.6	23.4	29.8	26.5	22.6	32.2	26.5	
20	30.9	24.7	29.8	21.6	30.7	25	29.9	24	29	28	30.2	24.3	27	32.8	28	
21	30.9	24	28.8	21.3	30.5	23.8	28.9	23.6	29.6	23.4	29.2	24.9	27.7	30.5	26.2	
22	31.9	24.3	31.4	21.9	33.3	24.3	31	24.2	29.9	24	30.2	26.3	26.5	34.5	27.4	
23	32.9	23.6	32.4	21.5	32.8	23.8	32	24.4	30.5	24.4	31	27.5	27.5	34.9	25.1	
24	32.9	23	32.4	21.4	32.9	23.2	31.1	23.6	31.6	23.9	30.8	27.4	27.1	35.3	24.5	
25	32.4	23.5	31.2	22.2	32.4	23.7	32.1	24.2	31.2	24	30.8	26.4	27.3	35.2	25.9	
26	32.2	24.2	31.3	22.4	32.6	24.6	31.5	23.1	30.8	23.4	31.2	25.6	27	35	26.9	
27	28.9	22.8	28	20.4	28.7	22.8	28.2	22.5	30	22.4	29.5	24.6	22.5	31.2	26.8	
28	30.6	22.4	29.9	19.7	30.6	22.8	29.5	22	28.5	22.4	30	23.4	23.1	31	23.9	
29	30.6	22.4	30.8	20.9	31	22.7	30.4	22.4	29	22.9	29.4	24	23.3	35.8	23.1	
30	32.4	22.5	31.7	19.5	33	21.7	31.6	22.1	29.5	23	30.3	23.2	21.8	35	25	
31	31.9	22.9	31.7	20.7	31.8	23.3	32.3	23.2	30.6	28.9	30.8	25.6	25.2	34.5	23.7	
Mean	30.9	23.2	30.2	20.7	31	23.2	30.5	22.8	29.9	28.1	29.9	24.7	24	32.3	25	

Day.	Silay.		Cuyo.		Hacienda Ila-ya, Victorias.		Hacienda Bil-bao, Manapla.		Cadiz.		Ormoc.		Guiuan.		Bogo.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.5	23.1	30.2	23.6	31.8	23.3	33.1	22.2	32.5	22.7	33.5	24	32.6	24.5	32.8	24.3
2	32	22.1	31.3	24.4	32.6	23.6	33.4	21.8	32.3	22.8	34	23.2	33.5	23.4	32	24
3	33.6	22.6	33	24.3	32.5	22.2	32.9	22.4	31	23.8	30	23.3	32.8	24.5	32	24.1
4	32.4	21.9	27	23.9	30.9	23.5	31.2	21.8	32.1	22.9	31.4	22.2	30.3	23.5	31.8	24
5	30.5	20.5	27.1	24.4	30.9	22	30.4	21.9	30.5	23	32.7	22.4	31	23.5	29.6	23.2
6	30.5	20.6	29.7	24.2	31.8	22	31.5	22.2	32	22.1	32.6	23.6	31.2	25.1	30.8	23.8
7	30.6	22.5	29.7	24.3	31.6	23	32.7	22.6	32.4	23.4	32.9	23.2	31	24.1	31	23.9
8	29	22.5	29	24.1	31.5	23.2	32.9	21.9	30.1	23.5	32.6	23.9	29.3	24.6	31.4	24
9	29.1	24.2	30	25.7	30.4	23.5	33.4	22.1	30.1	24	30.6	24.5	28.2	24.7	30	24
10	30	21.5	27.6	24.3	30.5	23	33.5	22.8	31.2	24.8	30.8	23.7	30.5	25.8	29.1	23.7
11	29.2	24	29.7	24.2	30.6	23.2	32.2	21.2	31.1	24	30.4	24.6	30.2	26.3	29.6	22.8
12	28	23	29.2	24.3	30.9	23	31.6	22.3	29	24.7	30.6	24.7	30.7	27.2	30	21.3
13	30.5	22.4	29.9	23.6	30.7	22	31.8	22.8	32.1	23.9	31.8	24	30.9	26.3	31.8	22.9
14	31.5	23.2	30.4	27.1	29.4	22.6	32.4	21.9	33.7	25.1	33	24.6	31.7	27.7	31.9	23.7
15	30.5	23.6	30.2	25.9	30.2	22.5	32.7	22.8	33.8	25.3	32.8	26.2	32	27.9	32	24
16	30.4	22.9	30.5	26.3	32.7	23.2	33.2	23.1	34	24.8	33.1	25.9	31.9	28	32.1	24.2
17	29.5	22.4	29.1	26.3	31.5	23.1	31.8	21.7	35	26.5	33.1	26	31.9	28	32.7	24.3
18	30.1	22.5	29.9	24.4	29.7	23.5	31.9	22.6	33.2	26	31	27	30.7	27.1	32.3	24.3
19	30.3	23.3	29.7	27.6	29.8	22.2	32.7	23	31.9	24.7	32	26.2	32	27	31.6	24
20	30.6	23.2	29.8	27.6	30.9	23.1	33.4	22.8	32.1	25.4	32	28.1	31	27.9	31.5	24
21	30.5	24.4	30.2	28	29.6	23.7	32.9	28.1	33.8	26	31.5	27.9	31.1	28	31	23.3
22	31.5	24.4	30.7	27.9	30.8	22.9	33.8	23.2	35.7	25.7	32.5	27.9	31.4	28	30.3	23.5
23	31.6	23.1	31	25.1	31.9	23.2	33.9	22.9	35.5	25.5	32.7	27.4	31.4	27.2	30.1	23.7
24	31.2	24	30.5	26.7	31.9	24	34.1	22.9	35.7	23.8	33.1	26	31	27.2	31.1	23.8
25	31.6	23.5	31.2	27.6	30.2	23.5	34.5	23.2	34.2	22.5	33.2	27.4	32.5	27.9	31	23.9
26	31.5	23.7	31.1	27.7	31.5	23.5	34.6	23.2	35	27.8	33.8	27.6	32.2	28	31.3	23.8
27	29.5	22.5	28.7	24.3	30.8	22	33.9	22.8	31.9	25.8	32.4	26.4	29.4	24	31.7	23
28	30.5	22.1	29.2	22.9	30.5	21.5	33.4	22.7	32.1	24.1	29.8	23.2	29.7	25	30	23.4
29	30.1	22.1	30.4	24.1	29.9	21.8	33.7	22.8	34.7	23.8	32.8	23.7	30.4	27.5	30.3	23.5
30	31.5	21.6	29.9	22.8	31.5	23.5	32.6	22.7	35.5	23	31.9	22.4	30.5	27.1	30.6	24
31	31.6	22.6	30.3	26.1	31.7	23.5	32.4	22.5	32.3	21.8	32.9	22.7	32	27.2	30.7	23.9
Mean	30.6	22.8	29.9	25.3	31	22.9	32.9	22.5	32.8	24.3	32.2	25	31.1	26.3	31	23.7

¹ The maximum temperatures of this station seem to be too low by about 1.9 °C.

Maximum and minimum temperatures at the stations of the Weather Bureau, July, 1920—Continued.

Day.	Tacloban.		Capiz.		Borongan.		Catbalogan.		Calbayog.		Masbate.		Batag Light-house, Laoang.		Sorsogon.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33.9	23.4	33.8	24.4	32.3	23.6	32.5	32.1	24.6	33.4	25.2	31.3	24.2	32.8	23.7	
2	34	24.1	34.2	23.8	32.4	23.7	32.2	33	23.2	33	24.8	31.8	24	34	21.9	
3	31.3	23.3	33.3	24.1	32.5	23.9	30.5	31.3	23.9	31.6	24.5	30	23.8	31.1	22.9	
4	31.8	22.6	30.2	23.7	31.8	22.9	30.5	29.3	23.3	30.8	24.4	30.4	23.9	31.5	23.4	
5	33.1	23.3	30.8	23.9	33	22.5	30.8	31.4	23.6	32.6	25.2	31.5	22.2	30.3	22	
6	30.9	23.6	33.8	23.5	33.6	23.3	32.5	31.1	22.9	32	24.8	31.1	23.3	31.5	21	
7	34.8	24	34.3	23.5	32.1	23	32.3	31	24.1	31.6	24.5	31.2	23.4	30.4	21.7	
8	30	24.4	30.9	24.1	29.2	23.4	28.5	29.8	24.1	30.8	25.2	27.2	24	30.5	22.1	
9	26.9	24	31.2	24	28	23.9	27.5	27.6	25.6	29.4	24.6	26	22.2	29	24	
10	30.2	23	32.1	23.6	29.5	24.8	28.8	28.4	24	28.6	23.8	27.5	23.6	28.6	23.6	
11	31	23.4	31.3	23.7	30.1	25.4	30	27.6	24.3	28.8	25.5	26.5	23.2	27.9	23.6	
12	33	24.5	32.2	23.5	33	24.8	32	30.3	26.2	30.8	25.6	29.8	24.3	29.5	24.1	
13	33.7	23.5	35.9	23.9	32.6	24.3	32.8	31.3	26.3	32	24.4	31.2	23.9	30.9	24.8	
14	36.2	23.7	34.5	25.8	34.2	23.2	33.5	32.8	27.8	31.6	25.5	31.8	25	31.5	26	
15	36.9	25.6	35.8	26.4	35	22.7	32.4	32.3	27.8	32.4	26.5	31.8	23.8	31.4	25.6	
16	34.2	23.9	35.4	24.3	33.6	23.8	33.4	31.8	26.8	31.8	26.6	32.2	24.7	31.5	26	
17	32.1	24.2	34.3	24.2	32.1	23.6	33.3	30.2	26.2	31	25.2	31.3	24.5	31.4	23.5	
18	32.1	23.6	33.3	24.4	31.3	25.8	32.3	31.3	27	30.8	23.5	30.5	25.4	30.9	23.4	
19	34.8	24.2	34.8	24.8	35	24.9	31.5	30.4	27.7	31.6	25.6	30.5	25.6	30.9	19	
20	34.7	26.8	33.5	25.2	32.8	25.7	32	30.4	27.4	31.4	25.8	31	25.6	31	20.3	
21	33.9	27.2	34.7	24.5	32.9	25.6	31.5	29.9	27.8	31.8	27.8	28.5	26	30	25.7	
22	35.3	26	35.3	25.8	34.6	23.1	33.9	32.1	28	32.4	27.2	31.8	25.8	32.5	27	
23	35.1	23.6	35.8	26.5	34.4	24.6	33.5	33.3	27.7	33.4	27.5	33.2	24.4	32.2	26.2	
24	37.8	22.5	34.9	26.3	36	22.6	34	32.5	27.6	32.4	26.8	33.3	24.5	32.7	26.5	
25	36.4	24.7	36.6	25	35.2	22.4	34.5	32.4	27.9	32.4	26.6	33.1	24.8	32	26	
26	36	25.8	35.3	26	34.8	23.5	33.7	32.3	26.9	32	26.6	33	25.1	31.5	25.9	
27	29	23.4	31.5	24.1	28.8	24.7	29.5	28	24.7	30	25.2	27.4	23.4	28.8	24.3	
28	29.1	23.3	29.8	23.7	30	23.8	29.4	28.3	26.5	28.4	25.5	28.2	24.3	29.5	23.2	
29	34.4	23.2	34.2	24.1	33.4	22.6	33.2	31	26.8	32	25	32.9	23.9	31.2	21	
30	33	22.6	33.8	23.5	34.2	22.5	32.5	31	25.6	32.8	25.6	32.8	24	31.5	21	
31	34.1	23.5	33.8	25.1	33.2	23.1	32.5	31.8	25	32.8	26.2	32.7	24.2	32	23.4	
Mean	33.2	24	33.6	24.5	32.6	23.8	31.9	30.8	25.8	31.5	25.5	30.7	24.2	31	23.7	

Day.	Legaspi, Albay.		Guinobatan.		Tabaco.		Sumay, Guam.		Calapan.		Virac.		Naga, Camarines Sur.		Tigaon.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	34.3	24.5	33.8	24.2	30.9	24.8	31.2	24	31.1	23.5	32.1	22	33	23.9	31.7	22.6
2	33.8	24.2	33.8	24.2	32.6	23.4	31.8	24	33	23.4	32.8	23.2	33.9	23.6	33.1	21
3	32.2	23.4	32.2	23.4	33.3	23.1	31.3	24.5	34	23.5	31.1	22.3	32.9	22.6	33	21
4	32.4	24.3	30.4	23.3	32	23.9	32.4	23.6	32.7	23.4	31.5	23	30	24	31.2	22.2
5	30.4	24.1	30.8	23.4	31.7	24	30.8	24	33	23.2	32	23.1	32.6	23.1	31.3	21.8
6	33.3	24.1	30.4	24.4	31.8	23.6	30.9	27.2	30.5	24.4	31.4	23.3	31	23.5	33.2	21.7
7	31.8	23.9	32.4	24.5	33.2	23.2	30.5	25.6	30.5	23.4	33.6	23.2	30.3	22.9	31.8	20.6
8	31.4	23.7	31.8	23.1	33.2	23.8	31.3	24.2	31.2	23	28	23.6	30.8	22.9	31.3	20.8
9	30.6	24.6	31.8	24.4	31.1	24.2	29.3	23	31	23.4	29.2	24	30	24.5	29.8	22.6
10	27.5	24.1	31	25	31.1	24.3	31.8	24.5	30.8	23.7	29.7	23.3	28.4	23.6	28.5	22.1
11	27.6	24	30.7	23.9	29.1	24.1	30.5	24.8	29.8	23.9	28.8	22.4	27.7	24.1	27.1	22.8
12	30.5	25.5	32	24.4	28.1	24.6	29.5	24.6	30.5	24	29	24.1	29	24.6	27.7	23.6
13	31.4	25.1	32.7	26.6	29.7	26.5	29.8	24.5	28.1	23.6	32.1	24	30	25.4	28.4	23.7
14	31.8	26.3	32.6	26.5	30.2	26.9	30	26.1	31.4	23	31.5	23.4	31.6	25.2	30.3	24.8
15	32.3	25.8	33	26.8	32.1	25.5	30.1	24.5	33.5	24.2	32.7	24	32	26.3	31.3	24.7
16	31.5	26	32.9	26.4	33	27	30.7	24.4	33.5	24.5	33.3	24.2	31.6	21.3	29.5	24.7
17	32.3	26	32.3	26.5	32.8	27	30	22.7	33.5	25	30	23.8	31.8	25.9	31	24.9
18	31	25.4	32.9	26.6	32.7	26.2	28.5	23.4	30	24.1	32.7	22.7	31.5	26.9	29.2	24.7
19	30.8	26	31.6	26.9	31.1	26.4	27.2	23.5	33.3	23.5	33	24.3	30.6	24.9	28.7	24.1
20	30.5	27	32.4	24.7	30.9	27.1	28.3	23	31.8	23.8	31.8	23.4	30.5	25	28.6	23.4
21	31.1	27.7	33.6	24.9	30	28	26.6	24	31.5	24.2	30.2	24.4	30.7	27.1	28.4	25.5
22	32.8	26.9	32.9	24.5	32.7	27.9	25	23.2	32.8	24	31.6	24.5	31.3	24.6	29.4	23.3
23	33.3	25.9	32.8	26.3	32.7	27.6	29	23	34	25.4	29.8	23.6	32.2	26.5	31	25.4
24	32.9	26.4	32.3	25.3	33.3	27.2	31	24.1	35	26	30.5	23.5	32.3	26.7	31.4	25.4
25	32.6	26.3	33.4	25.2	34.1	27.1	30.3	25.2	33.4	26	30.7	23.1	32.6	26.5	31.2	25.4
26	30.3	25.7	32	24.2	33.1	26.6	31	23.4	32.5	24.3	32.1	24.6	29.5	30.1	24.2	24.2
27	29.5	24.8	33.2	24.1	32.4	26.8	23.9	24	30.8	24.1	32.8	24.5	30.7	24	30.9	24.1
28	28.7	24.7	31.3	25.9	30.1	25	30.3	23.6	27.7	24.8	33.8	23.7	29	24.5	28.2	23.3
29	32.3	24.3	31	25.4	26	28.6	24	23	31.4	23	31	24.2	32	25.1	31.6	24
30	33.2	24.9	32.3	24.5	33.9	26.1	26.5	23.5	33	22.4	33.5	23.6	32.5	24	31.3	24.2
31	32.5	25.6	32.9	25	34	26.4	29.3	23.8	32.6	28.4	33.6	22	32.9	32.1	24.8	23.4
Mean	31.5	25.2	32.1	25	31.9	25.6	29.8	24.1	31.9	23.9	31.5	23.5	31.1	24.6	30.4	23.5

Maximum and minimum temperatures at the stations of the Weather Bureau, July, 1920—Continued.

Day.	Batangas.		Calatagan.		Balayan.		Lipa.		Lucena.		Atimonan.		Nasugbu.		Ambulong, Tanauan, Batangas.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.5	23.7	30.7	22.8	30	23.2	30.2	21	29.9	22.3	32.2	24.4	33.2	21.8	30.3	23.2
2	32.6	23.2	33.6	23.4	32.8	23.6	31.7	21.4	31.4	21.8	33.7	24.1	32	23.9	32.8	22.2
3	33	24.4	32.8	22.9	32.9	23.6	31.5	22.3	32	21.6	32.5	23.4	32.9	20.9	32.3	23.2
4	30.2	23.7	32	23.1	31	23.4	29.9	22.7	30	21.6	28.1	23.8	32	20.5	28.8	22.7
5	31.3	23.4	33	23.6	31.5	23.4	29.7	23	31	22.6	30.6	24.7	32.1	23	32.4	23.2
6	30.3	23.4	31.4	23.4	30.9	23.6	29.1	21.9	29.5	22.2	29.8	23.5	32.5	23	30	23
7	31.3	24.4	32.4	23.8	30.5	22.8	28.8	22.5	29.3	22.5	31.8	23.3	33	23.5	31	23.9
8	31.6	24.1	33.1	23.1	31.8	22.6	29.3	21.8	30	22.7	32.1	23.7	32	21	31.7	24
9	31.2	23.7	32.5	22.5	30.3	22.7	29.3	21.9	28.6	22	30.9	24.1	33.5	21.9	30.6	23.8
10	29.7	24.1	30.4	23.6	28.9	22.1	28.8	22.4	29.2	22.4	30.1	24.2	33.5	21	28.3	24.1
11	27.2	24.2	27.1	24	28.9	22	26.6	22.1	26.4	22.6	27.6	23.7	32.5	20	27.3	24.4
12	28.2	24.4	28.5	23.9	27.4	23	25.9	22.8	26.1	23.4	28.3	24.6	32.5	20.5	27.4	24.8
13	27.8	24.4	27.8	22.5	31.2	24	26.8	22.6	28.3	24	28.7	25.2	32	20	28.3	25.8
14	30.8	24.8	31.5	24.8	31.2	25	29.5	22.6	29.7	22.9	29.6	25.1	31.5	20.5	30	26.2
15	31.7	26.7	31.8	24.4	31	25	29.8	23.8	31.5	23.4	32	25.9	32.5	23	30	26.2
16	32.1	25.5	31.6	23.8	30.9	23.8	29.4	23.3	31.5	23.2	33.2	25.8	33.5	23	30.2	26
17	32.2	26.1	31.6	24.8	30.9	23.7	29.5	23.9	31.7	23.7	32.6	26	32	20	29.8	25.1
18	29.4	24.8	28.8	23.9	30.8	21	28.1	23.8	28.5	22.4	30.1	24.6	31.5	20.5	27.6	24.2
19	31.9	23.7	31.5	22.7	30.5	22.8	29.3	23.3	31.5	21.9	32.6	24.6	32	20.5	29.7	24.9
20	30.8	26.2	30.2	23.8	29	24.1	29.7	23.3	30.9	24.1	31.9	26.3	33.9	20.5	29.1	25.9
21	30.9	27.6	30.6	25.4	30	20.9	29.3	24.2	31	24.5	31.8	27.2	32	21.5	29	25.7
22	31.5	27.4	31.8	24.6	30.1	21.5	29.2	23.8	29.5	25.1	30.2	25.4	32	21.3	29.7	26.7
23	33	27.7	32.3	26.3	31.7	24	30.1	24.5	33	23	33.1	23.7	31	20.5	30	27.4
24	32.4	27.8	32.2	26.3	31	25	29.8	25	33.4	23	33	25.7	35	21	30.3	27.9
25	32.3	27.6	31.3	26.8	30.5	24.7	29.8	24	33	23.9	31.5	26.1	35	22	29.5	25
26	29.8	25	30.5	23.7	28.4	24.1	29.9	23.7	29.7	22.6	30.3	25.8	35.5	24	27.8	24.6
27	28.2	25.1	29.6	23.8	29	23	28.3	22.6	29.5	23.1	31.4	24.7	34	23	28.3	23.8
28	27.4	24.1	27.8	23.2	29	23	28	21.4	29.3	23.6	28.3	24.6	33	23.5	26.8	23.2
29	31.2	22.9	31.6	22.8	30.9	22.1	29	21.6	31.6	21.3	33.2	23.7	33.5	23.5	29.7	23.2
30	32.6	25.6	32.3	24.9	31.5	25	30.6	20.5	32.5	23.5	33.6	23.5	32.5	23	30	24
31	32.3	25	32	25.8	31	24.5	30.7	21.9	33.2	23.9	34.2	23.9	32.1	23.5	30.6	25
Mean	30.9	25	31.1	24	30.4	23.4	29.3	22.7	30.4	22.9	31.3	24.7	32.8	21.8	29.6	24.6

Day.	Daet.		Alfonso.		Indang.		Canluban, Calamba.		Silang.		Maragondon.		Paracale.		Santa Cruz, Laguna.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33.4	24.7	27	20.8	29.1	21.5	31.8	22	28.4	21.3	30.2	22.7	32	23.8	32.5	23.5
2	34	24.2	30.4	21.5	32	21.8	33.5	22.1	29	21.2	32.2	22.2	32	22.5	34.6	23.1
3	32.5	22.8	29.7	20.6	31	21.8	32.6	22.2	29.2	21.6	34.1	23.6	31.5	22.2	33.9	22.9
4	29.6	24.4	27.5	20.5	23.9	22	31	23.6	30.4	21	35.2	24.3	31.5	23	28.8	23.3
5	31.8	23.1	28.9	21.7	29.4	21.7	31.2	23.1	30.3	21.5	31.5	23.8	31.5	22.5	31.1	23.2
6	30.3	23.4	27.6	20.8	29.4	21.8	32	22.6	29.8	22	31.7	24.2	30.8	22	32.1	23.2
7	32.6	22.4	28.8	21.3	30.1	22	32.2	22.5	29.5	21.9	32	23.5	32	23.2	33.3	23.5
8	32.8	22.8	29.4	20.6	31.3	21.5	32	22.8	29.7	21.5	33	23.5	31	22.5	33.3	23.2
9	31.3	23.2	27.9	20.1	29.4	21.1	29	22	29.8	21.5	26.6	23.4	31.2	23	32.5	23.4
10	31.8	23.4	25.7	22	27.3	22	29.4	22.6	29.9	21.3	29.1	24.4	30.8	22.5	31.1	23.3
11	27.5	23.7	24.7	20	26.3	22	29.3	22.6	29.2	21.8	28.1	24.4	30.5	22.2	29	23.7
12	29.6	24	23.5	21.6	24.5	22.4	27	22.7	28.5	22.1	26.9	24.6	30	21	28.1	23.7
13	30.6	24.4	24.5	22	25.9	22.5	29.4	22.4	28	21.5	28	24.6	32	23	30	24.2
14	32.1	25.2	26	22.5	27.5	23.2	31.8	23	28.1	21.6	30.9	25.5	32	22.8	32.4	24.4
15	32.7	25.4	26	22.4	27.7	23.6	31.8	23.2	28.1	21.5	30.7	26.3	31.5	23.2	32.2	24.8
16	33	24.4	27.3	22.4	29.4	23.5	32.2	22.9	28	21.3	30.8	25.9	33	24	32.4	25
17	33.4	24.4	26.5	24.7	28.2	23.9	32	23.1	28.7	22.2	31	25.6	32	23.4	32.3	24.9
18	31.8	24.3	24	21.6	25	22.3	27.6	22.8	28.4	22	27.9	24.2	31.2	22.8	28.4	24
19	32.2	23.6	25.5	20.7	28	21.5	31.8	22.9	28.1	21.8	32	23.9	31.5	23	32.4	22.7
20	31.7	24.6	25	22.6	27.2	23.5	32	23.7	27.5	21.3	30	25.5	31	23	31.6	24.5
21	31	25.4	25.2	23.2	28.4	24.5	32.1	24	27.1	21.5	29.6	27	32	23	31.1	26.3
22	31.7	25.9	25.2	22.7	26.5	23.9	31.6	23.8	27.8	21.4	30.1	25	31.8	23	31.8	25.5
23	33.3	25.9	25.8	23.2	27.5	23.6	33	23.8	27.5	21.7	30.6	27.1	32	23.5	33.4	27
24	33	26.1	26	23.7	27.8	24.8	33.2	24	28	22.1	31	32	22.5	33.5	25.5	
25	34	25.3	25.5	23.1	27.3	24	33	24.6	28.5	22	29.4	27.1	31.8	23	32.7	26.4
26	31.8	24.7	25.5	23.1	26.2	22.9	29.4	22.8	28.3	22.3	28.5	24.5	31.2	22.8	31.8	24.4
27	31.7	23.7	25.6	21.5	27.9	22	31	23	28.2	22.3	29.5	23.8	30.8	21.8	31.8	23.8
28	28.9	24.6	24.6	21.6	26.1	22.4	28.4	22.5	27.2	22.5	26.6	23.9	32	23	28.2	23.3
29	33	24.2	25.9	20.5	27.7	21.1	31.4	21.9	28	22.7	30	23.3	31.2	22	32	22.7
30	33.4	24.4	28.1	22.1	29.8	22.7	33.2	22	28.1	22.3	31.1	22.7	32	22	33.3	22.7
31	33.9	24	27	23.5	28.8	23.9	32.5	22.1	28.5	22.5	31.2	26	31	22	33.6	23.9
Mean	31.9	24.3	26.5	21.9	28.1	22.6	31.2	22.9	28.6	21.8	30.3	24.6	31.5	22.7	31.8	24.1

Maximum and minimum temperatures at the stations of the Weather Bureau, July, 1920—Continued.

Day.	Buenavista, Malabon, Cavite.		Manila.		Antipolo.		Balanga.		San Fernando, Pampanga.		San Isidro, Nueva Ecija.		Iba.		Tarlac.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
1	30.3	21.6	31.7	23	30.8	22	29.5	23.4	30	23.2	30.9	23	25.6	21.1	28.4	22.4
2	32.9	22.5	33.8	24.2	33.7	22	32.8	23	32.8	21.5	32.1	22.5	30	20.1	31.5	21
3	31.9	22.8	32	24	31.3	23	32.6	24.5	33.5	23	33.8	24.5	31.6	20.1	35.4	21.4
4	30.1	22.5	30.6	24	29.4	21.5	33.1	23.5	33.2	21.8	33.3	24	32	21.4	34.6	22.2
5	31.4	22.5	32.2	24.2	31.9	22.3	33.8	23.8	34.2	24.5	33.6	24.4	32	22	34.4	22.4
6	31.5	22.5	31.8	24.1	32.3	22.7	32.8	25.2	31.8	25.1	31.6	23.7	31.3	21.4	33.2	22.8
7	31.5	22.5	32.6	23.7	31.9	22.3	32.1	23.3	32.2	22	32.4	22.8	32	21.5	33.8	21.4
8	32.4	22.9	33.3	24	32.7	22.3	32.9	23.7	33	23.5	32.9	23.8	31.8	19	34.4	22.5
9	31.8	21.6	32	24.1	30.9	22.7	32.7	23.4	33.6	23	32.5	24.4	31.5	23	33.6	22.8
10	28.6	22.8	30.3	24.6	28.7	23	30.7	24.7	31.5	24	30.2	24.5	30.2	23.1	31.6	22.6
11	27.4	22.6	28.5	24.1	27	22.5	28	23.7	28.7	23.5	28	23.2	28.2	22.4	28.8	22.2
12	25.9	22.8	27.4	24.3	25.5	23	27.8	24	28.7	23.5	27.6	24.4	29.3	20.4	29.2	23.6
13	27.4	23.3	29.3	24.4	26.9	23	27.7	24.1	29	24.2	28.4	24.5	27.1	22.6	29	23.5
14	30.2	23.8	32	25	29.1	23.2	29.6	24.2	28.5	24.3	29.9	24	28	22	30.5	22.8
15	30.2	24.5	30.9	24.8	29.8	23.2	30.2	24.9	30.4	24.7	30.4	25	29.8	21.2	31.4	23.1
16	30.6	24.1	31.5	25	29.7	22.9	31.1	24.3	32.5	24	31.6	24.5	31.3	22	34	23
17	28.8	23.8	31.3	23.9	29.9	23.2	31	25	28.5	24.2	27	24.1	27	22.5	28.4	23.2
18	26.9	22.8	27.7	23.6	25.9	21.6	27.3	23.6	25.4	23	26.4	23.4	27.7	22.6	26	22.5
19	29.4	22.8	30.4	23.7	28.9	22.2	29.8	24.5	28.7	24.4	28.4	23.9	28.6	20.9	27.6	22.5
20	30.2	23.5	29.6	25.4	27.8	23.5	28.2	24.7	27.7	24	26.6	24.4	29.9	21.1	27.2	22.8
21	29.9	22.7	29.2	24.7	27.6	23.3	28.6	25.7	28.5	24.6	26.2	23.8	29	24.3	27.6	22.4
22	30.6	23.7	29.8	24.9	28.4	23.3	29.1	25.4	28	24.7	27.4	24.4	28.7	22.2	26.2	23.2
23	29.8	24.7	31.4	25.9	29.3	24.2	30.5	25.7	29.5	24.4	29	24.8	30.3	25	29.5	22.8
24	30.3	24.9	31.2	26.9	29.9	24.8	30.1	25.8	29.5	25.2	29.6	25.6	30.4	25.2	29.5	22.8
25	29	24.7	30.4	24.8	28.2	23.2	28.8	25	30	24.6	29.6	25.4	29.6	25.1	30	23
26	28	24.3	29	24.8	27.7	23.2	29.8	24.6	28.8	24.7	29.1	24.4	29.8	25.3	31.2	23.8
27	29.5	22.6	30	24.5	28.3	22.8	29.3	24	29.5	25.2	29.2	24.4	29.1	21.5	31	22.6
28	29	22.4	27	23.3	26.6	22.5	28.9	24	27.2	24.5	26.9	23.4	26.7	22	31	23.2
29	30.3	21.6	30.7	23.1	29	21.6	30	24.9	30	23.8	25.9	23.1	27.1	23.1	28.5	23.4
30	31.3	22.4	31.6	23.1	30.7	21.8	31.7	23.8	31.3	23.2	30.6	23	30	23.2	32.2	22.8
31	31.9	23.6	31.7	24.6	30	23	31.3	24.9	31.8	22.8	31.4	24.6	30.7	25.3	32.4	23.2
Mean	30	23.1	30.7	24.3	29.3	22.8	30.4	24.4	30.3	23.8	29.8	24.1	29.6	22.3	30.7	22.7

Day.	Baler.		Dagupan.		Bolinao.		Baguio.		San Fernando, La Union.		Candon.		Vigan.		Tuguegarao.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
1	82.5	23.2	29.3	23.1	29.2	23.2	20.2	16	32.3	24.4	32.4	26.5	30.7	25.9	35	25.2
2	84.3	22.3	33	22.6	33	24	24.2	16	34.2	25	33.4	25.5	33.5	24.9	37.4	24
3	88	23.4	33.6	24.2	33.4	24.8	23.2	16	33.5	24.1	32	26.4	34	24.2	36.6	24
4	88	23.2	32.4	23.9	32	24.7	23.2	16.5	33	23.3	32.2	26	32.5	24.3	36.2	24.6
5	88	24	32.4	25.5	32.1	25.4	23.8	17	33	24.1	33	25.8	33.5	25.2	37.2	24
6	34.2	23.6	33.6	23.4	31.6	24.7	24.6	16.1	33.5	24.5	32.5	25.5	33.6	25.5	37.2	24.3
7	81.5	22.9	33.9	23.5	32.2	24.8	23.4	16.4	33.4	24.7	31.4	25	33.1	24.7	36.8	24.5
8	30.7	23.1	34	23.9	33.6	24.2	24	16.6	33.5	24.1	31.8	24.8	33	24.1	37	23.7
9	32	23.2	35.3	24.9	32.9	25	25.9	16.7	34.4	24.5	32.5	26	33.8	23.9	36.4	24.4
10	31.2	23.8	29.7	25.1	30.7	25.6	24.3	16.2	30.5	24.5	32.5	26.5	31.4	24.2	36.5	25.2
11	29.1	23.9	28.6	24.5	30.2	24.8	21.2	17.3	30.6	24.5	32.2	26	30.9	24.5	29	25
12	29	24.4	30.3	24.8	30.6	25.5	21.1	17.5	31	24.8	30.8	26	30.6	24.5	28	24.6
13	31.3	24.5	28.8	24.2	29.5	24.8	22.7	16.7	31.6	25	30.6	26.1	30.2	24	32.6	24.3
14	33.4	24.4	30.2	24	32.3	25.4	18.7	16.4	30	24.5	28.4	25.1	29	24	32	24.2
15	36.2	24.5	30	24.8	29.2	25.5	18.8	16.6	28.2	25.7	28	25.9	27.5	24	33.7	24.5
16	35.7	25.1	32.6	25	31.8	25.3	18.7	16.5	32.4	24.7	31.9	25.2	31.5	24.4	34.3	25.6
17	36	25	28.1	24.8	30.7	26.2	18.6	16.6	28	25.5	28.6	25.4	31.1	24.2	34.2	25
18	31.2	24.8	24.9	23.3	28	25	18.1	15.7	26	24.1	27.7	24.6	26	22.6	32.8	23.7
19	30	23.2	26	23.5	28.5	24.6	18.3	16.8	27.5	24	27.2	24	27.2	22.6	24.5	23.3
20	31.7	23.9	27.6	24.2	29.5	26.2	18.8	17	28.8	25	29	24.6	28.4	24	25.9	23.5
21	29.9	23.8	28.1	25.7	29.7	26.5	18.8	16.8	29.3	25.3	28.5	25.8	28.1	23.1	25.6	23.5
22	29.2	23.5	26.6	24.2	29.8	25.8	18.2	16	29.5	25	28.2	24.8	27.5	23.2	25.4	23.2
23	30.7	23.4	30.3	24.4	31.2	26	17.9	16	29.5	25	28.7	25	28.5	24.5	29.7	23.5
24	30.9	24.1	30.5	25	31.4	26.2	18.3	16.2	31	25.5	29.8	25.5	30.4	25.4	35.5	23.6
25	33	24	30.2	25	30.6	24.4	18.3	16.5	29	24.3	27.6	25	27	23.4	32.8	25.3
26	30.7	24.6	28.1	24.5	27.4	24.6	19.8	16.7	28.4	24.3	29.4	24.9	28.4	24.1	30.5	23
27	33	24.2	31.1	24.3	31.8	24.2	21.3	16.6	31	24	31	24.9	31.1	24	29.2	23.2
28	30	23.3	30.1	23.7	30.5	24.7	19.1	15.5	32	23.3	31.7	24	31.7	23.6	30.8	24.4
29	31	23	26.9	23	27.8	23.8	19.4	15.5	29.5	23.5	29.5	24.4	30.4	24.5	27.8	23.6
30	33.5	23.4	30.6	23.5	30.1	24.2	20.7	16.4	32.3	24.6	31	25	31	25	34	24.2
31	33.8	23.3	32.6	25	31.6	24.8	22.9	16.5	32.6	24.5	31	25.5	31.1	25.2	35.2	25
Mean	32.1	23.8	30.3	24.2	30.7	25	20.8	16.4	31	24.5	30.5	25.3	30.5	24.2	32.6	24.2

Maximum and minimum temperatures at the stations of the Weather Bureau, July, 1920—Continued.

Day.	Laosg.		Aparri.		Cape Bojeador.		Basco.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.5	25	34.2	24	30.5	25.2	31.1	25.2
2	33.8	24.7	34.8	23.6	32	25.4	31	25.4
3	33.8	24.4	33.6	23.7	31.6	25	32.1	25.8
4	32.3	23.9	34.8	24.1	32.1	24.4	31	24.7
5	33.4	24.6	34.8	24.2	31.8	24.2	32.2	25.3
6	33.4	24.7	34.8	24.3	32.2	25.7	33	25.4
7	32.7	23.8	34	24.3	32	25.5	32.5	26.8
8	32.2	23.2	35.1	24	32.3	25	32.5	25.4
9	32.6	24.8	35	24.1	32.8	25.7	32.8	25.3
10	31.8	25.1	35.1	24.6	30.5	25.4	33.2	24.7
11	31.5	24.4	31.1	25.6	30	24.5	32.3	26.5
12	29.9	25.8	30.5	25.1	29.8	25	31.4	26.6
13	29.9	24.8	31.6	24.3	28.2	24.4	31.2	26.6
14	27.5	24	32.5	24.1	28.3	23.5	30.4	27.1
15	27.1	23.8	32.8	24.7	26.9	23.3	30.5	27
16	31.1	23.8	34.5	25	29.7	24.2	30.6	28
17	30.7	24.4	35.1	25.2	29.6	25.3	31	27.9
18	26.3	23.3	32.2	24.5	26.5	23.7	31.1	25.6
19	26.7	22.5	26.9	23	27.2	22.5	30.6	24.9
20	28.2	24.4	25.6	22.8	27.6	24.3	31.2	24.9
21	27.1	23.5	25	22.8	26	21.8	28	23.1
22	26.1	23.6	24.5	22.3	25.5	22.4	26.8	25
23	28.8	24.2	29	22.9	27.3	22.6	26.6	24.6
24	29.8	25.4	32.5	23.2	27.7	22.2	27.5	25.1
25	29.3	24.7	32.5	25	28.1	22	28.6	25.4
26	31.1	24.4	32.3	24.1	28.9	23	29.8	26
27	29.7	24.4	30.2	23.5	29.1	24.1	29.9	25.5
28	31.3	24.4	31.2	23.3	30	24.3	32.7	26.8
29	30.1	23.8	30.2	23.5	30.1	23.8	32.1	24
30	32	23.9	34.3	23.3	30	24.5	32.5	24
31	30.4	24	33.6	23.8	29.2	24.7	30.5	26
Mean	30.4	24.2	32	24	29.5	24.1	30.9	25.6



SEISMOLOGICAL BULLETIN FOR JULY, 1920.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Chief, Seismic and Magnetic Divisions, Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.¹

1, 8^h 02^m [1, 16^h 02^m]. Butuan (N Mindanao). Oscillatory earthquake, direction NE-SW, intensity III, duration 7 seconds.

3, 0^h 28^m [3, 8^h 28^m]. Butuan (N Mindanao). Earthquake shock of intensity II-III.

9, 17^h 20^m [10, 1^h 20^m]. Ormoc (W Leyte). Oscillatory earthquake, intensity III, duration 4 seconds.

9, 23^h 16^m 44^{s*} [10, 7^h 16^m 44^s]. Butuan (N Mindanao). Earthquake shock of intensity II-III. Distant origin probably in the Pacific Ocean. It was lightly recorded at Batavia.

22, 15^h 52^m [22, 23^h 52^m]. Moncayo (E Mindanao). Earthquake of intensity IV, long duration. Regional origin; southern portion of the Agusan Valley. Recorded only at Butuan.

23, 17^h 35^m 30^{s*} [24, 1^h 35^m 30^s]. NE Mindanao. Earthquake of intensity VIII in the northern part of Agusan Valley and around the Butuan Bay. Its origin was located in the aforesaid bay, close to the Agusan River mouth: the municipality of Butuan sustained its greatest intensity. The observer at Butuan, which possesses great experience in appreciating the intensity of earthquake shocks, so frequent in that region, considered this as one of the most violent felt in years. He describes the suddenness of the jerks as most extraordinary, the subsultory or up and down movement predominating and giving a sensation very unlike to the long ample waves often experienced. Inside the houses not a movable object of furniture remained in its place; some hanging oil lamps jumped out of the ring supporting them: in the Church most of the statues were thrown down from their shrines and rolled upon the floor; the bells were swinging and ringing forth, telephone wires were broken due to the jerks of the posts; partition and closing walls, consisting of an interior wooden frame covered with plaster, were all cracked and the plaster gone. Rumbling subterranean sounds increased the deafening noises of the falling objects and the rattling of the structures. The earthquake lasted more than thirty seconds: if there would have been masonry buildings surely, says the observer, we would at this time see vast ruins and mourn many human victims. Both rumblings and movements apparently advanced in a N-S direction.

This earthquake had a relatively very small area; the isoseismal grade VI, was running N of Butuan at a distance of about 40 kilometers and it had sufficient intensity to awake sleeping people at distances to the N of about a hundred; it extended farther southwards, in the direction of the valley. It was recorded only at Manila.

¹The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that 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 report. All time indications are in Greenwich mean time (midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

The Wiechert seismograph at Butuan recorded six instrumental shocks during the day, seven on the 25th, and five on the 26th.

This earthquake seems to offer another confirmation of the shallow origin of the disturbances originated in the Butuan Bay. Since 1910, when for the first time, in the Monthly Bulletin for Agust, page 290, we made some remarks about the nature of the shocks originated in the said bay, many similar earthquakes occurred which as this last seem to reveal rockfall character; we refrain from calling them volcanic because there exists very little evidence of recent volcanic action in that region.

28, 9^h 52^m [28, 17^h 52^m]. Butuan (N Mindanao). Earthquake shock of intensity II-III, short duration.

31, 2^h 19^m [31, 10^h 19^m]. Butuan (N Mindanao). Oscillatory earthquake, direction NE-SW, intensity III-IV, duration 18 seconds.

RECORDS OF THE MICROSEISMOGRAPH.

(Time: Greenwich mean. Midnight=0^h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N: T₀=6.25, ε=2,906, $\frac{r}{T_0^2}$ =0.053; A_E: T₀=6.18, ε=2,393, $\frac{r}{T_0^2}$ =0.042. Alluvium. 2.40 meters above sea level.)

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A _N μ	A _E μ	
196	2	I _r	eP	18 47 46	-----	-----	-----	
			L	58 34	-----	-----	-----	
			M _N	59 31	11	31	-----	
			M _E	19 00 14	11	17	-----	
			F	23	-----	-----	-----	
197	2	II _r	eP	21 41 25	-----	-----	-----	From Omori's seismograph.
			L	45 43	-----	-----	-----	
			F	22 23	-----	-----	-----	
198	4	I _v	eP	8 58 00	-----	-----	-----	
			F	9 00	-----	-----	-----	
199	5	I	e	15 33	-----	-----	-----	
			F	47	-----	-----	-----	
200	6	I _r	e	3 10 50	-----	-----	-----	
			L	17 54	-----	-----	-----	
			M _E	18 27	7	39	-----	
			M _N	18 53	7	56	-----	
			F	56	-----	-----	-----	
201	6	I	e	21 18 23	-----	-----	-----	
			F	28	-----	-----	-----	
202	7	I _v	eP	8 57 29	-----	-----	-----	
			F	9 01	-----	-----	-----	
203	7	I _r	e	9 38 54	-----	-----	-----	
			S	42 00	-----	-----	-----	
			L	42 56	-----	-----	-----	
			M _N	43 19	8	45	-----	
			M _E	44 44	8	71	-----	
			F	10 21	-----	-----	-----	
204	7	I _v	eP	19 22 06	-----	-----	-----	
			F	25	-----	-----	-----	
205	7	I _r	e	20 03 00	-----	-----	-----	
			F	32	-----	-----	-----	
206	8	I	e	4 45 54	-----	-----	-----	
			F	5 40	-----	-----	-----	
207	8	I	e	19 44 55	-----	-----	-----	
			F	20 08	-----	-----	-----	
208	9	I _v	eP	1 53 03	-----	-----	-----	
			F	56	-----	-----	-----	
209	9	I	e	11 58 32	-----	-----	-----	
			F	12 09	-----	-----	-----	

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.		Period.	Amplitude.		Remarks.
				<i>h.</i>	<i>m.</i>		<i>s.</i>	<i>s.</i>	
210	9 10	I	e F	23	16	44			Felt at Butuan (N Mindanao).
				0	10				
211	10	I	e F	9	41	43			
					56				
212	10	I	e F	16	30				
					42				
213	11	Iv	eP F	1	50	28			
				2	00				
214	11	Iv	eP L F	20	54	28			
					55	42			
				21	12				
215	13	I	e F	18	22				
					42				
216	15	I	e F	1	32				
					50				
217	15	I	e F	21	20				
					48				
218	19	Iv	eP L M _N M _E F	3	46	17			
					46	35			
					46	51	4	189	
					46	55	4		122
					51				
219	20	I	e F	12	25				
					43				
220	23	Iv	e F	17	35	30			Butuan Bay.
					42				
221	26	Iv	eP L M _E M _N F	13	36	35			
					36	51			
					36	52	2		57
					37	02	2	70	
				14	00				
222	26	Iv	eP L M _E M _N F	14	27	53			
					28	15			
					28	17	2		56
					28	17	2	100	
					32				
223	26	I	e F	21	21	51			
					33				
224	27	Iv	eP F	3	10	42			
					17				
225	28	Iv	eP F	23	18	24			
					27				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.¹

1, 8^h 02^m [1, 16^h 02^m]. Butúan (N de Mindanao). Temblor oscilatorio, dirección NE-SW, intensidad III, duración 7 segundos.

3, 0^h 28^m [3, 8^h 28^m]. Butúan (N de Mindanao). Temblor de tierra de intensidad II-III.

9, 17^h 20^m [10, 1^h 20^m]. Ormoc (W de Leyte). Temblor oscilatorio de intensidad III, duración 4 segundos.

9, 23^h 16^m 44^{s*} [10, 7^h 16^m 44^s]. Butúan (N de Mindanao). Temblor de intensidad II-III. Su origen se hallaba algo distante, probablemente en el mar Pacífico. Regístrese débilmente en Batavia.

22, 15^h 52^m [22, 23^h 52^m]. Moncayo (E de Mindanao). Temblor de tierra de intensidad IV, duración larga. Originado en las cercanías, en la parte sur del valle del Agusan; registrado solamente en Butúan.

23, 17^h 35^m 30^{s*} [24, 1^h 35^m 30^s]. NE de Mindanao. Temblor de tierra de intensidad VIII en la parte N del valle del Agusan. El epicentro de este temblor se hallaba seguramente cerca de la desembocadura del río Agusan en la bahía de Butúan. Tenía un área meizosísmica muy pequeña. La municipalidad de Butúan fué la que experimentó toda su fuerza: el observador, bastante experimentado en apreciar la intensidad de los temblores allí muy frecuentes, lo considera como uno de los más intensos sentidos en estos últimos años. Hace notar sobre todo lo brusco de los movimientos y el predominio de la componente vertical, comparando este temblor con otros de movimientos ondulantes más amplios pero más lentos. No quedó en las casas objeto móvil en su lugar; algunos quinqués se salieron del aro dentro del cual descansan; en la Iglesia se cayeron y rodaron por el suelo varias imágenes, mientras que las campanas tocaban como a rebato. Se rompieron los hilos de los teléfonos por el fuerte vaivén de los postes: los tabiques mixtos de mampostería y armazón de madera perdieron la cubierta: todo esto acompañado de ruido subterráneo el cual aumentaba la mala impresión que producían el ruido y traqueteo que se oía en las casas. Duró el terremoto más de medio minuto y, como nota el citado observador, si hubieran existido en la población edificios de mampostería indudablemente habrían sufrido mucho, y a tales horas de la noche no hubieran faltado desgracias. El terremoto comenzó con movimientos casi verticales siguiéndose luego otros más amplios ondulatorios pero rápidos, procedentes del N. Fuera de región de Butúan tuvo suficiente intensidad para despertar a los dormidos hasta una distancia de unos 100 kilómetros hacia el N, y algo más lejos hacia el sur, en la dirección del valle agusano. La isosísmica VI corría por el N a una distancia de 40 a 50 kilómetros de Butúan siendo algo mayor por el S. Solamente se registró en Manila. El sismógrafo de Butúan registró además seis choques instrumentales durante el día 24, siete el 25 y cinco el 26.

Parece indudable que este terremoto nos ofrece otro caso de los muchos que suelen ocurrir en la bahía de Butúan y desembocadura del río Agusan de terremotos de carácter superficial o de derrumbamiento. Véase el *Monthly Bulletin* de Agosto de 1910, pág. 290. Desde 1910 hasta el presente han ocurrido muchos otros temblores semejantes, los cuales con el último confirman lo que allí decíamos sobre la existencia de un centro de carácter superficial.

28, 9^h 52^m [28, 17^h 52^m]. Butúan (N de Mindanao). Temblor de tierra de intensidad II-III, duración muy corta.

31, 2^h 19^m [31, 10^h 19^m]. Butúan (N de Mindanao). Temblor oscilatorio, dirección NE-SW, intensidad III, duración 18 segundos.

¹ La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos 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 medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

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BULLETIN FOR AUGUST, 1920

METEOROLOGICAL BULLETIN FOR AUGUST, 1920.

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GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure of this month is slightly below the normal of August in Mindanao, the Visayas, and southern Luzon, while it is slightly above the same in central and northern Luzon. The highest pressures were generally observed on the 2nd in the Visayas and Mindanao, and on the 26th and 27th in Luzon. The lowest pressures were recorded in all the stations on the 31st, when a very small typhoon struck Manila, and a big typhoon was sweeping the Pacific from the Ladrone Islands to Formosa.

The mean monthly temperature is, with a few exceptions, slightly above August's normal. The absolute maximum and minimum temperatures for Manila were 33.6° C. and 22.7° C.: they were registered on the 25th and 21st, respectively. The extreme temperatures for Baguio were 26.9° C., 14.7° C. on the top of Mirador, and 27.5° C., 13.8° C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR AUGUST, 1920.

Station.	Pressure.							Temperature.						
	Mean.	Departure from Aug., 1919.	Departure from normal.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from Aug., 1919.	Departure from normal.	Highest.	Day.	Lowest.	Day.
Zamboanga	758.50	-0.03	mm.	759.92	6	757.42	31	26.2	-1.0	°C.	31.1	1	22	20
Meeth, Yap, Western Carolines	57.50	-.19	-----	59.21	1	55.46	29	26.9	+ .1	-----	32.7	9, 18	22.8	11
Tagbilaran	57.68	+ .23	-0.31	59.02	2	56.01	31	27.7	-.8	+0.2	34.4	11	22	26
Surigao	57.42	+ .50	-.32	58.56	2	55.33	31	27.8	-1	0	34	1	22.8	26
Cebu	57.63	+ .51	-.13	58.95	2	55.47	31	27.8	-.6	+ .3	32.3	14	23.1	2
Iloilo	57.57	+ .46	-.11	58.84	1	55.55	31	27.2	-.1	+ .3	32.8	21	23.5	2
Tacoloban	57.29	+ .57	-.26	58.61	2	54.77	31	27.3	-.1	- .3	36.6	14	20.6	2
Capiz	57.34	+ .90	-.18	58.58	2	54.74	31	27.1	-.6	+ .1	35.8	10	22.4	29
Calbayog	57.52	+ .98	-.01	58.70	1, 2	55.10	31	27.1	-.3	0	32.8	12, 13	22.9	13
Legaspi, Albay	56.99	+1.25	-.06	58.39	26	54.14	31	27.5	+ .3	+ .2	34.8	16	23.1	19, 20, 28
Atimonan	56.75	+1.31	+ .05	58.35	27	53.33	31	28	+1.1	+ .5	34.9	3	22.8	18
Ambulong, Tanauan, Batangas	56.55	+1.18	-----	58.41	27	52.48	31	27	+ .6	-----	33.7	15	22.7	17
Daet	56.76	-----	-----	58.26	26	53.62	31	27.2	-----	-----	35	5	21.5	16
Manila	57.05	+1.32	-.24	58.79	27	52.16	31	27.4	+1.5	+ .4	33.6	25	22.7	21
San Isidro, Nueva Ecija	57.02	+1.49	+ .02	58.90	27	52.94	31	27.2	+1.7	+ .6	34.4	15	23	21
Dagupan	56.07	+1.67	-.34	57.97	27	52.38	31	28	+2.3	+1.1	34.2	8, 25	23.4	21
Baguio*	635.22	+1.96	+ .28	636.55	1	632.05	31	18.1	+1.1	+ .4	26.9	30	14.7	13
Vigan	756.33	+2.39	+ .05	758.60	27	752.84	31	27.7	+1.5	+ .9	33.3	14	22.7	19, 20, 21
Tuguegarao	55.76	+2.63	+ .03	58.20	27	52.87	31	28.4	+1.4	+ .9	37.3	5	22	28
Laosag	56.05	+2.35	-----	58.08	27	52.73	31	27.6	+1	-----	33.4	19	23.1	16
Aparri	55.86	+2.67	+ .09	58.62	27	53.18	31	28.3	+1	+ .9	35.8	4, 5	22.5	28

* The barometric readings of this station are not reduced to sea level.

Rainfall.—The distribution of rainfall in the Philippines for this month of August presents a great contrast with that of the preceding month of July. While a good number of our stations in southeastern Luzon, the Visayas and Mindanao reported a monthly

amount of rainfall above the normal of this month, those of central and northern Luzon, where so heavy rains and floods occurred last month, appear this month, almost without exceptions, with a monthly total of rainfall considerably below the normal. The monthly rainfall for Manila, 322.5 mm., differs from the normal by -69.1 mm.; and that of Baguio, 368.8 mm., is 807.7 mm. below the normal. The total monthly rainfall for Laoag was only 99.9 mm., an amount which differs from the normal of this month by -686.6 mm.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF AUGUST, 1920.

Station.	Total.	Departure from August, 1919.	Departure from normal.	Days of rain.	Departure from August, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from August, 1919.	Departure from normal.	Days of rain.	Departure from August, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.
	mm.	mm.	mm.		mm.	mm.	mm.			mm.	mm.	mm.		mm.	mm.	mm.	
Jolo	109.7	+ 94.9	- 56.6	13 + 8	- 1	53.1	26	Legaspi, Albay	296.8	- 61.4	+110.9	13 - 5	- 4	91.2	25		
Malamaui, Isabela, Zamboanga	94.3	+ 74.5	9 + 7	28.2	19	Virac	167.3	- 133.7	+ 22.5	6 - 12	- 6	58.4	28				
Zamboanga	95.1	+ 77.6	+ 7.2	18 + 11	+ 7	31.2	19	Naga, Camarines Sur	163.9	- 119.5	- 1.4	13 - 7	- 2	33	28		
Davao	153.9	+ 75.5	- 31.1	6 - 2	- 4	55.9	10	Tigaon	130.8	- 307.5	-	16 - 7	-	44.2	28		
Cotabato	178.3	+ 16.9	- 57.9	19 + 6	+ 1	34.3	26	Batangas	146.6	- 503.3	- 44.9	15 - 10	0	25.1	28		
Cagayan	192.5	+ 175.9	+ 22	13 + 10	- 1	49.5	19	Lucena	90.7	- 273	-	11 - 10	-	30.2	28		
Butuan	141.7	+ 108.1	+ 37.5	14 + 10	+ 2	34.3	17	Atimonan	197.2	- 118.7	+ 41.1	10 - 13	3	67.3	28		
Mambajao	210.5	-	19	39.6	27	39.6	20	Ambulong, Tausug, Batangas	180.5	- 727.4	-	13 - 12	-	47	31		
Dumaguete ^a	55.4	- 52.2	- 30.4	13 + 4	+ 2	18.6	25	Daet	136.1	-	-	7	-	48.3	19		
Meeth, Yap, Western Carolines	300.4	- 183.8	- 90.3	22	0 - 2	63.3	26	Canluban, Calamba	317	- 780.7	-	15 - 13	-	56.4	28		
Tagbilaran	42.3	+ 17.4	- 73.4	9 + 2	- 1	26.2	30	Paracale	104.9	- 36.8	- 57.2	4 - 17	- 9	49.2	21		
Iwahig Penal Colony, Puerto Princesa	139.6	+ 71.5	23 + 7	- 23.3	27	28.4	18	Santa Cruz, Laguna	254	- 550	- 37.2	16 - 15	- 5	54.4	28		
Surigao	100	+ 16.7	+ 1.9	10 + 3	0	28.4	18	Manila	322.5	- 1,660.5	- 69.1	20 - 10	- 3	79.1	31		
Maasin, Leyte	272.1	+ 130.3	+ 59.8	11 + 1	0	54.4	18	Antipolo	361.5	- 1,743.2	-	27 - 3	-	133.6	31		
Cebu	32	+ 13.1	- 107.4	10 - 1	- 5	8.7	31	San Isidro, Nueva Ecija	478.5	- 443.9	+ 159.3	23 - 6	+ 1	95	26		
Iloilo	206.2	- 441.6	- 130.9	21 - 2	+ 1	77.2	18	Iba	388.2	- 1,960.1	- 604.2	25 - 6	- 2	163.7	31		
San Jose de Buenavista	530	- 182.5	+ 8.4	22 - 6	- 1	57.4	4	Tarlac	290.6	- 534.6	- 32.6	18 - 12	- 5	60.5	31		
Cuyo	278.2	- 101	- 102	25 + 4	+ 2	34.3	22	Baler	172.5	+ 64.2	+ 20.5	11 - 8	-	51.1	23		
Ormoc	233.9	+ 177.4	- 17	19 + 7	+ 3	46.7	2	Dagupan	117.3	- 1,564.1	- 401.9	14 - 15	- 9	35.3	31		
Guiuan	88.2	+ 70.5	11 + 4	24.1	2	50.8	2	Baguio	368.8	- 3,093.3	- 807.7	25 - 6	- 2	49.3	9		
Tagloban	207.5	+ 155.4	+ 71.6	14 + 8	0	50.8	28	San Fernando, La Union	355.1	- 1,053.4	- 342.2	21 - 8	- 1	126.8	31		
Capiz	129.4	- 10.1	- 104.3	14 - 3	- 3	56.7	27	Candon	220	- 1,372.3	- 494	18 - 8	- 3	37.6	10		
Borongan	168.2	+ 121	+ 35.6	13 + 4	- 1	42.7	26	Vigan	256.4	- 1,216	- 431.9	16 - 11	- 6	90.5	20		
Catbalogan	256.8	+ 135.2	15 + 6	57.2	27	81.8	26	Tuguegarao	28.2	- 576.8	- 176.6	7 - 12	- 7	9.4	11		
Calbayog	259.5	+ 103.8	+ 71.9	17 + 2	0	81.8	28	Lacag	99.9	- 849.3	- 686.6	13 - 15	- 8	34.8	26		
Maabate	181.4	+ 39	+ 18.7	15 - 2	0	52.9	26	Aparri	249.6	- 164.2	+ 11.8	12 - 8	- 3	62.7	21		
Romblon	280.2	- 26.6	+ 103.8	12 - 12	- 4	177.9	28	Cape Bojeador	157.6	- 659.3	-	15 - 11	-	52.8	30		
Batag Light-house, Laoang	202.1	+ 40.8	10	0	78	28	27	Basco	149.4	- 506.2	- 229.6	18 - 5	0	52.8	10		
Sorsogon	185.1	- 147.2	11 - 8	79.8													

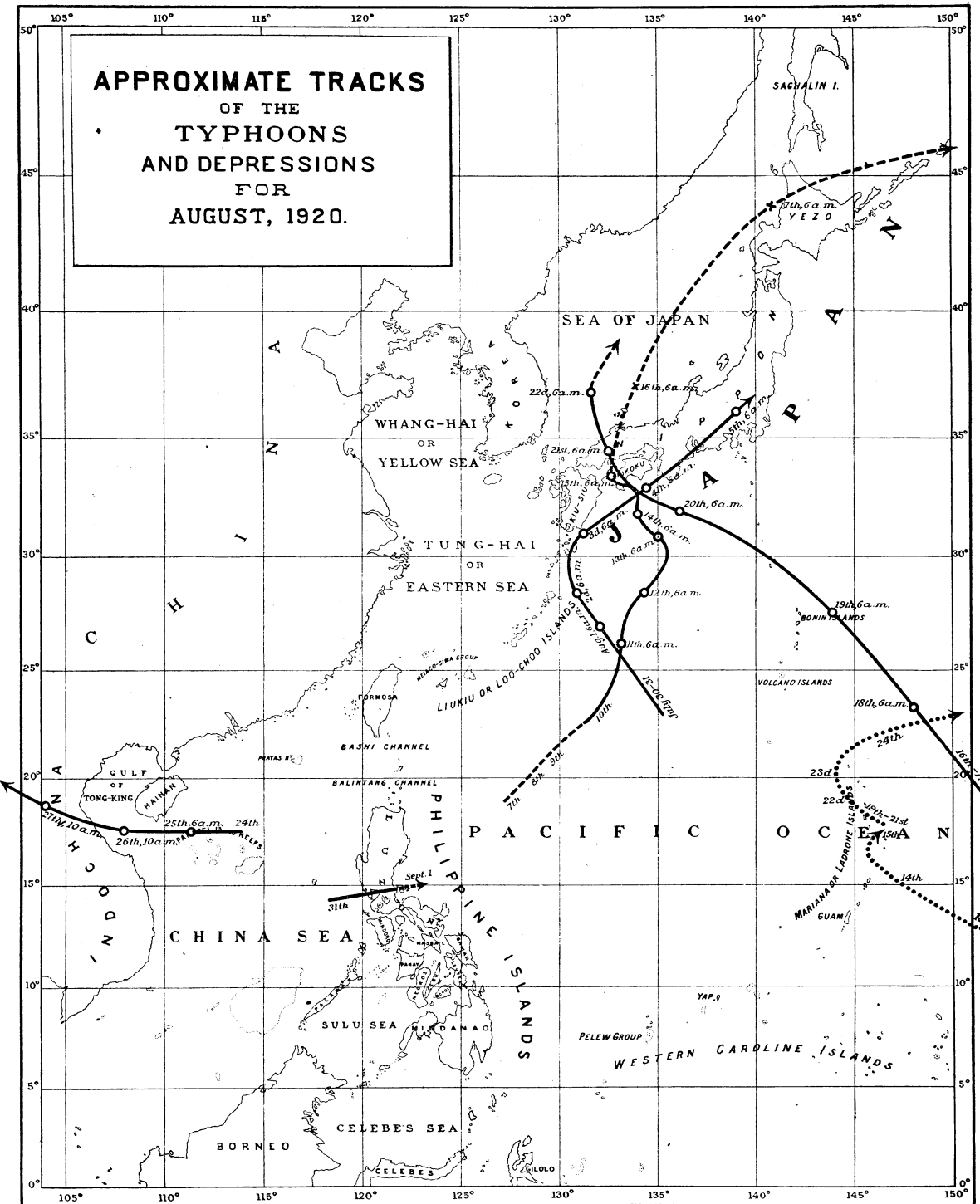
^a 30 days of observation.

DEPRESSIONS AND TYPHOONS.

No less than eight depressions or typhoons were traced on our weather maps during the month of August. Only one of these typhoons struck the Philippines near Manila the last day of the month. Besides, there was a low-pressure area of little importance, which moved from the Pacific to the China Sea across central Luzon on the 29th. The tracks of all these depressions and typhoons may be seen in Plate V, except that of the last typhoon of the month which will appear in the Bulletin for September, as it reached Formosa on September 4, although it had passed near Guam on August 28. A few words will be said here on each of these typhoons, although we will speak more in detail at the end on the Manila typhoon.

Three Japan typhoons: July 30 to August 22, 1920.—The first of these typhoons appeared on our Weather Maps on July 30 in about 135° longitude E and 23° latitude N. It moved NW until the 2nd of August, when, in the neighborhood of the northernmost part of the Loochoo Islands, it recurved rapidly to N and NE. At 6 a. m. of the 3rd the center was close to southwestern Japan near 131° longitude E and 31° latitude N, moving northeastward. On the 5th the typhoon probably filled up near Tokio.

Plate V.



The second typhoon formed on the 7th in about 127° longitude E and 19° latitude N, and moved northeastward until the 12th. From the afternoon of that day until the 16th it would seem that the typhoon direction was changed in a rather queer way three or four times. The position of the center at 6 a. m. of the 15th was 133° longitude E, between 33° and 34° latitude N, over southwestern Japan. The typhoon traversed the Sea of Japan on the 16th as a depression of little importance.

The third Japan typhoon was formed on the 16th to the east of the northern Ladrone Islands in about 152° longitude E, between 18° and 19° latitude N. This position can be given as quite approximate with the observations of Guam and those made on board the steamship *New Port News* in about 156° longitude E and 16° latitude N. The typhoon moved northwestward, and traversed southwestern Japan during the night of the 20th and early morning of the 21st. It probably filled up on the 22d in the southern part of the Sea of Japan.

Press dispatches from Japan, dated August 20, gave news of serious floods continuing in Japan for several days, as an effect of these typhoons. In the Iwate prefecture 11 persons were reported drowned, and 4,600 houses submerged, and 100 of them entirely destroyed. Fifty bridges went down, while crops and roads were much damaged or ruined. The town of Thukumo, on the island of Shikoku, in southwestern Japan, was practically destroyed. Seventy bodies had been recovered already on August 20, in the muddy streets. Considerable damage was done also in many other towns.

Two depressions or typhoons over the Ladrone Islands: August 13 to 25, 1920.—The tracks of these two disturbances (see Plate V) can be given only as probable, as we had no other observations than those of Guam to trace them. Again, owing to this lack of observations it is impossible to decide whether they were only depressions or well developed typhoons.

One typhoon in the China Sea: August 24 to 27, 1920.—This typhoon could be noticed in our weather maps of the 24th as forming near the Paracels in about 114° longitude E, between 17° and 18° latitude N. It moved westward, passed to the south of Hainan on the 25th, and entered Indochina on the 26th.

THE MANILA TYPHOON: AUGUST 31, 1920.

On the evening of August 31 a small typhoon struck Manila, the worst experienced in the City since September, 1905. As the diameter of this cyclonic disturbance was very small, and, besides, Luzon had been for the two or three preceding days under the influence of a low-pressure area which had moved from the Pacific to the China Sea across the central part of the Island, and the whole Archipelago was, on September 1st, well under the influence of a very big typhoon which swept the Pacific between Guam and Formosa from August 28 to September 4, we can only follow this Manila typhoon for scarcely one day, from the time it appeared in the China Sea west of Manila, in the morning of August 31, until the morning of September 1, when it disappeared into the Pacific near Polillo Island. Whether it existed already before August 31, or continued to exist after the morning of September 1, it is impossible to decide under so extraordinary weather circumstances.

Track of typhoon very abnormal.—This typhoon formed unexpectedly in the China Sea west of the southern part of Luzon, and moved E by N across the Provinces of Bataan, Rizal, Bulacan and the narrow strip of the northern part of Tayabas: a track altogether abnormal and never before observed in the neighborhood of Manila. As a rule, typhoons, whether formed in the Pacific or in the China Sea, move first W or NW, and then, they either keep on with the same direction until they fill up in the Continent, or recurve northeastward. It happens rather seldom that a typhoon moves NE or E from the beginning, or immediately after its formation. As to the Philippines, there has

never been any typhoon coming from the China Sea to Mindanao or the Visayas, or to Luzon to the south of Manila. There have been, however, a few cases of typhoons formed in the China Sea, which moved NE or E toward the Batan or Babuyan Islands or the northern part of Luzon: but, previous to 1920, practically all of them reached the Philippines above 17° latitude N. We say *practically*, because in September, 1918, one depression was observed traversing Luzon in an easterly direction between 16° and 17° latitude N: but it was only a shallow depression and not a well developed typhoon. We reproduce in Plate VI all the typhoons or depressions, which have followed this type of track during the period 1906 to 1920. With the exception of the depression just mentioned and of the present typhoon, all moved from the China Sea to the northernmost part of Luzon, or to the Babuyan or Batan Islands.

Even typhoons coming from the Pacific and following a normal direction to WNW, W or NW do not pass usually near Manila during the month of August: they generally cross the Archipelago between 16° and 21° latitude N. Only eleven Pacific typhoons traversed the Philippines in August during the period 1901 to 1920, and they all struck the northern part of Luzon or the Babuyan or Batan Islands. Their tracks are reproduced in Plate VI.

Hence the track of the typhoon of August 31, 1920, is to be considered very abnormal, not only because it moved EbyN immediately after it formed in the China Sea, but also because it came to pass so close to Manila.

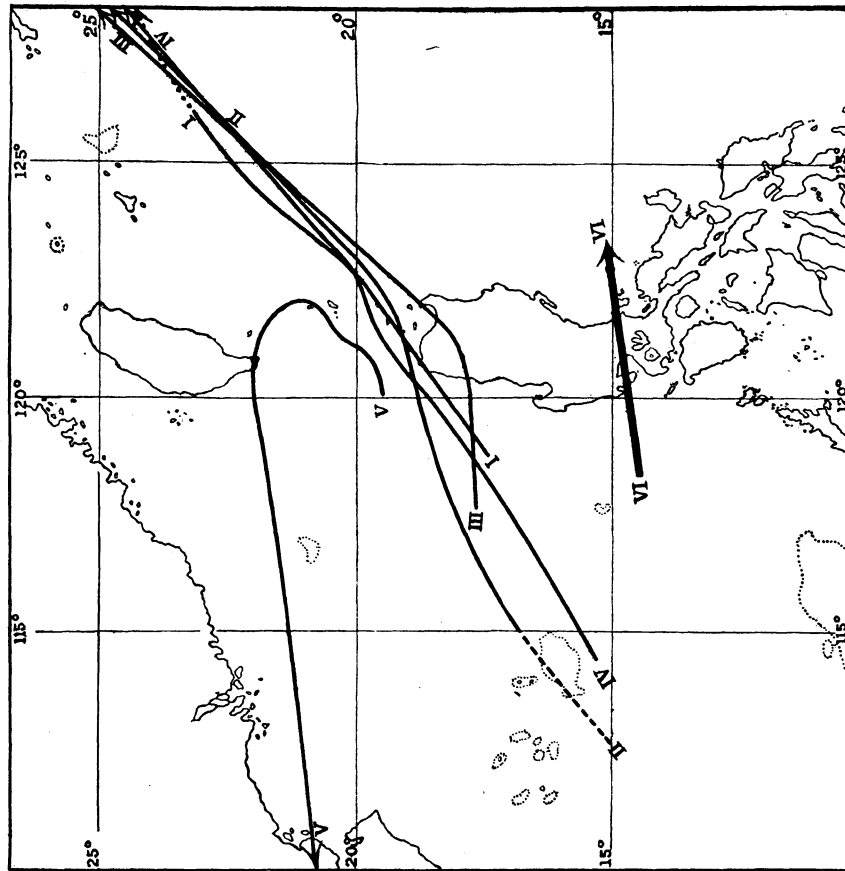
Origin and first signs of the typhoon.—This small typhoon was probably formed about 150 or 200 miles to the west of Manila in the afternoon of August 30, or during the night of August 30 to 31. The formation took place over the southern part of a low-pressure area which had passed over central Luzon from E to W on August 29, and in the WSW limit of a very big typhoon which was sweeping the great extension of the Pacific from Guam to Formosa. Both, the Pacific typhoon and the low-pressure area of the China Sea were keeping the barometers relatively low throughout the Philippines, particularly in Luzon: hence the difficulty of tracing the first signs of the present typhoon, being as it was of very small diameter.

In our Weather Map for 6 a. m., August 31, a peculiar falling of the barometers was noticed in Manila and neighbouring stations, Santa Cruz (Laguna), Batangas, Calapan, Iba: but the winds were so variable, NE in Manila, SSE in Santa Cruz, ENE in Batangas, NW in Calapan, calm in Iba, that, although such a falling was considered rather mysterious, yet it could not be seriously taken as a sign of an impending or newly formed typhoon. Our Weather Map for 2 p. m. of August 31 was more significant, but not yet conclusive, as the barometer had fallen as much in Manila as in Daet, a station over 100 miles to the east, and the winds, throughout the Archipelago, with the exception of only three or four stations, were rather obeying to the big typhoon situated at that time NE of Luzon. Olongapo and Corregidor observations were clearly showing the new small cyclonic center threatening Manila: but they did not reach us until late in the evening when the center was already over the City.

Our Weather Map for 2 p. m., August 31, is reproduced in Plate VIII. Our readers will notice in it the big Pacific typhoon, and also a relatively extensive low-pressure area to the north of the small Manila typhoon. The map, of course, was completed after the observations from Olongapo and Corregidor had been received in Manila.

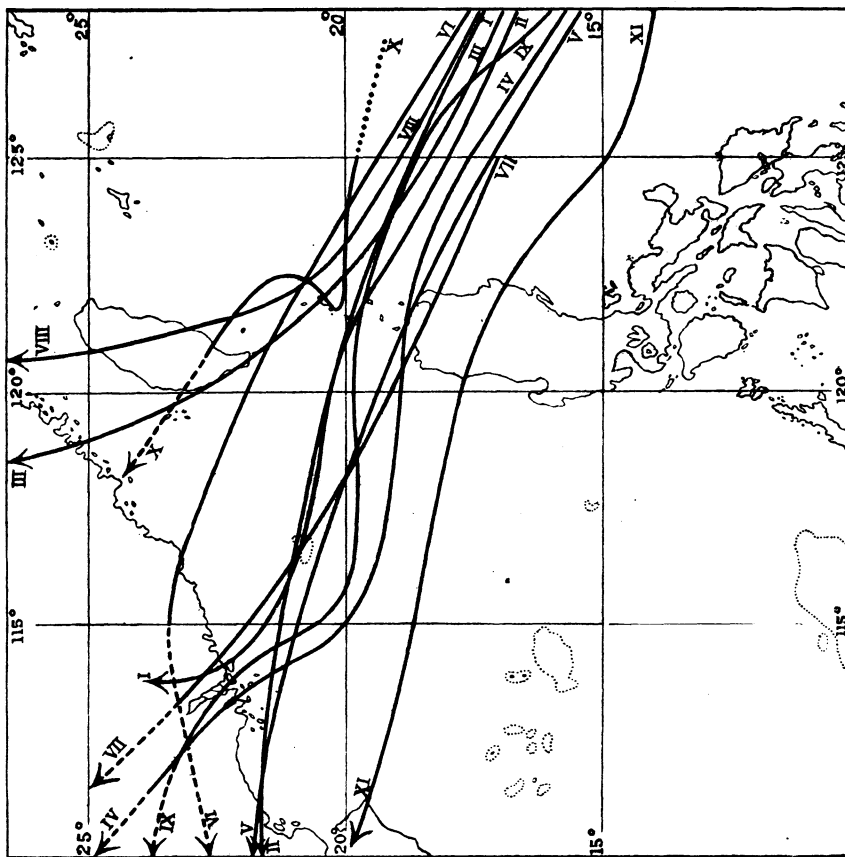
In the table given below we give the hourly observations taken in Manila Observatory on August 31, and in Plate IX we reproduce a facsimile of the records of our Fuess Barograph and Beckley's Anemograph. It was only the remarkable falling of our barometers from 2 to 3 p. m., with the steadiness and increase of force of the southeasterly winds, that forced us to have typhoon signal No. 4 hoisted in Manila and to spread an alarming typhoon warning throughout the City. Such a signal had never before been hoisted in Manila with winds blowing from SE. We heard it from captains of long

Plate VI.



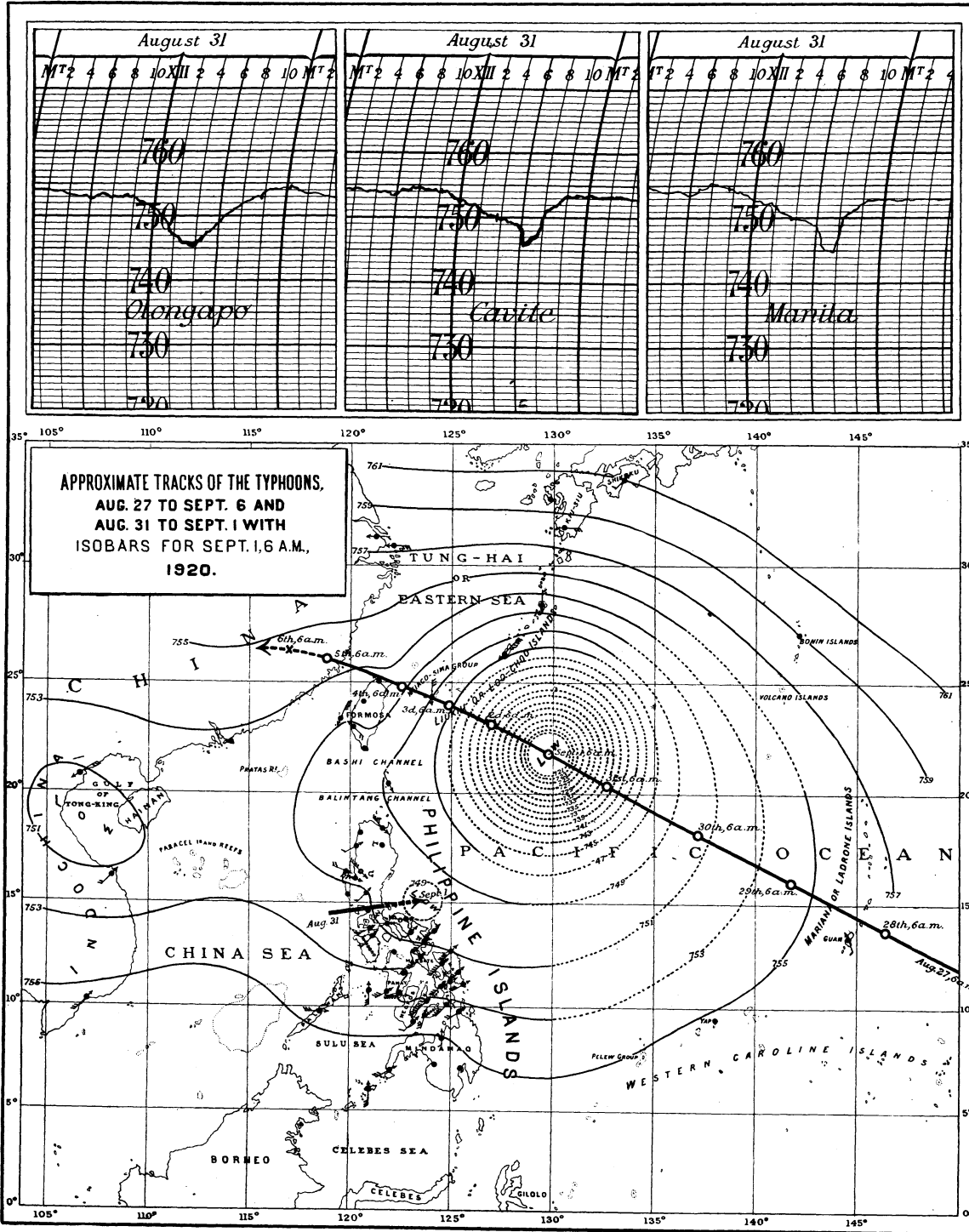
CHINA SEA TYPHOONS TRAVERSING THE PHILIPPINES IN A NORTHEASTERLY DIRECTION, 1906-1920

- I-Aug. 22-24, 1907.
- II-May 23-30, 1908.
- III-July 27-31, 1909.
- IV-May 20-28, 1910.
- V-Aug. 25 to Sept. 1, 1910.
- VI-Aug. 31 to Sept. 1, 1920.



PACIFIC TYPHOONS OVER THE PHILIPPINES IN THE MONTH OF AUGUST, 1901-1920

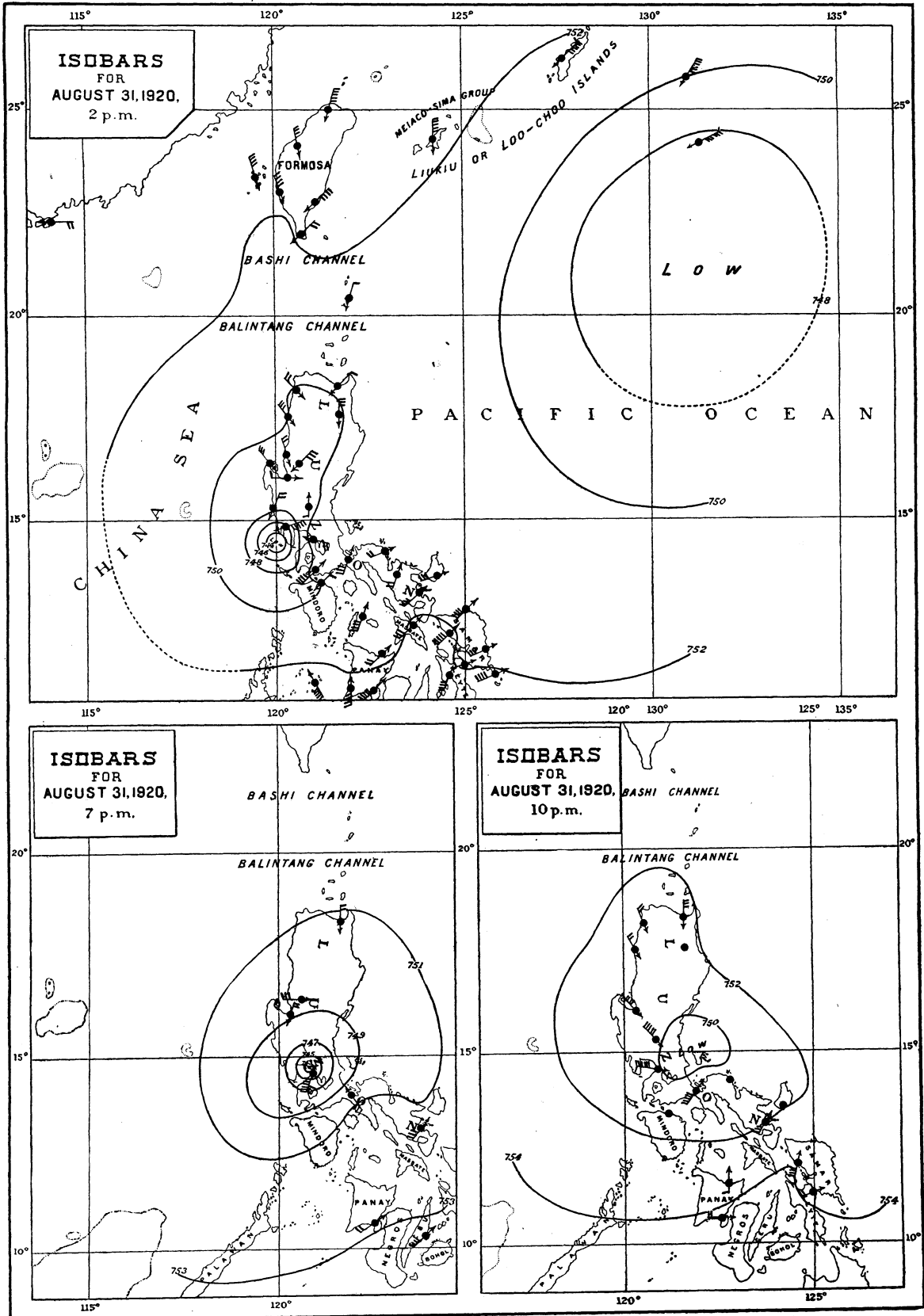
- I-July 27 to Aug. 2, 1902.
- II-Aug. 26-31, 1905.
- III-Aug. 24-28, 1911.
- IV-Aug. 29 to Sept. 6, 1911.
- V-Aug. 14-17, 1913.
- VI-Aug. 10-16, 1914.
- VII-Aug. 10-14, 1917.
- VIII-Aug. 15-19, 1917.
- IX-Aug. 10-16, 1918.
- X-Aug. 3-9, 1919.
- XI-Aug. 18-22, 1919.



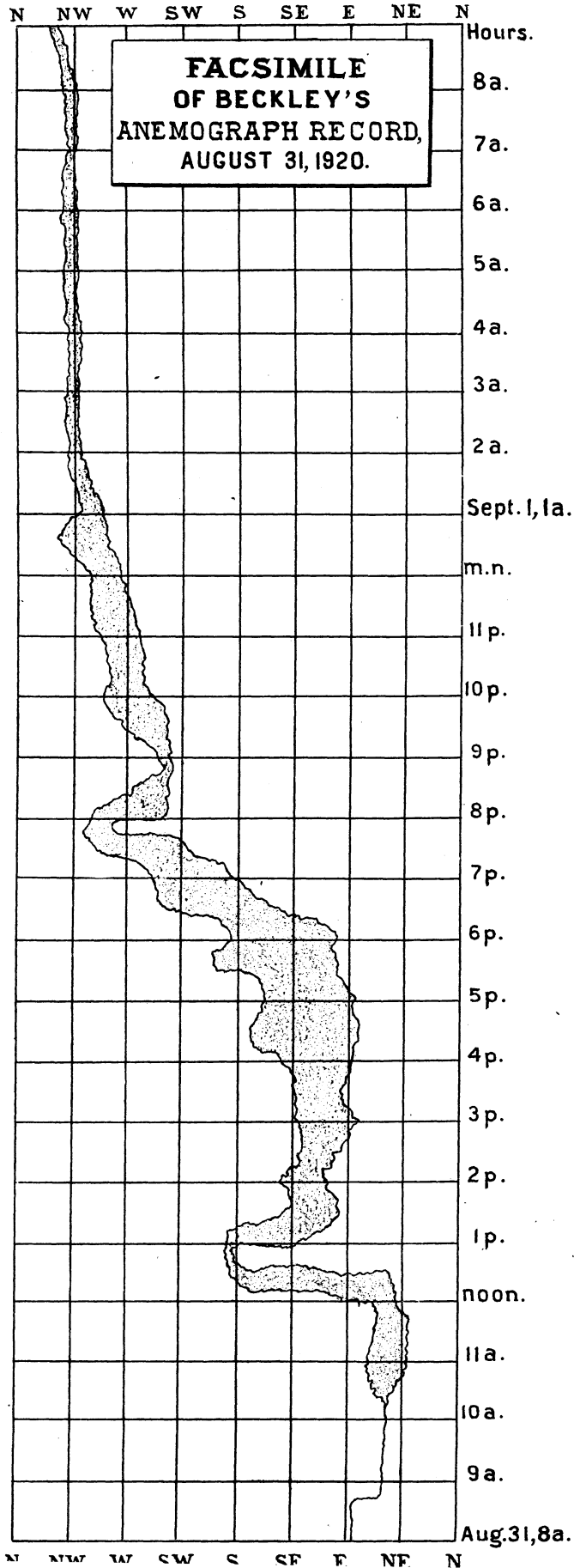
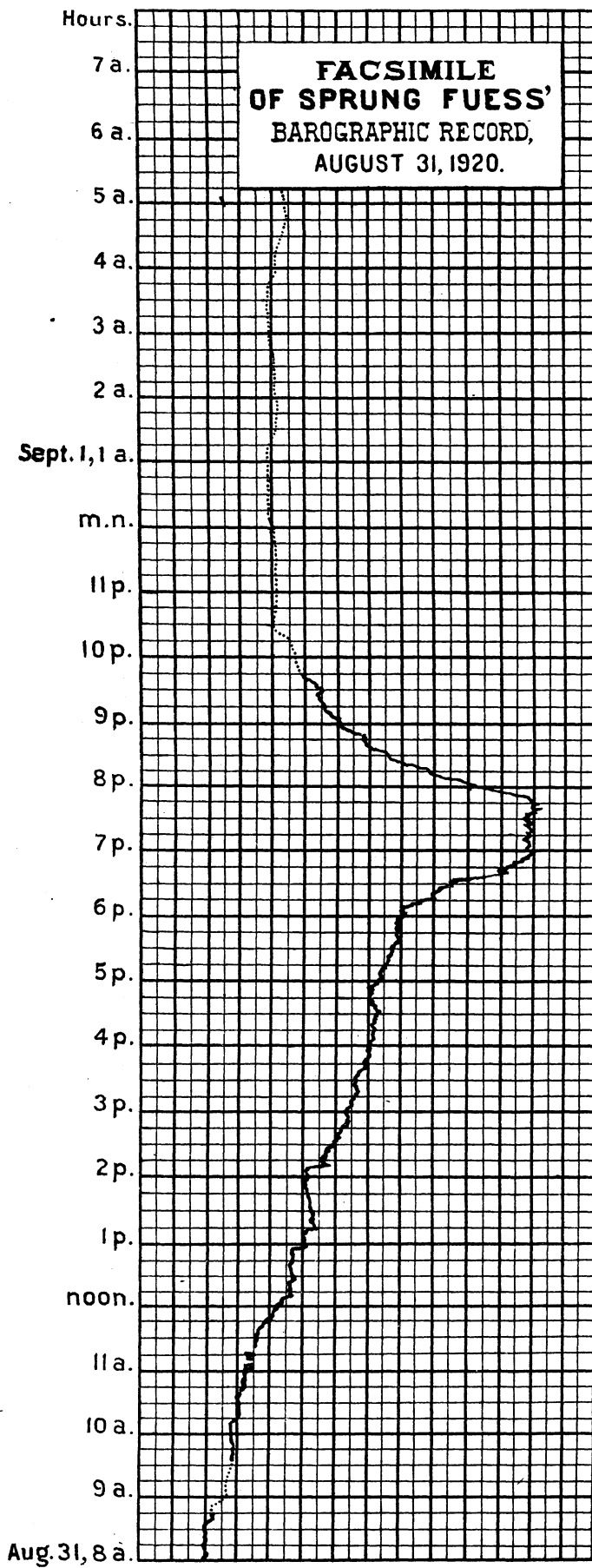
N.B.-The barometric reading for the isobars have been reduced to standard gravity.

ISOBARS FOR THE TYPHOON OF AUGUST 31, 1920.

Plate VIII.



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



experience in the Philippines, that they could not believe what they were seeing: they thought it was a mistake. Manila typhoons always come from the Pacific moving to W, WNW or NW: they either pass to the north, and then the winds back from the northwest to the southwest quadrants, or pass to the south, the winds veering from N and NE to E and SE. Winds from SE in Manila had been always taken as a sign of a typhoon moving away from the City. Yet, this was not so in the present case, and the events of that memorable evening of August 31 fully justified the action taken by Manila Observatory.

METEOROLOGICAL OBSERVATIONS TAKEN AT THE MANILA CENTRAL OBSERVATORY DURING THE TYPHOON OF AUGUST 31, 1920.

Hour.	Pressure.	Wind.			Temperature.	Humidity.	Clouds.			Rain.	Remarks.
		Direction.	m. p. s.	0-12			Amount.	Form.	Direction.		
	<i>mm.</i>				<i>°C.</i>	<i>P. ct.</i>	<i>0-10</i>			<i>mm.</i>	
1 a. m.	754.85	Calm			25.1	94					
2 a. m.	54.60	Calm			25.0	95					
3 a. m.	54.50	Calm			24.9	97				0.5	
4 a. m.	54.00	S	0.5	1	25.1	96.5				0.5	
5 a. m.	53.60	Calm			25.2	96				1.0	
6 a. m.	53.36	NE	0.5	1	25.0	97	10	N		0.3	Drizzling slightly.
7 a. m.	53.91	ESE	0.5	1	24.6	97	10	N		1.0	Slight rain.
8 a. m.	55.07	SE	1.5	1	24.5	94	10	N		4.1	Raining.
9 a. m.	54.46	NE	0.5	1	24.2	95	10	N		2.3	Drizzling.
10 a. m.	54.31	E	0.5	1	25.2	94	10	N	S, SSW	0.8	Do.
11 a. m.	53.61	ENE	1.0	1	25.6	91	10	N	SE	0.5	Do.
Noon	52.65	NE	0.5	1	27.6	87	10	N		0.3	Do.
1 p. m.	51.72	S	1.0	1	27.0	84	8	{ Ci.-S. Cu.-N. }		1.5	
2 p. m.	51.75	SE	2.0	2	25.0	94	10	N		3.8	Raining.
3 p. m.	50.52	SE	9.5	5	25.7	88	10	Cu.-N.	SSE	0.8	Drizzling.
4 p. m.	49.89	SE	4.0	3	25.2	91	10	N		1.3	Raining.
5 p. m.	49.44	SE	7.0	4	24.5	92.5	10	N	SSW	3.6	Drizzling.
6 p. m.	48.80	SSE	7.5	4	24.2	91	10	N	SSW	3.8	Raining.
7 p. m.	45.16	SSW	24.0	9	25.1	93.5	10	N		14.2	7.03 p. m. violent SW winds of 24 and 27 meters per second, 7.36 p. m. very violent winds from WSW of 33 meters per second. Between 7.40 p. m. and 7.57 p. m. winds abating: relative calm.
8 p. m.	46.70	WNW	28.5	11	24.7	92.5				4.6	
9 p. m.	50.95	WSW	21.5	9	24.9	94				14.7	
10 p. m.	52.20	WNW	15.5	7	24.5	92.5				11.4	
11 p. m.	52.80	WNW	13.5	6	24.8	91				7.6	
Midnight	52.90	WNW	13.5	6	24.8	87				2.5	

The typhoon traverses Luzon close to Manila moving EbyN.—In Plate VIII our readers may see the position of the typhoon center at 2, 7 and 10 p. m. of August 31. Then in Plate VII we reproduce the barographic records obtained with a Richard's barograph at Manila Observatory and at our coöperative stations of Olongapo and Cavite. Finally, in the same Plate VII the isobars are given for 6 a. m., September 1, where we can hardly notice our small typhoon over the Pacific to the E of Manila soon to be absorbed in all probability by the big Pacific typhoon which was threatening Meiacosima group of islands and Formosa. The isobars around the center of the big typhoon have been drawn with the supposition that the shape of the typhoon and distribution of isobars near the vortex was about the same on September 1, as when the storm struck Meiacosima two days later, September 3, at 3 p. m. (See our monthly Bulletin for September, 1920).

In Manila relative calm was clearly noticed between 7.40 and 7.57 p. m. The barometric minimum recorded at the Observatory was 744.90 mm. at 7.40 p. m. It is believed that this was practically the barometric minimum at the center of the typhoon, at least when it passed close to Manila. The attention of our readers is called to the veering of the winds in Manila, as shown in Plate IX, from SE to S, SW, W and NW. This was never before observed in Manila with typhoons passing over or very near the City, as stated above.

Practically the same veering of winds is noticed in the observations taken on board the steamship *Ortiga Hermanos* in the Manila Bay and in Cavite: they are published in the following table.

METEOROLOGICAL OBSERVATIONS FOR AUGUST 31, 1290, MADE ON BOARD THE STEAMER "ORTIGA HERMANOS"
ON HER TRIP FROM MANILA TO MAGALLANES PORT, SORSOGON.

[Captain, Mr. Manuel M. Romilio.]

Hour.	Position.		Pressure.	Wind.		Remarks.
	Latitude north.	Longitude east.		Direction.	Force.	
	° /	° /	<i>mm.</i>		0-12	
6 a. m	-----	-----	753.4	NE	2	
7 a. m	-----	-----	53.3	NE	2	Slight drizzle.
8 a. m	-----	-----	53.0	E	2	Do.
9 a. m	-----	-----	52.1	SE	5	Do.
9.40 a. m	14 11	120 32	-----	-----	-----	
10 a. m	-----	-----	51.9	ESE	5	
11 a. m	-----	-----	51.6	E	4	
Noon	-----	-----	50.7	E	4	
1 p. m	-----	-----	50.6	ESE	4	Squalls.
2 p. m	-----	-----	50.1	ESE	4	
3 p. m	-----	-----	49.8	ESE	4	
4 p. m	-----	-----	49.4	SE	4	3.30 p. m. anchored at Cavite.
5 p. m	-----	-----	48.4	SE	2	
6 p. m	-----	-----	47.5	S	5	
7 p. m	-----	-----	45	S	11	
8 p. m	-----	-----	49	S	10	Slight to moderate sea from W and SE in Limbones coast.
9 p. m	-----	-----	51	W	7	
10 p. m	-----	-----	52.3	W	6	
11 p. m	-----	-----	52.5	W	6	
Midnight	-----	-----	52.4	W	5	

Although the gale caused by this typhoon lasted less than three hours, yet much damage was done to the Provinces of Bataan, Rizal, Bulacan as well as to Manila, particularly to the shipping, to Corregidor and to the northern part of Cavite Province. The maximum force of the wind in Manila was observed in gusts of 33 m. p. s. (118 k. p. h. or 74 mi. p. h.) at 7.36 p. m. with winds blowing from WSW.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes es ligeramente menor que la normal de agosto en Mindanao, Visayas y en el sur de Luzón, al paso que es ligeramente mayor que la misma normal en el centro y norte de Luzón. Las presiones más altas se observaron generalmente el día 2 en Visayas y Mindanao, y los días 26 y 27 en Luzón. Las presiones más bajas se registraron en todas las estaciones el día 31, cuando un tifón muy pequeño desfogaba en Manila, y otro tifón grande barriá el Pacífico desde las Islas Ladrones hasta Formosa.

La temperatura media mensual es, con raras excepciones, ligeramente mayor que la normal de agosto. Las temperaturas máxima y mínima absolutas de Manila fueron 33.6° C. y 22.7° C., las cuales ocurrieron los días 25 y 21, respectivamente. Las temperaturas extremas de Baguio fueron 26.9° C., 14.7° C. en la cumbre del Mirador, y 27.5° C., 13.8° C. en la llanura cerca del *City Hall*.

Precipitación acuosa.—La distribución de la lluvia durante este mes de agosto en Filipinas presenta un notable contraste con la del anterior mes de julio. Mientras un buen número de nuestras estaciones del SE de Luzón, de Visayas y Mindanao recogieron una cantidad mensual de lluvia mayor que la normal de este mes, las del centro y norte de Luzón, en donde ocurrieron el mes último tan copiosas lluvias e inundaciones, aparecen este mes, casi sin excepción, con un total de lluvia mensual considerablemente menor que la normal. La lluvia total del mes en Manila, 322.5 mm., difiere de la normal en —69.1 mm.; y la de Baguio, 368.8 mm., es 807.7 mm. menor que la normal. Laoag sólo recogió durante todo el mes 99.9 mm. de agua, la cual cantidad es inferior a la normal de agosto en 686.6 mm.

DEPRESIONES Y TIFONES.

No menos de ocho depresiones o tifones aparecieron en nuestros mapas del tiempo durante el mes de agosto. Uno solo de estos tifones desfogó en Filipinas cerca de Manila el último día del mes. Además, hubo un área de baja presión de poca importancia, que se movió desde el Pacífico hasta el Mar de China a través del centro de Luzón el día 29. Las trayectorias de todas estas depresiones y tifones pueden verse en la Lámina V, excepto la del último tifón del mes, que se dará en el boletín de septiembre por haber llegado a Formosa el 4 de septiembre, aun cuando había pasado cerca de Guam el 28 de agosto. Diremos aquí unas pocas palabras sobre cada uno de estos tifones, aunque al fin hablaremos más detalladamente y por separado sobre el tifón de Manila.

Tres tifones de Japón: 30 de julio al 22 de agosto, 1920.—El primero de estos tifones apareció en nuestros mapas del tiempo el 30 de julio en los alrededores de 135° longitud E y 23° latitud N. Se movió al NW hasta el 2 de agosto, en que, una vez en las cercanías de la parte más septentrional de las Islas Loochoos, recurvó rápidamente al N y NE. A las 6 a. m. del día 3 el centro se hallaba cerca del SW de Japón en los alrededores de 131° longitud E y 31° latitud N, moviéndose al NE. El tifón se deshizo probablemente el día 5 cerca de Tokio.

El segundo tifón se formó el día 7 en los alrededores de 127° longitud E y 19° latitud N, y se movió hacia el NE hasta el día 12. Desde la tarde de este día hasta el 16 parece que la dirección del tifón cambió de una manera algo singular por tres o cuatro veces. El centro del temporal se hallaba a las 6 a. m. del día 15 en el SW de Japón, cerca de 133° longitud E y entre 33° y 34° latitud N. El tifón atravesó el Mar de Japón el día 16 como una depresión de poca importancia.

El tercer tifón del Japón se formó el día 16 al E del norte de las Islas Ladrones en los alrededores de 152° longitud E, entre 18° y 19° latitud N. Esta posición puede darse como muy aproximada con las observaciones de Guam y las tomadas a bordo del vapor *New Port News* en los alrededores de 156° longitud E y 16° latitud N. El tifón

se movió hacia el NW, y cruzó el SW de Japón durante la noche del 20 y la madrugada del 21. Probablemente se deshizo el día 22 en la parte meridional del Mar de Japón.

Despachos de la prensa del Japón, de fecha 20 de agosto, dan cuenta de serias inundaciones que duraron en Japón por varios días, como consecuencia de estos tifones. En la Prefectura de Iwate se dice que se ahogaron 11 personas, y 4,600 casas fueron sumergidas bajo las aguas, 100 de las cuales fueron enteramente destruídas. Cincuenta puentes cayeron, al paso que las cosechas y los caminos quedaron grandemente dañados o destruídos. El pueblo de Thukumo, de la isla de Shikoku, en el SW de Japón, fué prácticamente destruído. Setenta cadáveres habían sido ya encontrados el 20 de agosto en las calles cenagosas. Considerable daño causaron también estos tifones en otros muchos pueblos.

Dos depresiones o tifones en las Islas Ladrones: 13 al 25 de agosto de 1920.—Las trayectorias de estas dos perturbaciones (véase Lámina V) pueden darse sólo como probables, pues para trazarlas no disponemos de otras observaciones más que las de Guam. También debido a esta falta de observaciones es imposible determinar si fueron solamente depresiones o tifones bien desarrollados.

Un tifón en el Mar de China: 24 al 27 de agosto de 1920.—Este tifón se echa de ver en nuestros mapas del tiempo del día 24 como formándose cerca de Paracels en los alrededores de 114° longitud E, entre 17° y 18° latitud N. Se movió hacia el W, pasó por el sur de Hainán el día 25, y penetró en Indochina el 26.

EL TIFÓN DE MANILA: 31 DE AGOSTO DE 1920.

Por la tarde del 31 de agosto un pequeño tifón desfogó en Manila, el peor de los experimentados en la Ciudad desde septiembre de 1905. Como el diámetro de esta perturbación ciclónica era muy reducido, y, además, Luzón había estado durante los dos o tres días anteriores bajo la influencia de un área de baja presión que se había movido desde el Pacífico hasta el Mar de China a través de la parte central de la Isla, y todo el Archipiélago estaba el 1.º de septiembre completamente bajo la influencia de un gran tifón que barrió el Pacífico desde Guam hasta Formosa del 28 de agosto al 4 de septiembre, sólo podemos seguir este tifón de Manila durante apenas un día, desde el tiempo en que apareció en el Mar de China al W de Manila, la mañana del 31 de agosto, hasta la mañana del 1.º de septiembre, en que desapareció en el Pacífico cerca de la Isla Polillo. Si ya existió este tifón antes del 31 de agosto, o continuó existiendo después de la mañana del 1.º de septiembre, es imposible determinarlo, dadas estas condiciones del tiempo tan excepcionales.

Trayectoria del tifón sumamente anormal.—Este tifón se formó inesperadamente en el Mar de China al W de la parte meridional de Luzón, y se movió al E½NE a través de las provincias de Bataán, Rizal, Bulacán y una pequeña porción de la parte septentrional de Tayabas: trayectoria completamente anormal y nunca observada antes de ahora en las cercanías de Manila. Por regla general, los tifones, bien se formen en el Pacífico o en el Mar de China, se mueven primero al W o NW, y luego, o conservan la misma dirección hasta que se deshacen en el Continente, o bien recurvan al NE. Raras veces sucede que un tifón se mueva al NE o E desde un principio, o inmediatamente después de su formación. Por lo que toca a Filipinas, nunca se ha observado tifón alguno que, viniendo del Mar de China, se haya dirigido a Mindanao o a las Islas Visayas, o a Luzón por el sur de Manila. Ha habido, sin embargo, unos cuantos casos de tifones formados en el Mar de China que se movieron al NE o E hacia las Islas Batanes y la parte septentrional de Luzón: pero, antes de 1920, prácticamente todos ellos llegaron a Filipinas más arriba de los 17° latitud N. Decimos *prácticamente*, porque en septiembre de 1918 se observó una depresión que, moviéndose al E, atravesó la Isla de Luzón entre 16° y 17° latitud N: pero era una mera depresión dilatada y no un tifón bien desarrollado. En la Lámina VI

reproducimos todos los tifones y depresiones que han seguido este tipo de trayectoria durante el período de 1906 a 1920. A excepción de la depresión que se acaba de mencionar y del tifón que nos ocupa, todos se movieron desde el Mar de China hacia la parte más septentrional de Luzón o las Islas Babuyanes o Batanes.

Aun los tifones que vienen del Pacífico y siguen una dirección normal al WNW, W o NW, por regla general no pasan cerca de Manila durante el mes de agosto, sino que atraviesan el Archipiélago entre 16° y 21° latitud N. Sólo once tifones del Pacífico atravesaron las Filipinas el mes de agosto durante el período de 1901 a 1920, y todos ellos desfogaron en la parte septentrional de Luzón, o en las Islas Babuyanes o Batanes. Sus trayectorias pueden verse reproducidas en la Lámina VI.

De ahí el que la trayectoria del tifón del 31 de agosto de 1920 se considere sumamente anormal, no sólo porque se movió al ENE inmediatamente después de haberse formado en el Mar de China, sino también porque vino a pasar muy cerca de Manila.

Origen y primeros indicios del tifón.—Este pequeño tifón se formó probablemente a unas 150 ó 200 millas al W de Manila la tarde del 30 de agosto, o durante la noche del 30 al 31 de agosto. Su formación tuvo lugar en la parte meridional de un área de baja presión que había pasado por el centro de Luzón, de E a W, el 29 de agosto, y en el límite WSW de un tifón muy grande que estaba barriendo la vasta extensión del Pacífico desde Guam hasta Formosa. Ambos, el tifón del Pacífico y el área de baja presión del Mar de China, hacían que los barómetros se conservasen relativamente bajos en todo el Archipiélago, especialmente en Luzón: de ahí la dificultad de determinar los primeros indicios del presente tifón, siendo como era de un diámetro muy reducido.

En nuestro mapa del tiempo de 6 a. m. del 31 de agosto, se observó en Manila y estaciones vecinas, Santa Cruz (Laguna), Batangas, Calapán e Iba, una peculiar bajada de los barómetros: pero los vientos eran tan variables, NE en Manila, SSE en Santa Cruz, ENE en Batangas, NW en Calapán, calma en Iba, que, aun cuando semejante bajada era algo misteriosa, con todo, no podía tomarse seriamente como indicio de un tifón inminente o recientemente formado. Nuestro mapa del tiempo de 2 p. m. del 31 de agosto era más significativo, pero no concluyente aún, porque el barómetro había bajado tanto en Manila como en Dáet, estación situada a más de 100 millas al E, y los vientos en todo el Archipiélago, a excepción de solas tres o cuatro estaciones, obedecían más bien al gran tifón del Pacífico situado entonces al NE de Luzón. Las observaciones de Olongapó y Corregidor indicaban claramente el nuevo pequeño centro ciclónico que amenazaba a Manila: pero tales observaciones no llegaron a nuestras manos hasta bien entrada la noche, cuando el centro del temporal ya estaba desfogando en la Ciudad.

Nuestro mapa del tiempo de 2 p. m. del 31 de agosto se da reproducido en la Lámina VIII. En ella verán nuestros lectores el gran tifón del Pacífico, y también un área de baja presión relativamente extensa al N del pequeño tifón de Manila. Como se ve, este mapa, se completó posteriormente después de recibir las observaciones en Olongapó y Corregidor.

En una tabla que puede verse en el texto inglés se dan las observaciones hechas en Manila el 31 de agosto, y en la Lámina IX publicamos un facsímile de las curvas de nuestro barógrafo Fuess y anemógrafo Beckley. Solamente el notable descenso observado en nuestros barómetros desde las 2 hasta las 3 p. m., y la fijeza y aumento de fuerza de los vientos del SE nos obligaron a izar la 4a. señal de temporal en Manila, y a publicar aviso alarmante de tifón en toda la Ciudad. Semejante señal de temporal nunca se había izado en Manila con vientos del SE. Oímos decir a Capitanes de larga experiencia en Filipinas, que ellos no podían creer lo que estaban viendo, y creían que era una mera equivocación. Los tifones de Manila siempre vienen del Pacífico, moviéndose al W, WNW o NW: y, o pasan por el norte, y entonces los vientos rolan del NW al SW, o pasan por el sur, y los vientos rolan del N y NE al E y SE. Vientos del SE en Manila

siempre se habían considerado hasta ahora como indicio de un baguio que se aleja de la Ciudad. Con todo, no fué esto así en el presente caso, y los sucesos de aquella memorable noche del 31 de agosto justificaron plenamente la acción tomada por el Observatorio de Manila.

El tifón atraviesa Luzón cerca de Manila moviéndose al $E\frac{1}{4}NE$.—En la Lámina VIII verán nuestros lectores la posición del centro ciclónico a las 2, 7 y 10 p. m. del 31 de agosto. Y en la Lámina VII reproducimos los registros barográficos obtenidos por medio de un barógrafo Richard en el Observatorio de Manila, y en nuestras estaciones voluntarias de Olongapó y Cavite. Finalmente, en la misma Lámina VII se dan las isobaras de 6 a. m. del 1.º de septiembre, en que apenas podemos distinguir nuestro pequeño tifón en el Pacífico al E de Manila, el cual con toda probabilidad debió de ser absorbido pronto por el gran tifón que estaba amenazando a la sazón el grupo de islas de Meiacosima y Formosa. Las isobaras alrededor del centro del gran tifón se han trazado en la suposición de que la forma del mismo y la distribución de las isobaras cerca del vórtice eran casi las mismas el 1.º de septiembre que cuando el centro se hallaba en Meiacosima dos días más tarde, septiembre 3, a las 5 p. m.

En Manila se observó claramente calma relativa entre 7.40 y 7.57 p. m. La mínima barométrica registrada en el Observatorio fué 744.90 mm., la cual tuvo lugar a las 7.40 p. m. Se cree que esta fué prácticamente la mínima barométrica en el centro del tifón, a lo menos cuando pasaba cerca de Manila. Se llama la atención de nuestros lectores sobre el rápido role de los vientos en Manila, según se echa de ver en la Lámina IX, del SE al S, SW, W y NW. Esta clase de role nunca se había observado antes en Manila con tifones que pasan por, o muy cerca de, la Ciudad, según queda dicho.

Prácticamente el mismo role de vientos se ve en las observaciones hechas a bordo del vapor *Ortiga Hermanos* en la Bahía de Manila y en Cavite; publicamos dichas observaciones en una tabla en el texto inglés.

Aun cuando los vientos violentos producidos por este tifón duraron menos de tres horas, con todo, causaron mucho daño a las provincias de Bataán, Rizal, Bulacán y también a Manila, particularmente a las embarcaciones, a Corregidor y a la parte septentrional de la provincia de Cavite. La máxima fuerza del viento en Manila se observó en rachas de 33 m. p. s. (118 k. p. h. ó 74 mi. p. h.) a las 7.36 p. m. con vientos que soplaban del WSW.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.

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

Table with columns: Day, Pressure (mean), Air temperature (Mean, Maximum, Minimum), Underground temperature (0.25 meter, 0.50 meter, 1.50 meters, 2.50 meters), Relative humidity (mean), Vapor pressure (mean), Radiation (Minimum on grass, Maximum in sun, Black bulb in vacuo), Evaporation (Free exposure, Shelter total). Rows 1-31 and Mean/Total/Departure from normal.

Table with columns: Day, Wind (Prevailing direction, Total movement, Maximum hourly velocity, Direction at the time of the maximum velocity), Clouds (Amount (mean), Form and direction: Upper, Lower), Sunshine (Sun-shine), Rain, 24 hours beginning 6 a. m. (On the tower, In the park), Miscellaneous. Rows 1-31 and Mean/Total/Departure from normal.

* All the mean values given in this table are deduced from hourly observations.
b These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
c Maximum of hourly observations taken from 6 a. m. to 6 p. m.

METEOROLOGICAL DATA FOR MIRADOR OBSERVATORY, BAGUIO.*

[$\phi=16^{\circ} 25' N$; $\lambda=120^{\circ} 35' E$; barometer above sea, 1,512.5 meters; gravity correction not applied, -1.65 mm.]

Day.	Pres- sure ^b (mean).	Air temperature at Mirador (on the top of the mountain).					Air temperature in the pla- teau near the City Hall.					Rela- tive humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation.	
		Mean.	Maxi- mum.	Hour.	Mini- mum.	Hour.	Maxi- mum.	Hour.	Mini- mum.	Hour.	Mini- mum on grass.			Maxi- mum in sun. Black bulb in va- cuo. ^c	Free ex- posure (to- tal).	Shel- ter (to- tal).	
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	°C.	°C.	mm.	mm.		
1	636.55	18.9	22.3	1.55p.	16.4	12m.n.	22.4	0.35p.	16.6	12m.n.	92.8	15	16.6	55	2.4	1.2	
2	36.16	17.6	20.7	11.55a.	16	4.30a.	21	0.45p.	16.4	4.00a.	97.7	14.6	14.7	47.3	.3	.2	
3	35.95	17.4	19.7	1.00p.	16	2.05a.	21.5	1.40p.	16	1.00a.	99.3	14.7	15.3	42.8	.2	.1	
4	35.96	16.9	20.6	11.40a.	15	11.45p.	21	0.45p.	15.4	11.15p.	98.5	14.1	15.5	52.1	.2	.1	
5	36.11	17.2	20.6	1.50p.	15.3	0.05a.	21.6	1.20p.	15.4	0.05a.	98.2	14.3	13.6	50.6	.2	.1	
6	36.46	17.8	22	0.20p.	15.5	2.40a.	22	2.40p.	15.8	3.00a.	96.5	14.7	14.3	56.2	.4	.3	
7	36.04	17.9	21.6	2.30p.	15.8	5.55a.	22.3	2.40p.	16.2	1.00a.	95.5	14.6	14.7	51	1.6	.4	
8	35.66	17.4	19	0.30p.	16.1	11.30p.	20	11.00a.	16.7	8.00a.	99.5	14.7	15.5	42	0	0	
9	35.35	17.7	18.7	0.10p.	15.7	2.10a.	20.2	0.30p.	16.2	1.45a.	99.2	14.3	14.7	45.4	.2	.1	
10	35.15	17.3	20.4	0.25p.	16.2	4.30a.	21.1	1.00p.	16.4	5.00a.	99.2	14.6	15.6	46.5	0	0	
11	35.57	18.1	22.3	0.05p.	16.3	4.55p.	22.9	0.30p.	16.4	12m.n.	97.2	15	15.4	57.2	.9	.3	
12	36.04	18.3	22.8	1.45p.	16.1	5.10a.	23.1	1.15p.	16.3	5.15a.	94	14.7	15	60	1.5	.6	
13	36.16	18.4	23	1.25p.	15.8	5.50a.	24.1	2.40p.	15.8	4.50a.	93.8	14.8	14	60.1	1.9	.8	
14	36.06	18.7	24.4	1.30p.	16	3.45a.	24.5	Noon	15.8	5.00a.	90.8	14.6	14	60.2	1.9	1	
15	36.22	18.2	23.3	1.05p.	16.4	6.00a.	24.4	1.00p.	16.2	0.30a.	93.5	14.6	14.6	58.7	1.1	.8	
16	35.82	18.4	23.5	0.50p.	16.1	3.30a.	24.2	Noon	15.6	5.30a.	91.2	14.4	13.4	59.4	1.9	.9	
17	35.07	18.4	23.3	1.00p.	15.2	5.00a.	23.9	0.15p.	14.5	12m.n.	80.5	12.7	12.5	57	3.3	1.7	
18	34.34	17.7	23.2	0.50p.	14.7	10.50p.	23.6	1.50p.	13.8	1.30a.	82.8	12.5	12.3	58.5	2.6	1.5	
19	33.55	18.2	23.3	10.50a.	14.8	1.35a.	23.6	1.30p.	14.5	2.45a.	87.5	13.6	11.7	64.8	1.3	.7	
20	33.50	16.9	22.1	11.30a.	15.3	2.25a.	22.7	11.10a.	14.7	5.00a.	96.2	13.8	13.5	58.3	1	.5	
21	34.11	17.2	21.8	1.00p.	15	3.35a.	21.9	1.00p.	14.8	5.10a.	96	14	13.3	59	1	.6	
22	33.89	18.1	23.3	11.00a.	15.4	5.55a.	23.9	10.45a.	15.6	6.00a.	95	14.6	13.8	61.8	.9	.2	
23	34.06	18.1	23.1	0.55p.	15.3	6.10a.	23.9	2.15p.	15.5	3.30a.	93.7	14.4	14	55.7	1.5	.8	
24	34.36	17.6	20	10.15a.	16.1	4.30a.	21.4	10.30a.	16.5	4.30a.	94	14.1	15.5	54.2	1.8	1	
25	35.08	18.5	24.4	1.10p.	16	5.55a.	24.9	Noon	15.8	4.45a.	89.8	14.2	14	58.8	2.5	1.2	
26	36.30	18.2	23.9	9.50a.	15.9	11.50p.	24.1	9.45a.	16	4.30a.	93.2	14.5	14.3	61.2	1.1	.7	
27	36.44	18.1	21.3	11.30a.	15.8	2.30a.	22.1	10.00a.	15.6	6.00a.	93.8	14.5	14.2	54	.8	.3	
28	35.33	19.2	23.7	1.40p.	16	5.55a.	24.6	1.00p.	14.8	6.00a.	91	15.1	12.6	55.3	2.2	1.6	
29	34.48	20.6	26.3	10.00a.	17.3	2.10a.	27.5	11.10a.	15.8	4.35a.	87.3	15.7	14.2	61.9	1.8	1	
30	34.06	20.3	26.9	1.30p.	16.9	8.30p.	27.4	2.00p.	15.4	5.10a.	82.3	14.5	13.5	60	4.1	2.2	
31	32.05	18.6	22.4	2.30p.	16.2	4.40a.	23.8	1.30p.	16.6	5.15a.	91.8	14.6	15	50.8	.9	.6	
Mean	635.22	18.1	22.4		15.8		23.1		15.7		93.3	14.4	14.2	55.3	1.3	0.7	
Total															41.5	21.5	

Day.	Wind.				Clouds.			Sun- shine.	Rain, 24 hours begin- ning 6 a. m.	Miscellaneous.
	Prevailing direction. ^d	Total move- ment.	Maxi- mum hour- ly veloc- ity.	Direction at the time of the maximum velocity.	Amount (mean).	Form and direction.				
		Km.	Km.		0-10	Upper.	Lower.	h. m.	mm.	
1	SW	377.9	29.6	SW	7	Ci.	Cu.-N. W	4 20		p o p.
2	W	648.1	34.3	SW	9.9	Ci.-S., Ci.	Cu.-N. wsw,w	0 05	4.1	o a. a. a. p.
3	SW	644	36	SW	9.7	Ci.	Cu.-N. W	0 00	13.6	o a. a. a. p. p.
4	SW	668.1	43.8?	SW?	10	Ci.-S.	Cu.-N. w,sw	0 25	13.5	o a. a. a. p. p. p.
5	SW				10		Fr.-N. SW,W	0 25	5.9	o a. a. p.
6	SW, W		36.7?	SW?	10	Ci.-S.	Cu.-N. W	1 00	12.9	o a. a. p. p.
7	SW, W		35.4	W	9.6	A.-Cu. SW	Cu.-N. SW	2 15	9.7	d ² a. a. a. p. p.
8	SW, W	689	35.4	W	10	Ci.-S.	Cu.-N. SW	0 00	20.8	d ^o a. a. a. p. p.
9	SW, W	772.9	44.3	SW	10	Ci.-S.	Cu.-N. SW	0 00	49.3	o a. a. a. p. p. p.
10	W	531.7	32.8	W	10		Cu.-N. SW	0 00	26.3	o a. a. a. p. p. p.
11	W	395.4	24.6	W	9.1	Ci.-S.	cu.-N.sw,sw	2 00	16.8	o a. a. a. p. p. p.
12	W	315.3	22.8	W	8.6	Ci.-S. SSE	Cu.-N. SW	3 20	1.8	o a. a. a. p. p.
13	W	224.9	18.8	W	7.6	Ci., Ci.-S.	Cu.-N.ENE,WSW	3 10		o a. a. p. p. p.
14	NE, SW	254	26.4	SW	8.7	Ci.	Cu.-N.SW,WNW	3 15	1.6	o a. a. a. p. p. p.
15	W quad.			W	8.4	Ci.	N. W	1 30	23.2	o a. a. a. p. p. p.
16	W quad.	290.7	26	W	7.6	Ci.	Cu.-N. W	3 00		o a. a. a. p. p. p.
17	W quad.	321.1	24.3	W	6.7	Ci.	Cu.-N. W	5 20?		o a. a. a. p. p. p.
18	W, NW	429.7	26.6	SW	5.9	Ci.	Cu.-N. W	4 30		o a. a. p.
19	W	344.5	24.1	W	8	Ci.	Cu.-N.,Cu. W	2 55	16.6	o a. a. a. p. p.
20	W	370	34.8	SW	8.6	Ci., Ci.-S.	Cu.-N. W	1 40	15.1	o a. a. a. p. p.
21	W	373.5	27.7	W	7.9	Ci.-Cu., A.-Cu.	Cu.-N. W	3 25	6.7	o a. a. a. p. p.
22	E, W	237.6	22.5	W	8	Ci.-S.	Cu.-N. WSW	2 25	9.6	o a. a. p. p.
23	E	310.8	22.8	SE	8.9	Ci.-S.	Cu.-N. S,SW	3 30	35.8	o a. a. a. p. p. p.
24	E	465.9	36.2	E	9.9	Ci.-S. SSE	Cu.-N. S	0 35	5.1	o a. a. a. p. p.
25	E	382.8	24.3	E	7.9	A.-Cu. E	Cu. ESE	2 50	15.5	o a. a. a. p. p.
26	NE quad.	322.4	27.6	W	7.7	Ci.	Cu.-N. WSW	3 10	32.8	o a. a. a. p. p.
27	W	262.7	20.4	W	7.7	A.-Cu. SE	Cu.-N. SW	3 15	16.3	o a. a. a. p. p.
28	Variable	225.9	19.9	W	8	Ci.-S.	Cu.-N. SW	2 55?	1.3	o a. a. a. p. p.
29	NE, E	210.8	17.1	SW	6.9	Ci.	Cu.-N. ESE	4 25		o a. a. p.
30	E	339.1	22.5	W	4.6	Ci.	Cu.-N. SSW	6 40	5.3	o a. a. p.
31	E, NE	265.9	18	NE	9.4	Ci.-S.	Fr.-N. SSE	0 20	9.2	d a. d o p.
Mean		395.4	27.9		8.5			2 21		
Total								72 40	368.8	

* All the mean values given in this table are deduced from six daily observations taken at 2, 6, 10 a. m. and 2, 6, 10 p. m.
 b The barometric readings of this station are not reduced to sea level.
 c Maximum of hourly observations taken from 6 a. m. to 6 p. m.
 d This element is based on hourly observations taken from a quadruple register, which gives only eight possible directions of the wind.
 e 8 hours missing.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, AUGUST, 1920.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Lapac Agricultural School, Siasi, Sulu †		4.1														8.9
Glan, Cotabato †				1.8									1.8	40.1		
Jolo, Sulu							1.3					5	6.6	11.3		1
Lais, Malita, Davao	4.1	1.5	5.8							1						1
Lebak, Cotabato		17.5		7.9		12.7	3			8.1		13.7		7.1	9.1	15.7
Lamitan, Isabela, Zamboanga			73.4	2.5	4.6	8						3.6	10.7	17.3		
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †			19.3		8.1									18.8		
Basilan Plantation Office, Isabela, Zamboanga †	10.1		4.8										5	9.7	11.7	4.3
La Union, Sigaboy, Davao †	.3			.3								1.8	5	9.7	11.7	4.3
Paranglalap, Isabela, Zamboanga †		17.8	3.8		5.1							7.6	15.2	22.9		
Latuan, Isabela, Zamboanga †	2.5	2.5	3		2.3							2.3		3.8		
Buluan, Cotabato †				1						.5	5.8			19	16	8.4
Malamaui, Isabela, Zamboanga	3.6		4.1		1.3									2.8	1.5	4.3
Zamboanga, Zamboanga		2.1	13	.5	9.4		.5		3.8					38.1	7.9	23.1
Cagayan de Sulu, Sulu †		1.3	48.3			2.5		16		5.1				35.6	5.8	15.2
Kidapawan, Cotabato †	18.3			15.7				3.6						58.7		14
Davao, Davao			21.3	23.4	21.8											
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †	27.9													21.8	9.7	25.4
Pikit, Cotabato	4.8	.8								1.3	7.9	5.6	1.5	22.1	11.2	
Cotabato Seel Station, Pikit, Cotabato †	.3								1.8	15.2	5.1	2.8	18.3	13.5		1.3
Awang, Cotabato †																
Sirib, Guianga, Davao †	43.2			19			9.1							22.9		33
Kabakan, Cotabato †	3.6	5.1			1						10.7	1	5.1	9.1	3.3	3.8
Bual, Dulauan, Cotabato														2	2	2
Cotabato, Cotabato	7.1	1		.5	1	9.4	10.4							30.2	9.9	13
Kabasaran, Buldun, Cotabato †	4.8		25.4		37.1		5.1						15	46.5	10.2	27.9
Naganaga, Margosatubig, Zamboanga					58.9		2	1	102.4		29.2	.5	1	3.6		
Malabang, Lanao	1.8		14.5	34	1	61.5	11.9	2.8		12.2	34.8	4.3	3.3		66	6.9
Compostela, Monkayo, Davao †			4.3		5.1				4.6	4.1	5.6	10.6	2.8			
Lumbatan, Lanao †	5.1	2.5	8.6					5.1	5	1		27.9				43.2
Cateel, Davao			1.8					1								1.3
Ganasi, Lanao	2			3.8	18.3	7.1				1.3	1.3	11.4	3.8	26.2	2.8	3
Camp Kalao, Monkayo, Davao					7.6				4.8	6.6				2.5	9.4	5.6
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon	8.9		6.1		33	8.9	7.6			11.4	16.5	1.3	3.8	20.8	20.8	42.9
Camp Keithley, Dansalan, Lanao	1		.5	45.2	6.8	70.9	1.3		.5		20.8	.5	6.6	25.7	1	3
Veruela, Agusan			3		2.8		1.8	1.3	4.1	.3	5.8	34.3		.8	2	5.8
Sindangan, Zamboanga †	1		3.3					1.3					.8	54.9	26.4	1.3
Sumilau, Bukidnon	48.2	3.6	3	2	34						43.2	16	3.3	10.9		5.6
Diklom, Tangkulan, Maluko, Bukidnon †	3.6		1.5	4.6	2							2.5	3.8		1	1
Cagayan, Misamis		1	20.3		1.1									1.5		
Talacogon, Agusan	2	4.3	4.3				1.8		26.7			1.8	1.8			5.1
Butuan, Agusan		10.4	.3								31.2		6.6	.8	16.8	.5
Mambajao, Misamis		5.1			.8			1.5		1.5					16	1
Dumaguete, Oriental Negros		5.1													1.3	1.3
Meeth, Yap, Western Carolines	5.1					16.8		13		7.2		5.6	39.1	12.1		.3
Hacienda San Jose, Tanjay, Oriental Negros †						6.1										7.1
Hacienda Palanas, Bais, Oriental Negros †		1.5														43.9
Hacienda Tamugon, Bais, Oriental Negros †										5.1			17.8		10.2	
Tagbilaran, Bohol		2.1									1			2	4.3	3.6
Iwahig Penal Colony, Puerto Princesa, Palawan	7.6	8.6	8.9	.3				11.2						1.8	1.8	6.1
Dalaguete, Cebu																1.5
Surigao, Surigao		10.9		5.1												24.7
Central Palma, Ilog, Occidental Negros	2.6	3.8		30.5												
Hacienda Naval, Himamaylan, Occidental Negros				3.8								3.8				1.8
Biaong Cui's Farm, Barili, Cebu													7.6		31	1.3
Maasin, Leyte		25.4									8.4				19.3	47
Binalbagan Estate, Binalbagan, Occidental Negros †		.5		7.9						2.5		1.3		.8		5.6
Isabela, Occidental Negros		2.5				3.6						20	.3	10.9	.8	1.5
Hacienda Tanolo, Hinigaran, Occidental Negros	.8	1.8		32.5					.5			3		3	.8	68.1
Cebu, Cebu		3.6										3		.8		3.3
La Castellana, Occidental Negros		11.2		15.7	.3	.3				6.4		77.7	9.9	1.3	3.1	17.1
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †																
Central Azucarera de La Carlota, La Carlota, Occidental Negros	26.9	5.8	.5	9.4	.3	1.5	6.1			22.9	.5	5.1	.3	2.3	1.5	39.4
Hacienda Canlaon, La Castellana, Occidental Negros	17.5	14.2		7.9			3.3			10.7		30.5	20.6	3.3	6.8	6.6
La Carlota Experimental Station, La Carlota, Occidental Negros †	9.1	12.2		5.3			1					7.4	8.4		1	3.6
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	17.3	6.1					1.3	3.6					58.7		3.8	1
Hacienda San Antonio, San Carlos, Occidental Negros †																
Valladolid, Occidental Negros	35.1	11.2	.8	1		1.3	3	1.8		5.3		44.4				47
Central San Carlos, San Carlos, Occidental Negros †	2.8												7.6		1.8	33.8
Hacienda Refugio, San Carlos, Occidental Negros †	11.4															17.3
Murcia, Occidental Negros	18	25.9		3				3				21.1		16	2.1	3
Oton, Iloilo	.3	5.6	2.5	.5				5.1	4.3					1		1
Concepcion, Talisay, Occidental Negros	7.9	13					1.3	3				22.4	15		25.4	1.3
Iloilo, Iloilo	1.5	4.3	22.9				3	.8	.5			2.5			.5	5.1
Lapulusap, Iloilo, Iloilo †	3.6	2	22.9				1.8	3				1.3			7.6	7.6
San Jose de Buenavista, Antique	11.2	10.6	8.1	25.4				18.8	10.4	.5					5.6	6.4

Daily rainfall at the stations of the Weather Bureau, August, 1920—Continued.

Station.	Day of month.															Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Lapat Agricultural School, Siasi, Sulu†		16.5									2.5		11.9	3.8		47.7
Glan, Cotabato†		17.8										11.4	12.2	32.5		115.8
Jolo, Sulu	6.4	3	13.5				3.8			53.1		.4	8	.3		109.7
Lais, Malita, Davao	21.3	9.4					8.4		4.3	2	7.6					67.2
Lebak, Cotabato	63.8	59.7					67				9.1		16.8	63.8		375
Lamitan, Isabela, Zamboanga		27.1	11.7						37.3	34		22.9	2.3		*	248.2
Basilan Plantation, Kabumbatan, Isabela, Zamboanga†	22.9	13	30.5		3									4.5		120.1
Basilan Plantation Office, Isabela, Zamboanga†	19.3	13.5	17		3									3		96.9
La Union, Sigaboy, Davao†																4.2
Paranglalap, Isabela, Zamboanga†	33	14	26.7		2.5				25.9					6.4		180.9
Latuan, Isabela, Zamboanga†	22.4	10.7	19.5		2	7.9										78.9
Buluang, Cotabato†	30.5	.3				25.4			16.8	2.5	2	9.7	8			138.7
Malamaui, Isabela, Zamboanga	15	18	28.2		10.4		8.4							5.3		94.3
Zamboanga, Zamboanga	7.2	5.4	31.2		2.5	1.3	2.3					2.5	5	4.3		95.1
Cagayan de Sulu, Sulu†			5.3													147.6
Kidapawan, Cotabato†	2.5	17.8	16.2	4.3									1.3		11.4	217.6
Davao, Davao																153.9
Piang Agricultural School, Kudarangan, Dulauan, Cotabato†	13.5	14.7	17.5							1.5				4.1		139.7
Pikit, Cotabato	1.3	5.6	9.7											3.3		75.1
Cotabato Seed Station, Pikit, Cotabato†	4.8	5.3		1.3	.5								2		6.1	78.3
Awang, Cotabato†					1											1
Sirib, Guianga, Davao†	21.3								8.9							157.4
Kabakan, Cotabato†		.8				17.8			2.5					5.1		68.9
Bual, Dulauan, Cotabato	.8	3.8	4.8											3.3		18.7
Cotabato, Cotabato	10.2	14	34.3	.8	4.3	3			.8	7.2		9.2		14.7		178.3
Kabasaran, Buldun, Cotabato†		25.4			2.5	50.8				20.3	35.6	43.1	42.7	62.5	40.6	495.5
Naganaga, Margosatubig, Zamboanga	5.6	9.1	12.7	12.2	26.7	3.8	12.7		76.7	.5		.8				359.4
Malabang, Lanao	23.6	68.6	18.8		14.5	5.6	18.5	7.4	4.3			1.8	24.6	27.4	17.8	512.2
Compostela, Monkayo, Davao†	2.5		1.3		3.6		5.1	4.6	5.1	10.2						69.5
Lumbatan, Lanao†	12.7	6.4	19.1	2.5	3.8						7.6	2.5	12.7		12.7	178.4
Cateel, Davao		3.8		13	1.5				1.3	17.8	1.3					42.8
Ganasi, Lanao	8.6	49.5	7.6	6.4	1.8	19.8	21.6		.5			15.5	9.1	39.4	9.6	270.4
Camp Kalao, Monkayo, Davao	17	.8		43.4	39.9	1.3	13.2		7.4		6.9					166.4
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon	36.1	50.3		82.6	30.5	6.9	38.9	11.7	.5	19	1.3	19				478.8
Camp Keithley, Dansalan, Lanao	24.8	16.8	.5	14.5	5.6	18.5	65.3	20.8	1.6	21.6	6.9	7.6		15.5		403.8
Vernela, Agusan	30.5	25.9	1.3	14	7.1	2	25.1		.8	12.2	20.8	6.9		8.9		214.7
Sindangan, Zamboanga†	25.9	49.8	2.8	5.8	1.3	3.3						20.3	6.1	2.5		209.6
Sumilau, Bukidnon	27.9	7.9	15	2	57.6	3.8	50		2	5.6	11.4					352
Diklom, Tangkulan, Maluko, Bukidnon†	33	30.2	3.6			12.7	30.5			11.7	10.2	16.5				168.4
Cagayan, Misamis	27.4	2.5	35.6		1.3	1.8	2.3			49.5		20.8		27.4		192.5
Talacogon, Agusan	19.8	21.6	17.8	3.6	3.3	22.9	16.8	2		2.3	2.3	17.8	2.5	6		186.5
Butuan, Agusan	34.3	1.3	.8							26.2	6.9	.8	4.8			141.7
Mambajao, Misamis	20.3	18.3	1.5	2.5		3.3		25.1	2.8	22.9	39.6	25.4	3.8	16.8	2.3	210.5
Dumaguete, Oriental Negros	.3	3.3	5.8	18.6		*	7.1			3.6		6.6	.8			55.4
Meeth, Yap, Western Carolines		.6	.8	3	.3	5.8	4.6	34.2	63.3	.3	1.8	10.7	17.5	28.1	30.2	300.4
Hacienda San Jose, Tanjay, Oriental Negros†				38.8	3.3							23.7	8.9	40.1	36.6	164.6
Hacienda Palanas, Bais, Oriental Negros†	35.6	27.7	13.7	17.8	5.1		6.6			2			16.8	11.9	31.2	213.8
Hacienda Tamugon, Bais, Oriental Negros†		40.7	30.5	19.1	2.3				.5	26.2	.3	19	17.8	17.8	10.2	188.2
Tagbilaran, Bohol																42.3
Iwahig Penal Colony, Puerto Princesa, Palawan	2.3	5.8	5.1	12	4	.3	4.3	.8	2.5	6.7		14.5	6.3	23.3	1.3	139.6
Dalaguete, Cebu	21.8			11.4						14.7				.5		56.8
Surigao, Surigao	.8	8.7	1							13	28.4	1.6				100
Central Palma, Ilog, Occidental Negros	5.1	7.1	1	1.3	.8	3.1						7.6	2.5	5.5	2.3	76.7
Hacienda Naval, Himamaylan, Occidental Negros	49.5	24.6	32.8	27.7	37.6	20.3	1.8	12.4	4.3			23.6	27.9	43.7		315.6
Biaong Cui's Farm, Barili, Cebu												14.5				54.4
Maasin, Leyte	42.7	54.4		24.4	13.7	10.9						18.5		7.4		272.1
Binalbagan Estate, Binalbagan, Occidental Negros†	47	17.8	48.8	11.7	15.5	7.6		11.4	20.1	7.6		22.4	1.3	11.7		241.5
Isabela, Occidental Negros	37.1	11.9	23.9	28.4	15.5	2.6	.3		7.9	33.5	.3	8.9	1.5	16		227.4
Hacienda Tanolo, Hinigaran, Occidental Negros	49.5	31.2	62	26.9	17.3	11		21.3	17.8	4.1		33.5	4.6	15.2		404.9
Cebu, Cebu								2.3	2	6.1		3.1		1.8		32
La Castellana, Occidental Negros	12	7.6	33.8	17.8	7.4	6.4	3	27	16.8	55.6	.3	19	3.6	14.4	.3	368
Hacienda Vallehermoso, Vallehermoso, Oriental Negros†			.3		1.3			3.3		6.9		34.5	3.3			49.6
Central Azucarera de La Carlota, La Carlota, Occidental Negros	19.1	13.5	71.9	22.9	33.3	36.5		4.1	14.5	13.5	.3	62.8	5.8	24.2	.5	445.4
Hacienda Canlaon, La Castellana, Occidental Negros	9.4	17.3	51.8	9.9	24.1	20.3	1	6.6	32.3	41.9		26.9	9.2	11.7		383.8
La Carlota Experimental Station, La Carlota, Occidental Negros†	10.4	4.3	65.3	15.8	23.6	37.6	.5	27.9	23.4	32.5		59.7	8.4	21.9		379.3
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	61.7	7.9	39.9	17.8	19.8	9.9	3.3	4.6	7.2	5.3		101.1	7.1	29.4		406.8
Hacienda San Antonio, San Carlos, Occidental Negros†				20.3								25.4		7.6		53.3
Valladolid, Occidental Negros	18	16	17	27.5	32.8	12.2	13	9.7	5.3	24.9		29	25.1	16.8		398.2
Central San Carlos, San Carlos, Occidental Negros†	5.8		3.8	5.8				2.5	1			35.3	26.9	1	2.3	130.4
Hacienda Refugio, San Carlos, Occidental Negros†			7.1							45.7	13.5					95
Murcia, Occidental Negros	18.5		6.6	1.8	12.9		24.1	8.4		12.2		23.4	8.2	15	1.8	225
Oton, Iloilo	.5		1.3	5.1	10.9	.8	27.2			15.2		1	36.6	38.3	46	203.2
Concepcion, Talisay, Occidental Negros	10.4		4.3	7.1	16.7		23.1	10.2		7.9	1.3	36.6	5.5	14	2.1	228.5
Iloilo, Iloilo	.5		3	5.8	21.6	4.4	12		.3	5.1	.3	22.6	15	77.2		206.2
Lapusan, Iloilo, Iloilo†	.8		1	4.1	21.6	3.8			.5	2.5		24.1	23.4			131.6
San Jose de Buenavista, Antique	56.4	57.4	47.2	53.9	19.3	37.3	10.4	9.4		6.9		36.3	41.7	19	37.8	530

Daily rainfall at the stations of the Weather Bureau, August, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Tuburan, Cebu		3.3														2.8
Silay, Occidental Negros		38.1					0.3	8.1				1.8	5		5.1	
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros†	2.3	49.3						9.4				5			4.6	
Cuyo, Palawar	10.4	16.2		34.3	10.9		11.2		5.1	17.8		5.1	9.4	1.3	.8	
Lucena, Santa Barbara, Iloilo†														6.9		
Hacienda Ilaya, Victorias, Occidental Negros		2.8										6.4				
Hacienda Bilbao, Manapla, Occidental Negros		32											2.5		2	
Cadiz, Occidental Negros		2.3														
Ormoc, Leyte	8.1	22.1				1.8					0.5			1.3	6.4	3.3
Guiuan, Samar	6.9	24.1		14.2											18	2
Bogo, Cebu		19.3														14.5
Dueñas, Iloilo†				5.3								1.5	11.4		9.7	1.5
Bitagoan, Passi, Iloilo†	50.8			16.3							7.6	5.1	1.3		2.5	12.7
Tacloban, Leyte	6.4	50.8													.6	
Dumarao, Capiz†	1.3	5.1		17.8				27.9				53.3				1.3
Dao, Capiz†	3.3	21.1		39.4	2.3	31.5		10.4	2.3			11.4	50.8		1.3	
Capiz, Capiz	6.6	5.3											.3		.8	
Boronggan, Samar	4.8	29													11.7	15.5
Catbalogan, Samar	3.8	47.8					5.3							14.2	8.9	1.3
Calbayog, Samar		26.9										16.3		5.3	8.4	3.6
San Jose Estate, Robles Camp D-17, San Jose, Mindoro†	16.5	9.1	7.6	20.3	7.7	6.1	39.4	8.4	6.9	2.3						4.3
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro†	11.4	18.5		36.6	1.8	3	1.3	24.1	2.1	10.4					5.8	3.3
San Jose Estate, San Agustin, San Jose, Mindoro†		43.2		44.4	4.1	1.5				24.1						
San Jose Estate, San Jose, Mindoro†	8.6	13.3	1	45.2	10.2	4.6	1	12.7	1.3	8.4	.3			.3		9.9
Masbate, Sorsogon		1													21.8	
San Jose Estate, Tunnel D-12, San Jose, Mindoro†	12.2	15.2	1.5	28.2	8.6	2	1.5	3	8.4	2.1						6.9
Romblon, Romblon	1.5	6.9														.9
Batag Lighthouse, Laoang, Samar		25.4										1.3				6.9
Irosin, Sorsogon		2.5										31.5	4.8		15.5	2.8
Sorsogon, Sorsogon		1.5		.5												
Legaspi, Albay, Albay		.8										2	.8			
Guinobatan, Albay		5.6				.5	.3	.3		.3	.3		.5	.3	3	13.5
Polangui, Albay	*	*	*								7.1		1.3	48	22.9	10.2
Tabaco, Albay		2.8														
Sumay, Guam, Ladrone Islands	19.8	7.9				.3					1.8	5.1	43.2	9.9	7.1	2
Calapan, Mindoro																45.2
Virac, Albay		7.9				5.3										
Naga, Camarines Sur		4.6				.5						.8				13.3
Tigaon, Camarines Sur						.5										3.8
Batangas, Batangas					.3	.8						5.1				4.8
Calatagan, Batangas					2.3							2.8				4.3
Balayan, Batangas	1.5							2.5								17
Lipa, Batangas	4	6.1						.3	1.5				1		.5	
Lucena, Tayabas																13.7
Atimonan, Tayabas												5.1				
Lian, Batangas							4.3									
Nasugbu, Batangas	21.7															
Ambulong, Tanauan, Batangas																
Daet, Camarines Norte			8	2.8	1.5		1.5	3.8	1.3	1.5				20.6		24.1
Mendez Nuñez, Cavite	1.5		1.5	2.8	4.1		6.6	11	4.8	1			32.3	62.2	1.8	46.5
Alfonso, Cavite		.8			2.6		.5	.5		1				21.3	1	10.8
Indang, Cavite	1.5													8.6	10.2	5.6
Canluban, Calamba, Laguna					1.3							3		37.3		9.9
Silang, Cavite	.3													13.5	30.2	30.2
Maragondon, Cavite	2.5	3.3		.5	1.3		2.8	3	.8	3	.3					
Paracale, Camarines Norte							3.3	2								14.2
Santa Cruz, Laguna										1				4.1	10.4	5.8
Buenavista, Malabon, Cavite															71.9	.3
Imus, Cavite	2.5	1.5	1.3	4.6		1.6		.8	1.3							
Alabang Stock Farm, Alabang, Muntinglupa, Rizal†	1	2.5	1.3						4.6							5.8
Manila, Manila	1.1		8.4	1.3			1.3	.3			4.6					13.7
Antipolo, Rizal	4.6	.8	5.6	7.1	6.4	8.1	.8	12	1	14.8	5.9	3				17.8
Bosoboso, Antipolo, Rizal†	6.1		3.6	19	4.3	8.1		3	7.7	6.8	31.5					10.7
Balanga, Bataan	3	1.3	5.6	4.8	2.1	.3		2.3	1.3							3
Montalban, Rizal†	6.1		4.3	13.2	1.3			8.1	1.6	.5	3	3				10.7
Hacienda Pintong Sapang, San Jose del Monte, Bulacan†	8.9	3										5.1	1.8		39.6	31.2
Mabayuan Dam, Olongapo, Zambales†		2.5	2.5	.8	5.1	.5		10.1	15.2			5.1				25.4
Malolos, Bulacan			.5					1	5.1							48.3
Pampanga Sugar Mills, Del Carmen, Pampanga†			.3	.3						6.4						12.7
San Fernando, Pampanga			2.5	26.5		1.3		19.8	33.3		.5	.3				10.7
San Isidro, Nueva Ecija			6.1	4	10.9	1	6.9	5.3	2.3	3		7.9		51.3		.8
Iba, Zambales	4.6	3.1													.9	11.2
Hacienda Luisita, Comillas, La Paz, Tarlac†			2.5	1.3	.8								2.5	2	3	2.3
Hacienda Luisita, San Miguel, Tarlac, Tarlac†					2.3											5.1
Tarlac, Tarlac				4.1	2			1.5	.8	2.5	10.4					
Muñoz Agricultural School, Muñoz, Nueva Ecija†	57.2			41.6								3.3				
Baler, Tayabas					.8	.3									.2	20.6
Dagupan, Pangasinan		4.1	13.6	13.5	5.9	12.9	9.7	20.8	49.3	26.3		9.2	1.8		1.6	23.2
Baguio, Mountain Province			3.8	17.1	1.3	1.9	1.3	13.5	31	.5		17.9	1.8			10.7
San Fernando, La Union		1	2.8	3.8		3.3		3.8	2.3			2.3	12.7	3	24.4	1.3
Sagada, Mountain Province†															26.7	2.5
Bontoc, Mountain Province†																.3
Candon, Ilocos Sur			1.3		2	1		8.9	10.9	37.6		13.5	4.8			
Vigan, Ilocos Sur		1.5		4.3				1.3	10.8	11.7		22.6				
Tuguegarao, Cagayan												9.4				
Tayum, Abra†	1			2	.8	.3		8.9	10.6	20.5		10.4				
Laag, Ilocos Norte	.3		.8					.5	6.4	1	.3					
Aparrí, Cagayan												41.4	12.7			
Cape Bojedor, Burgos, Ilocos Norte	1.3					2	3.3	1.1	1	14.5		.3				
Basco, Batanes	3.3	.5							7.6	52.8						.3

Daily rainfall at the stations of the Weather Bureau, August, 1920—Continued.

Station.	Day of month.															Total.	
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
Tuburan, Cebu																	66.4
Silay, Occidental Negros	3.3	0.3	1.8	4.6	0.3	5.1	5.6		10.7	2.6	17.8	17.8	9.1	20.8		152.4	
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros†	1.8	4.1	1.3	5.3		3.1	3.6		15.2	5.4	22.8	19.8	6.9	76.4		231.8	
Cuyo, Palawan	15	12.2	3.5	11.7	11.4	8.1	9.7	13.2	24.1	11.7		11.7	15.7	2.1	5.6	278.2	
Lucena, Santa Barbara, Iloilo†													7.9	11.4		26.2	
Hacienda Ilaya, Victorias, Occidental Negros	10.7		26.4		3.8			8.4		6.4	3.8	45	14.7	4.8	78.3	211.5	
Hacienda Bilbao, Manapla, Occidental Negros								17.8		3.8		3		7.6	27.9	96.6	
Cadiz, Occidental Negros	2.5		12.4							24.9	4.1	12.7	1.5		24.4	84.8	
Ormoc, Leyte	5.6	4.3	8.1		2.5	46.7	22.1	9.1	5.1	12.7	23.4	33.5		17.3		233.9	
Guiuan, Samar	7.6	1.8				1.5				7.1	1.5	3.5				88.2	
Bogo, Cebu	2.8	8.4			8.4			2.5	9.1	8.9	98.6	19.6			.5	192.6	
Dueñas, Iloilo†		14.7						5.6		9.1	5.1	2.3		2		68.2	
Bitaoagan, Passi, Iloilo†		1.5	1.3				47.5		4.3	52.1	10.7	5.8	3.6	2.5	5.6	231.2	
Tacloban, Leyte	18.6	5.6	15.2		23.1	12			1.5	19.8	17.6	5.8	6.1	24.4		207.5	
Dumarao, Capiz†			2.5					1.3		11.4	1.3	9.1	4.3	4.1	4.3	145	
Dao, Capiz†	45	2.5	3.6		4.3	14.7	11.4		18.3	10.7	3.6	18.3				306.7	
Capiz, Capiz						13.2	3.3	8.6	9.4	5.1	1.4	56.7	.6	14	4.1	129.4	
Borongán, Samar	4.8	42.7	.3	.5			21.6	3		20	13.5	.8				168.2	
Catbalogan, Samar	4.1	31	11.9			.5		34.8	3	32.7	57.2				.3	256.8	
Calbayog, Samar	23.2	7.6	.8	2.8	3		6.6			81.8	19.3	18.6	.8	4.6	24.9	259.5	
San Jose Estate, Robles Camp D-17, San Jose, Mindoro†	22.1	31	19.3	34.3	17.3	9.4	14.2		3.8	18.3	18.5	9.4	49.5	18.8	57.7	452.2	
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro†	39.1	35.5	20.3	20.3	17.8	11.2		12.2	8.1	4.3			65.5	12.4	82.5	447.5	
San Jose Estate, San Agustin, San Jose, Mindoro†	22.6	31.5	26.4	20.1	42.1	2.5	21.1	2.8			2	37.8	53.3	27.5	75.7	482.7	
San Jose Estate, San Jose, Mindoro†	59.5	41.9	26.2	24.9	17.5	6.6	24.4	1.5	.3	6.1	7.4	23.6	31.2	30	98.5	511.4	
Masbate, Sorsogon	1	7.6	4		.8		9.1	.8	23.9	52.9	22.9	12.2	2.8	7.9	12.7	181.4	
San Jose Estate, Tunnel D-12, San Jose, Mindoro†	48.5	13.2	35.9	17.6	2.5	6.1	20.8	6.4	.8	5.1	9.4	3.3	53.3	30.4	85.4	428.3	
Romblon, Romblon	4.6		1.9						1.8	19.6	36.9	177.9	4.8	.5	22.9	280.2	
Batag Lighthouse, Laoang, Samar	1.8					.8		6.9		3.8	75.2	78				202.1	
Irosin, Sorsogon	16.5	1.3			4.3	27.4			6.6	35.8	64.5	12.2	.5		10.7	236.9	
Sorsogon, Sorsogon	13.7	19.5	3.8				11.2		.5	11.9	79.8	29.5			13.2	185.1	
Legaspi, Albay, Albay	77.2	12.8	10.2	12.5	29.5				91.2	3.6	16.4	33.3			6.5	296.8	
Guinobatan, Albay	25.2	11.4	12.7	8.1	4.1	1.3			5.4	6.1	14.2	35.3		.8	12.7	161.1	
Polangui, Albay	17	5.3	16	1.3	7.2	.3			4.1	7.4	14.7	38.8		14	7.4	223.8	
Tabaco, Albay	6.9	1.8	.8	.5	1.8	1.3		4.1	2.8	1.3	15.3	47			7.9	94.3	
Sumay, Guam, Ladrones Islands	47	19.1	35	51.8	1.6	26.7	29.9	.3		4.1	63.5	149.9	33	11	12	627.2	
Calapan, Mindoro							1.5	1	9.7	6.4	5.6	24.9	14.7	8.1	16.5	88.4	
Virac, Albay								57.2		6.9	40.2	58.4	.8		3.8	167.3	
Naga, Camarines Sur	19	11.7	3.8	1	2.3	.5		.9	1.3	15.5	83				11.7	163.9	
Tigaon, Camarines Sur	.5	7.6	8.6	1.3	.3	.3		2.3	9.7	14	44.2	3.8			19	130.8	
Batangas, Batangas	17.3	7.9	4.3	3.5	2.6			.8	15.5	14.5	25.1	13.9	15	21.4		146.6	
Calatagan, Batangas	5.8	4.3		26.7	.3	22.1	.3		5.3	50.5	79.2	26.7	16.5	37.1	125.2	411	
Balayan, Batangas	122.7	20.1		45.7	8.6				29.4	29.2	30	6.1	37.8	116.1		459.6	
Lipa, Batangas	.8			10.2	1				2.8	6.4	76.2	37.1	37.3	10.6	43.5	256.3	
Lucena, Tayabas	.3	4.8						1.5	13.5	3.3	30.2	20.8	1.1	1		90.7	
Atimonan, Tayabas		43.7	17						18	36.6	1.8	67.3	3.6	3	3.8	197.2	
Lian, Batangas						10.7						16.8	13	52.3	53.3	103.9	
Nasugbu, Batangas													44.4	52.1	26.9	150.1	
Ambulong, Tanauan, Batangas	2	3.6	.5	8.4		3			4.5	7.6	39.3	27.9	4	11.4	47	180.5	
Daet, Camarines Norte		6.8	48.3			13.2			2.8	15	5.1	44.9				136.1	
Mendez Nuñez, Cavite	1.3	1.5	13	20.8	2.8	2.5	.5		7.9	14	17.3	27	4.3	11.9	152.4	336.6	
Alfonso, Cavite	2.5	2.3	13.2	33.8	14	1.8	1.3		1.8	15.7	6.7	18.1	9.9	15.3	37.4	485.2	
Indang, Cavite		.5	1.8	23.4	12.2	2.2	1.1			26	15.6	18.1	14.7	19.5	133.1	313.2	
Canlubán, Calamba, Laguna			9.1	48.3	3.6	1.5			9.9	35.3	53.3	56.4	10.6	11.9	49.7	317	
Silang, Cavite	5	.3		2.3	37.3	12.7			2	29.2	21.1	17	14.2	17.8	66.1	269.3	
Maragondon, Cavite	4.3		34.5	24.9	30.2	11.2	1		.5	51.3	2.5	12.7	10.2	17	156	445	
Paracale, Camarines Norte				44.2	49.2	10.2			1.3							104.9	
Santa Cruz, Laguna		5.1	21.8	3	1	2.8		29.7	37.8	3	1	54.4	40.1	1.3	33.5	254	
Buenavista, Malabon, Cavite			5.3	11.9	12.2	10.4		13.7	63.2	23.9	15	1.8	11.9	32	222.6		
Imus, Cavite	14.7		.8	52.1	10.7	5.6	1		9.9	17	10.4	17.3	.8	14.2	120.1	360.4	
Alabang Stock Farm, Alabang, Muntinglupa, Rizal†	1.3		8.4	36.1	11.9	5.9	2.5	2	2.5	52.1	50.8	27.7			20.6	25.4	622.4
Manila, Manila		8.8	27.9	25	.1	19.2	1.6		14.7	17.6	39.2	31.3	22.7	4.6	79.1	322.5	
Antipolo, Rizal		22.1	2.3	14.3	12.2	2.5	2.8		3	8.1	20.6	37.1	5.6	3	133.6	361.5	
Bosoboso, Antipolo, Rizal†		25.1	8.4	48.3	2	2.3	13.2	9.7	4.6	22.3	5.6	45.7	5.1	2.5	206	505.4	
Balanga, Bataan	1	9.7	25.9	23.1	17	14	7.6		5	4.1	14.2	21.6	6.6	12.2	136.4	317.6	
Montalban, Rizal†	.8	6.9	9.9	36.1		5.4	14.7	21.8	34.3	2.8	28.7	62.2	8.1	1.5	131.8	421.4	
Hacienda Pintong Sapang, San Jose del Monte, Bulacan†	3.6	15.2	4.3	11.2		12.2	3	10.4	15.2	14	88.1	12.5	1.5	6.1	108	405.1	
Mabayuan Dam, Olongapo, Zambales†			35.6	20.3	30.5	15.2	17.8	7.6	10.2	33	12.7	2.5	20.6	12.7	172.7	457.3	
Malolos, Bulacan			15	8.9	5.3	4.3	10.7		13	20.3	35.1	43.4	1.3	4.3	119.1	340.7	
Pampanga Sugar Mills, Del Carmen, Pampanga†		6.4			3	5.1	5.6			20.3		39.4	8.9	12.2	112.2	242.9	
San Fernando, Pampanga		.8	12.4	4.3	5.1	2.3	12.4		.8	4.8	75.7	66.8	1.6	2.3	39.8	294.1	
San Isidro, Nueva Ecija		7.1	8.1	11.3	13.5	58.2	21.9	3.3	.3	95	53.4	9.9	.5	.9	47	478.5	
Iba, Zambales		8.1	4.1	36	16	28.5	16	4	7.6	17.8	.3	19.6	3.6	2.8	168.7	388.2	
Hacienda Luisita, Comillas, La Paz, Tarlac†	3.6	5.3	2.5	8.9	3	5.9	2		165.1	11.9	6.6	6.1	16.8	16		273.2	
Hacienda Luisita, San Miguel, Tarlac, Tarlac†		6.4		11.4	65.8	4.1	25.1			42.2	1				5.6	198.2	
Tarlac, Tarlac		27.9	3.8	51.8	44.2	25.2	23.4	.5		25.9	4.1				60.5	290.6	
Muñoz Agricultural School, Muñoz, Nueva Ecija†	1.3			22.9	6.3	5.4				88.9				1.3	30.5	258.7	
Baler, Tayabas				10.2	1.4	51.1	5.6			43.2	1.3	12.7	18.3	8.9	10.2	172.5	
Dagupan, Pangasinan		1.3	20.9	10.7	1.5	21.6		8.4	5	2				3	35.3	117.3	
Baguio, Mountain Province		16.6	15.1	6.7	9.8	35.8	5.1	15.5	32.8	16.3	1.3						

MAXIMUM AND MINIMUM TEMPERATURES AT THE STATIONS OF THE WEATHER BUREAU, AUGUST, 1920.

Day.	Jolo.		Lais, Malita.		Lamitan, Isabela, Zamboanga.		Malamaui, Isabela, Zamboanga.		Zamboanga.		Davao.		Cotabato.		Naganaga, Margosatubig.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.3	25.4	31.4	22.5	32.4	21.5	34.7	20.3	31.1	24.7	32.1	24.5	30.4	23.6	34.3	22.2
2	32.6	23.4	31.7	21.2	33.7	20.6	32.7	23.5	28.7	24	30.6	22.6	30	22.2	34.7	22.5
3	32.2	22.8	33.4	20.9	32.2	20.8	35.7	23.4	29.3	23	32.7	23.5	30.7	22.8	33.5	22.3
4	29.9	23.1	32.6	22.4	30.4	22.1	31.2	22.4	28.5	22.9	32.5	21.8	30.8	22.8	33.5	23.7
5	30	23.1	33.5	22.7	32.2	20.5	33.7	23.6	28.7	22.8	31.7	22.4	31	22.9	34.2	22.5
6	32.8	24.2	33.7	21.7	34.1	21.8	31.7	22.2	28.3	23.5	31.5	21.7	30.5	22.4	34.5	22.2
7	32.5	23.9	34.3	21.2	32.6	20.2	34.6	23.5	28.3	23	31.3	22.5	30.2	22.4	33.7	20.5
8	32.3	24.4	33.2	21.4	33.2	20.3	34.9	22.3	29.5	25	32.2	22.9	30	22.7	35.2	22.3
9	32.1	23.2	33.9	20.4	31.9	21.4	35	22.5	29.3	24	32.2	22.5	30.1	22	34.5	22.5
10	32.5	22.3	34.4	20.7	32.4	20.5	35	22.4	29	22.8	32.2	22.8	31.8	21.9	34.3	22.7
11	31.7	22.4	32.9	22.2	33.6	20.2	34.7	22.3	28.9	23.6	30.8	23.1	31.4	23	33.3	23.2
12	31	23.2	34.5	20.8	32.8	21.2	35	21.3	29.2	23.4	31.2	22	32.1	22.1	34.2	22.2
13	31.4	22.1	33.4	21.9	31.5	19.4	32.5	19.4	28.9	23.6	31.5	22.9	31.5	22.4	34	22.3
14	31.2	22.9	34	21.6	32.2	22.6	33.1	21.2	28.8	24.2	31.6	22.5	31.5	22.5	33.7	22.2
15	30.5	23.4	34.2	21.9	31.6	22.5	31.1	19.2	27.6	23.4	31.6	21.6	30.4	21.5	34.2	20.7
16	29.2	22.5	34	22.4	31.4	21.2	32.2	19.8?	28.3	23.3	30.8	21.5	30.4	22.4	33.5	21.5
17	29.4	22.6	34.5	20.9	32.7	20.9	32.5	22.1	27.6	23	31.2	22	29.8	22.9	34.7	22.2
18	29	22.8	32.9	21.6	33.2	20.7	31.4	21.8	28	22.9	31.7	22.9	29.5	23	33.5	23.5
19	31.5	22.8	34.7	22.5	31.2	18.5	32.5	21.9	28	22.4	31.2	23.5	29.8	23	30.7	21.3
20	29.2	20.2	32.5	21.9	32.1	19.8	30.6	22	28	22	31.7	23	30	22.6	32.2	22.5
21	32.4	23.2	33.6	20.7	33.8	21.4	31.5?	21.5	29.5	23	32.8	22.8	30.4	22	33.7	21.5
22	31.1	24.6	31.4	21.4	34.2	20.6	34.2	23.7	28.2	23.5	30.7	22.9	31.4	22	33.5	19.2
23	30.8	22.9	34.6	22.2	32.1	20.5	34.2	23.8	28.5	23.5	32.2	23.5	30.8	22.5	34.2	22.3
24	31.5	22.1	33.1	22	33.2	21.6	34.2	24.7	29.7	23	30.2	23	30.5	22.4	35.3	22.2
25	32.8	24.8	33.7	21.6	30.2	23.1	34.2	24.2	29.6	23.4	31.7	24.5	31	22.5	35.4	23.2
26	29.8	23	30.7	22.4	29.4	22.8	34.2	24.6	29.3	23.7	31.6	22.8	30.4	23.6	32.7	21.4
27	31.1	22.6	31.4	22.3	32.5	20.4	34.2	25	30.4	23.3	31.7	22.5	31.4	22.8	33.2	23.5
28	31.9	23.4	32.8	21	33.8	20.2	34.2	24.6	28.9	23.2	32.5	21.9	30.5	23	34.3	22.5
29	32.3	23.8	32.7	21.8	30.6	22.1	34.2	24.5	29	24.9	32.5	22.8	29.7	22.8	35	22.2
30	32.2	23.6	33	21.8	32.8	21.2	34.2	24.2	29	22.5	32.7	23.1	31.4	22.8	34.7	23.5
31	33.2	23.8	33.7	21.4	32.8	21.2	34.2	23.6	29.8	22.5	32.9	23	31	22	33.8	23
Mean	31.4	23.2	33.2	21.7	32.3	21	33.2	22.6	28.9	23.4	31.7	22.7	30.7	22.6	34	22.2

Day.	Malabang.		Cateel.		Ganasi.		Camp Kalao, Monkayo.		Mailag, Malaybalay.		Camp Keithley, Dansalan.		Sumilau.		Cagayan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.5	23.4	31	23.4	30.9	20.8	32	23.2	32.2	21.8	28.3	20.3	26.5	20.7	32.8	20
2	31.8	21.4	29.3	22.3	30.1	18.3	30	21.6	29.6	20.4	26	20.1	26.7	18.6	33.2	20.9
3	32.2	22.3	31.6	22	30.6	18.8	34.8	22.5	29	20.2	28.6	19.3	28.4	19	32.5	20
4	32	21.9	32.1	22	28.5	16.8	32	20.9	29.2	19.7	28.2	19.1	29	18.2	32.8	22
5	31.4	20.8	32.5	21.8	28.4	16.8	34.5	20.5	30	20	28.8	17.6	28.4	17.4	33	20.7
6	31.5?	21.4	32.2	21.5	28.5	17	33	21.1	29.3	19.1	27.8	18	28.2	17.6	33.2	21.5
7	32.2	22.3	33.1	22.1	28.2	17.3	34.9	21.5	30	19.2	28	19.5	28.2	18	32.8	22.1
8	32.2	22.2	32.3	22	30	18.3	34.5	21.5	29.9	19	28.4	19	29.4	17.7	33.6	22.4
9	31.8	21.7	32.7	21.6	30	17.8	35.5	20.2	29.7	17.6	28.3	18	29.4	18.3	33.2	22.5?
10	32.4	22.8	33.2	21.6	31.4	18.5	32.5	21	27.4	18.2	29.3	18.6	30.2	18.9?	33	21.5
11	31.8	20.1	32.7	21.5	28	16.5	31.9	20.5	31.6	18.6	28.8	17.7	29.3	17.7	33.2	21.6
12	31.7	22.3	32.5	21.5	30.3	17.5	33.4	21.9?	30	19.2	28.1	17.9	29.4	17.3	32.8	21.3
13	32.2	22.4	32	22.2	30.6	19.6	32.2	20.5	32.5	20	28.1	18.6	29	18	33.3	22
14	31.8	22.4	33	21	29.3	17.3	34.5	20.9	32	19.2	28.8	18.5	29.7	17	33.4	21.5
15	31.4	19.8	31.1	22.8	28.5	18.8	32.1	21.5	29.5	19.5	28.3	19.1	28	19	33.7	21.2
16	31.4	22.4	32.1	21.6	29.4	18.9	33.5	20.5	31.5	18.6	27.3	19	28.5	19.2	33.5	21.7
17	31.2	22.7	33.9	22.5	27.4	18.7	33.4	22	30	18	27.1	19.8	29.4	19.1	31.8	20.5
18	31.5	22.5	35.5	23.5	27.7	19.5	32	21.6	30.5	20	26.2	20	27.2	19.8	32	20.7
19	31.2	22.4	33.1	23	28	19.6	33	21.9	30.3	20.6	26.5	19.5	28.2	19.4	29	20.7
20	30.8	22.3	32.5	21.7	27.7	19.5	33.9	21.1	30.6	18	28.3	19.5	28.3	19.1	32	20.5
21	31.8	21.4	32.4	22.7	28.3	18.8	31	21.5	29.2	19.7	28.4	19.1	27	18.6	31.2	20.2
22	32.8	21.5	32	22.6	28.5	18.6	33.5	22	31.7	19.2	26.3	19.5	28.1	17.8	32.2	21
23	32	22	30.7	23.1	27.9	18.8	31	21.5	30.1	19.4	27.2	19.5	28.1	18.6	33.5	21.2
24	31.6?	22.7	29.8	22.5	28	17.8	30.5	21.5	28.6	21	27.8	19.9	28.4	19.3	31.8	20
25	32.2	22.7	31.5	23.2	26.2	18.9	32.5	21	29.5	19	26.9	19.6	28.2	19.1	33.8	22
26	32.4	23.5	30.7	21.8	28.5	19.8?	32	21	34.3	21	27.3	18.7	26.4	19	31	20
27	32.8	22.3	32	21.8	29	17.7	33.9	20.5	30	19	26.3	18	28	18.6	30.8	19.5?
28	32.2	21.4	32	21.9	28	19.8	33.9	21.5	29.5	21	26.9	20.5	29.9	18.7	32.9	22
29	32.4	21.4	34	21.8	26.7	20.3	33.8	22.1	29.5	20	26.3	21	29.2	18.3?	30	19.2?
30	32	22.2	35.7	21.7	25.2	19.3	32.9	21.5	31.6	19.2	26.9	19.5	30.7	18.9	33.8	23.6
Mean	31.9	22	32.3	22.2	28.6	18.6	33	21.3	30	19.5	27.6	19.1	28.5	18.5	32.5	21.1

Maximum and minimum temperatures at the stations of the Weather Bureau, August, 1920—Ctd.

Day.	Butuan.		Mambajao.		Dumaguete.		Meeth, Yap.		Tagbilaran.		Iwahig Peral Colony, Puerto Princesa.		Dalaguete.		Surigao.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	35.5	23.4	32.9	25.8	32.2	23.5	29.2	23	32.9	24	32.7	21.2	32.8	23.3	34	24
2	31.6	23.3	30.3	26.8	30.8	24.5	32.2	24.5	31.5	24.5	31.5	22.7	31.3	21.1	29.5	24.8
3	32.4	22.8	32.3	22.8	32.1	23.4	32.2	23.7	32.8	23.9	31.8	22.8	32.5	22.5	30.5	23.4
4	33.6	22.2	33.2	26.4	33.2	23.3	32.5	24	34.2	24.9	31.5	21.2	33.2	22.9	32.3	23.6
5	34.1	22.1	32.8	25.5	31	24.8	32.2	24.3	33.2	23.4	33.2	22	31.6	24.2	32	24.9
6	33.4	22.2	33.2	24.4	32.5	23.3	31.9	24.6	32.8	25.4	33.7	20.7	31.8	21.5	31.6	24
7	33.9	22.6	33.8	25.5	32.6	23	30.3	23.8	33.4	24.3	33.4	21.4	32.2	22.5	32.4	24.8
8	34.6	22.2	33.4	26.6	31.9	23.2	31.7	23.6	32.8	25.7	31.7	20.8	33.1	22.3	31.7	26.4
9	33.9	22.7	34.5	24.3	33.1	23.4	32.7	23.5	34.2	24.9	32.9	21.3	34.2	23.5	32.3	24.5
10	35.1	22.4	35.3	25.9	32.6	22.5	32.4	24.4	32.7	24.4	32.8	21.6	32.1	23	33.3	24.2
11	37.5?	22.2	33.8	23.8	33	22.6	31.7	22.8	34.4	23.6	31.8	21.5	32.5	22.4	33.8	23.8
12	33.4	21.5	33.7	23.9	32.7	23.2	30	23.9	33.2	23.6	32.5	21	32.6	22.8	32.1	24.6
13	34.2	22.7	31.9	23.3	32.4	23.8	30.3	24.1	32.4	23.6	32.4	22.4	32.4	21.8	31.4	23.4
14	33.3	22.3	32.1	23.4	32.4	23.9	29.8	23.6	32.9	22.9	32.6	21.5	33	23.8	31.7	23.7
15	32.9	22.6	34.1	22.8	33.2	23.4	32.2	23.4	31.3	22.7	32.4	21.5	32.1	21.9	31.4	23.7
16	31.5	22.3	31.8	23.9	30.5	24.2	32.3	25	30.9	23	32	20.8	30.5	24	32.8	23.5
17	32.4	22.4	32.2	23.5	32.5	24.1	32.4	26	30.6	22.5	29.8	21.8	31.3	23.6	31	23.8
18	32.6	23.1	33.4	23.3	33.1	23.9	32.7	25.2	33	25.4	29.8	20.7	31.5	23.6	31.7	24.9
19	32.1	23.4	28.3	23.4	30.4	24.1	32.3	25.4	31.7	25	29.2	22.2	32.5	23.2	30.1	23.8
20	34	23.3	31.5	24.8	30.8	23.5	29.3	24.6	32.6	24.2	30.7	24	32.8	23.4	31.2	25.2
21	33.1	23	33	23.8			32.2	24.8	33	24	30.8	21.7	33.4	23.4	31.7	26.9
22	33.4	22.9	33.8	23.8			32.3	25.4	32.5	24.5	30.4	23	31.6	24.2	33.1	25.8
23	33.6	22.9	33.7	25.3	32.1	23.3	32.3	25.7	33.3	24.2	30.5	22.6	31.6	22.7	32.6	25.8
24	34.6	22.8	33.9	26	31.5	24	31.4	24	31.9	24.5	30.7	22.8	31.7	24.4	33.4	25
25	33.3	22.5	33	23.3	31.7	23.6	31.7	23.4	32.8	24.6	31.6	21.5	31.9	23.2	32.4	24.5
26	32.2	21.9	31.4	24	32.1	23.4	30.9	24	32	23	31.2	21.3	31	23.8	28.5	22.8
27	31.6	21.2	30.2	22	30.3	23.6	31.5	24.1	29.3	23	31.7	22.6	29.9	23.6	28.7	23.7
28	34.1	21.7	31.5	22.1	31.4	23.3	31.4	25.2	32.2	22.5	30.6	22.4	30.6	23.6	30.8	23.4
29	33.1	23.3	32	23.4	30.9	23.2	30.9	24.5	32.3	24.9	30.4	22.8	32.9	22	31.3	25.7
30	33.3	24.1	32.4	24.3	31.4	23.6	29.8	23	31.8	24.9	27.4	22.7	31.9	24.2	31.4	27.2
31	34.6	22.4	32.6	23.9	32.3	24.4	30.3	23	32.2	25.5	31.4	22.3	34.2	23.9	31.6	27.1
Mean	33.5	22.6	32.7	24.3	32	23.6	31.2	24.1	32.5	24.1	31.4	21.9	32.2	23.1	31.6	24.6

Day.	Central Palma, Ilog.		Hacienda Naval, Hima-maylan.		Biaong Cui's Farm, Barili.		Maasin, Leyte.		Isabela, Occ. Negros.		Hacienda Tanolo, Hinigaran.		Cebu.		La Castellana.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	33	20	32.6	22	32.1	20.8	32.6	23.4	31.6	22.5?	31.2	23	30.7	25.9	31.9	21.3
2	33.1	21	29.5	23.4	33.3	21.1	33.2	24.9	30	22.4	29.6	23.6	29.9	23.5	29.8	23.2
3	32.5	20.4	31.5	22.6	34	22.5	33	23	31.6	21.9	30.5	22.5	30	24.8	31.8	21.9
4	31.9	20.6	30.6	22.5	33.5	22.5	34	24	31.2	21.6	30	23	30.3	26.8	31.5	21.2
5	32.7	21	30	23.5	33.6	22.3	34.4	23.4	31.3	22.1	30.2	22.6	29.8	26.3	31.3	22.1
6	33	20.8	30	23.6	34	20.8	34.1	25	31.1	23.2	30.3	22.6	29.9	26	30.9	22.8
7	32.9	21.2	30.2	23.5	34.1	20.1	34.2	24.6	31.8	22	30.8	22.4	30.2	26.2	31.5	22
8		21.4	31.7	22.7	34.5	21.4	34	25	31	? 22.2	31	22.3	30.2	26.8	31.3	21.8
9	32.4?	21.6	31.5	22.5	34.5	21.5	33.6	24	31.6	21.4	31	22.3	30.7	26.4	31.5	22.3
10	34.1	22	31.5	22.2	34.2	21.5	33	23.6	31.5	21.3	30.6	22.3	30.6	26.6	31.5	22
11	32.9	22.1	31.4	22.3	34.7	21.6	34	24	32	21.1	30.5	22.2	30.7	25.6	31.7	21
12		21.7	30.2	21.6	34.2	24	33.2	24	32	21.3	31	21.8	31.3	24.9	33	21.5
13	31.4?	21.6	33	22.3	31.8	24	34	24.2	31.4	21	31.5	22	31.3	25	33.4	
14	33.5	21.8	32.1	23.2	33	23.4	34.5	22.5	31.3	23.1	31.1	23.2	31.8	24.7	32.6	20.5
15	33.8	21.9	30.8	23	33	22.5	34.8	24.2	31	21.4	30.5	22.2	29.5	25.5	31.8	22.1
16	34	21.5	31.2	22.6	32.7	23.5	32.5	23.6	30.6	22.2	30.8	23.2	30.4	24.8	32	22.8
17	32.9	21	31	23.5	32.4	23.6	34	22.6	30.8	23	30.5	23	30.3	24.7	31.2	23.4
18	33.1	20.8	30.2	23.8	32.1	24	34.2	22.6	30.1	22.2	29.5	22.6	30.4	25.9	30.1	22.3
19	34	19.9	30	23.5	33	24.5	32.5	24.5	29.4	23	28.8	23	31.1	26.1	30.1	22.9
20	32.1	20	29.5	24.2	32.1	24	32.8	23.8	29.3	21.9	28?	22.5	30.9	26.1	29.4	22.1
21	32.3	21.6	30	23	33.5	24.2	32	23.4	30.6	22.4	29.8	23.5?	32.3	26	29.2	22.4
22	33.3	21.8	30.5	23.6	33.5	23.5	32.4	23.6	27.6	21.7	27	23.5	29.8	26.3	29.7	21.9
23		21.4	30.8	23	32.1?	23.2	33.1	24.4	30.7		30.4	25.7	30.4	25.7	31.2	21.4
24		21	30.5	22.8	33.4	24	34	23.8	30.1	23.1	30	23.7	30.5	26.4	31.2	23.4
25		20.5	28	23.7	31.6	24.1	33	24	27.3	21	26?	23.5	30.4	25.4	28.3	22.2
26	31?	21.2	31	23	32.5	23.8	32.2	23.8	30.8	21.7	30.3	22.3?	30.1	24.3	31.3	20.6
27	33.4	21.6	31.5	22.8	32.4	23.5	31.5	23.6	30.3	22.4	30	22.5	28.9	24.7	31.2	22.3
28	33.6	20.9	31.5	23.7	32.6	22.8	33.5	23.4	30.8	22.9	30.5	23.3	29.8	24.6	31.5	22.5
29	32	21.4	29	24.1	32.5	23.4	33	24.2	28.9	22.1	28.3	22.2	30.1	24.2	29	23.1
30	32.6	21.1	28	24	31.7	24	32	24.8	30.1	21.2	29.8	23	30.2	25.2	30.1	22.6
31	34	20.9	31.2	23.5	32	24	33.8	24.2	31.2	21.9	30.6	23.3	30.5	26.7	30.1	22.5
Mean	32.9	21.2	30.7	23.1	33.1	22.9	33.3	23.9	30.6	22	30	22.8	30.4	25.6	31	22.1

Maximum and minimum temperatures at the stations of the Weather Bureau, August, 1920—Ctd.

Day.	Central Azucarera de La-Carlota.		Hacienda Canlaon, La-Castellana.		Mao Sugar Central, Bago.		Valladolid.		Murcia.		Oton.		Concepcion, Talisay, Occ. Negros.		Iloilo.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.9	23.2	30.9	20	32.5	23.6	31.7	24.2	32.4	23.4	30.9	26.1	31.1	24.4	31	25.6
2	30.2	23.7	29.4	20.9	30.3	23.2	30	24	29.6	22.6	30.6	25.8	31	22.8	29.9	24.4
3	30.9	22.5	30.1	20.6	31.2	22.6	30.7	23.2	30.5	22.4	30.4	24.9	29	22.4	31.5	24.9
4	30.9	23	30.2	20.1	31.3	23.3	30.7	23.7	30.3	23.7	30.4	25.1	30.2	23.4	30.1	23.9
5	31.7	23	31.4	20.4	31.5	23.1	31.2	23.7	31.7	23.2	30.7	24.1	30.1	23.6	30.8	24.7
6	30.2	23.2	30.6	21	31	23.5	31	24.2	31.8	23.4	30.9	26.8	30.7	23.4	30.5	26.5
7	31.2	23	30.5	21.1	31.6	23.2	31.5	23.5	31.9	23.6	31.4	26.9	30.4	23.9	30.9	26.6
8	31.9	23.3	30.8	21.6	32	23.8	31.2?	24.5	30.7	23.4	31.6	26.4	30.5	23.4	30.9	25.1
9	31.9	23.3	30.5	21.3	32.2	23.6	31.3	24	31.6	23.6	30.9	25.5	30	23.9	30.8	26.1
10	30.7	22.7	30.9	21.6	32.5	23.2	31.5	23.5	32.6	22.8	30.9	24.6	30.3	24.4?	30.9	25.4
11	30.5	22.7	30.9	21.4	32.8	23.1	31.7	23.2	32.3	22.4	30.8	23.8	31.2	23.9	30.8	25.1
12		22.5	31.7	21.5	33.1	22.4	31.9	23.4	33.5	22.5	30.9	22.4	31	23.2	31.7	23.1
13		21.6	31.6	21.4	33.7	21.2	32.2	22.5?	32	21.7	30.8?	23.3	32.4	21.8	31.7	23.6
14	30.1	23.7	29.9	20.6	32.8	23.3	31.2	24.2	31.8	23.4	31.6	23.5	31.5	21	32.8	24.1
15	29.8	22.7	31.9	21.1	31.5	22.6	31.5	23.7	30.7	22.7	31.8	23.8	30	21.4	31.3	24.3
16	32.2	23.3	31.3	20.6	32.7	23.2	30.7	23.2	32.4	21.1	32.6	22.7	31.6	24	31.9	23.4
17		23.2	28.9	21.3	32.6	23.3	30.2	23.5	30.7	22.6	30.4	23.3	31.7	23.9	30.4	23.9
18		22.8	28.5	21.3	32.5	22.7	30.5	23.2	30.5	22.8	31.8	23.1	30.5	22.9	30.2	23.5
19		22.9	28.5?	21.4	30.7	22.6	29.2	23.7	29.1	22.9	30.8	25.8	30.4	23.2	30	25.6
20	30.4	22.3	29.9	19.9	30.8	22.4	30.2	23.2	29.4	22.3	31.7	23.9	28	22.4	30.4	23.6
21	30.2	21.9	29.9	19.4	30.4	22.7	30.7	22.5	29.1	22.5	30.6	23.8	29.4	22.4	30.5	23.5
22	29.9	22.7	26.7	20	30	22.9	29.5	23	28.3	22.4	28.8	24.9	29.5	22	28.4	24.2
23	30.9	22.2	31.1	19.8	32.5	22.3	30.7	22.7	30.5	22.2	30.4	25.9	29	22.5	30	24.9
24	29.4	23.5	29.5	21.3	30.4	23	29.5	23.5	29.6	22.7	30.8	24	29.5	22.4	30	23.7
25	29.8	23.5	28.7	21	29.5	23.1	29.5	23.2	28.4	23	30.4	24.6	29	23	29.6	25.1
26	30.7	21.8	31.2	19.9	32.3	21.3	31.2	22.7	30.6	22.4	29.9?	25.4	29.8	23.4	30.7	24.3
27	30.4	22.6	28.7	20.4	31.1	22.9	30.5	23	29.9	22.4	30.9	25.8	30.5	23	29.9	24.1
28	30.9	23	29.7?	20.3	33.3	22.8	31.5	23.2	32.2	22.6	30.7	23.2	30	22.9?	31	23.7
29	30.9	22.6	29.9	20.7	30.6	22.3	29.7	22.2	27.4	22.4	29.4	23.8	31.5	21.9	28.4	23.1
30	30.3	23.4	30	21.9	31.4	22.5	30.5	22.7	29.4	22.6	30.4	23.5	27	22.9	30.3	23.6
31	31.7	22.9	30.6	20.6	31.8	22.7	30.2	21.7	29.4	22.6	31.6	24.5	29.3	22.6	29.8	23.3
Mean	30.8	22.9	30.1	20.8	31.7	22.9	30.8	23.3	30.7	22.7	30.8	24.5	30.2	23	30.5	24.4

Day.	San Jose de Buenavista.		Tuburan.		Silay.		Cuyo.		Hacienda Ilaya, Victorias.		Hacienda Bilbao, Manapla.		Cadiz.		Ormoc.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	24.5	34.5	25.3	31.6	22.5	30.9	26.9	32.5	22	32.4	22.3	31.3	22.3	33.5	23.6	33.6
2	24.7	32.5	26.2	30.5	22.3	28.6	24.1	31	22.5	32.6	22.6	33.8	23.1	33	25.1	33.6
3	23.4	32.8	23.6	31.5	21.6	30.5	23.7	31	22.5	31.7	22.4	34.1	23.2	33.6	22.9	33.6
4	22.6	35	24.2	31.1	23.9	30.1	25.6	31.5	22	32.4	22.7	35.5	23.4	33	24.4	33.6
5	22.5	34	24.8	31.2	22.8	30.5	23.3	31.5	23.5	33.2	22.8	35.3	22.2	32.6	24.3	33.6
6	22.7	33.9	24	31.1	22.1	30.3	24.2	32	22.2	33	22.4	35.1	22.2	33.2	23.6	33.6
7	22.8	34.4	23.5	32.5	22.4	30.8	24	32	23.5	32.6	22.6	33.5	22.9	33	23.8	33.6
8	23.5	35.2	25.3	30.5	23.4	30.6	25.2	32.5	23.2	33.7	22.8	35	23.8	32.8	24.8	33.6
9	24.5	35	25.7	30.5	23.1	30.5	21.4	31.5	23.8	33.8	23.1	35.5	23.6	33.4	24	33.6
10	23	35.1	24.3	32.5	22.5	31.2	24.7	32	22.8	32.9	23.3	35.7	23.1	33.2	23.4	33.6
11	22.8	34.4	24.5	29.8	22.5	31	23.3	33	23.1	34.2	23.1	32.6	22.9	33.4	23.8	33.6
12	23.1	32.3	23.3	30	22.5	32.5	24.5	32	22.2	34.5	22.9	33.7	22.4	33.1	23.8	33.6
13	23	33.9	22.8	32.2	21.1	32	23.3	31.5	22.3	34.6	22.7	33.5	22.3	34.3	22.4	33.6
14	23.6	34.1	23.8	33.1	22	32.1	24.3	32	23	34.6	22.8	33.4	24.1	34.3	22.4	33.6
15	23.5	32.6	23.3	31.5	23.1	30.4	25	32.5	23.3	34.7	22.7	33.5	22.2	32.8	23	33.6
16	33	21.9	32.1	24.3	31.5	22.5	31.7	25.2	32.7	23.5	34.6	22.8	32.8	23.7	32.5	33.6
17	30	23	32.7	24.3?	30	22.6	29	25	32.2	23.8	34.4	22.6	35	23.8	32	33.6
18	27.7	21.7	32.7	24.5	31.5	22.1	28.3	24.5	30	22	33.9	23	35	22.9	32	33.6
19	25.8	22.3	30.8	24.9	30.5	22.6	28.2	24.9	30.5	22.8	32.7	22.3	35.5	22.8	31	23.9
20	28.7	22.3	34	25.7	30.5	21.9	29.2	24.6	31.3	22	33.1	22.6	33	24.4	32.8	23.8
21	30.5	21.7	32.8	25.2	31.5	19.5	29.7	24.2	30.5	22.5	34.2	22.8	33.1	24.4	32.6	24.6
22	26.2	23.3	33.4	24.7	29	21.1	28.5	24.2	31	23.9	32.6	23.1	34.2	22.4	32.6	24.5
23	30.2	22.6	34.7	24.7	30.1	22.1	30.3	24.6	29.5	23	32.9	21.9	34.3	22.6	32.9	22.1
24	30.7	23	34.2	26	29.9	22.2	30	23.3	31	22	33.2	22.2	33.1	24.1	32.5	22.9
25	30	23.5	32.7	25.8	29	22.3	30.1	24.5	30	23.3	32.6	21.7	33.6	24.5	33	23.2
26	30.4	23	33.4	23.8	31.5	21.5	29.4	23.3	30	23	32.5	21.9	34.2	22.7	29.8	22.6
27	29.1	22.3	28.5	23.4	27	21.9	31.3	23.1	29.2	22	32.3	22	26.3	22.6	26.7	22.9
28	28.8	22.7	30.2	23.7	30.5	22	30.5	25.8	30	22.5	31.9	22.5	31	22.7	28.6	23.2
29	28.4	22.5	31.2	23	28	21.2	27.5	24.4	29.5	22	32.5	22.6	30.4	22.6	31.7	23.6
30	30.7	23.2	32.9	23.9	30	22.6	29.5	23.3	30	22.2	31.6	22.4	32.2	22.1	32.2	23.9
31	29.7	23.2	32.5	26.3	30	21.9	29.8	26.1	30.3	22.4	31.8	22.6	32.3	22.4	32	23.8
Mean	29.4	23	33.2	24.5	30.6	22.2	30.2	24.3	31.2	22.7	33.2	22.6	33.5	23.1	32.4	23.6

Maximum and minimum temperatures at the stations of the Weather Bureau, August, 1920—Ctd.

Day.	Guivan.		Bogo.		Tacloban.		Capiz.		Borongan.		Catbalogan.		Calbayog.		Masbate.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.6	24	30.9	23.9	34.3	24.5	34.8	24.6	34.7	23.7	32.2	-----	31.7	24.1	33.4	26
2	29.7	25.3	30.6	23.8	30	20.6	32.3	23.9	23.7	23.8	29.3	-----	23.7	24	30	26.5
3	30.7	21.7	31	23.8	32	21.8	33	24.5	33.9	24.5	32	-----	30.2	25.2	31.6	25.5
4	32.4	27.1	31.3	23.9	34	22.9	34.4	24	35.3	22.8	32.5	-----	31.4	27.1	32.4	26.4
5	30.3	23.2	31.8	24.1	32.9	24.1	34.3	24	34.6	22.9	32.3	-----	30.8	26.5	32	26.6
6	32	27.2	31.9	24.2	34.1	23.1	33.8	24	34.6	22.6	32.5	-----	31	27.1	31.6	26.5
7	31.5	24	32	24.3	34.1	24.4	34.8	23.5	35.1	23.1	32.5	-----	31.4	26.4	32.2	26
8	30.7	27.9	32.4	24.5	34.3	23.5	35.3	24.5	35.1	23.5	32.5	-----	31.6	26.8	32	26.2
9	32.2	27.9	32.6	24.3	35	23.6	33.8	24.5	35.2	23.4	32.5	-----	31.8	28	32.4	26.6
10	31.1	27.9	32.7	24.5	34.6	23.5	35.8	24.5	35.6	22.7	32.5	-----	32.3	25.6	32	26.4
11	31.2	27.7	32.7	23.9	34.6	23.7	34.8	24.4	34.4	22.6	32.8	-----	32.4	24.7	32.6	26.2
12	31.9	25.6	32.3	24.1	35.2	24.1	34.4	23.4	33	22.6	32.8	-----	32.8	23.7	32.6	25.4
13	33	24.4	32.1	24.2	35.5	22.5	34.3	23.5	33.4	22.9	33	-----	32.8	22.9	32.4	24.8
14	32.8	23.3	32.3	24.1	36.6	24.8	34.4	24.6	33	23.5	33	-----	32.5	23	33	25.6
15	31.9	24	31.1	23.8	35.3	24.7	34.2	24.4	33.4	22.9	32.6	-----	32	23.5	32	25.2
16	31.4	23.1	30.5	23.6	32.3	24.3	34.4	24.2	31.9	23.6	32.4	-----	31.3	23.8	32.4	23.4
17	30.7	24.6	30.7	23.3	33.4	23.9	33.8	23.8	32.2	23.4	31.5	-----	31.1	23.1	32.8	25.6
18	30.2	25.9	31.2	24	32.4	23	33.3	23.1	33	23.8	32	-----	30.9	25	30.6	24.4
19	30.5	25.8	31.2	24	30.9	22.9	30.5	23.1	34	23.6	30.5	-----	30.4	24.6	30.8	23.5
20	30.5	26.1	32.1	24.1	33.4	23	33.4	23.6	34	23	32.4	-----	30.4	25.6	30.8	26
21	30.9	27.2	32	23.9	32.1	23.6	35.6	24.2	34.8	23	32.5	-----	30.9	26.9	31.4	26.5
22	31	27.4	31.7	24	32	23	33.8	24.5	34.8	22.5	32.4	-----	31.4	26.1	32.4	25.5
23	32.4	23.4	32	24.1	33.2	23.1	34.3	24.1	35	23.7	33	-----	31.5	25	33	25.6
24	31.7	27.4	31.8	24	33	24.5	33.4	24.5	31.7	23.6	33	-----	31.8	23.9	32.8	25.8
25	31.6	26	30.2	23.9	33	24.5	33.9	24.5	32.2	23.5	31.5	-----	31.5	24.3	32	24.5
26	29	24.1	29.5	23.7	28.7	23	33.8	23.9	27.6	23.4	29	-----	30.7	23.6	30.8	24.4
27	28.2	24.1	29.1	23.2	26.4	22.6	30.3	23.5	27.2	24.2	26.2	-----	30.7	23.6	27.6	24
28	30.9	23.2	29	23	30.3	23.3	30.9	22.5	33.5	22.7	30	-----	29	23	28	23.6
29	31.7	24.2	30.1	23.8	32.1	23.3	29.3	22.4	32	23.4	31.5	-----	31.3	24.1	30.6	23.8
30	31.4	25.1	31.6	23.9	32.2	23.9	32.8	23.5	34.3	23.1	32.3	-----	30.8	25.9	31.6	24.6
31	32.1	27.4	31.8	24	34	23.9	34	23.5	34	22.4	33	-----	30.3	24.7	31.4	25.6
Mean	31.2	25.4	31.4	23.9	33	23.5	33.6	23.9	33.3	23.3	31.9	-----	31.1	24.9	31.7	25.5

Day.	Romblon.		Batag Light-house, Laocang.		Sorsogon.		Legaspi, Albay.		Guinobatan.		Polangui.		Tabaco.		Sumay, Guam.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32	25	33.7	24.3	32	25.5	33.6	25	34.7	24.5	-----	-----	34.1	25.1	30.2	24
2	30.7	23.9	26.7	25	29	25.5	30.3	25.5	32.6	24.6	-----	-----	34	26.5	30.2	24.4
3	30.8	24.2	31.5	23	30.7	21.5	32.8	24.2	32.9	25.1	-----	-----	31	25.9	30.8	24.2
4	33.1	25.7	32.4	24	31.5	25	33.2	25.5	31.6	24.8	32.1	24.2	33	26	30.8	25.5
5	32.1	24.2	32.7	24.5	31.6	24.9	32.7	24.9	33.4	24.1	32	23.2	33.1	26.1	31.3	26.8
6	33.1	24.8	32.2	24.2	32.7	25.5	33.1	25.1	33.2	25.9	33	24	33.7	26	31.2	26.7
7	32.1	25	32.7	24.4	31.5	25.5	32.6	25.4	33.6	25.2	32.4	24.9	-----	26.6	31	27.2
8	32.4	25.5	33.2	24.7	30.4	25	32.4	25.4	35.9	24.7	32.4	24.7	33.3	26.7	31.3	26.1
9	32.7	25.8	33.4	24.6	31.1	24.5	32.4	25.3	33.4	24.9	31.4	24.3	33.1	26.5	31	26.7
10	33	26	33	24.5	31.5	25.3	32.9	25	32	21.9	32	23.4	33.6	26.2	31.5	24.8
11	33.1	26.1	33	24.4	32.2	25.5	33.1	25.6	33.3	22.8	32.2	24	33.3	26.5	30	24.7
12	33.9	24.6	33.8	23.6	32.9	24.9	34	24.5	-----	22.1	33	23.3	33.4	25.5	29.8	26.8
13	34.2	25	33.7	23.2	33.1	23	33.8	23.6	33.9	21.8	33.2	23.2	34.1	23.9	28.8	24.5
14	34.3	23	33.8	23.3	34.5	23	33.6	24.1	33.2	21.6	33.6	22.9	34.2	24	30.2	23.5
15	34	24	32.1	24	34	21.9	34.2	23.9	33	21.6	33.6	22.5	34.1	23	30.5	24.8
16	34	24	32.9	24.4	33.3	22	34.8	23.2	35.6	20.7	32.8	22	34.6	23	29.8	26
17	31.7	24.5	32.8	23.6	33.3	22	33.3	24	32.9	22.2	32.5	23	34.4	23.1	26.6	24.4
18	32.3	24	31.8	23.8	31.7	23.6	32.8	23.9	32.3	21.7	32	22.9	34.1	23.3	28.5	24
19	31.6	25	32.8	23.6	31	22.5	31.3	23.1	30.3	22.2	31.8	22.8	32.9	24	29.7	24.2
20	32.4	24.1	32.7	24	30.5	22.4	31.8	23.1	30.5	22.5	30.6	23.2	31.8	24.9	28.4	22.8
21	31.7	25	34.3	24.3	30.5	24.5	30	24.6	30.3	22.4	31.2	24	31.9	25.6	30.3	24.2
22	33.1	25.1	33.3	23.9	31.7	26	32.2	23.4	30.3	23.2	31	24	32.9	25	30.5	25.2
23	32.2	25.2	32.2	23.5	32.5	24.6	32.3	24	31.6	23.2	32.2	23.9	33.7	25.3	29.3	25
24	32	25.2	34	23.8	32.5	24.4	33.8	24.8	31.7	22.4	31.9	23	33.5	24.3	29.4	24.5
25	33.5	25.3	33	24.6	33	23	33.6	23.7	32.1	23.4	31.9	23	33.2	24.5	31.1	24.2
26	33.5	24.7	30.1	24.3	29.9	22.5	32.2	23.3	32.3	21.1	31.4	22.3	33	23.1	30.8	24.5
27	28	23.2	25.4	22.3	28	22.5	29.4	23.7	31.1	22.9	28	23.2	33.1	22	29.5	25.7
28	31.2	22.9	27.5	22.3	26.1	22.6	25.8	22.1	27.9	22.6	32	22.9	32.2	23.1	26.8	24
29	29.4	23.2	31.2	22.8	31	22.1	32.1	23.3	31.9	22.9	31.2	24.7	32.1	22.9	29.8	24.5
30	30.7	23.8	31.9	23.5	31.1	24.2	32.4	24.4	31.2	22.6	31.3	22.4	34.2	24.8	26.4	23
31	30.6	24.1	32	25	31.5	24.2	31.7	25.2	30.9	23.2	32	22.4	33	25.8	30	24
Mean	32.2	24.6	32.1	23.9	31.5	23.9	32.4	24.3	32.3	23.1	32	23.4	33.3	24.8	29.8	24.9

Maximum and minimum temperatures at the stations of the Weather Bureau, August, 1920—Ctd.

Day.	Calapan.		Virac.		Naga, Camarines Sur.		Tigaon.		Batangas.		Calatagan.		Balayan.		Lipa.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.6	23.6	35	22.8	33.2	24.6	32.3	24	31.9	24.2	32	23	31.4	23.3	30.2	22.3
2	33.1	24	32.5	22.5	31	25.1	29.4	24.8	31.6	25.7	32	25.5	31.4	23.7	29.9	23.7
3	34	23.5	34.6	23	31.9	24.5	30.6	23.2	32.4	25.1	32.6	23.3	31.5	24	30	22.1
4	34.3	23.5	34.3	22.6	33.1	24.3	31.8	24.9	31.5	24.5	32.4	26.3	31.4	25.3	34.3	23
5	34	22.9	33.2	23.5	33.6	24.3	31.8	23	32.4	25.2	32.5	26	31.5	25.3	31	23.1
6	32.5	23	33	23.2	32.9	24.5	31.5	24.6	31.4	24.5	31.9	24.8	31.5	25.7	30.6	24
7	32.6	23	34	23	33	24.3	32	24.2	31.7	26	32.2	25.8	31	24	30	23.8
8	33.5	23.5	33.8	23.1	32	24.6	31.2	24.3	32.4	26.1	32.3	24.8	31.5	24	30.2	22.9
9	32.6	23	35.3	23.1	32.5	24.9	31.6	24.7	31.6	25.9	31.9	25.4	31.5	24.5	29.4	23.6
10	33.6	23	32.6	24	33.3	24.2	32.2	23.9	31.9	26.5	32.3	25.3	31.5	24.5	30.2	23.8
11	33	23	34.5	22.9	33.2	24.4	32.4	23.2	32.9	26.2	32.7	25.4	31.5	24	30.7	23.5
12	33	23.1	32.2	21.2	34	24.3	33.7	22.7	32.4	25.3	33.2	24.6	31.6	23.1	31.2	23.6
13	33.3	23	32.8	21.6	34.7	23.4	34.7	21.5	33.3	23.8	33.7	22.8	31.7	23.4	32.4	21.5
14	33.5	23	33.2	22	34.1	23.4	34.6	22.4	33.4	24.4	33.8	22.7	32.5	23	33.3	21.5
15	33.5	23.5	32	22.5	35.8	23	33.8	21.5	33.3	24.6	34.1	23.8	32.1	23	32.8	22.5
16	33.7	23.6	32.9	22.4	36	21.6	33.4	19.3	33.6	23.9	33.7	22.2	32	23	32.3	21.3
17	33	24.1	35.1	22.7	35.5	22.8	34.2	20.3	33.1	23.8	33.5	22.9	31.4	24	31.9	21.8
18	31.6	22.9	33.6	23.6	32.1	23.3	31.2	22	30.9	23.9	31.1	24.1	30	22.3	30.3	22.3
19	32.2	22.2	33	22.6	32.4	23.1	31.1	22.1	31.8	24	32.4	24.2	31.4	23	30.5	22.1
20	33.5	23.1	32.3	22.3	32	23.6	31.4	23.2	30.3	24.8	30	23.4	30	23.6	29.3	22.3
21	33	24	32.8	22.8	32.7	24.1	31.8	24	31.1	23.4	29.3	22.2	29.5	22.5	28.6	21.9
22	31.5	23.5	34.7	24.2	32.7	23.6	32.2	23.7	29.9	24.4	28.9	24.6	28.5	22	29.7	21.4
23	32.4	23.5	33.5	22.2	33	23.8	33.2	23.1	31.4	23.8	31.6	23.4	30.5	22	29.8	21.3
24	32	24	33.1	22.1	33.5	23.2	32.4	22.4	31.5	24.1	32.9	23.9	31.5	22.5	29.9	22.6
25	31.8	23.4	31.6	23	34.1	24	34.3	22.3	31.9	23.5	32.3	22.1	31.5	22.3	30.7	21.8
26	32.5	23.4	30.6	22.5	32.5	23.4	31.2	22.3	33	24.4	32.2	22.6	31.9	22.8	32	19.4
27	32.5	23.5	28	23	28.5	23.6	28.5	21.7	31.3	22.8	32.5	22	31	22	29.2	21.8
28	31	23.4	26.5	22.3	27.5	22.4	27.4	21.4	30.5	23.4	31.7	22.6	31.2	22	29.7	22.3
29	28.1	24	31	22.6	31.7	22.9	32.3	22.4	29.2	23.8	31.6	22.9	28	22.7	26.2	22.1
30	29.7	23.9	33.5	23.2	32.5	23.9	31.8	22.8	29.4	24.2	30.2	23.6	28.9	24	27.3	21.7
31	30	23	32.7	23.5	30.7	23.9	29.3	24.6	28.3	23.7	26.4	22.8	22	22	27.2	21.6
Mean	32.5	23.4	32.8	22.8	32.8	23.8	31.9	22.9	31.7	24.5	31.9	23.8	31	23.3	30.3	22.3

Day.	Lucena.		Atimonan.		Nasugbu.		Ambulong, Tanauan, Batangas.		Daet.		Mendez Nuñez.		Alfonso.		Indang.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.9	21.2	33.8	23.8	32.5	22.9	31	23.5	34.5	24.5	27	20	28.1	21.5	29.3	22.3
2	32.5	24.7	33.6	25.7	31.9	21.9	31.2	23.7	33	23.6	27.5	21	27.9	23.1	22.3	23.3
3	33.7	23.5	34.9	26.5	32	21.9	30.9	24	33.7	24.8	27.5	21	28.1	22.5	29.7	23.2
4	33.3	24.5	34.5	26.6	34.9	23	31	25	34.5	22.5	27.5	21.5	27.1	23	29.8	23.4
5	33.9	24.1	34.5	25.9	35	23	30.7	24.9	35	22.8	27.5	21.5	28.3	22.7	29.8	23.3
6	33.5	24.7	33.8	25.5	31.9	23	30.6	23.4	33.8	23.8	27.5	22	28	22.5	29.4	22.9
7	33.6	24.2	34.1	24.7	33.9	23	31.2	24.6	34.3	22.9	27.2	20.9	27.7	22.6	29.5	23.5
8	33.7	24.6	34.4	26.5	32.9	22	30.6	23.9	34.3	23.2	26.7	22	27.6	22.6	29.3	23.5
9	32.7	23.6	33.3	25.6	33.7	22.9	30.3	25.1	34.3	22.8	26	21	26.5	22.1	28.7	23.2
10	33.9	25	34.4	24.5	34.9	22.5	31.2	23.7	34.7	22.2	27.5	21	27.7	22.8	29.2	23.5
11	35	20.9	33.8	24.9	34.2	23.9	31.7	23.8	33.8	23.4	27.5	21	28.2	22.6	29.8	23.3
12	34.8	21.6	34.1	23.4	34	22.8	32	24	34.1	23	28	20.5	28.6	22.5	30	22.8
13	33.5	20.5	33.9	23.1	36.8	23	33.5	23.2	34.3	22.7	28.3	20.5	29.3	21.9	30.5	22.2
14	34.5	21.8	33.6	23.4	32	24	33.2	23.3	33	23.6	29.5	20	30.4	21.9	33	22.2
15	34.9	21.5	33.4	23.9	32.9	24.9	33.7	23.6	32.7	22.3	30	21	30.6	21.9	32	22.3
16	33.3	20.7	32.7	23.7	33	22.5	32.6	22.8	33.1	21.5	29.7	20	29.6	20.8	31.7	21.8
17	32.8	21.5	33.7	23.9	36.9	22.5	30.8	22.7	33.4	21.6	29	20	29.9	21.8	31.6	21.6
18	33.3	21.5	33.6	22.8	36	22.9	29.2	24	34	22.3	28	20.7	29	21.7	29.9	22.5
19	32.4	21.3	32.6	23.3	33.5	22.5	30.7	23	33.5	21.9	28	20	28.3	21.6	30	22.3
20	32.5	22.5	32.2	23.4	33	22	29.5	24.6	33.3	22.4	27	20.5	27.1	21.6	28.9	22.2
21	33.4	23.2	33.1	24	32.5	22	29.5	23.3	33.9	22.6	26	20.3	26.2	21	27.7	21.5
22	32	22.1	32.6	23.6	36.9	22.9	29	23	33.3	22.2	26	20.3	25.8	21.8	27.7	21.4
23	32.7	22.1	33.9	23.6	36	21.9	29.8	24	33.5	23.3	27	21	27	21.7	29.3	22.5
24	32.5	22.3	33.4	23.9	32.9	22	31.5	23.8	33.8	23.4	28	21	28.3	21.8	29.9	22.7
25	33	22.9	31.1	23.9	36	22.5	30.2	23.7	33.5	23.4	28	20	28.3	20.3	31.2	21.4
26	32.5	21.7	32.5	23.1	35	22	31.7	23.3	31.6	22.2	28	20	28.5	20.3	30.2	21.7
27	33.2	22.1	30.8	23.4	36	23.5	29.8	22.8	30.8	23.4	27.5	20.5	27.6	21.5	30.3	21.5
28	30.7	21.6	30.1	23.6	36.1	23.9	29.5	23	29.6	23.6	27.8	21.2	27.9	22	29.4	22.8
29	29	21.9	31.6	24.5	36.1	21	27.3	23.3	33	23.7	28	20.7	26	22.5	27.5	22.2
30	29.6	23.2	32.2	24.6	36	21.5	28.9	23.8	32.8	24.2	26	21.5	26.7	21.9	27.9	21.9
31	30.2	22.8	31	24.8	32.9	22.9	29	23	31.3	24.6	22.6	20.5	23.1	21.3	24.7	22.5
Mean	32.9	22.6	33.1	24.4	34.3	22.7	30.7	23.7	33.4	23	27.5	20.7	27.9	22	29.6	22.5

Maximum and minimum temperatures at the stations of the Weather Bureau, August, 1920—Ctd.

Day.	Canluban, Calamba.		Silang.		Maragondon.		Paracale.		Santa Cruz, Laguna.		Buenavista, Malabon, Cavite.		Manila.		Antipolo.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.9	21.8	28.4	22.6	31.5	24.1	32	24.8	32.5	23.5	31.9	21.4	31.5	24.5	29.9	22.5
2	33	21.9	30	22.3	31.7	24.8	32	25	32.6	23.9	30.8	23.1	31.7	25.6	29.7	23
3	33.5	22.2	29.2	22.5	31.8	25.3	31.8	24	33.1	23.8	30.9	23.3	31.6	26.3	30.9	23
4	33.4	22	29.4	21	31.7	25.7	32	24.8	33.2	23.7	30.6	23.5	32	25.9	30.3	23.5
5	33.5	22.5	28.5	21.3	31.3	25.3	32	24.2	33.1	23.7	30.9	22.2	31.8	26.9	29.4	23.7
6	33.3	22.6	28.2	22.4	31.2	24.2	31	24	27.5	22.5	35.8	23.3	31.6	27.2	30.3	24.1
7	33.4	23	30.8	21.5	31.1	24.8	33	24.2	32.8	23.3	30.6	23.5	31.8	25.8	30.2	24
8	33.2	23.4	29.2	21.7	31.2	25.1	32	24.8	32.6	24.3	31.3	23.6	31.7	26.7	29.9	23.8
9	33	23.6	28.5	22.3	30.3	25.5	30	23.2	32.1	23.8	30.5	23.6	30.5	27	28.7	23.7
10	33.5	22.6	29	22.5	31.1	24.5	31	24.2	33	23	31	23.9	31.5	26.7	29.8	23.6
11	34.8	23	29.2	21.7	31.6	24.5	30.2	23.8	33.5	23.1	31.8	23.6	32	26.1	30.6	23
12	32.3	22.5	30	22.6	31.9	23.7	30.8	24	33.8	23.5	31.4	23.1	32.2	25	31.5	23
13	33	22.2	29.3	22.3	32.5	23.5	30	23.8	34.1	23.3	31.3	22.7	32.2	24.3	32.3	22.8
14	34.1	22.3	28.4	22.6	32.8	23.5	31	24.8	34.2	23	31.2	23.6	33	24.4	33.2	23
15	34.5	23.1	29	21.8	32.7	23.4	31.2	25	34.2	23.5	33	21.1	32.6	23.5	32.2	23.5
16	33.4	23.5	29.1	21.7	32	23	31.2	25	34.6	23.3	31.5	22.3	31.8	23.2	32.3	21.6
17	33.2	22.2	29.2	21.6	31.5	23.1	31	24.8	34.5	22.9	31.4	22.1	33.1	23.2	32.7	22
18	32.1	22.2	29.7	22.5	31.6	24.4	31	24	33.1	23.8	31.7	23.2	32.4	24	31.7	22
19	32	22.3	30	22.3	31.6	23.9	31	23.8	32.6	22.7	30.8	22.6	31.1	24	29.7	22
20	32.2	22.6	29.8	21.5	31.1	23.9	32	24.8	30.9	23	30.3	22.6	30.7	24	29.5	22.5
21	32	22.4	29.4	21.2	30	23.1	30	23	32.6	23.4	29.9	22.6	30.6	22.7	29.4	21
22	30.6	22	29	21	29.1	23.4	30	24	31.2	23	29.6	21.4	31	24.2	29.7	22
23	31.5	22.5	28.7	22.5	31.5	22.9	30	24.2	31.7	23.5	30.6	21.6	31.3	24.2	30.7	22.5
24	33.1	22.6	28.7	22.3	31.5	23.8	31	25	33.4	23	31.4	22.7	31.7	24.3	30.7	22.5
25	32.6	22.1	28.9	21.6	31.1	23	31.2	24.8	31.4	22.7	31.2	22.7	33.6	23.7	32.8	22.3
26	31.5	22	28.5	21.7	31.8	23.6	31.2	25	33.6	22.2	31.4	22.1	32.4	23.8	32.1	22.2
27	31.4	22	28.2	21.4	31.5	23.5	31.5	24.8	32.1	23.3	30.7	22.2	31.6	23.3	30.6	21.5
28	31.2	22.2	29	21	31.5	24.4?	31.2	24.8	31.2	23.2	30.4	22.9	30.7	24	29.1	22.2
29	29.7	22	29.2	22	28.5	23	31.8	24.8	30.5	23.2	28.7	22.7	30.4	23.8	30.2	22.4
30	30.1	22.4	28.8	21.5	29.6	24.1	31.8	25	30.8	23	28.4	22.5	31.2	24.6	30.4	23
31	30.5	22.6	28.8	21.2	25.5	23.9?	31.2	25	31.2	23.9	29.5	22.7	28.1	23.1	29.6	22.5
Mean	32.5	22.5	29.1	21.9	31.1	24	31.2	24.4	32.5	23.3	31	22.7	31.6	24.7	30.6	22.7

Day.	Balanga.		Malolos.		San Fernando, Pampanga.		San Isidro, Nueva Ecija.		Iba.		Tarlac.		Baler.		Dagupan.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.4	24.5	32	25.1	32.4	23.6	31.4	24.4	31.5	24.2	34	22.4	34	24.6	32.8	25
2	31.7	24.3	32	25	33.2	22.8	32.4	24.5	30.6	24.5	34.4	22.8	34.1	25.5	32.4	25
3	31.7	25.6	31.9	25.7	32.8	23.5	32.6	24.9	31.5	25.2	34	22.8	36.6	25	33.5	25.4
4	31.4	24.7	32.1	25.2	32.5	24.5	31.3	24	30.1	24.6	34.4	22.4	36.2	26.5	32.8	25.9
5	31.5	25.3	32	25.7	33.2	24.8	32.1	24	31.3	25.2	33.4	23.1	36.5	25.6	33.3	25
6	31.5	25	31.9	25.1	32.5	23.5	32.1	24.2	31.4	25.7	34.5	22.2	36.9	25.7	32.8	24.7
7	31.6	24.1	32.1	25.1	33	23	32.4	24.7	31.6	24	34	21.6	36.3	25.3	33.1	25.6
8	31.3	24.6	32.2	25.1	32.8	23.8	32	24.6	31.1	25.1	33.2	21.8	34.7	26.6	34.2	25.6
9	31.4	25.2	32.5	25	32.8	23.5	31.8	24.4	31.4	25.7	33.4	22.2	37.3	26.4	33.6	26
10	31.7	24.7	32.3	25.1	33.2	23.4	33	24.4	31.3	25	33.4	22.8	36.9	25.3	32.8	25
11	31.7	24.5	32.2	24.8	33.1	23.7	32.4	24.4	31.4	24	34.5	21.6	37.6	25.8	32.4	25
12	32.7	23.8	33.6	24.6	33.5	23.6	33.1	25	31.5	24	35	22.2	37	25.5	32.7	25
13	33.1	23.4	33	24.5	33.7	24	33.4	23.5	31.4	23.8	35.4	22.5	35.9	23	32.9	25.5
14	34	24	33.9	24.6	34.5	24.5	33.9	24.5	32	24	35.2	23.5	32.3	24.5	31.9	26.5
15	32.8	24.3	33.9	25.5	34.5	23.3	34.4	24.4	32.3	23.8	36.4	23.5	34.6	24.9	31.8	26
16	33.1	24.3	32.9	22.9	34.2	23.3	33.4	24.2	31.7	24.4	35.2	23.8	33.3	23.3	32.4	25.3
17	33.2	24.2	33.2	24.5	33.5	24	33.1	24.4	32.1	21.9	36.2	22	33.9	23	32.2	25.1
18	31.6	24	33	23.8	33.2	23	32.9	23.9	31.8	23.8	35.2	22.2	34.3	22	32.5	24.5
19	29.9	23.8	33	23.6	31.5	22.3	30.6	23.6	31.1	23.8	32.4	21	34.8	23.1	32.7	23.9
20	30.5	23.1	30.9	24.2	31.7	23.5	31.3	24.2	30.2	24.2	33	21.8	34.8	24.5	31.3	23.8
21	30	22.5	29.9	22.9	33	22.3	31.3	23	30.1	23.1	31.6	21.8	35	24.1	31.4	23.4
22	30.2	23.4	30.2	22.9	31.6	22.6	30.9	23.5	30	23.7	29.8	22.4	35.4	24.5	33.1	23.5
23	30.1	23.3	29.7	23.8	30.6	23.6	29.4	23.4	30.6	23.7	31.5	21.8	34	23.1	32.6	24
24	31.1	24	30.5	23.8	32.5	24	31	23.8	29.8	23.6	33	22.4	32.9	23	31	24.2
25	32.7	23.4	32.1	24	33.2	22.6	32.6	23.9	31.4	24	34.4	22.6	32	23	34.2	24.1
26	33	24.3	32.2	24	33	23.8	32.5	23.5	30.3	24	33	23.2	32.9	23.5	33	24
27	31.7	23	31.6	23.2	32.5	21.7	32.1	23.2	31.8	22.9	34	22.2	32.6	22.4	30.7	23.8
28	32.3	23.5	31.9	23.9	33	23	32.4	24.1	31.6	23.5	34.2	21.4	33	23.3	31.3	24.3
29	31.1	24.2	30	24	31.8	23.4	32.3	24.6	31.9	23.8	35.2	22.4	33.4	25	33	25.4
30	30.7	24.8	30	25.1	30	24.8	29.6	25.4	28.8	24.8	30.5	24	32.8	24.8	32.1	25.5
31	25.7	23.6	26.1	24.2	26.5	23.8	29.9	23.3	27.5	23.8	28.4	23.3	33.8	24	28.8	24
Mean	31.5	24.1	31.8	24.4	32.6	23.5	32.1	24.1	31	24.1	33.6	22.4	34.7	24.4	32.4	24.8

Maximum and minimum temperatures at the stations of the Weather Bureau, August, 1920—Ctd.

Day.	Bolinao.		Baguio.		San Fernando, La Union.		Candon.		Vigan.		Tuguegarao.		Laoag.		Aparri.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.2	24.8	22.3	16.4	33.5	25	32	25.4	32.1	24.9	35	26.2	31.7	24.6	33.2	24.3
2	32.3	24.7	20.7	16	33.2	25.1	32	26.4	31.4	25.8	36.7	25.8	31.7	25.2	34.5	23
3	32.4	25.5	19.7	16	33.4	26	32	26.5	31.5	26.9	36	24.4	32.2	26	35	25.3
4	31.6	25.3	20.6	15	33.1	25	32.3	26.2	31.5	25.5	35.8	24.7	32.2	25.7	35.8	24.2
5	32	25.1	20.6	15.5	32.6	25.1	31.4	26	31	25	37.3	23.6	31.2	25	35.8	24.5
6	32	25.2	22	15.5	33	25.4	32	26	31.5	25.6	37	24.7	32.1	24.5	34.3	25.5
7	32.3	25.2	21.6	15.8	33	25.5	32	26.5	32.1	25.6	36.1	24.6	32.3	24	33.6	24.5
8	32.2	25.4	19	16.1	33.1	25.7	32.3	26.8	31.1	26	35	23.2	30.7	25.2	33.8	24.5
9	32.2	25.5	18.7	15.7	31.7	25.6	31	26	30	25	34.6	25	30.2	25.2	34.2	25.2
10	32	25.2	20.4	16.2	33	24.8	31.6	26	30.7	25	37	24.8	32	24.7	35.4	24.9
11	31.7	24.9	22.3	16.3	33	26.5	32	25.5	30.5	24.4	36.6	23.8	32.2	24.6	34.9	24.5
12	32.7	25.2	22.8	16.1	33.1	24.6	31.8	25.7	31.8	24.2	35.2	23.8	32.7	23.8	34.7	24.6
13	31.4	25.3	23	15.8	32.1	24.6	31.6	26	32.4	24.9	36	24.3	32.9	25	31.8	23.8
14	31.8	25.4	24.4	16	33	24.5	32.4	25.6	33.8	25.2	36	24.6	33.3	24.5	31.6	24.5
15	31.8	26.6	23.3	16.4	33.4	25.4	32.2	26.5	32.9	24	35	24.5	33.2	24.3	31	24
16	31.6	27.5	23.5	16.1	32.7	24.5	32	25.5	32.8	24	36.3	24	33.1	23.1	31.8	23.5
17	31.7	26.7	23.3	15.2	32.5	23.5	32.2	24.4	32.1	23.5	37	24.5	33.1	23.2	31.5	24
18	31.8	23.5	23.2	14.7	32.5	23.1	32	24.6	32.7	24	35	24.8	33	23.4	32.8	23.6
19	32	24.5	23.3	14.8	33	23.6	32.2	24.9	32.2	22.7	36.4	24.9	33.4	23.5	34.5	23.7
20	30.3	24.3	22.1	15.3	31.6	24	31.8	25.8	28.8	22.7	36.9	23.6	32	23.8	35	23.8
21	31.6	23	21.8	15	31.9	23	31	24	30.9	22.7	35.5	24.4	31.9	23.5	32.6	23.5
22	32.3	23.7	23.3	15.4	31.8	24	31	24.5	31	23.5	33.5	24.5	32.4	23.4	31	24
23	33	23.7	23.1	15.3	32.9	23.4	30.9	25	31	23.5	34.9	24.3	31.4	23.7	31.5	23.8
24	31.6	25	20.1	16.1	32.4	24.2	31.7	25	32.2	23.7	34.8	22.9	32.2	23.9	31	23.1
25	33.1	24.7	24.4	16	33.4	23.8	31	24.8	32.5	23.9	34.6	22.5	32.2	23.7	33.6	22.7
26	32.7	24.5	23.9	15.9	32.7	23.3	31.5	25	32.8	24.1	32.9	22.8	31.8	23.4	31.7	23.2
27	30.5	23.9	21.3	15.8	31.4	24	31.4	25	30.6	23.6	34	23.2	31.6	23.3	31	23.2
28	32	24.7	23.7	16	32.9	23.6	31.5	26.27	32.1	24.1	34.8	22	32.4	23.7	30.7	22.5
29	32.4	26	26.3	17.3	33	24.5	32.7	25.6	33	25.1	37	24.6	33.1	24.2	32.6	24.5
30	34.4	25.5	26.9	16.9	34	24.6	32.5	26.1	33.4	25.2	36.8	24.6	33.1	24.7	33.8	25
31	29.2	24.8	22.4	16.2	30.9	24.7	31	25.1	33.4	24.8	34.8	25.4	33	24.1	30.5	24.2
Mean	32	25	22.4	15.8	32.7	24.5	31.8	25.6	31.8	24.5	35.6	24.2	32.3	24.2	33.1	24

Day.	Cape Bojeador.		Basco.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.
1	29.8	24.8	30.6	25.5
2	29	24.9	30.6	26.1
3	29.8	25.2	31.5	27.6
4	29.9	25.4	31.1	27.7
5	29.4	25.3	31	27.5
6	29.9	25	31.6	27.5
7	30	25.3	31.5	27.3
8	28.8	25.2	29.6	27.7
9	29.3	25.1	30.8	27.6
10	29.7	25	31.1	24.3
11	29.5	25.1	31.7	24.1
12	30.2	24.9	31.5	26.9
13	30.8	25.1	31.5	27
14	30	25.1	31.6	26.9
15	31	25.5	32.4	26.8
16	30.8	25.4	32.2	26.5
17	30.5	25	32.4	26
18	30.6	25.2	32.5	26.3
19	30.5	24.5	30.7	24.5
20	29.9	24.3	31.6	24
21	30.1	24	31.2	24.7
22	30.8	23.9	33.2	23.6
23	29.8	23	33	25.9
24	30.8	24.2	32.6	24.5
25	31.1	23.9	32.7	24.5
26	29.6	24	33	24.6
27	28.7	23.5	32.2	22.9
28	30	24.5	32.6	21
29	32.9	25.1	33.7	23.2
30	31	26	33.3	24.5
31	31.1	25.5	32.1	24.4
Mean	30.2	24.8	31.8	25.5

SEISMOLOGICAL BULLETIN FOR AUGUST, 1920.

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EARTHQUAKES FELT IN THE PHILIPPINES.¹

- 1, 7^h 00^m [1, 15^h 00^m]. **Candon** (NW Luzon). Earthquake shock of intensity III-IV.
- 1, 22^h 31^m 47^{s*} [2, 6^h 31^m 47^s]. **Calatagan** (SW Luzon). Earthquake of intensity III.
- 2, 13^h 16^m 00^{s*} [2, 21^h 16^m 00^s]. **W Mindanao**. Earthquake of intensity III-IV, felt in the provinces of Lanao and Cotabato: in Lanao province there occurred five distinct shocks in succession during three minutes. Recorded at Butuan: the epicenter was located close to the northern end of Illana Bay.
- 3, 3^h 04^m 36^{s*} [3, 11^h 04^m 36^s]. **Mindanao Island**. Extensive earthquake of intensity V-VI through Davao Province, and III-IV in the rest of the island and Sulu Archipelago. The epicenter probably lay in the Pacific south of Davao. Apparently it was located at a distance of about 200 kilometers from Butuan in the southern part of the Agusan Valley, near to the parallel 7° 7' N, where the shock was classified as violent, and occurred an aftershock at 7^h 10^m (15^h 10^m). The seismograph at Butuan recorded seven instrumental disturbances during this day, seven on the 4th, and fourteen on the 5th, but some of them had the origin farther than 200 kilometers. It was recorded in the Far East and in America.
- 4, 2^h 50^m [4, 10^h 50^m]. **Central Mindanao**. Earthquake of intensity III-IV felt in the provinces of Lanao and N Cotabato. Registered at Butuan.
- 9, 5^h 06^m 50^{s*} [9, 13^h 06^m 50^s]. **Cuyo Island**. Oscillatory earthquake, direction SSE-NNW, intensity V, duration 14 seconds. Aftershock of intensity III-IV at 15^h 50^m (23^h 50^m). Originated in the Sulu Sea, S of Cuyo.
- 9, 17^h 29^m 21^{s*} [10, 1^h 29^m 21^s]. **Capiz** (N Panay). Earthquake shock on intensity III.
- 10, 4^h 15^m [10, 12^h 15^m]. **Lais** (SE Mindanao). Earthquake shock of intensity II-III.
- 10, 16^h 25^m [11, 0^h 25^m]. **Moncayo** (E Mindanao). Earthquake of intensity IV. Originated in the same region of the one occurred on the 3rd.
- 11, 23^h 25^m [12, 7^h 25^m]. **Glan** (S Mindanao). Earthquake shock of intensity III.
- 12, 16^h 11^m [13, 0^h 11^m]. **SE Mindanao**. Earthquake of intensity V, along the western coast of Davao Gulf. Recorded at Butuan; its origin probably lay in the Apo Range.
- 16, 2^h 26^m 37^{s*} [16, 10^h 26^m 37^s]. **W Luzon**. Earthquake of intensity III felt in the western portion of Benguet Province.
- 17, 0^h 54^m [17, 8^h 54^m]. **Butuan** (N Mindanao). Oscillatory earthquake intensity II-III, duration 8 seconds.
- 17, 2^h 10^m [17, 10^h 10^m]. **Cateel** (E Mindanao). Earthquake of intensity III. It repeated with the same intensity at 5^h 45^m (13^h 45^m).

¹ The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that 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 report. All time indications are in Greenwich mean time (midnight = 0^h), insular time being added in brackets for the convenience of Philippine readers.

17, 21^h 54^m 45^{s*} [18, 5^h 54^m 45^s]. **E Mindanao.** Earthquake shock of intensity II at Butuan, from rather a distant origin, probably in the Pacific. During the day the seismograph of this station recorded nine distinct instrumental shocks.

19, 23^h 20^m [20, 7^h 20^m]. **E Mindanao.** Earthquake shock, felt with intensity III, at the same time at Butuan and Lais; situated respectively, in the north Agusan Valley and west of the Davao Gulf, a distance of about 280 kilometers; not reported from any station lying between them.

22, 23^h 14^m [23, 7^h 14^m]. **Butuan (N Mindanao).** Earthquake shock of intensity II-III. During this day the seismograph recorded eleven seismic disturbances from different origins.

29, 8^h 34^m 43^{s*} [29, 16^h 34^m 43^s]. **E Mindanao.** Earthquake of intensity IV, felt in the province of Davao, chiefly in its western portion where rise the volcanic extinct cones Apo and Matutum. Recorded at Butuan.

RECORDS OF THE MICROSEISMOGRAPH.

[Time: Greenwich mean. Midnight=0^h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N : $T_0=6.25$, $\epsilon=2.906$, $\frac{r}{T_0^2}=0.053$; A_E : $T_0=6.18$, $\epsilon=2.393$, $\frac{r}{T_0^2}=0.042$. Alluvium. 2.40 meters above sea level.]

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A_N μ	A_E μ	
226	1	Iv	eP F	h. m. s. 22 31 47 36	s.			SW Luzon.
227	2	I	e F	5 11 12 58				
228	2	Iv	eP F	13 16 00 32				Lanao (Mindanao).
229	2	Iv	eP F	17 28 22 32				
230	3	Iv	eP F	0 52 46 57				
231	3	IIIv	eP iS iL M _N M _E F	3 04 36 06 15 06 35 06 52 06 55 4 58	6 6	591 392		Mindanao Island.
232	3	I	e F	5 09 22 52				
233	3	Iu	e F	20 17 44 22 40				
234	5	Ir	(PS) L M _N M _E F	19 04 50 09 50 10 37 10 58 49	13 14	33 28		
235	6	Iv	eP F	20 38 20 40				
236	6	I	e F	23 29 44 48				
237	8	Ir	eP L F	10 32 25 35 23 56				
238	8	I	e F	13 29 40 40				
239	9	IIv	eP L M _E M _N F	5 06 50 07 42 08 45 08 48 44	5 5	185 114		Cuyo Island.

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.			Period.	Amplitude.		Remarks.
				<i>h.</i>	<i>m.</i>	<i>s.</i>		A_N μ	A_E μ	
240	9	Iv	eP F	17	29	21			N Panay.	
241	10	I	e F	20	40					
242	11	I	e F	13	14	16				
243	11	Iv	eP L M _E F	20	45	08				
					45	25				
					45	27	2	84		
244	13	Ir	e F	2	23	18				
				3	06					
245	15	IIr	e S L M _E M _N F	8	25	40				
					30	10				
					32	34				
					33	24	6	112		
					33	33	7	84		
				9	42					
246	15	I	e F	22	03	50				
					24					
247	16	Iv	eP L F	2	36	27			W Luzon.	
					36	56				
					43					
248	17	I	e F	21	54	45			Felt at Butuan (N Mindanao).	
				22	12					
249	19	I	e F	1	48	49				
				2	19					
250	20	I	e F	2	42					
					58					
251	20	I	e F	14	00					
					17					
252	20	Iu	e M _{N1} M _{N2} M _{N3} F	16	35				Chile.	
				17	09	20	16	5		
					40	16	20	5		
				18	16	47	23	6		
					43					
253	25	I	e F	8	46					
				9	23					
254	25	Ir	e L F	22	00	50				
					09	00				
					52					
255	26	Iu	e S? L M _E M _N F	23	11	18				
					20	04				
					37	04				
					37	09	15	3		
					39	30	18	5		
	27		F	0	14					
256	27	I	e F	3	29	51				
				4	04					
257	29	Iv	eP F	5	13	10				
					16					
258	29	Iv	eP L? F	8	34	43			Felt at Davao (SE Mindanao).	
					36	25				
					54					
259	30	Iv	eP F	14	26	15				
					29					

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.¹

1, 7^h 00^m [1, 15^h 00^m]. Candón (NW de Luzón). Temblor de tierra de intensidad III-IV.

1, 22^h 31^m 47^{s*} [2, 6^h 31^m 47^s]. Calatagán (SW de Luzón). Temblor de tierra de intensidad III.

2, 13^h 16^m 00^{s*} [2, 21^h 16^m 00^s]. W de Mindanao. Temblor de tierra de intensidad III-IV sentido en las provincias de Lanao y Cotabato: en Lanao se distinguieron cinco diferentes choques en tres minutos. Registrado también en Butúan. Su origen parece se hallaba en la bahía Illana, cerca de su costa norte.

3, 3^h 04^m 36^{s*} [3, 11^h 04^m 36^s]. Isla de Mindanao. Extenso temblor de tierra sentido con intensidad V-VI en la provincia de Dávao y IV-III en el resto de Mindanao y en Joló. El epicentro aparentemente se hallaba a unos 200 kilómetros de Butúan, en la parte sur del valle del Agusan, cerca del paralelo 7° 7' N, donde lo calificaron de violento y ocurrió una réplica a 7^h 10^m (15^h 10^m). Es con todo probable que estuviese en el mar Pacífico hacia el sur de Dávao. El sismógrafo de Butúan registró durante el mismo día 3 siete choques instrumentales, otros siete el 4, y catorce el 5: varios de ellos sin embargo procedían de un origen situado a mucho más de 200 kilómetros de distancia de Butúan. Registróse en el Extremo Oriente y en América.

4, 2^h 50^m [4, 10^h 50^m]. Centro de Mindanao. Temblor de tierra de intensidad III-IV, sentido en la provincia de Lanao y parte N de la de Cotabato. Registrado en Butúan.

9, 5^h 06^m 50^{s*} [9, 13^h 06^m 50^s]. Isla de Cuyo. Temblor oscilatorio, dirección SSE-NNW, intensidad V, duración 14 segundos. Repitió con intensidad III-IV a 15^h 50^m (23^h 50^m). El epicentro probablemente se hallaba al sur, en el mar de Joló.

9, 17^h 29^m 21^{s*} [10, 1^h 29^m 21^s]. Cápiz (N de Panay). Temblor de tierra de intensidad III.

10, 4^h 15^m [10, 12^h 15^m]. Lais (SE de Mindanao). Temblor de tierra de intensidad II-III.

10, 16^h 25^m [11, 0^h 25^m]. Moncayo (E de Mindanao). Temblor de tierra de intensidad IV; registrado en Butúan. Idéntico origen con el del día 3, puede considerarse como una réplica.

11, 23^h 25^m [12, 7^h 25^m]. Glan (S de Mindanao). Temblor de tierra de intensidad III.

12, 16^h 11^m [13, 0^h 11^m]. SE de Mindanao. Temblor de tierra de intensidad V en la parte occidental del golfo de Dávao. Registrado en Butúan; probablemente su origen se hallaba en la cordillera del volcán Apo.

16, 2^h 26^m 37^{s*} [16, 10^h 26^m 37^s]. W de Luzón. Temblor de tierra de intensidad III, sentido en la parte occidental de la provincia de Benguet.

17, 0^h 54^m [17, 8^h 54^m]. Butúan (N Mindanao). Temblor oscilatorio, intensidad III-IV, duración 8 segundos.

17, 2^h 10^m [17, 10^h 10^m]. Cateel (E de Mindanao). Temblor de tierra de intensidad III. Repitió a 5^h 45^m (13^h 45^m) con la misma intensidad.

17, 21^h 54^m 45^{s*} [18, 5^h 54^m 45^s]. E de Mindanao. Temblor de tierra apenas perceptible en Butúan; seguramente de origen algo lejano en el Pacífico. Durante el día se registraron en la misma estación nueve diferentes choques sísmicos.

¹ La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos 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 medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

19, 23^h 20^m [20, 7^h 20^m]. E de Mindanao. Temblor de tierra sentido a la misma hora con intensidad III en Butúan y en Lais, situados respectivamente en el N de la isla y en la parte W del golfo de Dávao, y distantes entre sí unos 280 kilómetros.

22, 23^h 14^m [23, 7^h 14^m]. Butúan (N de Mindanao). Temblor de tierra de intensidad II-III. Durante este día el sismógrafo Wiechert registró once distintos choques sísmicos originados a diferentes distancias.

29, 8^h 34^m 43^s* [29, 16^h 34^m 43^s]. E de Mindanao. Temblor de tierra de intensidad IV, sentido en la parte occidental de la provincia de Dávao, que comprende la cordillera en que se yerguen los volcanes extintos Apo y Matutum. Registrado en Butúan.



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THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

BULLETIN FOR SEPTEMBER, 1920.

PREPARED UNDER THE DIRECTION OF
REV. JOSÉ ALGUÉ, S. J.
DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
1922

BULLETIN FOR SEPTEMBER, 1920.

METEOROLOGICAL BULLETIN FOR SEPTEMBER, 1920.

By Rev. JOSÉ CORONAS, S. J.,

Chief, Meteorological Division of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure for this month is slightly below the normal for September. The highest pressures were generally observed on the 11th, 15th or 20th, and the lowest, with a few exceptions, on the 2nd and 3rd when a big typhoon was passing to the north of the Philippines across Meiacosima group of Islands.

The mean monthly temperature does hardly differ from the normal, it being very slightly above it in the majority of our stations. The absolute maximum and minimum temperatures of this month for Manila were 33.5° C. and 22.4° C.: they were registered on the 1st and 14th, respectively. The extreme temperatures for Baguio were 25.8° C., 15.0° C. on the top of Mirador, and 26.2° C., 13.9° C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR SEPTEMBER, 1920.

Station.	Pressure.							Temperature.						
	Mean.	Departure from Sept., 1919.	Departure from normal.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from Sept., 1919.	Departure from normal.	Highest.	Day.	Lowest.	Day.
	mm.	mm.	mm.	mm.		mm.		°C.	°C.	°C.	°C.		°C.	
Zamboanga ^a	758	-0.67	-----	759.26	15	756.34	25	26.2	+0.1	-----	31.7	5	21.3	19
Meeth, Yap, Western Carolines.....	57.81	+ .52	-----	59.01	8	56.09	23	26.8	0	-----	33	9	22.6	19
Tagbilaran.....	57.42	- .72	-0.45	58.85	15	55.02	2	26.8	+ .3	-0.4	32.5	13	22	22
Surigao.....	57.21	- .90	- .60	58.75	15	54.29	2	27.3	+ .8	0	37	10	22.9	19, 22
Cebu.....	57.44	- .81	- .40	59.04	15	54.27	2	27.6	+ .2	+ .3	33.4	11	22.9	15
Iloilo.....	57.28	- .92	- .47	58.93	20	54.09	2	26.9	+ .2	+ .3	32.6	9	22.7	25
Tacloban.....	57.11	-1.17	- .55	58.78	20	53.21	2	27.2	+ .5	- .1	35.5	4	22.4	23
Capiz.....	57.14	-1.03	- .57	58.74	20	53.41	2	26.8	0	+ .1	34.8	7	22.3	Various
Calbayog.....	57.32	- .95	- .23	59.08	20	53.13	2	26.8	+1.1	- .2	33.6	10	22.5	17
Legaspi, Albay.....	56.99	-1.29	- .30	59.14	20	51.89	2	27.3	+ .3	+ .3	34.2	7	22.8	14, 22
Atimonan.....	56.93	-1.52	- .21	59.29	20	51.36	2	27	+ .1	0	33.2	28	22.9	6, 16
Ambulong, Tanauan, Batangas.....	56.47	-1.31	-----	58.80	11	51.81	2	26.4	- .3	-----	34.6	15	21.8	10
Daet.....	56.98	-----	-----	59.46	20	50.86	2	26.5	-----	-----	33.7	6	20.5	16
Manila.....	56.98	-1.39	- .48	59.32	11	51.89	2	26.8	+ .3	0	33.5	1	22.4	14
San Isidro, Nueva Ecija.....	57	-1.39	- .33	59.36	11	51.64	2, 3	26.7	- .3	+ .2	34.4	15	22.1	1
Dagupan.....	55.92	-1.45	- .85	58.35	11	50.43	2	27.4	- .2	+ .4	35.2	17	23	20
Baguio ^b	635.01	-1.19	- .12	637.24	11	629.78	2	18.3	+ .3	+ .5	25.8	21	15	22
Vigan.....	755.96	-1.67	- .80	758.85	11	749.87	3	27.5	- .2	+ .5	33.1	19	22.5	9
Tuguegarao.....	56.37	-1.83	- .18	60.10	19	47.58	3	26.6	- .2	- .5	26.3	15	22	10, 11
Laoag.....	55.77	-----	-----	58.83	11	48.93	3	27.2	-----	-----	34.5	19	22	12
Aparri.....	56.36	-2.20	- .44	60.12	20	46.75	3	27	+ .2	- .1	34	2	21.4	19

^a 28 days of observation.

^b The barometric readings of this station are not reduced to sea level.

Rainfall.—The total amount of rainfall for this month is generally greater than the normal in the Visayas and Mindanao, but smaller in Luzon. It is, however, above the monthly total for last year, even in Luzon. In Manila the monthly rainfall 328.3 mm. differs from that of September, 1919, by +152.3 mm., but it is 37.3 mm. below the normal. Baguio reported also a total monthly rainfall greater than that of last year by 192.3 mm., but smaller than the normal of this month by 210.2 mm.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF SEPTEMBER, 1920.

Station.	Total.	Departure from September, 1919.	Departure from normal.	Days of rain.	Departure from September, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from September, 1919.	Departure from normal.	Days of rain.	Departure from September, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.
	mm.	mm.	mm.		mm.	mm.	mm.			mm.	mm.	mm.		mm.	mm.	mm.	
Jolo	136.5	+ 16.9	- 29.3	21	+8	+7	27.5	30	Sumay, Guam	283.7	-207.6	- 98.4	20	+ 1	-2	54.1	21
Malamaui, Isabela, Zamboanga	286.3	+106.5	-----	15	+3	-----	71.1	18	Calapan	337	-----	+ 92.4	18	-----	+1	99	19
Zamboanga	117.4?	-167.7?	+ 10.1	15	-3	+4	21.1	1	Virac	160.4	-217.2	- 19.5	15	+ 1	-2	27.9	18
Davao	197.1	+ .4	+ 8.5	12	-5	+2	47.8	26	Naga, Camarines Sur	317.8	+156	+ 58.4	18	+ 4	+1	98.3	25
Cotabato	213	-113.7	- 24.9	20	+5	+4	37.1	24	Tigaon	223.2	+ .8	-----	22	+ 7	-----	30.2	7
Cagayan	340.8	+191.2	+138.7	14	+2	-1	69.9	20	Batangas	303.3	+134.3	+ 2.5	16	+ 4	-3	32.1	19
Butuan	368.7	+205.7	+211.4	22	-1	+7	86.3	22	Lucena	291	+101.8	-----	17	+ 3	-----	57.7	19
Mambajao	341.3	-----	-----	12	-----	-----	178	20	Atimonan	419	+144.8	+142.1	19	+ 2	+2	68.7	23
Dumaguete	140.5	-120.7	- .4	19	+1	+6	45.7	15	Ambulong, Tanauan, Batangas	381.1	+270.4	-----	19	+10	-----	78.4	2
Meeth, Yap, Western Carolines	206.1	- 59.1	-104.4	20	-2	-3	40.1	23	Daet	295.7	-----	-----	15	-----	-----	58.1	23
Tagbilaran	171.6	- 92.6	- 6.4	15	-6	+3	38.9	21	Canluban, Calamba	390.2	+218.1	-----	19	+10	-----	59.7	19
Iwahig Penal Colony, Puerto Princesa	288.7	+ 56.5	-----	19	-2	-----	70.1	24	Paracale	207.7	-285.7	- 57	20	+ 2	+3	63.5	20
Surigao	266.7	-131.9	+102	13	-9	0	68.1	22	Santa Cruz, Laguna	295.2	+142.9	+ 1.7	16	- 4	-6	55.4	19
Maasin, Leyte	309.7	- 47	+ 32.8	10	0	-2	98.9	22	Manila	328.3	+152.3	- 37.3	17	+ 1	-4	55.3	2
Cebu	251.8	+ 73.1	+ 71	19	+3	+2	87.5	15	Antipolo	29.6	+111.5	-----	22	0	-----	78.2	2
Iloilo	333.3	+140.6	+ 19.8	18	-2	-2	83.4	24	San Isidro, Nueva Ecija	207.5	+125.8	-101.7	18	+ 6	-3	46.3	26
San Jose de Buenavista	587.9	+122.7	+ 82.5	16	-6	-5	163.8	23	Iba	377.1	+179.1	-350.6	21	+ 9	-2	70.5	5
Cuyo	405.7	+150	+ 41.7	22	+4	0	64	24	Tarlac	237.4	+ 57	- 91.2	16	- 2	-4	50.6	27
Ormoc	282	- 26.2	+ 7.2	13	-1	0	83.3	23	Baler	263.5	+ 74.3	- 38.8	12	- 5	-3	66.3	19
Guiuan	247	-116.4	-----	15	-5	-----	75	20	Dagupan	210.1	+ 42.8	-226.8	23	+ 8	+3	35.3	14
Tacloban	172.9	+ 35.9	+ 22	15	+2	-1	39.6	18	Baguio	584.7	+192.3	-210.2	21	- 1	-4	167.1	2
Capiz	402.9	+ 96.3	+112.4	21	0	+3	75.6	18	San Fernando, La Union	255.4	- 29.3	-175.5	17	+ 3	-2	53.1	1
Borongan	155.6	- 2.6	- 27.8	13	-6	-3	35.3	18	Candon	276.5	+177.3	-159.8	16	+ 3	-1	80.8	1
Catbalogan	342.7	+ 87.4	-----	17	-7	-----	56.4	24	Vigan	324.9	+247.8	-169.6	13	+ 4	-6	110.5	2
Calbayog	168.2	-100.7	- 98.5	13	-9	-6	53.8	22	Tuguegarao	186.7	+167.5	- 65.1	14	+10	+2	58.5	25
Masbate	325	+239.3	+136.7	18	+8	+2	55.2	23	Laoag	183.8	+157.6	-439	16	-----	-----	46	27
Romblon	494.8	+331	+261.3	17	-6	0	95.4	22	Aparri	357.9	+262.8	+ 83.5	17	+ 7	+2	98.4	25
Batag Light-house, Laoang	428.6	-112.6	-----	10	-8	-----	136.7	23	Cape Bojeador	185.8	+174.2	-----	16	+11	-----	109.3	25
Sorsogon	239.3	- 85.2	-----	17	-1	-----	67.5	18	Basco	290.4	+242.7	-35.5	25	+16	+5	67.8	7
Legaspi, Albay	217.1	- 48.9	- 32.3	19	+3	0	56.2	19									

^a 28 days of observation.

DEPRESSIONS AND TYPHOONS.

There were four typhoons and two depressions in the Far East during this month. Two of the typhoons were very destructive, one being a Formosa typhoon, and the other a Japan typhoon. Their tracks are published in Plate X.

The Formosa typhoon: August 27 to September 6, 1920.—With the observations at hand it is impossible to decide when and where this typhoon formed. It appeared as well developed already in our Weather Map for August 27, 6 a. m., to the ESE of Guam in about 150° longitude E and 12° latitude N. It moved WNW and passed near Guam to the north at about noon of August 28, the lowest barometric reading recorded there being 744.6 mm. at 3.30 p. m. of the 28th, and a gale blowing for several hours from the north and west quadrants. In the following table we give some of the observations taken at that station during the typhoon:

METEOROLOGICAL OBSERVATIONS MADE AT SUMAY, GUAM, LADRONE ISLANDS, AUGUST 27 TO 30, 1920.

Date and hour.	Pressure.	Wind.		Rain, 24 hours beginning 6 a. m.	Remarks.
		Direction.	Force.		
August 27:	mm.				
6 a. m	754.50	N	5		Lightning to E all night.
2 p. m	51.92	N	7		Moderate sea.
5 p. m	51.17	N	7		Rough sea.
11 p. m	50.55	N	8	63.5	Do.
August 28:					
6 a. m	45.64	NW	9		Do.
2 p. m	44.74	SW	9	149.9	Harbor very rough—Some swell.
August 29:					
6 a. m	51.72	SSW	5		Harbor rough. Weather moderating.
2 p. m	52.95	S	5	33.0	Do. Do.
August 30:					
6 a. m	56.35	SSE	4		Do. Do.

It was a very big typhoon, and hence its influence was felt considerably in Luzon and the Visayas, although the center was more than 300 miles distant from the nearest part of Luzon, and over 600 miles away from the Visayas. The WNW direction was kept during the whole track of the typhoon. Its center struck Meiacosima on September 3, and northern Formosa on September 4. When the center was approaching Meiacosima, it caused such a considerable falling of the barometer, that the meteorological station of Ishigakijima reported a barometric minimum as low as 698.5 mm. (gravity correction applied): it was observed at 3 p. m. of September 3. Such a low barometric reading had never before occurred in Ishigakijima and Formosa. The wind velocity there reached its maximum 68 m. p. s. at 2 p. m. of the same day.

Our readers may find interest in the following report we received from the Director of Taihoku Observatory on the effects of this typhoon in Formosa, and the observations made there at the time it passed over the Island:

This typhoon is one of the most violent. On the early morning of the 31st the tidal swell was observed on the east coast of Formosa increasing its intensity unusually high in the afternoon.

The center crossed over the north extreme of Formosa passing through between Keelung and Taihoku, very closely to Keelung, between noon and 1 p. m. of the 4th, and entered the Continent to the south of Foochow during the night.

As shown in the table below, the barometer of Keelung sank to 719.1 mm. at 11 a. m. and noon. The wind velocity was comparatively small in Formosa, the intensity of the typhoon decreasing greatly when the center arrived near the Island. The rainfall was, however, very heavy and caused disastrous floods of rivers making serious damage on the north and western part of the Island, as there were several stations reporting a total amount over 1,500 mm. for the four days of September, 2-5. The loss of life was 58, wounded 58, and missed 78. The houses destroyed, 8,604; partially destroyed, 10,898; injured, 17,476; and washed out, 1,315.

The table below shows the minimum reading of barometer and highest velocity of wind observed during the typhoon:

Station.	Barometric minimum. (1)	Hour.	Day.	Wind.		Hour.	Day.
				Velocity	Direction.		
	mm.			m. p. s.			
Keelung	719.1	{ 11 a. m.	4	36.7	SSE	1 p. m.	4
Taihoku	722.6	{ noon.	4	22.5	NNE	7 p. m.	3
Taichu	730.7	{ 0.15 p. m.	4	23.8	NNW	7 p. m.	3
Tainan	735.8	{ 3 a. m.	4	24.6	W	9 p. m.	3
Taito	724.3	{ 2 a. m.	4	22.6	SSW	1 p. m.	3
Koshun	736.1	{ 5 p. m.	3	27.9	W	8 p. m.	3
Hokoto	736.9	{ 11 a. m.	4	28.0	NW	Midnight.	3

¹ Gravity correction applied.

The typhoon, once in China, began to fill up on September 6.

The Japan typhoon: September 20 to October 1, 1920.—This typhoon appeared on the 20th to 21st as forming to the south of Guam near 145° longitude E and 10° latitude N. It moved northwestward, and its center could be clearly situated on the afternoon of the 22nd to the west of Guam and NNE of Yap in about 141° longitude E, between 13° and 14° latitude N. Observations taken on board of the steamer *New Port News* on her way from Guam to Manila show the typhoon still moving northwestward north of the steamer on the 24th, a gale having been reported by her from the southwest to the southeast quadrant with a moderate falling of the barometer. The northwest direction of the typhoon was kept until the 26th, when it began to incline northward. On the 27th and 28th it moved almost due north, and finally recurved northeastward on the 29th when the center was close to the northern part of the Loochoo Islands. During the night of September 30 to October 1, the typhoon passed close to the southeastern coast of Japan

where its fury was felt by the the steamer *Uncas* with a whole gale from the south quadrants, terrific squalls and mountainous seas, the barometer having fallen to 725.9 mm. in the early hours of October 1.

Indochina typhoon: September 20 to 23, 1920.—A typhoon of much less importance than the preceding ones formed in the China Sea on September 20 to 21 near 113° longitude E, between 13° and 14° latitude N. It moved WNW or WbyN entering Indochina in the early hours of September 22.

Two depressions near Luzon: September 20 to October 1, 1920.—The first of these depressions was shown by our Weather Maps of September 20 about halfway between Yap and the Philippines near 132° or 133° longitude E and 8° or 9° latitude N. It moved northwestward at the beginning, but inclined afterwards gradually to the north until on the 26th or 27th it filled up about 150 miles east of Luzon. The other depression appeared on the 25th to 26th as forming over the China Sea about 100 miles west of central Luzon. It moved very slowly WNW, and it filled up on October 1 to the east of Hainan.

On the 12th of this month the observations of Guam showed a low-pressure center toward the northeast. From a report of the steamer *Colusa* it is clear now that there was a real typhoon to the northeast of the Ladrone Islands, although we lack observations to trace its track. The *Colusa* was in about 24° latitude N, 149° to 152° longitude E, when the wind increased to a whole gale from the SE: the lowest barometric reading was 748.8 mm. at 10 p. m. of the 12th.

NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmósfera media de este mes es ligeramente menor que la normal de septiembre. Las presiones más altas se observaron generalmente los días 11, 15 ó 20, y las más bajas, con raras excepciones, los días 2 y 3, cuando un gran tifón pasaba por el N de Filipinas a través del grupo de las Islas Meiacosima.

La temperatura media mensual apenas difiere de la normal, siendo muy ligeramente mayor que ésta en la mayoría de nuestras estaciones. Las temperaturas máxima y mínima absolutas del mes en Manila fueron 33.5° C. y 22.4° C., las cuales se registraron los días 1 y 14, respectivamente. Las temperaturas extremas de Baguio fueron 25.8° C., 15.0° C. en la cumbre del Mirador, y 26.2° C., 13.9° C. en la llanura cerca del *City Hall*.

Precipitación acuosa.—La cantidad total de lluvia de éste mes es generalmente mayor que la normal en Visayas y Mindanao, pero menor en Luzón. Sin embargo, excede a la lluvia mensual del año pasado, aún en Luzón. En Manila la lluvia mensual fué 328.3 mm., la cual difiere de la de septiembre de 1919 en +152.3 mm., pero es 37.3 mm. menor que la normal. Baguio recogió también una cantidad de lluvia mensual mayor que la del año pasado en 192.3 mm., pero menor que la normal de este año en 210.2 mm.

DEPRESIONES Y TIFONES.

Hubo cuatro tifones y dos depresiones en el Extremo Oriente durante este mes. Dos de dichos tifones fueron muy destructores, siendo uno de ellos tifón de Formosa y el otro tifón de Japón. Sus trayectorias pueden verse en la Lámina X.

El tifón de Formosa: 27 de agosto al 6 de septiembre de 1920.—Con las observaciones que tenemos a la vista es imposible determinar cuándo y dónde se formó este tifón. Apareció como ya bien desarrollado en nuestro mapa del tiempo de 6 a. m. del 27 de agosto, al ESE de Guam, en los alrededores de 150° longitud E y 12° latitud N. Se movió al WNW y pasó cerca de Guam por el norte hacia el mediodía del 28 de agosto, siendo la mínima lectura barométrica registrada en dicha estación 744.6 mm., y soplando por varias horas vientos duros de los cuadrantes del N y W. En una tabla que va en el texto inglés damos algunas de las observaciones hechas en dicha estación durante el baguio.

Fué un tifón de grande extensión, y de ahí que su influencia se sintiese considerablemente en Luzón y en las Islas Visayas, aun cuando el centro ciclónico se hallaba a más de 300 millas de distancia de la parte de Luzón más próxima, y más de 600 millas distante de Visayas. Se conservó la dirección WNW durante toda la trayectoria del tifón. Su centro llegó a Meiacosima el día 3, y al norte de Formosa el día 4 de septiembre. Cuando el centro llegó a Meiacosima, causó tan considerable descenso del barómetro que la estación meteorológica de Ishigakijima registró una mínima barométrica de 698.5 mm. (corregida de gravedad), la cual se observó a las 3 p. m. del 3 de septiembre. Semejante lectura barométrica tan baja nunca había ocurrido en Ishigakijima y Formosa. La máxima velocidad del viento en dicha estación llegó a 68 m. p. s. a las 2 p. m. del mismo día.

Será de interés para nuestros lectores la siguiente nota recibida del Director del Observatorio de Taihoku sobre los efectos de este tifón en Formosa, así como también algunas de las observaciones hechas durante el paso del baguio por dicha Isla:

Este tifón es uno de los más violentos. En la madrugada del 31 se observó en la costa oriental de Formosa el estado alborotado del mar que fué aumentando en intensidad hasta ser extraordinariamente gruesa por la tarde. El centro del tifón atravesó el extremo septentrional de Formosa pasando por entre Keelung y Taihoku, muy cerca de Keelung, entre 12 mediodía y 1 p. m. del día 4, y penetró en el Continente por el sur de Foochow durante la noche. Como se verá en la siguiente tabla, el barómetro de Keelung llegó a bajar a 719.1 mm. a las 11 a. m. y 12 md. La velocidad del viento era relativamente poca en Formosa, pues el tifón disminuyó considerablemente en intensidad cuando su centro llegó cerca de la Isla. Las lluvias, sin embargo, fueron muy torrenciales y causaron desastro-

sas inundaciones, experimentándose así considerables daños en la parte septentrional y occidental de la Isla en que varias estaciones recogieron una cantidad total de lluvia, de más de 1,500 mm. durante cuatro días, del 2 al 5 de septiembre. A 58 ascienden las personas pericidas, a 58 las heridas, y a 78 las extraviadas. Casas destruidas, 8,604; parcialmente destruidas, 10,898; dañadas, 17,476; y arrastradas por la corriente, 1,315.

En la siguiente tabla se da la mínima barométrica y la máxima velocidad del viento observadas durante el tifón:

Estación.	Mínima barométrica. ¹	Hora.	Día.	Viento.		Hora.	Día.
				Fuerza.	Dirección.		
	<i>mm.</i>			<i>m. p. s.</i>			
Keelung	719.1	{ 11 a. m.	4	36.7	SSE	1 p. m.	4
Taihoku	722.6	{ 12 md.					
Taichu	730.7	0.15 p. m.	4	22.5	NNE	7 p. m.	3
Tainan	735.8	6 a. m.	4	23.8	NNW	7 p. m.	3
Taito	724.3	3 a. m.	4	24.6	W	9 p. m.	3
Koshun	736.1	2 a. m.	4	22.6	SSW	1 p. m.	3
Hokoto	736.9	5 p. m.	3	27.9	W	8 p. m.	3
		11 a. m.	4	28.0	NW	Media noche.	3

¹ Corregida de gravedad.

El tifón, una vez en China, comenzó a deshacerse el 6 de septiembre.

El tifón de Japón: 20 de septiembre al 1.º de octubre de 1920.—Este tifón apareció del 20 al 21 de agosto como formándose al sur de Guam cerca de 145° longitud E y 10° latitud N. Se movió hacia el NW, y su centro puede distinguirse claramente la tarde del 22 al W de Guam y NNE de Yap, en los alrededores de 141° longitud E, entre 13° y 14° latitud N. Las observaciones hechas a bordo del vapor *New Port News* en su viaje de Guam a Manila muestran al tifón moviéndose aún hacia el NW por el norte del barco, el día 24, habiéndose observado en él vientos duros del cuadrante del SW al SE con un regular descenso del barómetro. La dirección NW se conservó hasta el día 26, en que el tifón empezó a inclinarse al norte. Los días 27 y 28 se movió el tifón casi directamente al norte, y finalmente recurvió al NE el día 29 cuando el centro se hallaba cerca de la parte septentrional de las Islas Loochoo. Durante la noche del 30 de septiembre al 1.º de octubre el tifón pasó cerca de la costa SE de Japón, donde encontró al vapor *Uncas*, el cual experimentó vientos huracanados de los cuadrantes del sur, horrorosos chubascos y mares montañas, habiéndole bajado el barómetro a 725.9 mm. la madrugada del 1.º de octubre.

El tifón de Indochina: 20 al 23 de septiembre de 1920.—Un tifón de mucho menos importancia que los anteriores se formó en el Mar de China del 20 al 21 de septiembre, cerca de 113° longitud E, entre 13° y 14° latitud N. Se movió al WNW o W $\frac{1}{4}$ NW, penetrando en Indochina la madrugada del 22 de septiembre.

Dos depresiones cerca de Luzón: 20 de septiembre al 1.º de octubre de 1920.—La primera de estas depresiones se echó de ver en nuestros mapas del tiempo de 20 de septiembre a la mitad de camino entre Yap y Filipinas cerca de 132° ó 133° longitud E, y 8° ó 9° latitud N. Se movió hacia el NW al principio, pero se inclinó luego gradualmente al norte hasta el día 26 ó 27 en que se deshizo a unas 150 millas al E de Luzón. La otra depresión apareció del 25 al 26 de septiembre como formándose en el Mar de China a unas 100 millas al W del centro de Luzón. Se movió muy lentamente al WNW, y se deshizo el 1.º de octubre al E de Hainán.

El día 12 de este mes las observaciones de Guam indicaban un centro de baja presión hacia el NE. Según las observaciones hechas a bordo del *Colusa*, es ahora evidente que había un verdadero tifón al NE de las Islas Ladrones, aunque por falta de observaciones no podemos trazar su trayectoria. El vapor *Colusa* se hallaba en los alrededores de 24° latitud N, y entre 149° y 152° longitud E cuando los vientos del SE aumentaron en intensidad hasta llegar a ser huracanados: la mínima lectura barométrica fué 748.8 mm. observada a las 10 p. m. del día 12.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.*

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

Day.	Pres- sure (mean).	Air temperature, ^b			Underground temperature.				Relative humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation. ^b			
		Mean.	Maxi- mum.	Mini- mum.	0.25 meter.		0.50 meter.				1.50 meters.	2.50 meters.	Mini- mum on grass.	Maxi- mum in sun. Black bulb in vacuo. ^c	Free exposure (total).	Shel- ter (total).
					8 a.m.	2 p.m.	8 a.m.	2 p.m.								
1	753.46	26.6	33.5	22.8	27.9	28.8	29.3	29.4	29.8	29.4	84.9	22	22.3	46.7	1.8	1.9
2	51.89	26.2	27.9	23.7	27.7	28.5	29	28.8	29.5	29.3	91	23	23.5	33	1.1	1.5
3	52.17	27.7	30.1	24.5	27.5	28.5	27.8	28.7	29.5	29.3	86.4	23.8	22.8	48.4	2.3	2.2
4	53.90	26.4	20.2	24.3	28	28.3	28.7	28.7	29.5	29.5	88.4	22.6	22.8	44.8	0	1.4
5	55.68	26.3	30.4	23.6	27.7	28.7	28.6	28.7	29.4	29.4	87.3	22.2	22.1	52.3	2	1.7
6	57.07	27.1	31.6	23.3	28.2	29.6	28.7	29	29.6	29.5	81.7	21.6	21.7	55	3.7	2.6
7	57.41	27.4	31.9	23.3	28.6	30	29.1	29.4	29.6	29.5	80.6	21.5	21.6	56.7	3.7	2.5
8	58.45	27.3	31.9	24.2	29	30.1	29.5	29.6	29.6	29.5	83.2	22.3	23.1	49.8	2.2	1.5
9	58.63	26.8	31.2	23.7	29.2	30.4	29.6	29.8	29.5	29.5	84.7	22.1	22	50.8	1.9	1.4
10	58.33	27.5	32.7	23.2	28.7	30.4	29.5	29.7	29.7	29.5	84.2	22.8	21.5	53	3	1.9
11	59.32	27	31.2	24.2	29.2	30.2	29.6	29.9	29.5	29.4	85.4	22.5	22.4	42.7	2	1.3
12	58.53	27.7	33	23.2	29.2	30.5	29.7	30	29.6	29.5	82.4	22.8	21.4	54.3	4	2.6
13	58.69	27.9	33.3	25	29.7	31	30	30.4	29.6	29.4	81.6	22.6	23.4	53.4	3	2.5
14	58.60	27.6	33	22.4	29.6	31.1	30.2	30.5	29.6	29.5	75.8	20.6	20.4	53.6	4.8	3.1
15	58.75	27.6	32.5	23.7	30.5	31.1	30.6	30.5	29.8	29.7	82.6	22.1	21.3	55	2.5	1.9
16	57.93	27.3	32.8	23.7	29.8	31.2	30.3	30.5	29.7	29.6	81	22.3	21.4	52	4.2	2.7
17	58.19	27.3	32.7	23.4	29.8	31.4	30.4	30.6	29.5	29.4	79	21.1	20.8	51.6	3.5	2.4
18	58.43	26.1	31.4	22.7	29.5	30.6	30.5	30.5	29.6	29.3	82.7	20.5	20.2	50.6	1.7	1.5
19	58.64	25.6	30.5	22.9	29.3	30.4	30.2	30.3	29.7	29.5	87.8	21.3	21	44	1.1	1.1
20	59.08	26	32.2	23.4	28.7	30	29.8	30	29.5	29.3	87.2	21.6	22.1	51.9	1.8	1.4
21	58.65	26.1	30.9	23.5	29	30.3	29.8	30	29.5	29.3	88.2	22.1	21.4	51.7	1.5	1.3
22	58.01	26.4	31.7	23.5	29	30.3	29.7	29.9	29.6	29.3	84.9	21.6	21.4	53	2.4	1.6
23	57.25	25.6	31	23.6	28.7	30	29.7	29.8	29.6	29.2	88.3	21.5	22	45.8	1.5	1.2
24	55.03	25.4	27.3	24.1	28.5	28.7	29.5	29.5	29.5	29.3	91	21.9	22.6	34.2	2	1.5
25	53.28	25.2	27.9	23.7	28.2	28.7	29.2	29.2	29.6	29.3	90.2	21.4	22.2	38.4	.5	.5
26	54.06	25.5	29.3	23.7	28.2	29	29.3	29.1	29.6	29.3	91.4	22.1	22.1	43	.5	.4
27	56.55	25.7	31.1	24.2	28	28.8	29	29.5	29.3	29.3	91.4	22.3	22.3	51.5	.5	.5
28	57.28	27.6	33.3	23.3	28.1	30	28.8	29.1	29.7	29.5	82.6	22.4	22.3	53.7	3.1	2.2
29	57.85	28	32.1	24	29	30.6	29.5	29.6	29.6	29.5	81.3	22.6	21.9	53.5	4.3	2.8
30	58.25	27.7	32.2	24.4	29.4	30.7	29.7	29.9	29.7	29.5	82.7	22.6	22.1	55.4	3.6	2.3
Mean	756.98	26.8	31.4	23.6	28.8	29.9	29.5	29.7	29.6	29.4	85	22.1	21.9	49.3	2.3	1.8
Total															68.5	52.9
Departure from normal	-0.48	0	+0.7	0							-0.8	-0.3			-0.1	

Day.	Wind.				Amount (mean).	Clouds.				Sun- shine.	Rain, 24 hrs. beginning 6 a.m.		Miscellaneous.
	Prevailing direction.	Total move- ment.	Maxi- mum hour- ly velo- city.	Direction at the time of the maximum velocity.		Form and direction.		Sun- shine.	On the tower.		In the park.		
						Upper.	Lower.						
1	W	460	47	WNW	0-10	A.-Cu.	W	Cu.	W	h. m.	mm.	mm.	☉ a. d a. p.
2	W, WSW	611	42	W	9.3	Cl.-S.	W	N.	W	0 00	14.9	15.5	☉ a. d a. p.
3	WSW	883.5	70	WSW	10	Cl.-S.	W	Cu.-N	W	0 00	55.8	63.1	☉ a. d a. p.
4	SW	550.5	41	WSW	9.5	Cl.-S.	W	N.-cf.	WSW	0 05	16.8	19.1	☉ a. d a. p.
5	SSW	341	30.5	SW	9.8	Cl.-S.	W	Cu.N.	WSW	0 00	14.5	16.3	☉ a. p.
6	SW quad.	210	26	WSW	9.2	Cl.-S.	W	Cu.		2 05	4.7	5.1	☉ a. p.
7	E, WSW	156	17	W	6.5	Cl.-S.	W	Cu.		6 05			
8	E	85	8.5	WSW	7.5	Cl.	ENE	Cu.		6 00			
9	Variable	92.5	13.5	N	9.1	Cl.-S.	W	Cu.-N.	SW	1 35			☉ p.
10	W quad.	99.5	12	W	9.5	Cl.-S.	W	Cu.-N.	NW	0 00	36.1	37.8	☉ p.
11	NE	93.5	12.5	W	8.3	Cl.-S.	W	Cu.	E	4 35			☉ p.
12	W	104.5	15	W	8.1	Cl.-S.	W	Cu.		0 40			
13	SE quad.	113	8.5	SE	4.4	A.-Cu.	NW	Cu.	NE	9 25			☉ a. d p.
14	E quad.	143.5	20	W	5.6	A.-Cu.	W	Cu.	ESE	5 05			
15	E quad.	123.5	14.5	W	2.5	Cl.	W	Cu.	E	10 10			☉ a. d p.
16	W	142	14	W, WSW	6.9	A.-Cu.	ENE	Cu.	E	5 35	.4	.5	☉ a. d p.
17	NE	127	14	W	4.4	Cl.	W	Cu.	E	9 15			☉ p.
18	NE	127	14	W	5.2	Cl.	W	Cu.	NE	5 20			☉ p.
19	NE	94	10	SE	8.5	Cl.-S.	E	Cu.		0 45	17.8	18.5	☉ p.
20	NE, SE	105	15	NE	9.6	Cl.-S.	W	Cu.	ENE	0 00	35.9	36.2	☉ a. p.
21	N quad.	81.5	19	NE	9.4	Cl.-S.	W	Cu.	E	3 00	.3	.3	☉ a. p.
22	WNW, NE	126.5	18	WNW	8.2	Cl.	W	Cu.	E	3 05	19.8	22.9	☉ a. p.
23	N	162	14.5	NE	6.3	Cl.	W	Cu.	E	5 20	5.6	6.1	☉ a. p.
24	N, NNW	82.5	9	N	9.2	Cl.-S.	NE	S.-Cu.	NE	0 00	38.2	39.7	☉ a. p.
25	NNW, NE	85	15	N	9.6	Cl.-Cu.	NE	S.-Cu.	NNW	0 00	15.1	16	☉ p.
26	SE quad.	65	9	S	10	Cl.-S.	W	Cu.	NNW	0 00	3.1	3.2	☉ a. p.
27	E, SE	125.5	16	SSW	9.8	A.-Cu.	SE	Fr.-N.	SE	0 00	38.1	38.2	☉ a. p.
28	SE	130.5	18	SSW	9.2	Cl.-S.	W	Cu.	SW	1 05	11.2	12.1	☉ a. p.
29	WSW, W	264	23	WSW	6	Cl.	NE	Cu.	SW	7 10			☉ a. p.
30	SW, WSW	230	26	WSW	5.2	Cl.-S.	NW	Cu.	SSW	7 35			☉ a. p.
Mean		199.4	20.4		7.8					3 18			☉ a. p.
Total		5,982								99 15	328.3	350.6	☉ a. p.
Departure from normal		-1,658.2			+0.1					-34 22	-37.3		

* All the mean values given in this table are deduced from the hourly observations.
 † These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
 ‡ Maximum of hourly observations taken from 6 a. m. to 6 p. m.

METEOROLOGICAL DATA FOR MIRADOR OBSERVATORY, BAGUIO.*

[$\phi=16^{\circ} 25' N$; $\lambda=120^{\circ} 35' E$; barometer above sea, 1,512.5 meters; gravity correction not applied, -1.65 mm.]

Day.	Pres- sure ^b (mean).	Air temperature at Mirador (on the top of the mountain).				Air temperature in the pla- teau near the City Hall.				Rela- tive humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation.		
		Mean.	Maxi- mum.	Hour.	Mini- mum.	Hour.	Maxi- mum.	Hour.	Mini- mum.			Hour.	Mini- mum on grass.	Maxi- mum in sun. Black bulb in va- cuo. ^c	Free ex- posure (total)	Shel- ter (total)
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	°C.	°C.	mm.	mm.	
1	631.75	17.3	20.5	11.00a.	16	6.10a.	21.7	11.50a.	16.2	9.15p.	95.8	14.1	14.7	49.7	0.9	0.5
2	29.78	17.4	18.6	3.55p.	15.7	3.00a.	19.3	4.00p.	16	7.45p.	99.2	14.6	15.2	32.1	0	0
3	29.96	17.6	18.2	8.45a.	15.8	2.15a.	18.9	11.00a.	16.1	0.55a.	99.5	14.9	16	33.8	0	0
4	31.81	17.4	17.8	11.10a.	16.6	6.05p.	18.5	11.40a.	16.5	6.15a.	99	14.6	16.1	32	0	0
5	33.32	17.2	18.5	9.55a.	16.3	5.20a.	19.2	11.30a.	16.6	3.15a.	99.5	14.6	15.9	37	0	0
6	34.85	18	20.5	1.15p.	16.6	0.05a.	21.3	1.30p.	17.1	1.10a.	97.8	15.1	16.1	49.3	.5	.2
7	35.44	18.6	23.7	0.10p.	15.8	5.55a.	24.9	11.45a.	16	6.00a.	92.7	14.8	15	56.6	1.5	1.3
8	36.50	19	22.5	1.55p.	16.3	5.55a.	23.5	0.15p.	14.8	12m.n.	86.2	14	15	49.1	3	1.5
9	36.76	17	18.5	0.35p.	15.2	12m.n.	19.2	0.15p.	16.3	0.05a.	89.3	12.9	15.2	29.7	1.1	.9
10	36.45	18.1	22.8	0.30p.	15.2	7.10a.	23.7	0.30p.	14.7	5.00a.	83.5	13	13.4	55.4	1.6	1.1
11	37.24	18.6	23.4	0.30p.	15.3	4.00a.	24.2	1.00p.	13.9	5.35a.	83.7	13.4	12.3	56.8	3	1.6
12	36.91	19.5	24.3	1.25p.	15.8	4.45a.	24.8	-----	15.1	4.25a.	84.2	14.2	13	56.5	2.7	1.5
13	36.99	19.6	23	11.45a.	16.4	5.55a.	25.2	10.45a.	15.7	-----	92.8	15.8	14.4	58.7	1.2	.5
14	36.82	19.2	23.8	0.30p.	16.2	4.40a.	24.8	11.30a.	15.1	4.45a.	92.2	15.2	14	59.6	1.5	.7
15	36.87	18.9	24.2	2.00p.	15.8	5.50a.	24.7	2.15p.	15	5.35a.	91	14.8	13.8	60.2	1.5	.8
16	36.13	18.9	24.2	11.40a.	15.8	5.55a.	24.3	2.00p.	16.2	4.30a.	89.3	14.5	14.5	65.2	1.3	.7
17	36.33	18.3	23.2	0.25p.	15.6	12m.n.	25.4	Noon	15.4	12m.n.	92.5	14.6	15	56.5	1.8	1.1
18	36.58	19.6	24.8	11.00a.	15.3	2.00a.	26.2	11.35a.	14.2	4.50a.	72	12.2	12.1	56.7	6.5	3.5
19	36.40	18.5	21.7	10.10a.	16	3.45a.	22.6	10.00a.	15.1	6.00a.	71	11.2	13.7	56.8	11.6	6.1
20	36.41	18	21.3	0.50p.	16	3.20a.	23.7	1.50p.	16.2	3.00a.	73.8	11.4	14.5	56.6	8.4	4.1
21	36.35	19.4	25.8	1.30p.	15.4	5.10a.	25.4	-----	15.2	-----	80	13.4	13.5	57.7	4.6	2.3
22	35.96	18.4	24.7	10.15a.	15	1.30a.	25.8	-----	14.2	-----	84.3	13.2	12.7	59.1	2.7	1.6
23	35.35	17.7	21.3	11.45a.	15.5	4.00a.	22.9	0.10p.	15.1	5.30a.	94.8	14.4	14	50.7	.6	.5
24	33.37	17.8	21.8	1.00p.	15.7	5.50a.	22.7	11.30a.	15.5	4.10a.	95.2	14.4	14	52.2	.6	.5
25	32.07	18	21.2	0.45p.	16.2	5.55a.	21.8	0.25p.	15.8	6.00a.	90.8	14	14.6	41.8	.8	.6
26	32.36	18.5	23	11.5a.	16.5	5.10a.	23.6	1.10p.	16.5	6.30a.	90.3	14.3	15.2	48	1.7	.8
27	34.50	16.8	17.9	1.10p.	16.2	5.30a.	19	2.00p.	16	6.00a.	98	14	15.8	27.3	0	0
28	35.36	18.2	22.3	1.10p.	16	4.15a.	22.6	2.00p.	16.5	3.30a.	88	13.6	15	55.4	5.2	2.4
29	35.80	18.2	22.7	1.15p.	16.3	5.00a.	23.5	11.40a.	16	6.20a.	83.2	13	14.3	56.5	3	1.7
30	36.29	18.3	23	1.15p.	16.1	6.05a.	24	1.20p.	16.8	12m.n.	90.7	14.2	15	34.5	2.1	.9
Mean	635.01	18.3	22	-----	15.9	-----	22.9	-----	15.7	-----	89.3	13.9	14.5	49.7	2.3	1.2
Total	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	69.4	37.4

Day.	Wind.					Clouds.		Sun- shine.	Rain, 24 hours begin- ning 6 a. m.	Miscellaneous.
	Prevailing direction. ^d	Total move- ment.	Maxi- mum hour- ly veloc- ity.	Direction at the time of the maximum velocity.	Amount (mean).	Form and direction.				
						Upper.	Lower.			
1	W, NW	Km. 642.3	Km. 39.4	W	0-10.	Ci.-S.	Cu.-N. W quad.	h. m.	mm.	● ≡ d ² p.
2	W	1,517.8	93.6	W	10	-----	-----	1 50	48.5	● ≡ d ² a. p. ● ≡ d ² p.
3	SW ?	1,706.8	86.6	W	10	-----	-----	0 00	167.1	● ≡ d ² a. p. ● ≡ d ² p.
4	SW ?	1,165.3	65.4	SW ?	10	-----	-----	0 00	160.3	● ≡ d ² a. p. ● ≡ d ² p.
5	SW	512.2	39.9	SW	10	-----	-----	0 00	54.3	● ≡ d ² a. p. ● ≡ d ² p.
6	E, SE	241.3	16.1	E	9.6	Ci.-S.	Fr.-N. S, SSE	0 30	26.7	● ≡ d ² a. p. ● ≡ d ² p.
7	E	333.7	23	SE	7.9	A.-Cu.	E	4 40	-----	● ≡ d ² a. p. ● ≡ d ² p.
8	E	262.3	18.5	E	8.7	Cu.	SE, S	3 00	-----	● ≡ d ² a. p. ● ≡ d ² p.
9	E, W	213.5	17.1	E	10	A.-S.	N.	0 00	8.9	● ≡ d ² a. p. ● ≡ d ² p.
10	W quad.	249	17.5	SW	9.7	Ci.-S.	Cu.-N. WSW	1 50	8.7	● ≡ d ² a. p. ● ≡ d ² p.
11	SW, W	276.6	22	SW	7.3	Ci.	Cu.-N. SW	4 55	.3	● ≡ d ² a. p. ● ≡ d ² p.
12	W	256.3	25.5	W	5	Ci., Ci.-S.	Cu.-N. WSW	6 50	4.6	● ≡ d ² a. p. ● ≡ d ² p.
13	SW quad.	195.7	17.5	SW	6.9	Ci.	Cu.	2 55	-----	● ≡ d ² a. p. ● ≡ d ² p.
14	E, W	221.4	18.5	SW	6.4	Ci.-S.	Cu.-N. NNE	2 40	24.6	● ≡ d ² a. p. ● ≡ d ² p.
15	W	250.8	19.6	W	7.1	Ci., Ci.-S.	Cu.-N. W	3 50	3.1	● ≡ d ² a. p. ● ≡ d ² p.
16	W	246.5	23.6	W	7.4	Ci.	Cu.-N. WNW	3 35	2.3	● ≡ d ² a. p. ● ≡ d ² p.
17	SE, W	178.3	15.6	SW	8.9	Ci.-S.	Cu.-N. ENE	1 30	.5	● ≡ d ² a. p. ● ≡ d ² p.
18	E quad.	362.4	45.1	E	4.1	Ci.	Cu.	6 30	-----	● ≡ d ² a. p. ● ≡ d ² p.
19	E	770	61.2	E	7.7	Ci.-S.	Cu.-N. E	2 00	-----	● ≡ d ² a. p. ● ≡ d ² p.
20	E	946	62.8	E	8.3	A.-Cu.	E	1 10	-----	● ≡ d ² a. p. ● ≡ d ² p.
21	E	421.7	49.3	E	4.4	Ci.	Cu.	7 00	-----	● ≡ d ² a. p. ● ≡ d ² p.
22	W, SE	261.1	20.9	W	6.6	Ci.	Cu.-N. SE	3 35	1.8	● ≡ d ² a. p. ● ≡ d ² p.
23	SW	222.9	17.4	SW	9	Ci., Ci.-S.	Cu.-N. WNW	1 05	4.9	● ≡ d ² a. p. ● ≡ d ² p.
24	E	180.4	-----	-----	9.3	Ci.-S.	N.	0 20	13.9	● ≡ d ² a. p. ● ≡ d ² p.
25	E	195.7	16.6	E	9.3	A.-Cu.	E	0 00	5.9	● ≡ d ² a. p. ● ≡ d ² p.
26	SE	372.8	42.6	SE	9.4	Ci.-S.	Fr.-N. E, ENE	0 25	11.3	● ≡ d ² a. p. ● ≡ d ² p.
27	SE	489.2	29.8	SE	10	Ci.	N.	0 00	22.3	● ≡ d ² a. p. ● ≡ d ² p.
28	SE	484.8	23.1	SE	7.9	Ci.	Cu.-N. sw, SE	3 25	-----	● ≡ d ² a. p. ● ≡ d ² p.
29	SE	427.8	25.7	SE	8	Ci.	Cu.-N. SSW	2 20	13.4	● ≡ d ² a. p. ● ≡ d ² p.
30	SW	440.5	33.8	SW	9	Ci., Ci.-S.	Cu.-N. SSW	2 15	1.3	● ≡ d ² a. p. ● ≡ d ² p.
Mean	-----	466.5	34.1	-----	8.3	-----	-----	2 16	-----	-----
Total	-----	13,995.1	-----	-----	-----	-----	-----	68 10	584.7	-----

* All the mean values given in this table are deduced from six daily observations taken at 2, 6, 10 a. m. and 2, 6, 10 p. m.
 b The barometric readings of this station are not reduced to sea level.
 c Maximum of hourly observations taken from 6 a. m. to 6 p. m.
 d This element is based on hourly observations taken from a quadruple register, which gives only eight possible directions of the wind.
 e 5 hours missing.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, SEPTEMBER, 1920.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Lapac Agricultural School, Siasi, Sulu †							50.8			1.3			4.1	7.9		1.3
Glan, Cotabato †	5	29.2							11.4			43.2		38.1		
Jolo, Sulu	.8	4.2			4.8	4.5	.7		4.7	1.8	3.8	2.8	11.4	.6	4.9	
Lais, Malita, Davao				4.3	27.7	2	2.3		4.3	2.3	16.8		2.3	1.5	13.8	
Lebak, Cotabato		13.2								18.7			10.7	3.3	23.4	
Lamitan, Isabela, Zamboanga		21.8		20.8				18.8	24.9	21.1			16.3	3.6		
Basilan Plantation, Kabuntan, Isabela, Zamboanga †	36.8							53.3	22.9		12.2			3.6	15.2	
Basilan Plantation Office, Isabela, Zamboanga †	23.9	15.7					20.3	43.9	1	45.7	4.6		6.9	7.6	2	14
La Union, Sigaboy, Davao †	8.9			3.8	9.4		.3		6.4		2.5		5.1			30.5
Paranglalap, Isabela, Zamboanga †	12.7	16.5					40.6	29.7		8.9			9.4	35.6	7.6	8.9
Latuan, Isabela, Zamboanga †	11.4	10.9						4.8		2.3			3	14.5	8	8.9
Buluan, Cotabato †	1.3			1.8			1.3					5.3	.8	2.3	16.3	12.7
Malamau, Isabela, Zamboanga	26.7						9.9			12.4	20.8		1.3	7.6		26
Zamboanga, Zamboanga	21.1	12.8					2.8				2.8			4.8	3	
Cagayan de Sulu, Sulu †					3.8	14	31.2	10.2	20.6		3.8		5.1	25.4	5.1	
Kidapawan, Cotabato †		12.4	14.5	2.5	19.3								61	8.9	3	
Davao, Davao													9.1	29.2	14.5	22.1
Piang Agricultural School, Kudarangan, Duluau, Cotabato †		8.9			1.5					26.4	45.2		32.8	9.4		
Pikit, Cotabato	2.8	20.1			3.8		10.9		1.5		3.8		2	10.2	23.6	13
Cotabato Seed Station, Pikit, Cotabato †	20.3			4.6		13.2		1.8	3.8	3.8		2.5	8.9	22.9	11.4	29.2
Awang, Cotabato †		23.4					6.6	3.8		2.3	1.8			8.6	4.3	12.7
Sirib, Guianga, Davao †		30.5		5.1								6.4	33	58.4	49.3	63.2
Kabakan, Cotabato †			9.4	5.1	3.8	11.7		22.9		4.6	2.5			22.1	13.2	14
Bual, Duluau, Cotabato	.5	4.1		2.5		1.8	15.2		1.5		18.5	.5	.5	7.6	7.4	4.8
Cotabato, Cotabato		18.1			.3		4.8			16.8	2.5			7.9	6.5	14.7
Kabasaran, Buldun, Cotabato †	99.6	58	50.8				37.8			8.9	3.8		13.7	115.3	35.8	55.6
Naganaga, Margosatubig, Zamboanga	5.6	1		12.5		4.6	14.7					18.8	27.9	17.3	15.2	10.2
Malabang, Lanao	50.3	69.9	23.4				37.6			.3		3.3	8.1	47.7	5.6	6.9
Compostela, Monkayo, Davao †				10.7				7.9	4.8			14.2			22.6	5.6
Lumbatan, Lanao †	5	10.2	14	12.7	2.5		7.6	5	3.8							
Cateel, Davao														1.8	.5	6.1
Ganasi, Lanao	54.6	27.9					30.2		22.4	4.6			4.1	63.2	16.2	2.8
Camp Kalao, Monkayo, Davao				1		.5						1.3	3	34	3.1	5.8
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon		.3			1	19.8	25.9	1	2.5					4.8	3.8	40.6
Camp Keithley, Dansalan, Lanao		3.8	.3	.6	.5	3.8	38.6	1	3.3	1.5	1.3		15.5	10.4	4.4	1.3
Veruela, Agusan				.3	.5			4.1				1.5		9.1		8.1
Sindangan, Zamboanga †	35.6	.5	.5	1			15.2	.3				1.3	18.8		2.5	25.7
Sumilau, Bukidnon	15.2					7.1	42.7	1.8		15.7	28.7		35.1	12.7	5.1	
Diklom, Tangkulan, Maluko, Bukidnon †		1.3					20.8							35.6	4.1	
Cagayan, Misamis				5.1			45.7			1				49.5		
Talacogon, Agusan				16										4.6	15.5	6.4
Butuan, Agusan		4.8		.5	.5	4.8	5.8	.5		10.7				30.7	4.1	16.3
Mambajao, Misamis		13.5					2.8							3		
Dumaguete, Oriental Negros	6.9	4.3	3.6				.8			.3	2.5		3.8	3.8	45.7	2.8
Meeth, Yap, Western Carolines			5.8		5.8	.3	.3			6.4	16.8	.6		.8	1.5	
Hacienda San Jose, Tanjay, Oriental Negros †	42.6	105.2													3.3	10.9
Hacienda Palanas, Bais, Oriental Negros †	49	88.6	6.1			6.9										14.7
Hacienda Tamugon, Bais, Oriental Negros †	30.5	49.6	15.2								8.9		17.8			17.8
Tagbilaran, Bohol	1.7	21.2					25.3				3.6	.8			30.2	1.3
Iwahig Penal Colony, Puerto Princesa, Palawan	5.8	.5			5.3	15.7	9.7				.5			9.9	12.7	
Dalaguete, Cebu	3	2.3					1				.5		29.2	25.7	13	3.3
Surigao, Surigao	.6	5.1									5.3				1.6	.8
Central Palma, Ilog, Occidental Negros	10.2	16.5	1.8										1.3			15.2
Hacienda Naval, Himamaylan, Occidental Negros	35.6	3.6	.5	1						3.3					8.1	2.8
Biaong Cui's Farm, Barili, Cebu								8.6					13.7	18.5		9.6
Maasin, Leyte														20.3	33.8	
Binalbagan Estate, Binalbagan, Occidental Negros †	34.3	3.8		.3						4.1			10.9	.3	1	3.8
Isabela, Occidental Negros	30	8.4		.5			5.8	.3	.8	.5	.3		54.1	.3	1.8	14
Hacienda Tanolo, Hinigaran, Occidental Negros	47.3	6.8		4.3									9.1		6.4	25.4
Cebu, Cebu	4.9	.3		.8			5.6			14.2	.5		38.4	21.3	87.5	1.6
La Castellana, Occidental Negros	72.7	16	1	1.3			33.8				.8	1.8	26.4	24.4	11.2	1.8
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †	27.4	23.6	1.3								5.3		1.8	1	9.1	15.5
Central Azucarera de La Carlota, La Carlota, Occidental Negros	33.3	15.5	6.3	10.4			8.4	.3		7.4	1.3		31	13.5	3.3	3.3
Hacienda Canlaon, La Castellana, Occidental Negros	50.5	14.4		4.5					.3	.3			42.2	19.3	2.5	2.8
La Carlota Experimental Station, La Carlota, Occidental Negros †	38.3	12.7	6.6	14.3					.3	28.7	11.9		49.3	28.4	16.5	2.5
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	14.5	13.4	5.9	21.1			.3			27.2			1.3	11.7	1.3	.5
Hacienda San Antonio, San Carlos, Occidental Negros †										15.7					7.6	
Valladolid, Occidental Negros	11.7	7.9	4.5	19.6			4.6									6.4
Central San Carlos, San Carlos, Occidental Negros †						3.3			.5		19.8		14.7		3.8	1.3
Hacienda Refugio, San Carlos, Occidental Negros †								11.4			13.5		11.9			6.4
Murcia, Occidental Negros	2.5	56.7	8.9				34.3		17.6	.5	1.3		5.3	4.8	32	2
Oton, Iloilo	7.6	19.8	9.4	45.7			31.5		3.8	2.5	1.3			11.2		33
Concepcion, Talisay, Occidental Negros	11.4	42.2		18			8.3	.3	10.6	9.9	13.2		2.5	11.9		1.3
Iloilo, Iloilo	5.9	23.4	11.4	44.5							7.4		4.6	.8	.5	22.1
Lapuslapus, Iloilo, Iloilo †	86.6	21.6	6.4	38.1							3.8	3.8			30.5	34.3
San Jose de Buenavista, Antique	10.1	22.8		17.8			.5							2.5		1.8
Tuburan, Cebu	1	2.8					4.6					0.5		30	4.1	0.8
Silay, Occidental Negros	8.4	14.3	7.9	26.9					1.3		5.3			7.6		20.3
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros †	16.3	7.2	11.4	24.6			3				9.2		2.5	4.3		4.3
Cuyo, Palawan	8.4	4.3	2.8	3		8.6	.8			38.1		11.4		41.9		1.3

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, September, 1920—Continued.

Station.	Day of month.														Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	
Lapac Agricultural School, Siasi, Sulu†	12.7					11.7				8.4			22.3		120.5
Glan, Cotabato †	16.5			7.1					29.2						179.7
Jolo, Sulu	18.2	10.7		7.6		6.9	1			2.5	16.5		.6	27.5	136.5
Lais, Malita, Davao	2	.8		18.3	2.6	1	2.3	2		5.8		20.3	1.3		138.7
Lebak, Cotabato	68.1	21.3		38.6	31			68.5	30	42.2	16.8		22.4	6.1	462.5
Lamitan, Isabela, Zamboanga	10.7		12.4		4.1		7.1		10.7		14.2		91.4		277.9
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †	27.4	56.6		24.4		30.5	5.6							33	321.5
Basilan Plantation Office, Isabela, Zamboanga †	52.1	62.5	2.3	15.7		39.4	4.6							13	382.3
La Union, Sigaboy, Davao†	20.4	14	90.2	3.8	4.1			31.7			11.4		14	9.9	266.4
Paranglalap, Isabela, Zamboanga †	86.4				5.1	22.9			11.4				3.8		269.8
Latuan, Isabela, Zamboanga †	24.9	85.1	2.5			14	1		2.5				1.3	5.3	222.9
Buluan, Cotabato †	.8	5.9	13.5	2.5	.3	7.4	2	17.3	8.1					2.3	102.7
Malamaui, Isabela, Zamboanga	34	71.1	3	7.4		16	1				15		34.1		286.3
Zamboanga, Zamboanga	2.9	12.5	.5			6.7	10.9	14.5		10.2	4.3	7.6?			117.4?
Cagayan de Sulu, Sulu †	30.5	24.1				14				10.2					127.1
Kidapauan, Cotabato †	12.7	4.6	43.7	6.1		2.5	8.9	33					5.6	7.1	310.1
Davao, Davao	24.4	3.8		8.6	10.7					47.8	5.1			2.5	197.1
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †		.3		14.7		3	9.4	.3		14					165.9
Pikit, Cotabato	28.4	6.6	1	13.2	3.8		8.1	2	20.1		.5				175.4
Cotabato Seed Station, Pikit, Cotabato †	3	2.5		11.2	3.6	6.9			12.7				1.3		159.8
Awang, Cotabato †	19.6		2.3	13.7	2.5	1.3	3.3	19.6	27.9	8.4	8.4	6.9	22.4	2.5	202.3
Sirib, Guianga, Davao †				10.9		4.3				47.5					308.6
Kabakan, Cotabato †	2.5	9.1	40.6		8.9	5.8		8.1	3	6.4					193.7
Bual, Dulauan, Cotabato	14.2	7.1	5.6	27.2	3.6		5.1	7.1	17.8					.8	153.4
Cotabato, Cotabato	27.9	1.3	3.6	18.5	4.1	2.8	15.3	37.1	.5	5.1	1.8		23.4		213
Kabasaran, Buldun, Cotabato †	10.7	5.1		9.1	10.2			6.6		10.4		25.4	67.3	11.2	635.3
Naganaga, Margosatubig, Zamboanga	27	54.8		2	2.8	10.9	13.2			6.4					244.9
Malabang, Lanao	38.9	28.4		37.3	3.8	2.5	2.3	12.2	12.2				90.6	3.6	484.2
Compostela, Monkayo, Davao †	5.1	4.3	24.1		7.8										107.1
Lumbatan, Lanao †	12.7		50.8		5.1	15.2	3.8		29.5		2.5		1.3	5.1	186.8
Cateel, Davao	5.9	2.5	1.5	7.9	10.4	.8				.8				1.3	39.5
Ganasi, Lanao	39.1	34.3		5.6	4.3	2.8	4.8	9.9	15.5	2			11.4	1.5	357.2
Camp Kalao, Monkayo, Davao	5.9	15.7	20.3	22.1	15	10.7	5.6								144
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon	11.7	4.1	4.8	13.5	15.5	8.9		5.3	3.8	9.9	17.8			1.5	196.5
Camp Keithley, Dansalan, Lanao	13.5	12.4	.3	52.6	6.8	9.6	19.8	3.6	2.8				12.2	13.3	233.2
Veruela, Agusan	3.8	10.4	73.7	12.7	22.1	12.7		15.5			7.1			1.8	185.2
Sindangan, Zamboanga †	142.8	54.6	2.3	5.3	5.3	39.2	71.6	35.5					13.7		471.7
Sumilau, Bukidnon	3	18.3	12.7	39.1	16.5	21.4	13	16.2			32.3	1.5		7.4	345.5
Diklom, Tankulan, Maluko, Bukidnon †	5.1	28.4	5.1	44.9	3	3	1.5					2.5	1.5		156.8
Cagayan, Misamis	16.5	51.6	48.5	69.9	17.8	14.7	6.3	5.3			6.4			2.5	340.8
Talacogon, Agusan	16	18.8	28.7	10.4	31.5	17.3	1	2			23.7			3.6	194.9
Butuan, Agusan	10.2	26.7	.5	60.7	50.5	86.3	20.3	2.3	25.1	1			5.3	1.1	368.7
Mambajao, Misamis	4.1	16.8		178	22.6	70.1	13.2	11.4	4.5	1.3					341.3
Dumaguete, Oriental Negros	11.9	12.4	3.3	1.8	5.3	6.1	7.6	13.5	4.1						140.5
Meeth, Yap, Western Carolines	8.9	7.4	28.2	7.4	7.1	1.3	40.1	39.4					.5	1.1	26.4
Hacienda San Jose, Tanjay, Oriental Negros †	13.2	3.8	7.9	50.8	24.4	12.7	15	56.6	20.8					4.3	371.5
Hacienda Palanas, Bais, Oriental Negros †	17.8	8.4		2.3	2	16.5	6.6	15.7	15.8					3.6	254
Hacienda Tamugon, Bais, Oriental Negros †	17.8	10.2		15.2	27.9	50.8		58.4	20.3					10.2	350.6
Tagbilaran, Bohol	.6	21.6			38.9	8.6	2	14.7	.6					.5	171.6
Iwahig Penal Colony, Puerto Princesa, Palawan		2	62	5.1	1.5	7.9	7.6	70.1	55.1	.8	8.6	7.9			288.7
Dalaguete, Cebu	19.8	27.9	3.3		25.4	10.9	2.8	4.6							172.7
Surigao, Surigao	17.5	28.7		19.3	51.8	68.1	26.7	40.4	.8						266.7
Central Palma, Ilog, Occidental Negros			26.7	59.7	2.5	12.7	94	109.2	38.6	1.3					389.7
Hacienda Naval, Himamaylan, Occidental Negros	2.3	61	16.5	10.2	4.6	12.7	65.8	83.8	101.6	22.9			15.2	16.5	468
Biaong Cui's Farm, Barili, Cebu	51.8		48.3		21.1			14	19						196
Maasin, Leyte	4.3	41.4		5.6	93.7	93.9		3.8						4.3	309.7
Binalbagan Estate, Binalbagan, Occidental Negros †	1.8	61.2	8.9	7.6	3.8	10.1	66.3	83.3	59.2	17.2			18	10.4	406.3
Isabela, Occidental Negros	3.6	17.7	8.1	18.5	7.4	9.2	75.1	118.1	31.2	21.8			16.3	70.6	514.4
Hacienda Tanolo, Hinigaran, Occidental Negros	3	30.7	10.2	17	3.8	8.9	72.6	112.2	26.7	20.8			9.7	5.1	420
Cebu, Cebu	2	22.4	.8		17.2	24.9	3.1	1.8	3.1					1.4	251.8
La Castellana, Occidental Negros	38.1	36.3	22.8	21.6	24.9	11.4	43.4	101.6	14.5	15			4.9	15.2	540.9
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †	1.3	8.9	7.6		19	7.9	4.1	30	8.9	.5				12.4	185.6
Central Azucarera de La Carlota, La Carlota, Occidental Negros	4.9	15.5	5.3	38.9	19.6	8.4	38.6	97.3	39.1	7.4			27.7	20.5	457.2
Hacienda Canlaon, La Castellana, Occidental Negros	30.2	30.7	25.9	25.9	27.2	11.1	44.	5 112.	625.1	15.2		2.5	3.3	19.3	510.3
La Carlota Experimental Station, La Carlota, Occidental Negros †	29.7	24.4	7.6	48.8	28.4	7.3	30.5	122.5	48	4.6			81	28.7	671
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	4.3	56.9	3.6	16.5	27.2	6.4	19	81.8	31.3	21.1		2.3	9.1	20.3	397
Hacienda San Antonio, San Carlos, Occidental Negros †							22.9	30.5							76.7
Valladolid, Occidental Negros	2.8	14.2	8.6	6.9	7.9		16.3	89.4	28.4	11.9					241.1
Central San Carlos, San Carlos, Occidental Negros †		7.6	5.1		32.8	28.4		16.3	6.4						140
Hacienda Refugio, San Carlos, Occidental Negros †	7.9	7.6		20.3	8.9		36.8		3.8						128.5
Murcia, Occidental Negros	10.7	46.7	11.7	25.4	22.9	.5	16	41.4	26.7	16.3			9.1	14.2	407.5
Oton, Iloilo	1.3	14.3	35.3		7.1	39.4	53.1	110.8	23.7	12.9				6.1	474.8
Concepcion, Talisay, Occidental Negros	6.6	41.2	11.2	25.9	45.5	4	22.9	73.9	35.8	8.1			6.1	*	410.8
Iloilo, Iloilo	18.1	16.7	14.3		5.1	7.5	25	83.4	26.3	16.3					333.3
Lapustapus, Iloilo, Iloilo †	20.3	20.3	17.8		3.8	2.5	17.8	33	33	3.8					377.4
San Jose de Buenavista, Antique	5.3	36.1	14.2	39.1	1.3	66.3	163.8	112.8	35.8	57.7					587.9
Tuburan, Cebu	10.2	9.7	18.3	4.3	50	67.5	6.3	5.1		0.5			8.4	8.2	232.8
Silay, Occidental Negros	3	8.1			50.8	9.9	28.5	37.6	24.4	6.9				7.4	268.6
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros †	6.8	30.8	3.8		45.5	10.9	23.9	34.3	15.8	10.9			.5	2.8	268.8
Cuyo, Palawan	11.4	22.4	4.8	12.2	.5	18.3	53.1	64	33	40.2	20.8			4.4	405.7

† Voluntary or cooperative station.

* No observation.

^ 29 days of observation.

Daily rainfall at the stations of the Weather Bureau, September, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Lucena, Santa Barbara, Iloilo †		7.6		10.2	10.9											
Hacienda Ilaya, Victorias, Occidental Negros	5.1	6.8		25.2			12.4			7.1	3.8	11.2	8.4			10.9
Hacienda Bilbao, Manapla, Occidental Negros	1.5								4.3		7.1	2.5			2.8	3.8
Cadiz, Occidental Negros	11.9	2					19		5.6	16.5		5.8				
Ormoc, Leyte	8.9						.8			.8	8.6		24.6	6.1	5.1	.8
Guiuan, Samar	2.8									1.8	5	4.6		15.8	1	26.5
Bogo, Cebu						1.3	3.8			.3	3	6.4		17.8	13.5	
Dueñas, Iloilo †						50.8		15.2	12.7				76.2	5.1	40.6	
Bitaoagan, Passi, Iloilo †	5.1	1.3				14					3	8.4	18.5	1.3	6.1	
Tacloban, Leyte							2.3				3	8.9	.5		6.9	.8
Dumarao, Capiz †	2.5	2.5				29.7						17.5		18.3	1.3	
Dao, Capiz †	3.3	1.3				5.8	45.7					18	24.4	45.7		
Capiz, Capiz	29.5	.3		4.1			5.1	.3	2	.8	11.4	34.8	32.7			1.8
Borongon, Samar	1			7.1		3.6							3.6		31.5	3.8
Catbalogan, Samar	12.2	1.5		.8			.5					14.5	32.7			3.3
Calbayog, Samar	18.1						3.3					2				
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †	10.4	2.8	16.5	1			1						1.8			
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †	18.3	14	8.9		41.7							2.8	8.4		5.6	
San Jose Estate, San Agustin, San Jose, Mindoro †	22.1	17.6	20.1	2.3			1.8									
San Jose Estate, San Jose, Mindoro †	15.5	16.7	20.6	11.9	23.9						.8		14.2		.8	.8
Masbate, Sorsogon	14.7	9.4	4.8	9.7			.5	4.6				.3	.5			
San Jose Estate, Tunnel D-12, San Jose, Mindoro †	17.7	30.5	8.4	21.3	33.5			4.1		12.7		7.6	12.7		30.5	4.1
Romblon, Romblon	2	26.7	49.5	1.8						28.4	5.1	.5				
Batag Lighthouse, Laoang, Samar																
Irosin, Sorsogon		5.1	7.6	3.3		2.3		1.8	.8		5.8	7.1	3.3		1.5	44.2
Sorsogon, Sorsogon	7.9	30.2	2				9.1				15	2				6.4
Legaspi, Albay, Albay	2.1	10.2	6.6					2.5		.5	5.7	2.5			2.3	5.6
Guinobatan, Albay		3.3	5.6				1.5				1	19.6			48.8	7.7
Polangui, Albay		5.8	.5	1.5			15.2				17	.5			.3	.5
Tabaco, Albay	2.3	4	.6				.5	8.6	5.8		.5	2.3	56.7			
Sumay, Guam, Ladrone Islands	9.7		19.8	13.7	3.8			.3				3	5.9	18.3	6.8	1.3
Iriga, Camarines Sur	.3	1.6	1.8	4.1			2	8.1		1.3		.3	.3			
Calapan, Mindoro	9.9	6.6	9.1	10.9				50.3	1.3					21.3		
Virac, Albay	.5					.3		.5			19.3	15.5				1.3
Naga, Camarines Sur	.5	2.8	.5	1.3				8.4		7.6		1.3	.8			
Tigaon, Camarines Sur	13.2	11	1	.8			30.2	.3			3.6		1.5	8.4		2.3
Batangas, Batangas	27.7	38.4	1.8	18.8									5.6	1		
Calatagan, Batangas	22.1	20.8	4.1	35.3	1								4.9		3.6	5.1
Balayan, Batangas	23.9	16.6	25.4	20.6									5.3		26.9	22.6
Lipa, Batangas	58.9	75.4	4.5	11.9	1		21.3									.5
Lucena, Tayabas	4.6	45.5	2.8		4.8			2.5			13				3	
Atimonan, Tayabas	.5	30	.3	1.5	2.3			.8			11.9	23.1	3.8	4.6	1.8	
Lian, Batangas										15.7						
Nasugbu, Batangas									53.3							1.3
Ambulong, Tanauan, Batangas	45.2	78.4	25.5	30.3	1				23.4	3.6	20.8		3.6		5.6	
Daet, Camarines Norte								9.4			1.3	1.3				
Mendez Nuñez, Cavite	77.5	146.1	50.8	40.7	2				3	17.8	8.1		.3			3
Alfonso, Cavite	115	107	48.7	59.2	5.1				43.4	.3	30.5				16.8	
Indang, Cavite	87.6	106.7	53.6	36.3	2					.5	19.6				6.6	
Canluban, Calamba, Laguna	37.3	12.9	9.9	26.7					13.2	5.1	11.4	3				11.4
Silang, Cavite	70.4	18.3	53.6	37.4	.3		11.4	4.3	35.3	16.5	16.8			15.2	71.1	
Maragondon, Cavite	55.4	56.6	12.4	77.5	11.2			1				2				.5
Paracale, Camarines Norte		3.8		2.5		12.7				6.4	2.5	3.8	7.4	5.1	2.5	
Santa Cruz, Laguna	18	33.3	13.2	14	.8					4.8			7.7			
Buenavista, Malabon, Cavite	60.2	136.9	19.8	65.8	2.3			8.1	7.7	.5	.3				3.6	
Imus, Cavite	3.3	115.3	8.4	36.1	5.6				18.5						3	
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †	25.4	97	1.3	31			2.5	12.2	14.7						1.8	1.3
Lamao Horticultural Station, Lamao, Limay, Bataan †	63.5	43.2	78.7	20.3							35.6				25.4	3.8
Manila, Manila	14.9	55.8	16.8	14.5	4.7					36.1					.4	
Antipolo, Rizal	34.3	78.2	17.8	20.5	15			.8			3.6		1		.8	4.1
Bosoboso, Antipolo, Rizal †	45.2	30.2	55.1	38.8	11.2			1	1.8	9.4	23.1				2	
Balanga, Bataan	72.9	109.2	58.4	26.7	12.7					14.2	27.4	1				13
Montalban, Rizal †	3	17	17	53.3	7.4			.5	.5		8.7				3.5	4.6
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †	19	3	6.4	30	8.9			5.1			1				4.1	
Mabayuan Dam, Olongapo, Zambales †	89.1	91.4	45.7	76.2	58.5						30.5					
Malolos, Bulacan	11.9	22.1		15.5	16.5			3.3	1.5	19.8						8.9
Pampanga Sugar Mills, Del Carmen, Pampanga †	43.4	30.5	7.6	16.8	18.5					1.3						.8
San Fernando, Pampanga	19.8	17.7	.3	13.9	8.9					1.8						
San Isidro, Nueva Ecija	9.6	.5		2.1	4.3					1.3	8.1				9.1	2
Iba, Zambales	37.1	48.8	2	21.1	70.5	3.3				9.9			3.3			1.8
Hacienda Luisita, Comillas, La Paz, Tarlac †			37.1									11.7				
Hacienda Luisita, San Miguel, Tarlac, Tarlac †	43.7	5.3		8.9	8.1			7.4								23.4
Tarlac, Tarlac	10.7	3.3		4.6	7.4	5.3			1							
Muñoz Agricultural School, Muñoz, Nueva Ecija †	7.6	3.3		11.9	20.3				1.3							21.6
Baler, Tayabas													3	1.8	1.8	.8
Dagupan, Pangasinan	19.9	3.8	2.5	11.4	17.6	18.6	17	1.5	.8					35.3	4.3	.8
Baguio, Mountain Province	48.5	167.1	160.3	54.3	26.7				8.9	8.7	.3	4.6		24.6	3.1	2.3
San Fernando, La Union	53.1	32	10.7	10.2	28.1	.3			3.6					2	35.1	8.6
Sagada, Mountain Province †	38.6	250.7	30.2	6.3	3		3.3	21.8	2.8		2				5.1	25.7
Bontoc, Mountain Province †	6.9	99.5	14	1.6		4.8	.3	29.7	3.8		1.5				3.6	
Candon, Ilocos Sur	80.8	64.8	7.6	34.8	5.1				2.8						21.8	
Vigan, Ilocos Sur	50.6	110.5	35.6	7.6	34.3		3.8		16.8	7.6					26.4	
Tuguegarao, Cagayan	7.2	2.3			2.3				1.8	38.3						
Tayum, Abra †	59.4	197.4	95	14.2	.5		.5		8.6	.3					19	15.2
Laoag, Ilocos Norte	25	28.7	3.4	4.6	9.2	.8			1.3	6.8	1.3					
Aparri, Cagayan	17.1	2.3	2.3		12.7		47.8		25.4	3.6			10.9			
Cape Bojeador, Burgos, Ilocos Norte	14	2.5	4.5	4.1	6.4	4.3		1.3					7.4	3.3		1.5
Basco, Batanes	2.5	5.1	23.4	10.2	7.9	17.8	67.8	5.1	33.8	2.5						

† Voluntary or cooperative station.

* No observation.

Daily rainfall at the stations of the Weather Bureau, September, 1920—Continued.

Station.	Day of month.														Total.	
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.		
Lucena, Santa Barbara, Iloilo †	30.5	16.3					8.9	7.6	3.3							157.2
Hacienda Ilaya, Victorias, Occidental Negros	2.5	2.8	2		50.8	8.4	8.4	52	11.4	11.7				12.7	253.6	
Hacienda Bilbao, Manapla, Occidental Negros					6.4	26.4	17.6	15.5						39.4	127.3	
Cadiz, Occidental Negros	3.8	1.5	38.9	5.6	38.4	19.8	2.3	21.6	1.8	.8	8.4				203.7	
Ormoc, Leyte	36.3	1.5	1	5.6	25.9	21.6	83.3	14	3.8					33.3	282	
Guiuan, Samar	17.3	28.7	9.7	75	26.4	27	8.6		1.3						247	
Bogo, Cebu	81	2.8	3		24.4	83.6	8.2	18.3						.3	270	
Dueñas, Iloilo †	17.8	45.7	5.1		2.5	15.2	20.3	50.8	5.1	12.7					375.8	
Bitaoagan, Passi, Iloilo †	44.4	30.2						41.4	57.2	9.1	11.2			3.8	14.2	269.2
Tacloban, Leyte	22.1	39.6		2.5	4.3	28.4	38.8	7.8	8.4					1.3	172.9	
Dumarao, Capiz †		51.3						25.9	35.1		50.8				247.6	
Dao, Capiz †	12.7	30.5	1.3	21.3	10.2	4.6	17.3	41.2	5.8	19.8			50.8	50.8	455.2	
Capiz, Capiz	64	75.6	5.6	49.1	7.2	14	39.8	13.7	9	2.1					402.9	
Borongan, Samar	15	35.3	.8	7.4	15.5	30	5.6		2.5						155.6	
Catbalogan, Samar	6.1	48.3	2.5	11.9	17.2	52.3	55.1	56.4	16						342.7	
Calbayog, Samar	3.5	17		4.3	5.6	53.8	13.8	21	22.7						168.2	
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †			1.8	18.8		1.8	18.8	12.2	3	10.7	11.2				111.8	
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †	7.9	15	36.1	27.4			14.2	131.5	49.5	34	19.8				435.1	
San Jose Estate, San Agustin, San Jose, Mindoro †	54.6	11.2	39.8	22.4	22.1		42.4	124.2	25.9	54.9	32.2		2.3		495.9	
San Jose Estate, San Jose, Mindoro †	11.2	29.5	22.3	17.5			32.8	109.7	57.6	25.4	44.2				455.4	
Mashate, Sorsogon	3.3	39.1	52.1	1	3.5	51.6	55.2	47.8	14.2	12.7					325	
San Jose Estate, Tunnel D-12, San Jose, Mindoro †	25.4	19	36.6	10.2			12.7	46.2	87.9		50.8	58.1	43.9		573.9	
Romblon, Romblon	.3	18	11.8	6.3	66.9	95.4	83.2	65.8	12.7	20.4					494.8	
Batag Lighthouse, Laoang, Samar	8.9	59.6	10.9	31.7	84.3	64.3	136.7	28.4	1.3	2.5					428.6	
Irosin, Sorsogon	13	39.6	3	2	6.3	22.8	39.9	49	5	6.4				16.2	286	
Sorsogon, Sorsogon	4.1	67.5	22.1	5.4	10.9	19.6	27	4.8	4.5	.8					239.3	
Legaspi, Albay, Albay	2.3	50.3	56.2	12.4	2.3	3	8.9	20.4	.3	16	12				217.1	
Guinobatan, Albay	7.9	38.3	21.3		12.2	5.8	9.4	26.2	22.9	3.3					235.3	
Polangui, Albay	.5	7.4	6.1		5.3	6.1	8.6	6.6	16.5	1.3	2				101.7	
Tabaco, Albay	4.8	35.8	20.6	28.1	5.8	17.8	16.2	1.8	7.3	.8					215.3	
Sumay, Guam, Ladrone Islands	1	3.3	19.3	1.3	54.1	52	50.3	1.6	2.3					18.6	288.7	
Iriga, Camarines Sur		7.4	9.1		9.2	6.9	25.9	21.8	65.7	12.2					179.3	
Calapan, Mindoro	9.1	9.1	99	2.3	32.3	3.8	14.7	5.6	33.7	13.2	4.3				337	
Virac, Albay	5.1	27.9	25.2		1.5	22.6	14.2	15.1	5.6	5.8					160.4	
Naga, Camarines Sur		3.3	12.2	2.8	3.8	61	36	51.3	98.3	25.6	.3				317.8	
Tigaon, Camarines Sur	8.6	21.8	23.3	20.1	9.7	21.1	8.4	10.1	16.5	10.4			6	.3	223.2	
Batangas, Batangas		30.5	82.1	2	5.3	5.8	32	9.6	14.5	25.6	2.6				308.3	
Calatagan, Batangas	2.3	12.4	53.9	3.8	2.3	98.3	69.1	33.6	14.5	56.2	9.7				453	
Balayon, Batangas		3.8	68.6		6.9	27.9	68.6	35.5	68.6	21.6	11.9				454.7	
Lipa, Batangas	8.4	26.1	85.8	15.7	6.6	15	13	13.8	25.4	16.8			4.6		404.7	
Lucena, Tayabas		27.9	57.7	4.9		20.3	22.3	22.6	52.3	1.1				4.6	291	
Atimonan, Tayabas		52.5	52.3	5.1	34.8	17.9	68.7	50	57.5	3.4					419	
Lian, Batangas	7.6				46.5		8.9		32	43.7	18.8	6.4			179.6	
Nasugbu, Batangas		11.7	37.1	7.1		2.3	30.8	7.9	29.4	16.6		58.4		53.3	187.6	
Ambulong, Tanauan, Batangas		16.5	7.6	48	4.8	8	37	58.1	50.9	10.5	2.8			27.9	381.1	
Daet, Camarines Norte	.8	4.3	50.3	6.9			32.3	33	6	8.1	11.4				295.7	
Mendez Nuñez, Cavite		11.2	39.3	7.6	1.5		35.6	44.7	4.3	9.1	28.4	17.5			510.5	
Alfonso, Cavite	1.5	11.4	41.1	19.1			30.2	48	4.3	78.8	22.3	8.7			625.2	
Indang, Cavite		25.4	59.7	16			37.1	38.4	16	31.2	15.2		5.1		578.3	
Canluban, Calamba, Laguna	24.9	19	51.6	5.1			43.9	27.4	12.2	19.5	9.9	2.6	2.3	3	390.2	
Silang, Cavite		1.8	40.1	3.3	72.9	6.9	32.3	9.4	7.4	19.3	3.6				572	
Maragondon, Cavite		5.1	6.3	63.5	40.6		10.2		3	5.1	3.3	3.6	12.7	7.6	414.6	
Paracale, Camarines Norte	20.3	55.4	13.7				15.2	29.2	31.5	21.6	5.8	10.7			207.7	
Santa Cruz, Laguna		8.4	28.7	11.9			17.3	26.5	5.8	10.6	33.5	9.1			295.2	
Buenavista, Malabon, Cavite		10.2	37.8	3			19	82.3	6.6	11.9	37.4	20.5			457	
Imus, Cavite															418.9	
Alabang Stock Farm, Alabang, Muntinlupa, Rizal †		9.7	50.8	.8			6.6	52.3	10.7	15	11.7	7.8			352.6	
Lamao Horticultural Station, Lamao, Limay, Bataan †		12.7	21.1		.5	.5	1.5	2		58.4	20.3				387.5	
Manila, Manila		17.8	35.9	.3	19.8	5.6	38.2	15.1	3.1	38.1	11.2				322.4	
Antipolo, Rizal	.8	12.2	30	2.8	.3	7.6	13.4	27.5	5.6	13.5	4.9	1.3			296	
Bosoboso, Antipolo, Rizal †		16.3	39.4	2			14.7	7.1	38.4	8.4	20.3	5.1			369.5	
Balanga, Bataan	6.9	6.9	10.9	1	3.3	15.7	10.7	24.1	3.6	23.6	22.1		1.3		465.6	
Montalban, Rizal †	6.9	18.5	36.3	2.3	4.8	8.9	6.4	48.5	4.8	48.8	3				304.7	
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †	5.3	13	39.6	12.2	7.9	18.8	7.9	40.6	12.7	31.5	20.6	25.4	12.7		325.7	
Mabayuan Dam, Olongapo, Zambales †		14.2	34.5	9.1	2.8	22.4	25.7	20.1	2.5	20.6	14				577.3	
Malolos, Bulacan															265.4	
Pampanga Sugar Mills, Del Carmen, Pampanga †		8.4	16.3	2.1			12.4	57.9	23.1	39.6	37.8	28.5	26.7	20.6	391.5	
San Fernando, Pampanga	.5	7.4	26.7	7.6	.3	20.3	5.6	16.3	3.1	41.7	18.5				211.2	
San Isidro, Nueva Ecija		5.9	25.7	33.8	.3	7.1	6.1	15.8	23.1	46.3	6.4				207.5	
Iba, Zambales	2	1.8	1.3	26.7			26.8	24.4	.8	58.9	28.7	1	4.1	2.8	377.1	
Hacienda Luisita, Comillas, La Paz, Tarlac †			30.5	19.8	10.2	14.5	24.1	22.1	12.4	30.5	35.9				248.8	
Hacienda Luisita, San Miguel, Tarlac, Tarlac †	2.8		45.7	7.9		34.3	33.3	20.3	46.2	32.5					296.4	
Tarlac, Tarlac		.5	20.9	11.7		13.2	30	14.2	2.5	38.1	50.6				237.4	
Muñoz Agricultural School, Muñoz, Nueva Ecija †		15	9.1			32.5	18.3	17.8	17.5	26.9	5.1				210.7	
Baler, Tayabas		55.9	66.3	4.6		5.1	15.7	7.4	28.7	45	28.2				263.5	
Dagupan, Pangasinan	14	.5		.5		1.8	6.8	4.9	1	13.2	23.3		9.1	1.5	210.1	
Baguio, Mountain Province	.5					1.8	4.9	13.9	5.9	11.3	22.3		13.4	1.3	584.7	
San Fernando, La Union						22.4	1.2	3	2.8	28	.3	3.8			255.4	
Sagada, Mountain Province †			1			2.8	4.3	21.8	24.3	24.6	2.8	3.3			457.3	
Bontoc, Mountain Province †	.5					4.6	6.4	24.6	31.5	25.2					284.2	
Candon, Ilocos Sur			6.1	.8		1.3	4.1	3.6	2.5	21.1			2.5		276.5	
Vigan, Ilocos Sur			5.8					3.3		13			9.6		324.9	
Tuguegarao, Cagayan			6.4	3.1		1.8	10.6	22.2	58.5	10.1	20.6	1			186.7	
Tayum, Abra †		55.9	5.1				.3	1	3.1	2	52.1		4.6		534.2	
Laoag, Ilocos Norte							2.3	1.6	12.5	7.3	46	1.1	1.3		183.8	
Apurri, Cagayan			16	7.												

MAXIMUM AND MINIMUM TEMPERATURES AT THE STATIONS OF THE WEATHER BUREAU, SEPTEMBER, 1920.

Day.	Jolo.		Lais, Malita.		Lebak, ^a Cotabato.		Lamitan, Isabela, Zamboanga.		Malamaui, Isabela, Zamboanga.		Zamboanga.		Davao.		Cotabato.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.4	22.7	33.4	20.3	32.6	23	32.4	21.8	24	29	24.8	32.7	22	30.8	22.4	
2	30.3	22.5	32.1	20.5	27.8	24.1	33.1	20.6	21.7	27	21.4	32.7	24.5	29	22.5	
3	31.9	24.6	33.8	21.3	31.5	23.1	31.7	19.4	22.5	29.7	24	32.6	22.3	29.8	22	
4	32.4	25.2	33	20.7	31.6	22.1	30.9	20.3	21.3	29.5	23.9	32.1	22	27.9	21.5	
5	33.8	23.9	29	23	33.2	23.1	32.1	21.6	24.2	31.7	23.7	31.7	23	32	21.3	
6	32.2	24.1	30.9	22.4	32.6	24.4	31.7	20.4	31.2	23.5	29.7	30.7	23	33.4	23.4	
7	31.8	23.4	31.7	21	31.7	24.2	34.2	21.6	33.8	22.8	28.9	32.5	31.2	29.6	32.1	24
8	33.4	22.5	32.8	21.6	32.1	24.3	32.7	21.4	30.4	22.6	31.3	32.3	31.7	23	32	22.5
9	31.6	22.4	33.4	22.1	31.8 ⁷	23.2	32.2	20.5	30	24	30.8	32.5	31.9	23.5	32.4	23
10	30.9	22.7	32.4	22.6	31.9	23.4	33.2	20.5	31.3	22	29.3	32.2	29.5	32.2	23.3	23
11	30.4	22.1	32.6	21.4	33.6	23.3	33.5	21.7	32.8	23.2	29	32.9	32.3	31.8	24	24
12	30.8	22.3	32.6	22	32	25	32.4	21.4	30.3	23.2	29	32.6	33.8	23.5	32.6	24.2
13	30.8	23.2	33.4	22.8	32.2	25.1	33.6	20.2	31.8	23.7	29.5	32.5	31.7	24.3	31.4	24.6
14	29.3	22.9	31.8	22.3	31.3	24.1	33.5	21.7	31.8	23.5	28.1	32.6	31.2	23.4	31.9	23.9
15	30.4	22.1	32.1	22.4	30.8	23.1	34.2	20.6	29.7	22.5	31.2	23	31.2	25	32.5	23.5
16	30.6	23.1	32.4	21.5	31.3	23.2	32.5	20.4	31.4	23	28	32.5	31.2	22.1	31	22.5
17	29.5	23	30.4	22.9	30.6	23.2	32.8	20.5	28.9	22.5	27.7	23.4	29.7	21.5	29.9	22.9
18	28.2	22.5	31.5	21.8	27.8	22.6	35.4	21.6	29.3	22.5	27.2	22.8	30	22	29.5	22.5
19	31.1	23.7	31.9	22	31.9	23.1	32.5	21.5	27.5	22.6	28.5	21.3	31.2	22.4	29.5	23
20	28.6	22.6	32.4	21.7	32.6	22.9	31.4	22.1	32.1	23.6	28.5	22.9	31.7	22.7	30.9	23.2
21	29.9	23.4	29.2	22.9	30.7	23.2	34.2	21.1	30.3	23.5	29	23.4	25.7	22.4	26.7	23
22	30.3	23.7	30.8	22.3	32.2	23.2	32.4	20.8	30.2	23.6	27.5	23.1	27.6	22	26	22.9
23	29.4	23.3	31.7	22.5	31.5	24.2	35.4	20.6	29.9	21.3	27.8	23	30.2	22.2	27.8	23.1
24	31.8	23.3	33.4	22.8	30.2	23.3	32.4	20.7	27.8	23	28	22.5	32.3	23.5	28.2	22
25	31.4	24.6	33.7	22.4	31.2	23.1	33.5	21.5	29.8	23.8	31.2	23.8	32.4	22.5	30	21.5
26	30.5	25.9	33.9	20.4	33	22.2	34.6	21.6	33	22.4	29.6	22.9	31.2	22.5	32.2	22.1
27	30.8	24.6	32.7	22.1	32.5	24	32.8	20.5	33.8	22.7	30.3	24	30.7	23.2	32.4	22.6
28	32.5	23.6	33.3	21.5	32.2	24.7	33.5	21.2	30.9	23	31.2	24	31.7	22.6	32.8	22.8
29	31.2	23.4	33.7	22	31.2	24.4	31.2	22.3	32.4	24.4	24	24	31.7	22.4	33.5	23.5
30	29.3	24.1	31.8	21	32.1	23.2	32.9	20.6	30.9	23.6	23.6	23.6	30.7	23.4	31	23
Mean	30.9	23.4	32.3	21.9	31.6	23.5	32.8	21	30.9	23	29.2	23.4	31.3	22.9	30.8	22.9

Day.	Naganaga, Margosatubig.		Malabang.		Cateel.		Ganasi.		Camp Kalao, Monkayo.		Mailag, Malaybalay.		Camp Keithley, Dansalan.		Sumilau.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.5	25.7	32.8	22	38	21.6	26.2	19.8	33.8	20.5	28.7	19.7	27.3	20.7	30	18
2	29.2	24.2	31.8	21.9	37.4	23.3	27	20.7	21.5	29.5	19.7	20.3	24.4	20.7	29.1	18.5
3	33.5 ⁷	23.5	32.6	22.5	35.7	21.4	24.9	19.8	33	20.5	23	21.4	26.3	20.5	29.8	19.2
4	33.3	23.5	30.2	22.6	34.4	21.4	27	18.3	34.9	20	28	17.7	26.6	19.5	30	18.1
5	34.7	22.2	30.8	22.8	33.4	24.5	27.2	17	32.9	23.1	30.6	19.5	29.5	18.3	31.2	19.6
6	33.5	22.3	32.2	20.2	33.9	22.2	29.2	19.3	33.1	21.5	33	19.5	29.6	19	31.4	19.8
7	33.2	21.3	32	23.6	33.5	21.5	30.5	19.8	29.5	22	29.8	19	28.8	18.9	29.1	19.1
8	34.3	22.7	31.4	20.8	33	21.2	28.7	18	34.5	20.7	30.1	21	28.4	18.3	28.7	17.8
9	33.5	22.2	31.8	21.3	32.7	22	29.5	17.3	32	22	29	20.2	28.8	18.1	29.5	19.5
10	33	23.2	32.4	22.6	33	21.7	29.6	17.5	34.5	21.5	32	20.3	28.9	18	29.3	18.5
11	35.3	23.7	32.3	22.8	32.8	22	29.4	18.9	34.9	21.3	32	19	28.9	18	29.1	17.6
12	35.5	22.2	31.8	22.6	33.5	21.7	29.5	18.8	34	21.9	31	19	28.3	19.5	30.4	18.2
13	34	21.5	32.2	22.4	33.2	22.2	31	19.2	35.5	21	35.7	20.3	29.3	19.1	30.7	18
14	33.3	22.3	32	23.2	33.7	22.5	30.9	19	30	23	32.1	20	28.3	19.6	29.4	18.5
15	33.5	21.5	30.8	22.4	32	23.6	28.5	19.4	32	22	30.8	19.6	28.5	20	29	19.2
16	34.2	22.2	31.4	22.1	33	23	27.5	17.8	32	21.5	30	19.2	28.3	18.3	28.3	18
17	33.3	21.3	31.2	23	29.2	23	27.5	18.8	28	22.4	25.9	21.5	26.5	19.2	26	18.5
18	33.5	22.2	30.8	22.6	31.1	22	27	17.7	32	21.2	28.9	20	26.8	19.4	25.8	19
19	32.5	23.1	30.2	22.4	31.3	23	26.5	18.8	31	22.4	30.4	19.5	26.3	19.3	26.6	19.1
20	33.7	22.2	31.6	21.6	33.1	22.6	27.2	18.2	31	21.5	28.9	20	26.8	18.5	28	18.1
21	31.5	21.7	31.6	22.6	25	23.1	27.5	18.8	24.4	22	29.7	24	21.9	18.9	22	18.5
22	22.5	29	21.8	27.3	22.1	28.2	18.8	25	21	29.3	18.9	21.5	18.5	20.2	18.6	18.6
23	32.2	19.3	21.7	32	22.8	29.4	19.1	29.5	21	21.5	19.7	23.3	18.5	23	18.5	18.5
24	33.3	21.2	28.4	21.6	34.8	24.5	28.6	19.8	31.5	20.5	21.5	20	24.5	19	26.9	19
25	33.5	22.3	21.8	35.5	25.3	26.3	19.8	32.9	20	30	21	25.9	20	29.8	19.4	19.4
26	34.3	22.2	31.4	22.4	34	22.1	19.9	33	21	22.5	21	28.9	20	28.1	19.4	19.4
27	34.7	22.5	32.8	21.5	33.3	22.8	28.2	19.2	32.5	22.4	23.5	19.7	28.3	20	29	19.6
28	33.5	23.2	33	21.5	32.7	22.4	28.5	17	33	22.9	22.7	19.4	28.3	17.5	30.5	18.1
29	34.2	23.2	31.8	22	32.6	21.5	30	19	32.9	21.5	22.7	18	28.3	30	18	18
30	33.3	22.2	31.8	22	31	21.5	30.5	18.7	30.6	21.8	29.5	18	27.9	25.2	18	18
Mean	33.4	22.4	31.5	22.1	32.9	22.5	28.3	18.8	31.9	21.5	28.4	19.9	27.1	19.1	28.2	18.6

^a The minimum temperatures of this station seem to be too high.

Maximum and minimum temperatures at the stations of the Weather Bureau, September, 1920—Cont.

Day.	Cagayan.		Butuan.		Mambajao.		Dumaguete.		Meeth, Yap.		Tagbilaran.		Iwahig Penal Colony, Puerto Princesa.		Dalaguete.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.8	22.5	34.8	22.8	32.1	24.5	30.8	25.8	30.4	23	32.2	24.8	32	24.7	33	22.6
2	30.5		34.2	23.2	31.9	24	30.8	24.1	31.1	25.7	30.2	24	29.5?	24.7	31.5	24.6
3	33.3	22	33.7	22.6	31.5	24.2	29.8	24.4	30.3	25.3	30	24.9	32.6	25.8	31.5	21.6
4	33.7	22.2	35.9	22.9	33.9	25	32.4	25.1	30.4	23	32.1	24.6	32.4	23.4?	33.8	23.5
5	33.8	23.5	35.3	23.4	32	24.3	32.5	23.2	30.7	23.5	32.1	23.8	32.4	22.2	31.9	23.6
6	33.5	23.3	35.1	23.5	32.1	23.4	32.5	22.7	30.7	24	32.3	23.4	32.1	23.4	33.8	24.8
7		22	35.6	23.3	32	24.1	31.9	24.3	30.7	24.5	32.1	23.9	32.2	21.6	32.2	24.7
8	32.7	21.7	34.9	22.7	30.4	23.3	31.9	24.4	31.9	23.7	30.8	22.6	32.3	21.8	31.5	24.5
9	33.4	22	35.1	22.3	32.1	23.1	32.3	24.1	33	24	31.7	23.6	32	22.7	32.9	23.7
10	32.5	21.8?	36	23.2	32	23.4	32.6	24.1	30.8	24	31.7	23.9	32	21.4	31.5	21.7
11	31.2	20.8?	34.4	22.7	32.3	23.3	32.8	25	31.9	24	32	23.7	32.5	21.6	32.5	25.5?
12	33.7	22.4	34.9	22.8	31.7	24.6	32.4	24.8	31	23.6	31.9	23.4	32.8	21.4	33.2	25.4
13	33.9	23.2	35.6	24.1	31.4	24.7	33.4	24.4	31.5	24	32.5	24.5	34.2	21.2	32.3	23.2
14	33.6	22.2	35.9	24.1	31.5	24.4	31	25	31.5	24	31.2	24.4	30.8	22.7	31.3	23.3
15	31.8	21.5	33	22.2	30.6	24.6	31.5	24.2	31.7	24.2	32.1	23	32.2	22.2	31.2	22.7
16	31.3	20.5	31.1	22.2	32.6	22.8	29.3	23.9	30.2	24.1	30.7	23.3	32.5	21.7	30.6	23.9
17	32	21.8	26.4	22.8	27.4	23.9	29.5	23.4	31.9	24.5	28.3	23.1	30.8	21.7	30.5	23
18	29.2		31	22.4	29.5	22.7	30.6	23.3	31.7	24.3	29.3	22.8	30.8	21.8?	30.5	23
19	30		31.6	22.5	31	23	31.1	23.5	29.9	22.6	30.1	23	30	23.6?	31.1	23.6
20	30.8		32.8	22.9	31.5	23.4	32.3	23.4	30.2	24.5	31.1	23.4	29	22.2	31.5	23.2
21	25.8		28.1	21.9	26	22.3	28.9	23.8	30.7	24.6	26.9	23.1	30	21.6	23.7	25.3
22	25.6		24.3	21.9	26.2	22.8	26.1	23.9	31.3	23.6	26	22	31	21.5	27.7	23.8
23	27		26.5	21.2	27.4	22.9	28.7	23.3	30.4	24	27.9	23	28.4	22	29.1	24.3
24	27.5		31.6	21.9	29.8	23.8	28	23.3	28.7	23.5	27.5	23.4	32.8	22.8	27.6	24
25	29		33.6	22.4	30.9	23.4	28.9	22.9	30.5	23.2	28.3	23.4	30.2	21.7	30.5	23.5
26	32.3	21.6	32.4	23	27.1	24.1	31	24.4	30.7	27.6	31.2	24.7	29	23	31.3	23.7
27	30.7		34	23.8	29.1	23.9	32.3	25	30.7	24.6	31.9	24.3	32	22	31.4	23.9
28	30.9	20.6	33.4	22.5	30.5	23.3	31.8	23.9	30.7	24	31.7	23.2	30.8	24.5	31.5	24.8
29	31.8	21.5	34.4	23	32.3	23.4	32.4	24.1	30.8	26.9	32.3	23.6	32.2	23.2	32	23.5
30	31		32.7	22.4	30.8	24	31.8	24.7	31.2	23.6	32.1	22.9	31.4	21.2	32.3	24.5
Mean	31.2		32.9	22.8	30.7	23.7	31	24.1	30.9	24.2	30.6	23.6	31.4	22.5	31.3	23.8

Day.	Surigao.		Central Palma, Ilog.		Hacienda Naval, Himamaylan.		Biaong Cui's Farm, Barili.		Maasin, Leyte.		Ysabela, Occ. Negros.		Hacienda Tanolo, Hinigararan.		Cebu.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.4	27.1	32.2	20.8	27.5	25	33	24	33.1	24.4	30.3	23.2	29.5	25.6	32	24.1
2	31.4	25.8	33.1	21.8	28.5	23	32.8	24.2	31.5	23.2	30.4	21.9	30.2	23.4	28.8	25.5
3	31.4	25.7	33	22	30	24.5	31.9	24.5	32.6	23.6	30.2	23.7	30	25	30	26.7
4	33.1	24	32	22.5?	29.2	24	33	23.2	32.5	24	31.5	22.4	30.6	23.5	29.7	26.8
5	36.4	23.5	31.7	21.9	31.2	21.6	32.5	22.2	33	24.4	32.3	20.4	31	22	31.6	25.4
6	34.1	24.7	31.9	21.8	32	22.2	34	23.2	33.3	24.5	33.3	20.5	31.4	22	32	25.2
7	33.5	24.3	32.7	22.5	31.5	22.5	31	23.5	34.8	24	32.6	21.7	31.7	23.5	32.3	26.1
8	31.6	24.3	33	22.3	31	23	34	23.9	32.8	23.6	31.5	22.4	30.7	23.4	31.3	25.1
9	34.1	23.9	32.9	21.9	31.5	23	33.7	22.8	33	23.5	31.6	22.4	30.7	23.1	31.1	25.8
10	37	24.2	33.6	23?	31	23	34.5	24.1	33.6	24.4	31.7	23.9	31.5	23.5	31.4	24.3
11	35.3	23.7	34	22.7	32.5	23	33.8	23.6	35	23.4	31.8	23.5	31.7	23.4	33.4	24.5
12	33.2	23.5	33.9	22	33.5	23	34.1	23.2	34.2	23.8	33.8	23.1	33	23.4	32.7	25.6
13	32	24.1	33.4	21.9	32.5	23	34.5	22.9	34	24	33.2	22.8	32.2	23.4	32.9	25.5
14	34.5	23.9	32.2	22.1	30.5	23	31.5	21.5	33	24.8	32.1	21.5	31.5	23.1	30.6	23
15	31.4	24	31.9	21.8	30.5	23	32.1	23.6	31	23.4	31.1	21.2	30.1	23.2	29.6	22.9
16	31.4	23.7	32.1	21.5	30.5	23	32	22.2	34	23.6	30.6	22.9	29.6	22.6	29.4	23.6
17	27.4	23.4	32	20.9	29	22	30.1	22.4	31	23	30.4	20.1	30	22.2	30	24.5
18	28.4	23	31.9	21.9	28.5	22.3	30	22.5	31	23.6	29.9	22.5	30	22.6	28.6	24
19	31	22.9	32.6	22	30.5	22.5	30.5	22.1	32	23	30.3	22.9	30.5	22	30	24.4
20	32	24	33	22.5	29.5	22	31.5	22.3	33	23.2	28.1	22.4	28.5	22.5	31.3	24.6
21	25.4	23.9	33.1	22.2	29.5	22.8	29.2	21.2	29	23	28.6	22.9	28.5	22.6?	28	24.3
22	25	22.9	33.8	22	28	23.5	27.5	22.1	27	21.5		24.6?	26.8	23	25.8	23.8
23	26.3	23.4	34	22.4	26.5	22.5	26.2	21.8	27.5	22.5	25.6	20.9	24	23.1	27.6	24.5
24	27.5	23.8	33.8	21.9	26.5	24.5	28.5	21.5	29	22.2	25.1	22.1	26.4	22.5	26.9	24.5
25	31	25	32.7	21.7	25.2	23.7	28.8	22.5	28	22.2	26.9	22.6	26.6	22.5	29	24.1
26	31.5	23.7	31.9	21.4	31	22	31.5	24?	31	23.2	30.6	22.1	30.5	22.5	29.8	25.1
27	33.3	23.9	32	21	33.5	23	32.6	22.5	32	23	33.1	21.5	32.5	22.6	31.3	26.1
28	35.3	24.3	32.9	21.4	31	22.5	33.5	23.1	34	24.1	31.6	22	31.3	22.6	32.3	25.1
29	33.3	23.8	34	21.8	31.5	23.5	32	23.2	34.2	24	32	22.6	31.5	23.8	33.2	25.6
30	33	24.2	33.2	21.5	31	22	31.2	22.8	34	23.4	30	22.9	30.2	23	32.3	25.9
Mean	31.8	24.1	32.8	21.9	30.2	23	31.7	22.9	32.1	23.5	30.7	22.3	30.1	23.1	30.5	24.9

Maximum and minimum temperatures at the stations of the Weather Bureau, September, 1920—Cont.

Day.	La Castellana.		Central Azucarera de La Carlota.		Hacienda Canlaon, La Castellana.		Mao Sugar Central, Bago.		Valladolid.		Murcia.		Oton.		Concepcion, Talisay, Occ. Negros.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	29.5	24.2	28.4	23.3	28.7	22	31.3	25	29.5	24.2	29.2	24.6	30.7	23.7	28.8	23.4
2	29.4	22.9	31.4	23.5	28.8	21.8	30	23	30	25	28.6	23.1	30.4	25	29	23.4
3	29.5	22.5	29.4	24.6	28.9	20.6	31	21.6	30.2	25.2	28	23.3	30.2	25	28	24
4	31	22.7	31	24.2	31.1	21.5	31.7	22.9	31	24.5	29.8	23.5	30.2	24.5	29	22.9
5	32.4	20.8	30.9	21.5	30.6	21.6	33.1	21.5	31.2	22.5	31.6	22	30.1	23.5	29.1	22.4
6	33.5	20.6	33.9	21.5	30.4	20.5	33.3	21.4	32.2	23	33.6	21.4	31.2	23.2	32.2	22.4
7	33.2	22.8	31.9	24	31.1	21.1	33.2	23.8	32.5	25.2	32.9	22.4	31.4	25.2	33.2	24.4
8	32.5	20.7	31.2	23.2	31.2	21.3	33.1	23.2	32.2	23.7	32	23	30.3	23.8	31.4	23
9	32.3	21.7	30.7	23.2	32	20.7	33	22.4	34.2		31.6	22.5	33.1	23.9	31.3	22.4
10	33	23.5	30.5	23.6	31.9	21.3	32.8	23.3	32.5	23.7	32.4	23.2	33.9	24	31.7	23
11	33.1	22.9	30.9	23.5	30.2	21.2	32.3	23.3	33.2	24	30.6	24	32.1	24.5	32.5	23.4
12	33.5	22.9?	34.1	22.5	33.4	20.8	33.7	22.7		23.7	32.4	22	32.7	24.3	32.3	22.9
13	34.5	22.5	33.3	23.2	32.6	20.7	34.3	23.2	34	22.7	32	23.5	34.2	24.8	31.6	23.9
14	33.4	22.3	32.9	22.6	32.6	20.2	34.1	22.8	33.7	23.7	33.6	22.4	33.5	24.5	31	22.4
15	32.2	22.4	31.8	23.3	31.5	20.9	32	23.4	31.5	23.2	32.4	23.2	30.7	24	33.4	23.4
16	31.2	22.1	31.5	22.7	32.5	20.2	31.8	23.1	31.2	23.2	30	22.8	30.5	23.9	31.5	23.9
17	30.7	21	31.3	22	30.5	20.1	31.3	21.1	32.2	22	31.6	21.3	30.8	22.9	31.7	21.6
18	30.4		30.1	22.5	28.5	19.5	31.5	22.2	33	21.7	29.6	21.4	31.4	24.5	31	21.6
19	30.8	22.3	31.8	22.9	31.2	20	31.6	22.6	32	22.7	30.1	22.8	29.7	23.9	29	22.9
20	29.4	22.1	29.7	22.8	28.8	19.9	29.7	22.6	30.2	23.2	29	22.3	29.8	23.2	29.6	22.4?
21	29.5	22.5	29.8	22.6	28.8	19.9	30.4	22.3	31.7	22.5	28.4	22.4	30	24.6	29	22.9
22	26.5	22.1	27.9	22.5	26.8	19.7	27.5	22.3	29.5	23.2	29.6	22.3	28.7	24	29.5	22.4
23	25.5	22.5	26.9	23.1	24.6	20.6	29.1	22.8	28	22.5	30	21.3	27.7	23.6	27	23.4
24	25.1	22	26.2	22.5	24.4	20	25.3	22.5	29.2	22.5	28.5	22.2	26.2	22.9	26	21.9
25	25.3	22.5	27.9	22.6	26.1	19.9	28.5	22.4	29.5	23	27.6	21.9	29.1	23.2	25	22.3
26	30.5		30.4	22.3	30	19.3	30.3	21.9	31.7	23.5	29.3	21.7	28.6	23.4	27.2	22.2
27	32.8		32.8	22	33.1	19.9	32.6	22.3	32.7	25	31.4	22.2	31.1	25.4	31.5	23.4
28	33		32.3	22.5	32.3	20	33.5	21.8	33.5	23.5	32.8	21.7	31.7	23.5	31.7	22.4
29	34.3	22.6	32.9	24.3	32.5	20.9	33.1	24.2	32.7	25.2	32.1	22.6	31.3	25.2	32.5	23.5
30	31.8	22.5	31.2	23.2	31.3	20.7	30.3	23.3	33.2	23.5	29.9	23	30.5	24.2		
Mean	31	22.3	30.8	22.9	30.2	20.6	31.5	22.7	31.7	23.5	30.7	22.5	30.7	24.1	30.2	22.9

Day.	Iloilo.		San Jose de Buenavista.		Tuburan.		Silay.		Cuyo.		Hacienda Ilaya, Victorias.		Hacienda Bilbao, Manapla.		Cadiz.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.2	25	30.4	23.2	31.7	26.9	30.5	22.1	29.5	23.7	30	22.5	30.6	21.4	31.2	22.5
2	29.2	24.3	29.4	23.5	31.3	25.1	29	23.1	29.4	25.1	31	22.8	31.4	22	30.1	24.4
3	29.8	24.7	33.4	26.7	32.6	25.1	30	24	30	24.3	30.5	23	31.6	21.9	31.1	25.1
4	29.5	23.5	30.3	25.4	33.6	26.3	29.5	23.9	29.9	24.8	30	22.2	32.7	22.4	32	24.6
5	30.3	23.6	30.7	22.8	33.8	22.8	31.4	22.1	30.3	24.5	30	23.7	32.9	22.6	31.2	25.7
6	30.8	24.1	31.2	23	34.1	23.1	32.5	20.6	31.4	24.6	32	22.3	32.4	22.1	35	23.2
7	31.4	25.8	31.3	23.6	32.2	24.6	32	23.2	31.2	24.6	32	23.8	31.9	21.9	32.6	24.2
8	30.5	24.6	31.1	23.1	32.3	24.5		22.9	31.4	25.2	30	23.6	31.8	22.1	30	23.4
9	32.6	24.5	31.3	22.5	32.8	23.7	31.9	21.4	32.4	23.7	31	23.3	32.2	22.4	31	23.1
10	32.3	24.6	32.1	23.8	33.5	24.5	31.4	21.7	32.4	24	30.2	22	31.7	21.6	31.5	23.9
11	32.4	25.5	31.4	23.7	33.8	24	31.5	21.5	31.5	23.7	31.3	22.9	32.2	22.3	32	24.4
12	31	24	31.9	22.6	34.3	24.3	32.5	22.5	31.4	27.4	30.6	22.5	31.4	21.6	31.9	23.8
13	32	24.8	31.9	23.6	34.1	25.8	31.5	23.4	31.5	25.9	30.5	23.9	32.6	22.4	31.5	24.5
14	31.7	24.7	31.2	24.1	32.9	25.8	33.1	23	31	25.3	30.3	23.3	32.5	22.3	31.6	25.6
15	30.5	24.3	31.7	23.5	32	24.8	31.5	22.3	31	23.7	31.2	22	31.6	22.1	31.4	24.1
16	30.2	23.7	31.3	23.1	32.2	24.2	32	22.9	32.3	24.1	30.7	22	31.1	21.7	31.5	23.8
17	30.1	23.5	31.5	22.4	31.5	23.2	30.5	21	30.8	25	30.6	22.7	30.6	21.4	31.5	22.3
18	31.4	23.7	29.3	22.6	29.6	22.8	29.1	20.9	29.6	24.3	30.2	22.8	31.3	21.9	30.7	22.6
19	29.7	23.9	30.2	23.5	30.7	23.7	30	22.6	29.7	23.5	30.8	23.2	31.9	22.2	31.4	23.9
20	28.8	23.6	30.2	23.4	29.6	23.3	29	22	29	24.3	29.7	21	32.7	22.6	29.5	22.3
21	30.3	24	30.8	22.9	28.5	23.8	30	22.4	31.6	23.9	29.5	23.2	31.4	22.1	30.1	23
22	29	24.4	29.7	24	25.9	23.5	27.5	21.6	31	24.6	28.8	23	29.9	21.8	29	23.1
23	28.2	23.3	25.6	22.5	27.5	23.5	27.3	23.2	27.6	23.8	29.8	23	29.7	21.7	27.7	23.6
24	25.6	22.8	25.7	22.9	27.5	23.4	26.1	22.1	26.6	23.9	30	22.2	30.1	22	27.6	23.7
25	29	22.7	29	23	29	24.1	27	22.6	29	23.7	30	21.8	30.2	22.1	28.2	22.5
26	28.3	23.5	29.5	23	31.4	24.8	28	22.1	28.8	24.2	28.5	20	31.4	22.4	30.2	23.1
27	30.5	25.3	31.5	23	32.7	23.4	32	22	30.3	23.2	30.5	23.5	32.6	22.3	30.4	22.2
28	31.5	25	31.2	22.6	32.7	23.4	31.5	21	31.1	25.4	30.8	22.3	33.1	22.9	30.7	22
29	30.9	25.4	31.5	23.4	32	23.8	31.5	21.4	30.6	25.3	31.7	22.6	32.8	22.8	31.2	23.1
30	30.2	24.3	30.1	23.4	31.7	23.5	30.5	21	30.6	25.4	31.6	23.3	32.9	22.7	31.7	22.8
Mean	30.3	24.2	30.5	23.4	31.6	24.2	30.4	22.2	30.4	24.5	30.5	22.7	31.7	22.1	30.8	23.6

Maximum and minimum temperatures at the stations of the Weather Bureau, September, 1920—Cont.

Day.	Ormoc.		Guiuan.		Bogo.		Tacloban.		Capiz.		Borongan.		Catbalogan.		Calbayog.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
1	32.2	27.7	32.1	27.4	31.9	22.8	32.3	24.8	27.8	23.6	33.6	24.8	29.2	21	27.6	24.3
2	31.7	24.2	30.8	26.7	31.5	23.7	33	23.8	32.8	23	33.2	26	31	-----	29.4	26.3
3	31.5	27.5	31	27.5	31.7	23.9	34.1	25.5	33.9	24.6	32.6	25.1	32.1	-----	29.7	27.5
4	32.7	27.4	31.6	27.4	31.6	23.8	35.5	24.5	33.2	24.7	34.6	21.8	32.5?	21.5	31.8	24.5
5	33.4	23.4	32	27.4	31.8	23.9	33.2	23.9	34.3	24.8	34.2	22.8	33.5	22.9	32.8	23.8
6	34.4	23.5	32.2	26.7	31.7	23.6	33.8	22.9	34.4	23.4	33	23	32.5	22.5	33.1	22.9
7	34.1	23	32.5	27.4	31.8	23.5	34.1	24.7	34.8	25	32.2	22.8	33	21.9	33.2	24.3
8	33.4	23.4	32.7	25	32.2	24.1	34.1	24.9	32.8	23.6	32.5	23.5	32.6	22.8	31.8	23.4
9	33.9	22.8	31.9	25.2	32.6	24.3	33.9	23.8	33.4	24.2	32.8	23.4	32.5	22.9	32.3	23.6
10	34.2	22.9	32.8	23.7	32.2	23.9	34.1	24.1	33.7	24	32.6	23.9	33	23.7	33.6	23.3
11	34.9	22.3	33.4	23.2	32.5	24	35.1	24.1	33.9	25.1	32.8	23.8	32.5	23.9?	33.3	23
12	34.5	22.4	32.8	24.5	32.7	24	34.9	24.5	33.8	24.5	32.7	24	31.6	23.5	32.8	23.3
13	35	22.5	32.9	24.8	32.9	24.5	33.4	24.5	32.8	24.6	32.3	23.6	-----	23.4	33.3	23.6
14	34.9	23.9	32.7	24.2	32.6	24.3	33.1	24.4	33.2	24.1	32.2	23.4	32.5	21.5	33.5	23.6
15	34.5	23.4	31.5	24	32	24	32	23.5	33.8	23.5	32.3	23.9	31	21.8	33.3	24.5
16	32.9	22.9	31	23	31.9	24.6	31.4	22.9	33.8	23.1	31.8	23.4	31.5	21.6	33	23.8
17	33.2	22.9	31.4	23.7	31.4	24.3	31.8	23.4	33.4	23.1	32	23.6	30.7	23.1?	33.1	22.5
18	31	22	31.5	23.6	31	23.9?	28.6	23.2	31.8	23.2	31.3	22.5	29.4	22.6	30.3	23
19	32.2	22	31.6	23.2	30.9	24	30.9	23	32.3	23	31.6	23	32	21.5	32	23.3
20	32.8	22.7	32.2	23.7	30.4	23.7	33.8	23.6	32.8	23	31.6	23.5	31	21.8	31.5	23.3
21	30.2	22.9	29.9	22.7	30.6	24.1?	30	23.8	31.8	23	31	23.5	29.7	22.5	29.3	23.2
22	29.6	23.5	27.1	23.2	30	23.6	28.3	22.6	31.3	24	29.8	23.3	30	21.6	29.7	23.5
23	26.9	23.3	28.4	24.5	26.5	23.8	26.8	22.4	27.2	23.3	28.4	23.9	27.5	21	27.2	24.1
24	27.7	22.9	29.9	24.1	27.3	23.7	28.9	22.5	30.3	23	30	23.7	27.9	20.3	28.6	23.2
25	29.4	23.7	30.5	25.4	28	23.1	30.1	22.8	29.3	23	31.4	23.9	-----	21	29.3	24.6
26	32.6	24.4	30.5	24.5	30.1	23.3	32	23.5	30.4	23.5	32.8	23.2	31.5	22.3	30.2	24.9
27	33.9	25	31.6	27.1	30.6	23.9	32.2	23.6	34	23.9	33.4	23	33.1	22.5	32.1	24.1
28	34.6	22.6	32.3	24.1	31.7	23.9	33.3	24.3	33.3	23.5	32	23.2	33	22.8	31.7	23.7
29	33.8	21.9	31.4	27.1	32	24	32.8	23.9	33.5	23.9	33.1	23.4	33	24	31.9	23.4
30	33.7	22.4	31.5	24.7	31.6	23.8	32.9	24.3	34	24.2	32.4	22.8	32.5	24.4	32.4	23.4
Mean	32.7	23.5	31.5	25	31.2	23.9	32.3	23.8	32.6	23.8	32.2	23.5	31.5	22.4	31.5	23.9

Day.	Masbate.		Romblon.		Batag Light-house, Laclang.		Irosin.		Sorsogon.		Legaspi, Albay.		Guinobatan.		Polangui.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
1	32.6	23.5	32.6	23.8	32.9	22.8	32.8	29	29.7	24.1	30.5	24.3	30.2	24.3	32.1	23.2
2	30	23.5	29	24.6	30	25	24.9	28.7	24	28.3	24.7	28.1	24.1	30	30	24.8
3	31	24.6	29.6	24.4	30.4	25.5	24.3	29.5	25.5	29.2	25.7	29	25.8	30	25.5	24.8
4	30.6	26.6	29.6	24.2	31.9	23.8	24.1	31.4	26	31.5	25.5	28.8?	25	30.3	26.5	24.8
5	32.4	23.6	31.6	23.8	34.8	23.4	22.7	31.6	25	32.6	24.6	-----	22.5	32	24.8	
6	32.6	24.8	32.1	24.2	32.1	23.7	21.2	32.5	22.2	33.8	23.8	32.6	21.9	32.3	24.8	
7	32	25.5	32.5	24.9	33.3	23.9	22.4	32.8	23.1	34.2	23.7	32.5	22.6	35	22.4	
8	31.4	24.8	30.7	23.7	30.2	23	23	32.2	24.1	32.4	24.6	32.2	22.3	35	24.5	
9	32.4	25.2	31.5	23.4	32.4	23.9	22.5	31	22.9	31.8	23.8	31.9	23.3	30	23.7	
10	32.6	25.8	32.4	23.6	32.1	24.8	23.5	33	23.6	32.4	24.5	32.6	22.7	32	23.2	
11	32.8	26.2	32.5	23.2	32.8	24.3	22.1	34	24.2	33.6	24.4	33.3	21.7	33.4	22	
12	32.4	26.5	33	24	32.7	24.9	22.3	33.1	23.3	33.9	24.4	33.8	22	33.2	22.5	
13	31	25.4	32.2	23	32.5	24.8	23	31.9	23.6	32.3	25	31.3	23.9	31.5	24	
14	32.6	25.6	32.1	23.2	32.4	24.4	20.1	32.5	21.5	32.8	22.8	32.2	18.5	31.9	19.9	
15	32	24.6	32.7	21.9	32.6	24.8	22.1	32.6	22.4	33.8	23.3	32.6	22	32.8	24.5	
16	32.4	24.6	32.4	22.9	32.2	23.8	22.3	33	22.6	33.2	23.8	31.3	22.3	32.6	22.8	
17	32.8	25.5	33.6	23.4	33.2	23.4	20.5	32.5	22.5	33.1	23.5	30.6	22.1	32.5	22.4	
18	32.8	25	33	23.6	30.1	21.5	31	22	30.6	23.5	31.4	23.5	22.6	32	23	
19	31.8	23.6	31.5	24	30.4	22.6	33.5	22.7	31.5	23	31.6	23.6	29.8	23.1	22	
20	32.6	23.5	31	23.6	31.2	23	32.3	23.6	32.5	29.9	31.6	23.6	29.8	31.2	22	
21	30.8	25.4	31.8	22.9	28.2	22.8	32.7	22.5	31	23	32.3	24.2	31.9	22.8	32.5	
22	30.6	25.6	31.1	22.6	29.3	20.9	30.3	22.2	31.4	23.1	31.7	23.4	30.3	32.6	24.6	
23	26.8	23.2	27.6	23.1	25.5	23.2	26.8	23.2	27	23.1	32.6	22.8	31.3	22.2	31	
24	30.6	22.6	28.7	23.5	27.5	22	30.3	22.2	29.5	23	27.5	23.8	27.1	23.2	23.4	
25	28.4	23.6	29.9	22.7	29.5	22.9	28.8	22.5	28.4	22.5	30.8	23	28.6	22.9	27.9	
26	29.6	24.6	30.9	23.7	30.5	23.3	31.4	23.2	28.7	24.5	29.5	23.5	28.9	22.5	29	
27	32.4	23.5	32.1	23.9	32.4	23.9	33.6	22	31.9	25	28.4	24.3	28.6	22.5	29.2	
28	31.6	24.6	32.9	24.2	31.8	24.6	35.1	22.7	32.5	24.1	33.1	23.6	31.5	22.7	31	
29	32.6	24.4	33.1	23.7	33.4	23.8	34.9	22.7	32.5	-----	33.6	24.3	32.8	22.1	32	
30	32	25.2	32.5	23.7	32.2	23.3	33.6	22.3	-----	-----	33.3	24	32	22.7	21.2	
Mean	31.4	24.7	31.4	23.6	31.2	23.6	-----	22.6	31.3	23.5	31.9	24	31	22.7	31.6	23.4

Maximum and minimum temperatures at the stations of the Weather Bureau, September, 1920—Cont.

Day.	Tabaco.		Sumay, Guam.		Iriga.		Calapan.		Virac.		Naga, Camarines Sur.		Tigaon.		Batangas.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	34.1	23.9	27.3	23.5	30.7	25.4	29.5	24.2	31.3	23	30.5	22.9	28.6	22.4	29	23.7
2	34.2	22.3	29.8	23	30.1	25.4	26.5	22.9	31	23.5	27	25.4	26.6	23.7	27.9	24.1
3	34.9	24.3	30	25	29.1	26	28.6	23	31.5	24.1	30	25.1	27.9	24.6	29.8	24.5
4	33.6	25.5	29.6	24.2	31.9	25	30	23.1	32.6	24.3	31.5	26.3	30.3	24.5	29.6	25.4
5	32.4	25.8	29.3	24	32.5	24.3	31.5	23	34	23.2	32.5	24.6	32	24.4	30.7	24
6	33.3	24.3	29.8	24.6	33.7	22.8	32	23	32.5	22.2	33.9	23.5	33.1	23.7	32.3	22.9
7	34	23	30.3	25.2	33.4	22.2	31.5	22.5	32.4	23	32.6	23.4	32.5	20.8	30.9	22.7
8	33.2	23.9	30	25.5	31.8	24	30.9	23	32.2	22.5	32.1	24.1	31	21.6	31.1	24.2
9	31.9	23	30.5	25.1	32.3	23.9	31.1	23	32	23	32.7	23.6	32.5	22.5	32	24.3
10	32.1	23.2	30.8	25.1	33.1	22.5	32	22.5	31.5	22.2	34.5	23.6	33.4	22.3	31.9	23.2
11	32.4	23.1	30.27	25.5	34.2	21.8	31.9	22	31.9	22	34.2	23	34.1	22.2	32.5	23.5
12	32.9	23.9	31.5	25.5	32.4	22.4	33	22.5	31.4	22.1	32	23.3	33.3	21.7	33.5	23.3
13	33	23.8	30.3	24.5	32.8	23.2	32.5	25	32	23	33.1	23.4	32.4	22.9	31.8	23.7
14	31.2	21.3	31.2	24.4	32.9	21	32.2	23	30.9	21.2	33	22	33.1	21.4	31.4	21.9
15	31.3	22.5	29.3	24.3	33.9	22.3	32.3	23	32	21.6	34.5	23	33.6	21.2	32.9	22.4
16	32.4	23.5	30.6	26	33.4	23	32.5	23	31.6	22	34.2	23.8	33.4	21.8	32.2	22.7
17	32.8	22.5	30.9	26.5	33.5	21.9	32.4	23.1	31.5	21.6	33.8	22.8	32.8	20.6	32.8	22.8
18	32.4	23.2	30.8	26.6	26.4	22.5	32	24	31.3	21.8	31.8	22	31.6	21.3	33.3	22.8
19	31.3	22.4	28.5	25	31.7	22.6	27	23.2	29.1	23.1	30.7	23.6	29.3	22	27.7	23.6
20	31.7	23	30.6	23.1	32.4	23.1	29	23.5	31	23.1	31.4	22.5	32.6	22	29.4	23.1
21	32.1	22.4	30	24.5	30.5	22.5	31.5	22.5	31	22.2	31.4	22.2	32.7	20.9	32.2	22.7
22	31.2	22.6	27.9	23.6	32.1	23.3	32	22.9	32.2	22	31.6	22.5	32.1	20.5	31.3	23.2
23	31.5	23.1	28.7	23.5	27.8	23.5	28.4	23.9	29	22.3	26.2	23.4	28.5	22.4	27.5	23.9
24	31.5	22.5	29.3	23.7	30	23.3	29	24	29.6	21.5	30.6	23.4	30.7	21.9	28.3	23.8
25	31.7	23.4	30.6	24.2	28.4	23.2	31	22.5	29.9	22	27	23.8	28.2	22.3	28.2	23.2
26	33.7	23.8	29.8	24.6	28.9	23.7	27	23	30.3	23	26.8	23.6	27.7	22.9	28.2	23.4
27	31.4	24.5	31	24.5	33.1	23.8	31.5	23.5	32.5	23.3	31.5	23.6	31.9	22.2	31.6	23.9
28	32.4	24	30.4	26.2	33.8	23.5	32	23.2	32.4	23.4	33.6	24.3	32.8	22	32.7	23.7
29	33.2	22.9	31.1	26.2	33.4	22.4	32.1	23.5	32.2	23	33.6	23.5	33.4	21.2	32.6	24.4
30	34.2	22.8	31.3	26.2	32.8	23	32	23.3	31.8	23.4	33	24.1	32.2	22.7	32	23.5
Mean	32.6	23.3	30	24.8	31.8	23.1	30.8	23.2	31.5	22.6	31.7	23.6	31.5	22.2	30.8	23.5

Day.	Calatagan.		Balayan.		Lipa.		Lucena.		Atimonan.		Nasugbu.		Ambulong, Tanauan, Batangas.		Daet.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	28.7	22.1	28.9	25.2	28.5	21.5	29.8	20.27	31.1	24.4	34	22	29.2	24.2	31.8	23.2
2	29	23.8	28.9	25	28.6	21.2	27.2	23	27.2	24.1	31.9	23	28.2	23.9	31.5	24.1
3	30.7	25.1	29.5	23.5	29.4	23.5	29.8	23.9	29	24.7	33.9	23	29	25	30.3	25.9
4	30.6	24.5	29	22	28.1	23.3	30	22.6	30.6	24.7	33	23	28.2	24.9	31.8	25
5	30.5	23.6	30	23	29.3	21.2	30.4	21.7	31.6	24.2	32.9	21.9	28.9	24.1	32.6	24.6
6	33	22.4	32	22.5	30.3	20.9	32.5	21.1	32.6	22.9	34	21.1	31.2	22.5	33.7	23.8
7	33.5	22.6	31.9	22	30.2	20.4	31.5	21.57	31.7	23.6	33.1	20	32	22.5	32.4	22.8
8	33.1	23.1	32	22	30.6	21.3	30.9	22.9	31	24.4	33.4	21.5	31.3	24	31.5	23.6
9	32.2	24.2	31	22.7	29.5	22.4	31	22.7	30.5	24.4	33.4	21	30.3	22.4	30.3	23.3
10	32.9	22.7	31.5	22.5	31	20.8	33.1	21	32.9	23.8	33.5	22.1	32.2	21.8	32	23.1
11	33.5	22.9	32	22	30.6	21.8	32.5	21.6	31.8	23.8	33	22.1	31.8	23.7	31.7	22.5
12	32.5	23.2	32	22.2	31.5	20.7	32.5	22.3	30.6	24.8	34	22.5	33.3	22.7	31.7	22.7
13	32.6	23.5	32	22	31.4	22	31.7	22.7	31.2	25	35	24.9	32.3	24	31.8	22.7
14	32.1	21.7	32	22	30.6	21.4	32	20.7	30.8	24.7	35	23	32.7	22	31.5	20.9
15	31.6	22	32	22.5	31.8	20.9	32.7	21.4	31.6	24.1	35	22.5	34.6	22.4	31.7	22.6
16	31.6	22.7	31.6	21.5	30.8	21.9	33.7	21.6	31.6	22.9	35	22.3	34	23	31.6	20.5
17	32.6	21.5	32.5	22.5	30.7	21	32	21.1	31	23.4	35.1	22.5	33.4	22.8	32.3	21.7
18	31.6	21.9	32.4	22.2	30.6	21.6	30.6	22.8	29.2	24.2	35	23.5	31.4	23.4	31.3	22.8
19	27.3	23	26.8	23.5	29	21.6	30	22.1	29.2	25.6	35.1	24.5	29.4	23.5	30.3	23
20	30.5	23.6	30	24	28.6	20.7	28.6	22.3	28.8	23.3	34	22.5	29.6	23.1	31.6	22.8
21	32.3	22.2	31.5	23.2	31.1	20	31.5	22	30.8	23.2	34.6	22.6	32.3	22	30.6	22
22	32.6	23	32.8	22	29.6	20.8	32.1	22.1	30.6	23.2	34	24.1	30.7	23	31.5	22.9
23	29.1	23	28	22	28.8	21.6	27	21.6	26.5	23.6	35	24.9	28	23	26.1	23.3
24	28.1	22.7	29.7	24.2	27.5	21	26.5	22.1	26.4	23.5	34.5	21	27.2	23.7	30.9	23.9
25	31	22.8	29.8	22	28.6	21	25.8	21.2	27.2	23.3	34.5	21.1	27.3	23.1	29	23.2
26	27.3	23.2	26.7	23	26.7	20.6	27.7	22	27.8	23.2	34.5	21.4	27.3	23	27.8	23.3
27	30.6	23.3	30.5	23.2	30.2	21	30.6	24.1	31.1	25	35	21	29.2	23.8	32.3	23.6
28	33.5	22.9	32.7	23	30.6	21.5	31.7	24.6	33.2	24	34.9	22.1	32.2	23.7	33.2	23.6
29	33.5	23.8	32.2	24	31	21	31.4	23.57	32.5	24.1	34.1	23	32.2	23.9	33.4	24
30	32.4	22.7	32.2	23.3	34	20.2	32	22	32.7	23.6	35	22	32.1	24.6	32.7	22.8
Mean	31.4	23	30.8	22.9	30	21.3	30.6	22.1	30.4	24	34.2	22.4	30.7	23.3	31.4	23.1

Maximum and minimum temperatures at the stations of the Weather Bureau, September, 1920—Cont.

Day.	Mendez Nuñez.		Alfonso.		Indang.		Canluban, Calamba.		Silang.		Paracale.		Santa Cruz, Laguna.		Buenavista, Malabon, Cavite.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	25.2	19.8	25.5	20.5	27.2	21.3	31	22.2	28.8	21.2	30.5	24	31.1	23.4	30.3	21.8
2	23.5	20.7	24.4	21.3	25	21.7	27	21.4	27.8	21.5	30	24	27.6	23.4	28.9	21.3
3	26	21.3	26	22.9	27.3	23.2	31.5	22	28.2	20.8	30	24.2	31.7	22.7	29.7	22.6
4	25	21.6	24.9	22.2	26.3	22.9	30	22.9	29	21	30	24.2	30.6	22.8	29.8	22.3
5	25.5	21.2	26.5	21.7	28.4	22.5	31	22.3	28.6	20.5	30.2	24	32	23	29.7	23.1
6	28	20.8	28.5	21.2	29.9	21.4	32.8	21	28.2	21.1	30	23.5	33.4	21.5	31.3	21.1
7	28	19.9	30	20.1	30.2	20.7	31.9	21.1	28.3	21.5	30	24	32.9	22.2	31.4	22
8	27.9	19.9	27.5	20.6	29.8	21.9	32	22	28.7	21.8	30.5	24.2	33.1	23.2	30.5	22.5
9	27.5	21.2	28	22.2	30.2	22.5	31.4	22.4	28.9	21.7	30.2	24	31.1	24.1	30.7	23
10	29	20	30	20.2	31.1	20.7	33	21	29	20.2	30	23.8	32.7	22	32	21
11	28.6	19.9	29	20.2	30.1	21.3	31.8	21.5	29	20.6	30.2	24	32.3	23.5	31.2	22.3
12	28	20.3	29.9	21.1	30.9	21.9	32.2	21.9	30.2	21.1	30	24.2	32.7	23.2	32.3	22.5
13	28	20.7	29.1	21.6	30.2	22.5	31	22	29.9	22	30.2	24.5	32	22.8	31.6	22.9
14	28.9	20	30	21.1	30.7	21.9	32.9	21	30.8	20.5	30	24	32.2	22.3	32.5	21.4
15	30.5	20	30.2	20	31.5	22.1	33.1	21.5	29.9	21.2	30.2	24	33.6	22.5	32	22
16	30	19.9	30.1	20.1	31.8	21.9	33.5	21.9	29.8	21.5	30.2	24.2	33.8	22.2	32.2	22.5
17	28.5	19.8	29.2	20.5	30.3	21.7	31	21.5	30.9	21.8	30.2	24	32.3	22	32.5	22
18	27.2	21.2	28	21.6	29.3	22.5	31.2	21.6	30	21.7	30.2	24.5	30.6	23	32.4	21.8
19	26.2	21.6	26.2	21.3	25.8	22	29.8	22.1	30.4	20.2	30	24	30.1	23.1	33	22.4
20	26.5	20.9	26.2	22.3	27.4	22	29	22.5	29.6	21.2	30	24	29.6	22.4	29.5	22.3
21	28.5	20.9	29	20.4	29.9	21.4	31.5	21.8	28.9	21	30	23.5	32.1	22.4	31.1	22.2
22	28.5	20	28	20.7	29	21.2	31.4	21.5	29.7	21	30	24	32.1	23.1	30.9	20.1
23	25.6	19.7	26.5	20.5	27.4	21.2	28	21.5	29.8	20	30	24	26.7	23.3	29.1	21.5
24	23.7	21	24.5	21.5	25.1	22.2	26.4	22.6	28.7	21.4	30.2	24	26.2	23.4	26.6	22.6
25	24	20	24.2	20.8	25.5	21.3	25.6	22	28	21.3	30.5	24.2	26.2	22.6	26.5	21.8
26	24.7	20.7	24.9	20.3	25.8	21.6	28.5	22.3	28.5	21.3	30.2	24	29.5	22.8	27.5	21.3
27	27	21.5	26.8	21.4	26.2	21.8	30.2	22.4	28.1	21.7	30	24	31.9	23.2	29.3	22.1
28	29	20.5	29.5	20.8	31.3	21.6	32.5	22	28.9	21.8	30	24	33.7	22.4	32.7	22.1
29	29	21.5	29.5	22.5	31.1	22.3	32.9	22.2	30.8	22	30	24	34.2	22.7	32.1	22
30	28.5	20.8	28.5	22.2	30.3	22.3	31.6	21.8	30.5	22	30	24	32.8	23.1	32.4	22.5
Mean	27.2	20.6	27.7	21.1	28.8	21.8	30.9	21.9	29.3	21.2	30.1	24	31.4	22.8	30.7	22

Day.	Manila.		Antipolo.		Balanga.		Malolos.		San Fernando, Pampanga.		San Isidro, Nueva Ecija.		Iba.		Tarlac.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	33.5	22.8	27.9	21	29.5	22.7	29.5	22.5	31.7	22	28.6	22.1	28.4	23	31.6	21.2
2	27.9	23.7	26.3	22.6	27.1	23.6	27	23.8	26.7	23	29.4	24.4	28	23.6	31.2	21.8
3	30.1	24.5	28.5	22.1	28.7	25	30	24.5	30.8	24.4	31.5	24.6	31.2	24.9	33.4	22.4
4	30.2	24.3	28.7	22.8	29.4	25.5	29.9	26.2	30.6	25.3	30	25.2	30.2	24.7	32.4	22.8
5	30.4	23.6	28.7	22.5	29.5	24.2	29.1	24.9	30.5	24	30	24.4	30	24.5	32.6	21.8
6	31.6	23.3	31.2	21.5	31.3	23.9	30.5	24.7	32	23.7	30.6	23.6	30.1	23.4	31.2	23.2
7	31.9	23.3	31.4	21.5	31.5	23.1	30.9	24.3	32.5	24	31.8	23.4	31.1	23.2	34	21.2
8	31.9	24.2	31.8	22.5	31.7	23.4	32	24.5	32.5	24	31.6	23.9	31.5	23	32.6	22.6
9	31.2	23.7	30.7	22.5	31.3	24.5	30	25	30.5	25	28.9	24.7	28.7	23.6	33.6	23.2
10	32.7	23.2	32.4	22.4	31.5	24.1	31.7	24.5	32.5	23.3	31.6	24.3	31	22.3	31.6	22.4
11	31.2	24.2	32.4	23	33.3	23.2	32.5	23.9	34	24.8	33	24.4	32.1	22.4	34.6	22.4
12	33	23.2	32.2	22.2	34.3	23.8	33	23.9	34	23.3	33.8	23.8	32.1	21.9	35.5	21.6
13	33.3	25	33.7	22.6	33.8	25.5	33.2	24.6	34.5	25	33.7	25.4	32.5	23.2	35.5	22.5
14	33	22.4	31.5	20.6	33.9	24	33.9	24.2	35.5	24	33.1	24.4	32.1	23.8	35.4	23.4
15	32.5	23.7	31.7	20.9	34.1	24.5	32.8	25.3	35.2	24	34.4	24.5	31.5	24	35.4	23.6
16	32.8	23.7	32.2	21.6	33.7	24.9	33	24.6	34.2	24.2	33	24	32.2	23.4	35	23
17	32.7	23.4	30.9	21.5	33.1	24.1	33.6	24.8?	32.7	23.2	32.8	23.4	32.6	23.7	35	23.2
18	31.4	22.7	30.7	20.8	31.8	23.5	31.5	24	32	23	32.3	23.6	32.7	22.7	35	22.2
19	30.5	22.9	29.8	21.4	28.8	23.1	27.5	22.8	27	22	27.5	22.9	31	23.1	28	21.9
20	32.2	23.4	31.2	21.5	31.8	22.7	30.3	22.5	32.2	22	31.4	22.4	32.6	24.6	32	21.4
21	30.9	23.5	31.8	21.3	32.8	23.4	30.3	23.4	31.5	21.8	30.1	23.4	33	23.5	33	22.8
22	31.7	23.5	30.5	22	33.5	23.5	32.9	23.1	33.2	22	32.4	22.8	31.8	22.5	34.4	21.2
23	31	23.6	29.7	21.8	31.4	23.6	31	23.5	31	22.8	29.6	23.4	30.2	22.9	32.6	21.9
24	27.3	24.1	26.4	22.3	30.1	23.5	29	24.3	30.5	21.2	29.2	23.9	30.3	22	31.6	21.8
25	27.9	23.7	26.8	22	29.2	24	29.1	23.5	26.5	22.6	25.4	23.9	28.4	23	32.8	22.8
26	29.3	23.7	29.4	22.1	29.7	24.1	29	24	29.6	24.8?	28.5	23.5	30.6	23.1	28.4	22.1
27	31.1	24.2	31.3	22.6	31.9	24.5	29	24	30.5	23.4	28.6	23.4	26.7	23.2	28.6	22.2
28	33.3	23.3	33.1	21.9	31.9?	24	32	23.5	32.5	22	31.5	22.9	31.6	23.5	33	21.8
29	32.1	24	32.3	22.3	32	23.1	31.7	24.8	32.5	22	31.6	23.9	31	24.2	32.6	22.6
30	32.2	24.4	31.2	22.8	32.1	25.2	31.5	25.1	32.3	23	31	24.6	31.5	23.2	34	22.3
Mean	31.4	23.6	30.5	22	31.5	23.9	30.9	24.2	31.7	23.3	30.9	23.8	30.9	23.3	32.9	22.3

Maximum and minimum temperatures at the stations of the Weather Bureau, September, 1920—Cont.

Day.	Baler.		Dagupan.		Bolinao.		Baguio.		San Fernando, La Union.		Candon.		Vigan.		Tuguegarao.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1.	33.6	23.4	29.9	24	30.4	24.5?	20.5	16	32	23	30.6	25	31.5	23.5	28.6	23.5
2.	32	24.9	30.8	24.6	30.5	26.3	18.6	15.7	30	23.4	31.7	24.4	29.7	23.4	34.9	22.5
3.	35	26.4	32.7	25.9	31.2	26.3	18.2	15.8	32	25.3	30.6	24.9	30.7	26.7	33	23.2
4.	34.7	24.5	32.3	25.4	31.3	26.8	17.8	16.6	32.1	25.9	30.6	26.8	31.6	25.6	33.9	25
5.	33.9	24.6	30.4	24.9	30.5	25.4	18.5	16.3	29.4	25	31.5	25.5	28.5	24	34.8	24
6.	32.8	23.8	31.4	24.7	31.3	24.5	20.5	16.6	32	24.5	31	25	31	24.6	33	23.9
7.	34.4	22.9	32.9	24.3	32	25	23.7	15.8	31.9	24.8	31.6	26	31.6	25.4	34.6	25
8.	34.2	23.2	32.5	24.7	33.5	24.7	22.5	16.3	32.5	24.5	31.9	25.9	30.2	25.1	30.6	23
9.	31.7	23.6	27.9	24.8	28.1	25.7	18.5	15.8	27.7	23.5	28.7	24	28.3	22.5	34.5	22.1
10.	34.4	22.8	32.6	24.4	32.5	25.7	22.8	15.2	32	23.1	31	24	31.5	23.5	30.4	22
11.	31.6	22.6	32.3	25.5	31.2	24	23.4	15.3	32.5	22.5	31.5	24	31.2	23.6	33.4	22
12.	33.2	22.5	33.4	24.4	32.6	24.5	24.3	15.8	32.7	23	32	24	31.8	23.1	34.3	23.2
13.	34.3	23.6	32.8	25.6	32	26	23	16.4	33	24	32.8	25.5	32.5	24	34.8	22.8
14.	33	24.1	35	24	33.2	25.2	23.8	16.2	34	25.8	32.5	26.1	33	25.5	34.8	22.8
15.	32.4	23.4	32.7	24.7	32	23.7	24.2	15.8	33.6	24.6	32.5	26.9	32.1	24.8	36.3	23.2
16.	34.5	23.7	33.4	25	33.3	25	24.2	15.8	32.8	24.2	32.4	26	32	24.4	36.1	23.5
17.	33	22	35.2	25.3	33.1	24.8	23.2	16.6	32.6	24.6	32.1	26.5	32.9	25	35.9	23.4
18.	34.3	23	33.4	24	33.5	24.1	24.8	15.3	32.8	23.3	32.2	25.1	31.6	24.6	34.2	22.9
19.	27.6	22.2	30	23.6	32	23.2	21.7	16	32.5	24.7	31.9	25.2	33.1	23.4	30	22.4
20.	28.7	21.9	32.4	23	32	25.2	21.3	16	30.5	24.4	30.5	25.2	30.3	23.9	30.8	22.4
21.	31.9	22.9	33.4	24.5	33.3	24.8	25.8	15.4	32.6	23.7	31.6	25	31.6	24.5	32.6	22.6
22.	32.9	20.9	32.8	23.4	32	23.7	24.7	15	32.8	23	31.4	25	31.5	24.3	34.8	22.3
23.	31.3	23.1	31.1	25	30.3	25	21.3	15.5	32	24.2	31	25.5	31.1	24.5	29.9	23
24.	30	23	31	24	31.5	23.5	21.8	15.7	32.1	23.7	32	24.8	32.4	24.1	27.8	23.2
25.	28	22.9	29.8	24.1	29.9	24.5	21.2	16.2	29	24	32.4	25	27.6	24.6	24.8	23
26.	28.4	22.9	29.5	23.9	32.2	25.2	23	16.5	30.9	23.6	30.5	24.5	31.4	23.9	27.2	23
27.	28	22.7	26.5	23.4	26.5	24	17.9	16.2	27	24	28.8	26	30.2	24.8	26.8	23.4
28.	30.6	22.7	32.5	23.4	33.2	24.5	22.3	16	33.5	23	31	24.4	30.6	23.6	32.8	23.2
29.	33.5	22.4	32.7	24.4	32.7	24.9	22.7	16.3	34.3	24.8	31.5	24.4	32.3	24.5	32.2	23.3
30.	33.5	23	33.5	24.5	31.5	23.8	23	16.1	33.6	25	30	25.6	30.6	25	34.4	23.4
Mean	32.2	23.2	31.9	24.4	31.6	24.8	22	15.9	31.9	24.1	31.3	25.2	31.1	24.3	32.4	23.1

Day.	Laoag.		Aparri.		Cape Bojeador.		Basco.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1.	30.3	24.5	29.9	23.5	29.5	23.5	32.6	26.4
2.	28.8	24.5	34	23.5	27.8	24.5	31.3	25.9
3.	30.2	23.7	32.3	24.6	28.5	24.2	29.5	25.2
4.	30.2	25.9	32.8	25.1	28.1	25	28.8	25.7
5.	29.4	24.4	33.1	24.4	28.5	25	30.3	27.1
6.	30.8	24.1	32.5	23.8	29.5	24.8	32.5	25
7.	32.1	24.8	33.4	23.2	29.8	25.2	28.9	25.2
8.	31.4	25.2	30.3	23.3	29.8	25.8	29.2	22.5
9.	31.6	23.4	32.7	23	31.1	23.4	31.5	23.6
10.	30.9	23.5	32.2	22.3	31	23.4	31	23.1
11.	31.6	24.2	32	23	29.8	23.8	31	22.1
12.	32.7	22	31.8	23.5	30.5	23.5	32.1	22.2
13.	34.1	22.7	31.4	24.2	29.6	25	32.6	23.7
14.	33.3	23.1	31	23	30.2	24.3	32.4	23
15.	33.1	25	32.3	23.4	32.2	24.4	32.5	22.9
16.	32.4	25	32.3	23.8	31.5	25	32.1	22.4
17.	33	23.9	31.8	23.5	32.1	25	32.7	21.8
18.	33.8	23.4	32.2	23	30.7	25.4?	32.9	24.2
19.	34.5	22.8	31.5	21.4	30.8	24.5	31.9	24.8
20.	32.5	22.1	30.8	22.5	28.8	24.7	30.9	24.1
21.	33.6	22.1	31.5	22	31.5	24.8	32	25.8
22.	33.8	22.3	31.5	23	31.5	24.1	32.7	25
23.	32.3	24.2	31.7	24	30.6	24.3	31.4	24.7
24.	30.4	23.6	28.1	23.8	28.8	24.3	30.5	26.4
25.	26.2	24	27.8	23.6	26.7	25.6	30.6	25.9
26.	29.7	24.4	29	23.8	27.3	23.4	31	26
27.	30.8	24	29.8	23.6	30.8	23.6	31.4	26.4
28.	29.5	23.4	29.6	23	27.3	23.2	31.1	23.6
29.	31.5	23.3	31.6	22.8	28.7	24	28.6	25
30.	31.7	24.2	31.5	23.5	29.6	23.5	29.4	24.9
Mean	31.5	23.8	31.4	23.4	29.8	24.4	31.2	24.5

SEISMOLOGICAL BULLETIN FOR SEPTEMBER, 1920.

By Rev. MIGUEL SADERRA MASÓ, S. J.,
Chief, Seismic and Magnetic Divisions, Weather Bureau.

EARTHQUAKES FELT IN THE PHILIPPINES.¹

9, 23^h 02^m [10, 7^h 02^m]. **NW Luzon.** Earthquake of intensity IV, felt through the province of Ilocos Norte.

13, 6^h 30^m [13, 14^h 30^m]. **Nasugbu (SW Luzon).** Earthquake shock of intensity III.

19, 1^h 51^m [19, 11^h 30^m]. **Guam (Mariana Islands).** Earthquake shock of intensity III.

21, 1^h 55^m [21, 9^h 55^m]. **Ormoc (W Leyte).** Oscillatory earthquake, intensity II-III, duration 6 seconds.

23, 1^h 21^m [23, 9^h 21^m]. **NE Mindanao.** Earthquake of intensity III-IV, felt in the provinces of Surigao and Butuan. Insular origin, in the peninsula of Surigao, close to the Butuan Bay.

25, 0^h 34^m [25, 8^h 34^m]. **Butuan (N Mindanao).** Earthquake shock of intensity II-III, very near origin.

26, 5^h 32^m [26, 13^h 32^m]. **Laoag (NW Luzon).** Earthquake shock of intensity III.

26, 19^h 20^m [27, 3^h 20^m]. **Lais (SE Mindanao).** Earthquake of intensity III; recorded at Butuan, origin seemingly insular.

¹The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that 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 report. All time indications are in Greenwich mean time (midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

RECORDS OF THE MICROSEISMOGRAPH.

(Time: Greenwich mean. Midnight=0h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N : $T_0=6.25$, $\epsilon=2.906$, $\frac{r}{T_0^2}=0.053$;
 A_E : $T_0=6.18$, $\epsilon=2.393$, $\frac{r}{T_0^2}=0.042$. Alluvium. 2.40 meters above sea level).

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A_N μ	A_E μ	
260	1	Iv	eP	h. m. s. 12 05 25	s.			End lost by pulsatory oscillations during the day.
261	2	Iv	eP F	18 16 21 19				
262	3	I	e	19 24				End lost by pulsatory oscillations during the day.
263	5	Iv	eP F	14 41 34 45				
264	6	Iv	eP F	17 42 25 44				
265	7	Iu	e? F	6 22 7 35				Italian earthquake.
266	8	II	e F	1 57 04 3 53				Very distant.
267	8	Iv	eP F	9 31 02 35				
268	9	IIr	e F	19 05 35 20 54				
269	9	Iv	eP F	22 01 24 04				
270	14	I	e	23 29 47				End overtaken by following earthquake.
271	14 15	I	e F	23 41 22 0 11				
272	16	Iv	eP F	9 09 35 18				
273	16	Iv	eP F	11 08 26 16				
274	16	Ir	e F	15 15 22 44				
275	17	Iv	eP F	0 46 50 1 04				
276	19	Iv	eP F	6 45 04 48				
277	20	IIr	e iE iE iE iN iN iE iN iE iN iE iE S iE iN iE iE iE iN iN L M _N M _E C ₁ C ₂	14 48 57 50 09 50 36 52 02 52 12 52 20 52 49 53 44 54 35 54 52 55 31 56 02 57 27 57 32 57 49 57 56 59 15 15 00 52 01 12 05 55 08 53 09 03 09 09 17 20 12 36 00	7 7 7 7 8 7 9 9 9 9 8 8 7 8 8 9 9 11 15 18 20		171 179	End overtaken by following earthquake.
278	20	I	e	17 38 00				End overtaken by following earthquake.
279	20	Iv	eP F	18 06 05 10				
280	21	Ir	e F	2 44 11 3 30				
28	21	I	e F	5 12 49 37				

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.			Period.	Amplitude.		Remarks.
								A _N μ	A _E μ	
282	21	I _r	e	<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>			
			F	17	49	54				
				19	22					
283	23	I _r	e	5	41	14				
			L	47	32					
			M _E	47	33	7		11		
			F	6	24					
284	23	I _r	e	19	41	30				
			S	44	08					
			L	45	46					
			M _E	46	05	8		21		
			M _N	46	35	14		13		
			F	20	31					
285	24	I _r	e	4	24	33				
			F		42					
286	24	I _v	eP	5	44	48				
			F		48					
287	27	I _v	eP	7	06	26				
			F		08					
288	27	I _v	eP	7	09	15				
			F		31					
289	27	I	e	13	20.	51				
			F		32					
290	28	I _v	eP	1	04	50				
			F		07					
291	30	I	e	14	19					
			F		48					

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.¹

9, 23^h 02^m [10, 7^h 02^m]. NW de Luzón. Temblor de tierra de intensidad IV sentido en la provincia de Ilocos Norte.

13, 6^h 30^m [13, 14^h 30^m]. Nasugbú (SW de Luzón). Temblor de tierra de intensidad III.

19, 1^h 51^m [19, 11^h 30^m]. Guam (Islas Marianas). Temblor de tierra de intensidad III.

21, 1^h 55^m [21, 9^h 55^m]. Ormoc (W de Leyte). Temblor oscilatorio de intensidad II-III, duración 6 segundos.

23, 1^h 21^m [23, 9^h 21^m]. NE de Mindanao. Temblor de tierra de intensidad III-IV sentido en las provincias de Surigao y Butúan. Su origen era seguramente insular de los que tienen su hipocentro poco profundo en la península de Surigao, cerca de la Bahía de Butúan.

25, 0^h 34^m [25, 8^h 34^m]. Butúan (N de Mindanao). Temblor de tierra de intensidad II-III, de origen muy cercano.

26, 5^h 32^m [26, 13^h 32^m]. Laoag NW de Luzón). Temblor oscilatorio de intensidad III.

26, 19^h 20^m [27, 3^h 20^m]. Lais (SE de Mindanao). Temblor de tierra de intensidad III, registrado en Butúan; origen al parecer insular.

¹ La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos 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 medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

551.5417
P 756

THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

BULLETIN FOR OCTOBER, 1920

PREPARED UNDER THE DIRECTION OF

REV. JOSÉ ALGUÉ, S. J.

DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
1922

BULLETIN FOR OCTOBER, 1920

METEOROLOGICAL BULLETIN FOR OCTOBER, 1920.

By Rev. JOSÉ CORONAS, S. J.,

Chief, Meteorological Division of the Weather Bureau.

GENERAL WEATHER NOTES.

Pressure and temperature.—The mean atmospheric pressure of this month for the Philippines is very slightly above the October's normal in Luzon, and very slightly below the same in the Visayas and Mindanao. The highest pressures were observed on the 24th or 25th, whilst the lowest took place on the 14th and 15th when the Archipelago was under the influence of a typhoon situated over the Pacific to the east of Luzon.

The mean monthly temperature is for almost all our stations identical with, or very slightly below, the normal of this month. The extreme monthly temperatures for Manila were 32.9° C. registered on the 22nd, and 20.0° C. observed on the 29th. The absolute maximum and minimum temperatures for Baguio were 24.7° C., 11.8° C. on the top of Mirador, and 26.3° C., 10.6° C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR OCTOBER, 1920.

Station.	Pressure.							Temperature.						
	Mean.	Departure from Oct., 1919.	Departure from normal.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from Oct., 1919.	Departure from normal.	Highest.	Day.	Lowest.	Day.
Meeth. Yap, Western Carolines	757.56	+0.05		759.30	2	755.72	11	^a 27	+0.3		^a 34.3	24	^a 23	14, 26
Tagbilaran	58.09	-.09	-.01	60.32	25	55.45	15	26.2	-.6	-.07	32.4	12, 21	19.9	31
Surigao	57.91	-.25	-.21	60.35	24	54.70	15	26.8	+.2	-.2	33	1	21	31
Cebu	58.17	-.12	-.15	60.53	24	54.94	15	27.3	0	+.1	32.4	6, 12	21.4	31
Iloilo	58.19	-.11	0	60.50	25	55.08	15	26.6	-.1	-.1	32.3	4	20.8	31
Tacloban	58.02	-.55?	-.32	60.80	24	53.95	15	26.1	-.8	-.8	33.8	4	19.8	30
Capiz	58.31	+.06	-.11	61.04	24	54.96	15	26.6	-.2	-.1	34.3	1	21	31
Calbayog	58.35	-.05	-.08	61.26	24	54.26	15	25.6	+.1	-.5	32.3	20, 25	19.9	30
Legaspi, Albay	58.33	-.18	+.06	61.56	24	53.88	15	26.8	-.2	-.2	33.2	1, 9	18.6	31
Atimonan	58.71	+.03	+.24	62.15	24	54.75	15	26.5	-.5	-.4	32.4	1	20	31
Ambulong, Tanauan, Batangas	58.05	+.04		61.16	24	54.41	15	25.7	-1		33	6	18.6	31
Daet	58.80			62.41	24	54.59	15	25.4			32.8	2	18.2	31
Manila	58.68	+.03	+.08	62.05	24	54.88	15	26.2	0	-.4	32.9	22	20	29
San Isidro, Nueva Ecija	58.77	-.01	+.27	62.16	24	54.81	15	26.3	-.1	-.1	32.5	25	20.6	31
Dagupan	57.78	+.09	-.20	61.06	25	53.87	14	27.1	-.6	-.1	33.8	21	20.9	30
Baguio ^b	636.37	-.24	+.07	639.10	25	633.77	14	17.8	-.6	-.2	24.7	8	11.8	29
Vigan	758.07	+.10	-.06	761.18	24	753.96	14	27.3	-.6	0	33	24	20.5	28
Tuguegarao	59.12	+.16	+.43	64.12	24	55.03	14	25.1	-.2	-.9	33.8	10	17.8	30
Laosag	58.06	-.11		61.32	24	53.86	14	26.4	-.8		33.8	26	16.4	28
Aparri	59.19	-.29	+.17	64.04	24	55.16	14	26.2	-.2	-.1	32	4, 14	19.4	23

^a 30 days of observation.

^b The barometric readings of this station are not reduced to sea level.

Rainfall.—The total amount of rainfall is for a great majority of our stations below both the normal of this month and the monthly rainfall of October, 1919. Only 79.3 mm. were collected during the month in the gauges of Manila Observatory, an amount that differs from the normal by -111.8 mm., and from the monthly rainfall of the preceding year by -278.0 mm. The total rainfall for Baguio, 291.9 mm., is also 109.5 mm. below the normal of this month.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF OCTOBER, 1920.

Station.	Total.	Departure from October, 1919.	Departure from normal.	Days of rain.	Departure from October, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from October, 1919.	Departure from normal.	Days of rain.	Departure from October, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.
	mm.	mm.	mm.		mm.	mm.	mm.			mm.	mm.	mm.		mm.	mm.	mm.	
Jolo	213.2	-17.2	-3.5	22	+6	+5	57.5	24	Legaspi, Albay	330.2	-52.1	-2.1	19	-3	0	100.1	14
Malamaui, Isabela, Zamboanga	208.7	-149.8		17	+4		91.4	12	Sumay, Guam	438.4	+274.1	+91.4	28	+12	+5	100.3	20
Zamboanga	164.7	-166.6	+34						Calapan	157.9	-130.4	-89.4	17	-1	-3	55.7	23
Davao	194.7	+43.3	-44.9	17	-2	+4	25.1	4	Virac	699.9	+414.4	+351.8	23	+2	+1	235.9	15
Cotabato	344.6	-108	+61.2	23	+4	+6	76.2	12	Naga, Camarines Sur	395.2	+187.7	+140.9	19	0	+3	80	14
Cagayan	259.9	+41.1	+83.5	18	+9	+3	48.1	7	Tigaon	424.4	+168.3		27	+6		93.2	14
Butuan	181.8	-331.2		21	+4	+4	42.2	10	Batangas ^b	81.9	-127.7	-122.7	15	-5	-2	31.5	6
Mambajao	230.9			19			78.2	28	Lucena	129.1	-120.7		21	-3	0	30.5	7
Dumaguete	186.6	-4.9	-18.1	19	+7	+2	84.8	13	Atimonan	207.1	-244.6	-156.2	27	+5	+6	39.7	14
Meeth, Yap, Western Carolines	262	-31.6	+4.4	18	-6	-5	69.5	31	Ambulong, Tanauan, Batangas	227.3	+7.1		18	+2		53.3	20
Tagbilaran	169.2	-100.9	-87.4	23	+9	+8	23	13	Daet	683.3			27			115.5	15
Iwahig Penal Colony, Puerto Princesa	202.7	-116		20	-4		31.5	15	Canluban, Calamba	166.9	-162.1		11	-9		35	14
Surigao	173.2	-365.8	-75.4	25	+6	+8	37.1	16	Paracale	276.3	-312.7	-230	17	-10	-6	72.4	11
Maasin	211.1	-81.4	-13.8	9	0	-2	56.6	11	Santa Cruz, Laguna	146.1	-299.8	-104.2	18	-6	-3	41.1	23
Cebu	131.2	-168.5	-77.9	25	+7	+7	35.6	21	Manila	79.3	-278	-111.8	15	-12	-4	61.2	14
Iloilo	203.7	-201.3	-61.9	19	-1	+1	63.7	13	Antipolo	190.9	-156.2		21	-4		58.2	11
San Jose de Buenavista	260.1	-434.3	-107.1	15	-4	-2	51.8	15	San Isidro, Nueva Ecija	165.9	-23	-15.2	18	-1	+3	52.1	11
Cuyo	317.3	+7	+58.7	16	-4	-1	63.5	17	Iba	168.2	-17.4	-11	17	+3		51.5	16
Ormoc	261.3	-45.2	+21.5	21	+2	+1	36.8	11	Tarlac	296.4	+79.4	+114.5	15	-2	+1	50.8	10
Guiuan	325.2	-73		20	-3		79	6	Baler	203.2	-421.2	-183.1	16	-8	0	81.3	21
Tacloban	227.9	+68.8	+26.8	22	+8	+3	36	22	Dagupan	117.8	+28.3	-73.8	11	-3	-2	55.9	16
Capiz	316.9	-28.5	-106.4	25	+2	+4	65.3	9	Baguio	291.9	+95.9	-109.5	21	-2	+2	82.7	3
Borongan	339.6	-46.7	+24.4	27	+5	+5	62.8	22	San Fernando, La Union	59.6	-13.4	-93.1	7	-4	-3	36.1	3
Cathalogan ^a	284.3	+30.5		24	+3		29.2	15	Candon	58.5	-30.8	-124.4	4	-2	-5	45.2	3
Calbayog	280.4	-104.7	+14.3	24	+1	+2	52.7	18	Vigan	175.2	+105	+3.9	3	-6	-6	115.8	3
Masbate	108.3	-32.4	-32.6	13	-3	-2	30.2	15	Tuguegarao	84.3	-64.8	-179.2	12	+1	0	18.6	25
Romblon	150.4	-180.6	-140.7	22	-2	0	17.5	21	Laoag	49.4	+9.1	-187.7	6	-2	-3	20.3	2
Batag Light-house, Laoang	551.1	+243.7		23	+6		78.7	14	Aparri	203.7	-198.7	-98.5	14	-5	-3	85.9	25
Sorsogon ^b	347.9	-59.6		21	-3		60.9	14	Cape Bojeador	10.8	-188.4		6	-3		6.7	18
									Basco	210.4	-221.7	-140.5	18	-11	-3	53.4	22

^a 30 days of observation.

^b 28 days of observation.

DEPRESSIONS AND TYPHOONS.

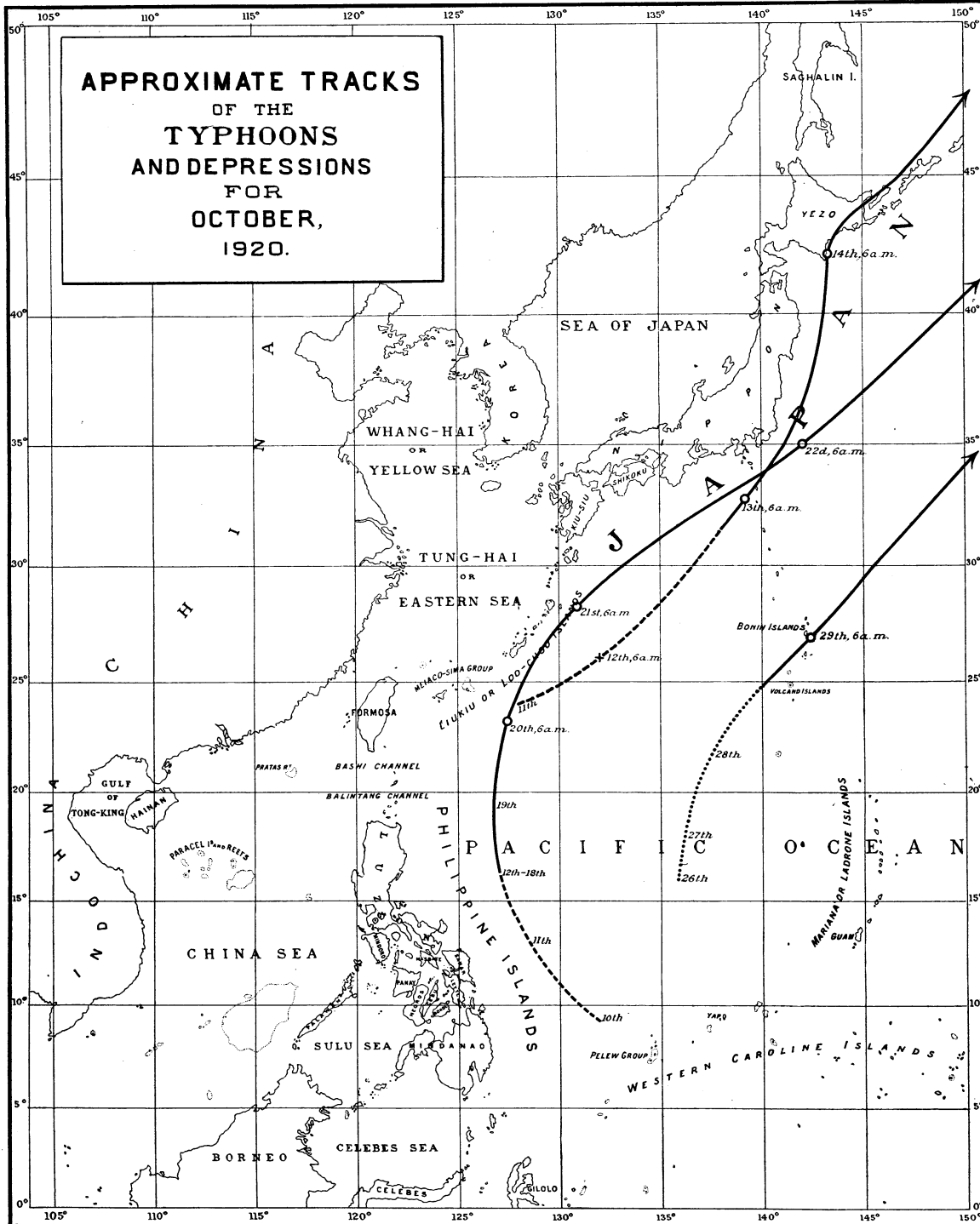
There were three typhoons in the Far East during this month, none of them having traversed the Philippines, and only one having influenced our weather. Their tracks can be seen in Plate XI.

Two Japan typhoons: October 10 to 22, and 11 to 14, 1920.—The first of these typhoons formed on the 10th of October over the Pacific about halfway between Yap and Mindanao in about 132° longitude E and 9° latitude N. It moved NNW until the 12th, and then it remained almost stationary from the 12th to the 18th about three hundred miles to the east of Luzon. On the 19th it could be noticed moving northward to the east of Balintang Channel; on the 20th it moved NNE to the east of Meiacosima and the Loochoos; and finally, on the 21st it took a northeasterly direction to the south of Japan.

The other Japan typhoon formed on the 11th, apparently as a depression of little importance, to the east of Meiacosima, but later it developed into a real typhoon. It moved northeastward from the 11th to the 12th, and on the 13th it was shown in our Weather Maps moving northward near the eastern coast of Japan.

The Bonins typhoon: October 26 to 29, 1920.—This typhoon was probably formed on the 26th near 136° longitude E and 16° latitude N. It moved northeastward and struck the Bonin Islands on the 29th, where the barometer at 6 a. m. was as low as 726.2 mm., gravity correction applied.

Plate XI.



NOTAS GENERALES DEL TIEMPO.

Presión y temperatura.—La presión atmosférica media de este mes en Filipinas es muy ligeramente mayor que la normal de octubre en Luzón, y muy ligeramente menor que la misma normal en Visayas y Mindanao. Las presiones más altas se observaron el día 24 o 25, al paso que las más bajas tuvieron lugar los días 14 y 15, cuando el Archipiélago estaba bajo la influencia de un tifón situado en el Pacífico al E de Luzón.

La temperatura media mensual es en casi todas nuestras estaciones, o idéntica a la normal de octubre, o muy ligeramente menor que dicha normal. Las temperaturas extremas del mes en Manila fueron 32.9° C., registrada el día 22, y 20.0° C., observada el día 29. Las temperaturas máxima y mínima absolutas de Baguio fueron 24.7° C., 11.8° C. en la cumbre del Mirador, y 26.3° C., 10.6° C. en la llanura cerca del *City Hall*.

Precipitación acuosa.—La cantidad total de lluvia es en la gran mayoría de nuestras estaciones menor que la normal de este mes, y menor también que la lluvia mensual de octubre de 1919. En los pluviómetros del Observatorio de Manila sólo se recogieron durante todo el mes 79.3 mm. de agua, cantidad que difiere de la normal en —111.8 mm., y de la lluvia mensual del año pasado en —278.0 mm. La lluvia total de Baguio, 291.9 mm., es también menor que la normal de este mes en 109.5 mm.

DEPRESIONES Y TIFONES.

Hubo tres tifones en el Extremo Oriente durante este mes, no habiendo ninguno de ellos atravesado las Filipinas, y habiendo uno solo influido en las condiciones del tiempo de estas islas. Sus trayectorias pueden verse en la Lámina XI.

Tifones de Japón: 10 al 22 y 11 al 14 de octubre de 1920.—El primero de estos tifones se formó el día 10 de octubre en el Pacífico a la mitad de camino entre Yap y Mindanao, en los alrededores de 132° longitud E y 9° latitud N. Se movió al NNW hasta el día 12, y luego permaneció casi estacionario desde el 12 hasta el 18 a unas 300 millas al E de Luzón. El día 19 se le podía distinguir moviéndose hacia el N por el E del Canal de Balintang; el día 20 se movió al NNE por el E de Meiacosima y de Loochoos; y finalmente el 21 se dirigió hacia el NE por el sur de Japón.

El otro tifón de Japón se formó el día 11, al parecer, como una depresión de poca importancia, al E de Meiacosima: pero más tarde se convirtió en un verdadero tifón. Se movió hacia el NE desde el día 11 hasta el 12, y el día 13 se le echaba de ver en nuestros mapas del tiempo moviéndose al N cerca de la costa oriental de Japón.

El tifón de Bonins: 26 al 29 de octubre de 1920.—Este tifón se formó probablemente el día 26 cerca de 136° longitud E y 16° latitud N. Se movió al NE y desfogó en las Islas Bonins el día 29, en que el barómetro llegó a bajar a las 6 a. m. a 726.2 mm. (aplicada la corrección por gravedad).

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.^a

[$\phi = 14^{\circ} 34' 41''$ N; $\lambda = 120^{\circ} 58' 33''$ E; barometer above sea, 14.2 meters; gravity correction not applied, -1.72 mm.]

Day.	Pressure (mean).	Air temperature. ^b			Underground temperature.				Relative humidity (mean).	Vapor pressure (mean).	Radiation.		Evaporation. ^b			
		Mean.	Maximum.	Minimum.	0.25 meter.		0.50 meter.				1.50 meters.	2.50 meters.	Minimum on grass.	Maximum in sun. Black bulb in vacuo. ^c	Free exposure (total).	Shelter (total).
					8 a.m.	2 p.m.	8 a.m.	2 p.m.			8 a.m.	8 a.m.				
					°C.		°C.				°C.	°C.				
1	758.79	26.8	31.9	23.8	29.3	30.5	29.8	30	29.5	29.5	85.3	22.2	21.7	53.2	2.6	1.7
2	60.06	26.2	31.9	23.7	29.2	30.5	30	30.9	29.6	29.4	87.6	22	22.3	55.2	1.4	1.2
3	59.93	26.7	32.6	23.2	28.9	30.7	29.7	30	29.4	29.3	81.4	20.9	21.8	57	3.2	2.2
4	58.50	27	32.3	23.4	29.2	30.8	30	30.2	29.5	29.3	81.3	21.3	22.1	53.7	3.9	2.5
5	58.21	26.9	32.7	23.3	29.6	31.1	30.2	30.5	29.6	29.5	88.4	21.7	22.6	55.8	3	2.2
6	59.04	25.4	30.8	23.1	29.4	30.6	30.2	30.2	29.5	29.2	86.7	20.8	22.3	54.5	1.5	1.2
7	59.33	25	29.8	23.3	29	29.3	30	29.7	29.5	29.2	91	21.3	22.6	52	.8	1.6
8	59.61	26.3	32.2	22.5	28.5	29.8	29.7	29.8	29.6	29.4	86.5	21.9	21.2	57.7	1.9	1.7
9	60.02	26.7	32.6	22.8	28.7	30.2	29.6	30	29.5	29.3	85.8	22.1	21.2	56.3	2.4	1.8
10	58.45	27	32.4	22.5	28.6	30.4	29.5	29.9	29.4	29.3	81.8	21.5	20.8	54.2	3.6	2.4
11	56.82	27.3	32.3	23.7	29.2	30.8	29.8	30.2	29.5	29.2	80.1	21.4	22.4	52.2	4	2.5
12	56	27.5	31.9	24.5	29.6	31	30.1	30.3	29.6	29.3	84.7	22.9	23.3	54	3.1	2.3
13	55.75	26.9	31.1	23.4	29.8	31	30.3	30.4	29.7	29.5	84.8	22.2	22.2	50	2.6	2
14	54.97	26.3	30.7	24.1	29.5	30.5	30.2	30.3	29.6	29.3	89.6	22.7	22.8	54.2	1.3	1
15	54.88	26.6	30.1	23.8	29.1	30.2	30	30.1	29.7	29.4	89	23	23.3	48.2	2.1	1.3
16	55.16	26	30.4	24	29.1	29.8	30	30	29.7	29.5	88.8	22.1	23.2	43	1.5	1.1
17	55.58	25.8	30.5	21.7	29	30.2	29.7	29.9	29.5	29.4	85.3	21	20.4	50.8	1.9	1.6
18	56.62	25.3	29.5	21.6	28.7	29.7	29.6	29.8	29.6	29.2	82.4	19.5	20.4	44	2.1	1.6
19	58.05	26	30.9	23.2	28.7	30	29.6	29.7	29.6	29.4	83.4	20.7	21.4	53	2.4	1.3
20	59.05	26.4	31.5	23.7	29.1	30.3	29.6	29.9	29.6	29.3	84.8	21.5	23	58.7	2.1	1.6
21	59.83	26.6	32.4	23.5	29.2	30.6	29.8	30	29.7	29.5	83	21.4	22.2	53.7	2.9	1.9
22	60.40	26.8	32.9	23.7	29.5	30.7	30	30.1	29.7	29.3	77.6	20	22.6	52.5	3.5	2.6
23	60.97	25.8	31.6	22.4	29.2	30.4	30	30.1	29.6	29.5	82.4	20.1	20.5	51.2	1.6	1.8
24	62.05	25.7	30.2	23.1	29	29.8	30	30	29.6	29.3	82.6	20.2	22	39.5	2.4	1.7
25	61.82	26.4	31.7	22.5	28.6	30.4	29.7	30	29.6	29.4	78.7	19.9	20.9	52.3	3.5	2.2
26	61.82	26.4	31.7	22.5	28.6	30.1	29.7	29.8	29.6	29.4	82.6	20	20.2	51.2	2.3	1.5
27	59.69	25.5	31.2	21.8	28.6	29.9	29.6	29.8	29.6	29.4	82.4	20.4	21.1	51.1	2.8	1.7
28	58.97	26	31	22.4	28.7	30	29.7	29.8	29.7	29.5	81.9	19.4	21.9	42.8	2.7	1.9
29	59.83	25.2	31.1	21.7	28.7	29.8	29.3	29.5	29.6	29.5	80	18.3	17.8	50.2	3.8	2.7
30	60.51	24.7	31	20	27.7	29.8	29.2	29.5	29.6	29.4	77.5	18.2	20.4	53.7	2.7	1.9
31	59.71	25	30.8	22.5	28.2	30	29.2	29.5	29.6	29.4	77.5	18.2	20.4	53.7	2.7	1.9
31	60.38	25	30.7	20.5	27.7	30	29	29.5	29.5	29.3	78.4	18.2	18.3	50.8	3.6	2.7
Mean	758.68	26.2	31.4	22.9	28.9	30.3	29.8	30	29.6	29.4	83.6	20.9	21.6	51.8	2.6	1.8
Total															79.2	56.4
Departure from normal	+0.08	-0.4	+0.3	-0.2							-0.4	-0.7			+4.3	

Day.	Wind.				Clouds.				Sunshine.	Rain, 24 hours beginning 6 a. m.		Miscellaneous.				
	Prevailing direction.	Total movement.	Maximum hourly velocity.	Direction at the time of the maximum velocity.	Amount (mean).	Form and direction.		Upper.		Lower.	On the tower.		In the park.			
						Amount.	Direction.									
1	NE quad.	106	13	SW	6.6	0-10	Ci.	E	Cu.	SW	4 00	0.2	☉ ☉ a. d. p.			
2	NE quad.	95	10.5	WSW	7.5		Ci.-S.		Cu.	SE, SSE	4 20	7	☉ ☉ ☉ p.			
3	NE	106	15.5	ESE	8.1		A.-Cu.	NE	Cu.	SSE	4 50		d. a.			
4	W	146.5	14.5	W	4.7		Ci.-s. NWbyN		Cu.	SSE	7 30	.3	☉ a. d. p.			
5	NE	135.5	17	WNW	5.8		Ci.		Cu.	N	6 15	1.6	☉ ☉ ☉ p.			
6	NE	105	12	W	8.6		Ci.-S.		Cu.	NNE	1 40	1.4	d. a. p. ☉ p.			
7	NNE	84.5	11	NNW	6.9		Ci.	E	Cu.	E by N	3 10	10.2	☉ a. ☉ ☉ p.			
8	NE quad.	110	13.5	ESE	5.2		Ci.		Cu.	E	5 25	1	☉ a. ☉ p.			
9	NW quad.	94	14	WNW	3.8		Ci., A.-Cu.		Cu.	NE	7 10	.6	☉ a. d. ☉ p.			
10	WSW	132	17	WNW	4.6		Ci.-S. S, SW		Cu.	E, NE	8 35		☉ p.			
11	W quad.	180	15	W	4.3		Ci.		Cu.		9 15	1	☉ ☉ ☉ p.			
12	W quad.	134	16	W	5.7		Ci.	SE	Cu.	N	5 50		☉ p.			
13	NE	110	11.5	SW	9.4		Ci.-S.		Cu.	NE	1 05	.2	☉ p.			
14	NE, SW	131	19	SW	9.6		Ci.-S.		Cu.-N.	SW	0 25	32.6	☉ d. a. ☉ p.			
15	SE	168	24	W	9.6		A.-Cu.	E	Cu.-N.	WSW	0 00	2.5	d. a. p. ☉ p.			
16	E	56.5	6.5	E	9.8		Ci.-S.		Cu.	E	0 10	11.1	☉ a.			
17	W quad.	166	15	NE	9.5		A.-cu. wquad		Cu.	WSW	2 45	5.4	☉ a. p.			
18	Variable	71.5	6.5	WSW	8.8		Ci.-S.		Cu.		0 00		☉ a. d. p.			
19	SE	115.5	16.5	S	7.9		A.-Cu.	ENE	Cu.	E	3 25	.3	☉ a. d. p.			
20	E quad.	81.5	8	SW	6.4		Ci.	NW	Cu.-N. S, SW		5 00	.2	d. p.			
21	E	114	13	W	5.8		Ci.	NNE	Cp.	E	6 45		☉ a. ☉ p.			
22	NE	144	13	NW	4.7		A.-cu.	E by N	Cu.	E	7 50		☉ p.			
23	NE quad.	120.5	15	NNE	5.7		Ci.		Cu.	E	6 30	3	3.8			
24	Variable	71	12	W	8.3		A.-Cu.		Cu.	E	1 05		☉ p.			
25	SE, W	117	13.5	W, WSW	3.3		Ci.		Cu.	E	9 05		☉ p.			
26	Variable	104.5	13.5	W	3.9		A.-Cu.		Cu.	E	7 05	1.3	1.5			
27	E quad.	113.5	13	SE	5.3		A.-Cu.	E	Cu.	E	6 30		☉ p.			
28	SE, ENE	114.5	11.5	SE	5.3		A.-Cu.	E	Cu.	ENE	4 00					
29	ESE, W	152	13	W	2.8		Ci.		Cu.	E	9 05					
30	E quad.	103	10	NE	5.8		A.-Cu.		Cu.	E	4 55		p. a. p.			
31	E	138	15	W	3.8		A.-Cu.	E	Cu.	ENE	8 05					
Mean		116.8	13.5		6.4						4 54					
Total		3,620.5									151 45	79.3	83.3			
Departure from normal		-1,702.5			-0.4						-11 53	-111.8				

^a All the mean values given in this table are deduced from hourly observations.
^b These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
^c Maximum of hourly observations taken from 6 a. m. to 6 p. m.

METEOROLOGICAL DATA FOR MIRADOR OBSERVATORY, BAGUIO.*

[$\phi=16^{\circ} 25' N$; $\lambda=120^{\circ} 35' E$; barometer above sea, 1,512.5 meters; gravity correction not applied, -1.65 mm.]

Day.	Pres- sure ^b (mean).	Air temperature at Mirador (on the top of the mountain).					Air temperature in the pla- teau near the City Hall.				Rela- tive humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation.	
		Mean.	Maxi- mum.	Hour.	Mini- mum.	Hour.	Maxi- mum.	Hour.	Mini- mum.	Hour.			Mini- mum on grass.	Maxi- mum in sun. Black bulb in va- cuo. ^c	Free ex- posure (to- tal).	Shel- ter (to- tal).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	°C.	°C.	mm.	mm.	
1	636.70	18.5	24	0.05p.	16.1	5.00a.	24.7	Noon	15.3	3.10a.	89.8	14.3	14	1.7	1.1	
2	37.70	18.2	23.8	11.55a.	15.9	12m.n.	24.7	0.45p.	15	5.10a.	85.5	13.2	13.9	1.9	1.2	
3	37.49	17.7	23.7	11.45a.	15.6	12m.n.	24.2	Noon	15.2	5.30a.	89.7	13.5	14.2	1.8	1.1	
4	36.26	17.3	23	1.00p.	15.6	2.45a.	22.7	0.25p.	15.2	12 m.n.	91.8	13.5	14.6	1.3	.9	
5	36	18	24.4	0.30p.	14.8	5.30a.	24	11.30a.	14.3	5.00a.	87.5	13.5	12.3	2	1.2	
6	36.56	17.4	22.8	11.00a.	15	3.05a.	23.2	11.00a.	14.7	4.30a.	90	13.3	14.2	1.1	.8	
7	36.96	18	23.4	10.20a.	15	11.55p.	24.4	11.35a.	14.5	5.40a.	90.5	13.8	14	2.7	1.3	
8	37.34	18.2	24.7	11.30a.	15	1.25a.	26.3	Noon	15.4	1.30a.	86	13.4	14.9	2.6	1.5	
9	38.05	18.3	23.8	11.50a.	15.2	5.30a.	24.5	9.50a.	13.5	5.30a.	88	13.6	12.2	1.9	1.2	
10	36.51	18.3	23.8	1.50p.	15.5	5.25a.	24.3	0.45p.	14.4	5.00a.	88.7	14.3	13.3	1.6	.8	
11	35.08	18.9	23.7	1.45p.	16.5	3.30a.	24.4	1.45p.	16.5	3.45a.	92	15	15.9	1.6	.7	
12	34.47	19.3	23.5	2.10p.	16.3	3.00a.	24.7	1.00p.	16.6	6.30a.	90.5	15.1	15.5	1.3	.6	
13	34.22	18.1	22.8	0.50p.	16.4	9.50p.	23.4	1.00p.	16.5	12 m.n.	94.2	14.6	15.8	.9	.5	
14	33.33	19	22.7	1.50p.	16.2	3.00a.	23.3	2.20p.	15.4	4.45a.	92	15	13.9	1.2	.7	
15	33.42	18	21.4	7.50a.	16.2	3.00a.	22.3	8.40a.	15.3	5.15a.	91.5	14.1	14.9	1.1	.7	
16	33.50	18.3	22.3	10.45a.	16	1.45a.	23	10.30a.	16.3	4.20a.	91.8	14.3	15	1.1	.6	
17	33.56	17.7	21.7	1.55p.	15.2	5.45a.	23	1.30p.	14.8	5.50a.	92.3	13.9	14	1.1	.7	
18	34.41	17.2	22.5	1.30p.	14.2	11.20p.	23.4	1.00p.	13.9	4.55a.	87.2	12.8	13.2	1.8	.9	
19	35.54	16.9	22.3	1.40a.	14	4.05a.	22.7	0.30p.	13.2	5.20a.	91	13.1	12.2	1.3	.7	
20	36.44	17.4	23.5	1.30p.	14.1	2.30a.	24.2	2.00p.	13.2	5.55a.	88.8	13.1	11.2	2.1	1.2	
21	37.39	18.3	23.7	1.15p.	14.5	5.10a.	25.5	10.45a.	14.5	5.30a.	90.5	14.1	13.5	1.8	1	
22	37.88	18.2	23.2	10.30a.	15	6.15a.	24.7	2.00p.	15	12 m.n.	85.3	13.3	14.1	2.9	1.5	
23	38.34	17.6	23.8	11.55a.	13.6	5.50a.	25.4	Noon	13.9	5.45a.	79.5	11.9	12.3	5.5	2.5	
24	39.06	18	23.5	1.45p.	14.3	3.30a.	24.3	1.20p.	14.6	4.00a.	78.3	12	13.5	4.6	2.4	
25	39.10	17.4	23.7	0.30p.	14.8	5.55a.	24.3	10.00a.	14.2	6.00a.	88.2	13.1	13.4	2.7	1.6	
26	37.38	17.9	23.6	11.15a.	15.3	2.20a.	24.7	Noon	14.5	1.40a.	87.7	13.3	14.3	1.6	1	
27	36.55	17.6	23.1	1.00p.	14.5	4.20a.	23.4	9.35a.	13.7	5.45a.	89.8	13.4	13.2	1.7	1.1	
28	37.04	16.7	22.8	0.50p.	12.8	5.55a.	22.8	1.20p.	11.1	5.00a.	90.2	12.7	10.2	2.2	1.4	
29	37.42	16.3	22.3	2.05p.	11.8	5.55a.	22.4	1.40p.	10.6	5.30a.	81.8	11.2	10	3	1.7	
30	36.48	15.9	21.5	11.25a.	12.1	5.20a.	23.2	0.10p.	11.2	6.00a.	82.3	11.2	9.8	3.4	1.8	
31	37.28	16.8	22.4	1.45p.	13.2	2.30a.	23.7	1.40p.	12.2	2.55a.	79.2	11.3	11.5	2.7	1.5	
Mean	636.37	17.8	23.1		14.9		23.9		14.3		88.1	13.4	13.4	2.1	1.2	
Total															64.1	35.9

Day.	Wind.				Amount (mean).	Clouds.		Sun- shine.	Rain, 24 hours begin- ning 6 a. m.	Miscellaneous.
	Prevailing direction. ^d	Total move- ment.	Maxi- mum hour- ly veloc- ity.	Direction at the time of the maximum velocity.		Form and direction.				
		Km.	Km.		Upper.	Lower.	h. m.	mm.		
1	E, SW	240.2	20.7	SW	9.6	A.-Cu. SSW	Cu.-N. WNW	2 00	5.8	☉☉ p.
2	W	234.6	24.4	W	7.3	A.-Cu.	Cu. SW	4 35	13.8	☉ p.
3	SW quad.	269.2	23.6	W	7.7	Ci. WNW	Cu.-N. WNW	4 40	82.7	☉☉ d ☉☉ p.
4	W	302.5	23.3	W	7.7	Ci.	Cu. WSW	0 10	6.4	☉☉ a. ☉☉ p.
5	NW, W	258.5	20.9	SW	4.7	Ci.	Cu.-N. WNW	5 20?	21.1	☉☉ a. d ☉☉ p.
6	N, W	224.2	19.3	W	7.9	A.-Cu.	Cu.-N. W	1 00	14.9	☉☉ p.
7	E	275.1	21.9	SE	6.6	Ci.	Cu.-N. SSE	2 00	8.3	☉☉ p.
8	E	401.4	30	E	6.7	Ci.	Cu.-N. ESE	3 55	31.7	☉☉ a. p. ☉☉ p.
9	E	301.8	22.5	E	5	Ci.	Cu.-N. ESE, E	5 45	2.8	☉☉ p.
10	SE, W	261.6	21.5	W	6.3	Ci.	Cu.-N. WNW	6 45	8.4	d ☉☉ a. p. ☉☉ p.
11	Variable	213.4	22.2	W	7.7	Ci.	Cu.-N. WNW	3 50	7.6	☉☉ p.
12	W quad.	248.3	18.8	W	7.6	Ci.	Cu.-N. WNW	3 50	25.6	☉☉ a. p. ☉☉ p.
13	W	205.9	15.6	W	8.9	Ci.-S.	Cu.-N. WNW	1 45		☉☉ a. p. ☉☉ p.
14	W	196.6	18.3	W	7.6	Ci.	Cu.-N. E, WNW	3 40	3	☉☉ d ☉☉ p.
15	Variable	239.5	18.5	SW	9.3	Ci.-S.	Cu.-N. W	1 45		d ☉☉ a. p. ☉☉ p.
16	W quad.	273.8	22.5	W	9	Ci.-S.	Cu.-N. W	1 20		☉☉ a. d ☉☉ p.
17	W quad.	172.4	17.2	SW	9	Ci.-S.	Cu.-N. WNW, W	1 40	.5	☉☉ a. d ☉☉ p.
18	W quad.	261	18.3	SW	8.1	A.-Cu.	Cu.-N. W	4 30	1.3	d ☉☉ a. ☉☉ p.
19	W quad.	219.9	19.1	W	6.7	Ci.	Cu. W	4 05	13.5	☉☉ p.
20	E	259	20.9	W	4.4	Ci.	Cu. W	7 40		☉☉ a. p.
21	E, W	217.2	17.7	W	5.4	Ci.	Cu.-N. SE	6 20	2.5	☉☉ a. p. ☉☉ p.
22	E	302.2	19.6	E	6	Ci.	Cu.-N. SE	5 35	15	d ☉☉ a. ☉☉ p.
23	E	454	30.6	E	4.1	Ci.	Cu.-N. SSE, SE	5 50		d ☉☉ p.
24	E	424.7	27.6	E	7	A.-Cu.	Cu.-N. SE	6 05		☉☉ p.
25	E	314.5	20.9	W	7.1	Ci.	Cu. E	5 15	6.1	☉☉ a. p. ☉☉ p.
26	E quad.	177.2	15.5	SW	7.9	A.-S.	Cu.-N. ESE	4 00?	20.1	☉☉ p.
27	W quad.	*243.9	20.6?	W	6.1	Ci., Ci.-S.	Cu.-N. W	5 50	.8	d ☉☉ a. ☉☉ p.
28	SW quad.	f 136			4.6	Ci.	Cu. SW	8 25		☉☉ a. ☉☉ p.
29	E, W	292.3			3.7	Ci.	Cu. NE	6 35		☉☉ a. ☉☉ p.
30	E, W	316.7		W	3.7	Ci.-S.	Cu.-N. WNW	6 15		☉☉ a. ☉☉ p.
31	E	318.7		E	4.1	Ci.	Cu.-N. W	6 50		☉☉ a. ☉☉ p.
Mean		267.9	21.2		6.7			4 26		
Total		8,306.3						137 15	291.9	

* All the mean values given in this table are deduced from six daily observations taken at 2, 6, 10 a. m. and 2, 6, 10 p. m.
 b The barometric readings of this station are not reduced to sea level.
 c Maximum of hourly observations taken from 6 a. m. to 6 p. m.
 d This element is based on hourly observations taken from a quadruple register, which gives only eight possible directions of the wind.
 e 3 hours missing.
 f 6 hours missing.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, OCTOBER, 1920.

Station.	Day of month.																
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
Lapac Agricultural School, Siasi, Sulu †		6.4	15.2	16.3						24.4	13	6.9			8.1	20.1	
Glan, Cotabato †						15.2			15.2			39.6	21.5		33	24.3	
Jolo, Sulu			22.6	.8	1.3		7.4	0.3	9.7	3.6	9	9	.3	1.8	21.6	4.1	
Lais, Malita, Davao		20.8							11.2	38.1	3.3			.5		2.8	
Lebak, Cotabato		3.6		13.2	7.1	17.3				5.6	21.6	105.7	90.4	4.6	26.9	64.5	
Lamitan, Isabela, Zamboanga					4.6		55.6	3		3.6							
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †			50	9.1							20.3	56.4			34.8		
Basilan Plantation Office, Isabela, Zamboanga †			31.2	3.8	.5	19.3	1.3	2.5		8.6	5.4	49.8	9.4		23.6	.5	
La Union, Sigaboy, Davao †				8.4	17.8		7.9			20.6							
Paranglalap, Isabela, Zamboanga †			8.9	25.4	1	47		5.1		5.1	5.1	62	61		30.2		
Latuan, Isabela, Zamboanga †			4.6	2.8		42.1			7.9	5.6	1	56.1	27.4	14.2			
Buluang, Cotabato †	4.6	.5	25.7		6.6	84.8	2.3	2.8		8.7	63	20.9	37.9			5.8	
Malamaui, Isabela, Zamboanga			2	9.1		1				13.7	7.4	6.6			1.5	5.3	
Zamboanga, Zamboanga															*94	1.6	
Cagayan de Sulu, Sulu †				15.2	16.3	11.4	50.8	39.4									
Kidapawan, Cotabato †		6.4	1.3		.8	5.6				55.8	36.8	54.4	10.9		8.1	1.3	
Davao, Davao			19.3	25.1			3	13.5	17	21.1	4.6	6.6	16.2				
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †		7.1		15.7		6.6		13.5				81.5	23.1	2.8			
Pikit, Cotabato		7.1		15.5		44.4	8.6	9.4	.8	5.6	.5	57.1	30.2	5.1	1.5	.8	
Cotabato Seed Station, Pikit, Cotabato †		1.8	.8	30.5	27.2	8.6	7.1	6.1	1.3	.8	62	30	4.6			5.1	
Awang, Cotabato †				12.4		23.6	7.4			10.4	2.5	17.8	4.6	113.3	35.3	38.1	
Sirih, Guianga, Davao †			3		11.4		3.8	26.6		38.9	34.8	19		25.4		2.5	
Kabakan, Cotabato †						5.1	7.6	2.5				66	30.5	7.6		7.6	
Bual, Dulauan, Cotabato	5.1	7.4	.8	19.3		34					2.3	76.4	40.4		7.4	11.7	
Cotabato, Cotabato	.3	.1		17.8		54.6	1.3	27.4	.5	8.1	18	76.2	47.5	48	10.9	5.1	
Kahasaran, Buldun, Cotabato †	7.6	10.2	20.8			18.3	25.9	5.6	11.2	14.7	47.7	83.8	107.9	74.7	39.7	23.1	
Naganaga, Margosatubig, Zamboanga			11.2			33				6.4	23.6	207.8	28.4		7.6		
Malabang, Lanao	9.9	10.9					19.3	20.3	25.1	5.1	38.1	61	60.7	9.7	26.2	35.6	
Compostela, Monkayo, Davao †		1.8				.3				2	.8	2		.3			
Lumbatan, Lanao †	7.6	10.2	53.3			25.4	12.7	2.5	10.2	7.6	76.2	38.1	50.8	50.8	78.7	12.7	
Cateel, Davao	12.2		8.6	2.5				4.6	19	45.7	10.7	3					
Ganasi, Lanao	1.5	5.1	18.3	33.5	29.7	32.6	44.2	17.3	25.4	3	6.4	19.8	32	13.9	43.2	18	
Camp Kalao, Monkayo, Davao			4.6			.5	4.3	17	1.3	14.5	12.4	20.8					
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon			9.1	1	28.7	8.1	35.6	29.5	50.5	47	4.8	84.6	3.8				
Camp Keithley, Dansalan, Lanao	.5	1	18.1	13.7	20.6	11.4	53.1	5.3	5.6	.5	21.3	35.3	4.6	1.8	1	2	
Veruela, Agusan	3.8	1				34		14.5	5.6	31	42.4	3.3					
Sindangan, Zamboanga †	.5				7.4	50.8	8.9		9.4	17.8	56.4	98.3	13.2	12.7		21.4	
Sumilau, Bukidnon	13.2			3		5.3	5.3	19.8	5.1	2	20.6	9.1				3.3	
Diklom, Tangkulan, Maluko, Bukidnon †			1.3			5.1			9.4	7.6	3.6	6.4			3		
Cagayan, Misamis			6.4		23.4	11.4	48.1	27.4	20.3	25.6	27.2	6.4	6.1		8.6		
Talacogon, Agusan				2.3		12.4	.5	11.2	13		2.8						
Butuan, Agusan	7.9	8.2					3.6	3	11.7	42.2	.5	1.5	1.5	.5			
Mambajao, Misamis	20.3					.8	5.3	17	9.1	12.2		6.6	6.6	3		17.8	
Dumaguete, Oriental Negros	5.1	.5				.1	.5	21.1	8.4		2.8	10.1	84.8	22.4	1.3	1.3	
Meeth, Yap, Western Carolines	.5					1.8	.8	1.5	2.3		35.2		12.3				
Hacienda San Jose, Tanjay, Oriental Negros †		5.3	.3			9.1				16	4.6	9.2	5.3	5.1	28.4	39.6	7.9
Hacienda Palanas, Bais, Oriental Negros †		.5		.5	11.4		17		17.3	7.9	1.3	18.8	78	72.4	19.6	18.6	
Hacienda Tamugon, Bais, Oriental Negros †	12.7			14	12.7	15.2			10.2		58.4	54.1	144.8	81.2	50.8	22.9	
Tagbilaran, Bohol	2	2.5	1.5		4.3			.3		20.4	2		8	23	9.5	3.2	5.1
Iwahig Penal Colony, Puerto Princesa, Palawan				4.6	1	13.5						1.3	.8	.5	10.4	31.5	12.7
Dalaguete, Cebu		5.8					8.4	1.8	21.3	2.3			31.7	11.7	.5	4.1	
Surigao, Surigao	.6	1.3			.5	.5	4.1	5.3	3.3	.3	1	7.6	4.3	8.9	8.4	37.1	
Central Palma, Ilog, Occidental Negros			2.6								3.1	88.9	26.9	83.8	38.1	17	63.5
Hacienda Naval, Himamaylan, Occidental Negros				34	57.2	1.3	2		15.2	1.3	14		104.1	62.3	17.8	37.4	
Biaong Cui's Farm, Barili, Cebu Masin, Leyte						18.5		22.9		10.9	26.2	53.3	26.4	13.7	1.3	8.9	
Binalbagan Estate, Binalbagan, Occidental Negros †		7.6				57.4	.3	4.1	1.3	1.5	1.5	5.1	2.3	125.5	98	16	66.6
Isabela, Occidental Negros	.3	.3	2.5	3.3		14.2	17.6	20.8	3.9	61.5	2.6	15.2	1.3	126.9	86.3	19.6	80.5
Hacienda Tanolo, Hinigaran, Occidental Negros		.5		14	55.1	.5	5.6	1.3	5.8	9.4	6.4			137.4	99.6	24.9	23.6
Cebu, Cebu	7.6	8.9	2.5		1.3	1.3	1.5	.3	6.7	7.9	6.1	6.9	7.6	6.9	2.3	1	
La Castellana, Occidental Negros		2	.5		3.8	3.6	6.1	7.4	28	21.3	30.2	60.2	124.5	122.2	37.3	65.3	
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †	.3		4.1	4.1	27.7	4.6	22.1	4.8	18	1.3	19.6	5.1	31.5	33.3	6.6	15.2	
Central Azucarera de La Carlota, La Carlota, Occidental Negros	10.7	.3			3.3	.5	4.6	5.1	3.6	17.8	70.6	19.8	102.6	165.3	39.4	33	

† Voluntary or coöperative station.

* Amount of rainfall from 1 to 14.

Daily rainfall at the stations of the Weather Bureau, October, 1920—Continued.

Station.	Day of month.														Total.	
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.		31.
Lapac Agricultural School, Siasi, Sulu†			13		12.7	1.3	6.1									143.5
Glan, Cotabato†				15.7	12.4				50.8							227.7
Jolo, Sulu		3.5	5.5	10.4	33.3	3	2.5	57.5	4.8	3.9						213.2
Lais, Malita, Davao			5.1			6.6		47.2					2.3	10.4		148.3
Lebak, Cotabato	28.5			16.3	30		6.6	3.6	54.4	2						501.9
Lamitan, Isabela, Zamboanga	45.7			53.3	30.5						3.3	1.8				267.2
Basilan Plantation, Kabunbatan, Isabela, Zamboanga†				123.2	12.4					5.1	8.6					319.9
Basilan Plantation Office, Isabela, Zamboanga†		.5		51.8	11.7				3.8	10.7	.5					234.9
La Union, Sigaboy, Davao†				8.9		5.1			25.9	11.4		6.6	7.4	8.4		128.4
Paranglalap, Isabela, Zamboanga†	3.8								8.9		7.6					271.1
Latuan, Isabela, Zamboanga†				5.1	9.1				4.3							182.2
Buluang, Cotabato†		3	21.1	2.3			1.5	11.4	57.9			.8	.3			359.2
Malamaui, Isabela, Zamboanga		9.9	2.5	3.6	11.2			1.3	7.9	4.1						208.7
Zamboanga, Zamboanga		4.6			35				.3	2.8			26.4			164.7
Cagayan de Sulu, Sulu†	13	17.8	2.5	7.1	2.5	14.7	17.8							23.6		232.1
Kidapawan, Cotabato†	7.6			16.5	8.6				36.8			20.3				271.2
Davao, Davao			13.2	18.8	7.4				11.7	4.3			4.1	5.8	3	194.7
Piang Agricultural School, Kudarangan, Duluang, Cotabato†	3			38.6					24.6							218.5
Pikit, Cotabato	4.1			30.5	4.6				15	48.5			1.8			291.1
Cotabato Seed Station, Pikit, Cotabato†	12.7			27.2	4.3			38.4	71.9			2				342.4
Awang, Cotabato†	49.3	60.8	2.8	.8		17.8	2		9.7	13.7						412.8
Sirib, Guianga, Davao†	5.1		50.8	48.8	54.8				3				49.5			377.4
Kabakan, Cotabato†	5.1	12.7		15.2	15.2			5.1	2.5	15.2						197.9
Bual, Duluang, Cotabato	3.6	.5		28.4	56.4				13.5	13.5						820.7
Cotabato, Cotabato	.5	.8		11.4	10.4			.5	.6	.8		2.8	1			844.6
Kabasaran, Buldun, Cotabato†	1.3			6.4	36.9			5.8	*	*	*	*	*	*	*	541.6
Naganaga, Margosatubig, Zamboanga		13.5		11.7	37.1	3	14.2		2.5							400
Malabang, Lanao	12.7	4.6		16.8	42.2		34		5.6	10.9						448.7
Compostela, Monkayo, Davao†			2	2.3				.3	1.8	5					.3	14.4
Lumbatan, Lanao†	2.5	5.1		18.3	16.5			15.2	1.8	12.9		12.7	7.6	10.2	12.7	550.5
Cateel, Davao			17.5	.8	50	2.8	10.9	42.7	1.8	2.3	.5	2.5	.8			238.9
Ganasi, Lanao	6.1			20.3	28.7		11.9		29.5						2.3	414
Camp Kalao, Monkayo, Davao			35.6	4.8				47.3			7.4	.5	4.9			204.6
Mailag Agricultural School, Mailag, Malaybalay, Bukidnon			4.8	26.4	5.6			10.2	7.1		1.5		5.6			874.1
Camp Keithley, Dansalan, Lanao				7.6	20.6			3	16.5	5.6	5.8	10.2	1.5			253.7
Veruela, Agusan			1.3	6.4	19.8			2	30				4.6			201
Sindangan, Zamboanga†	.8	1.3		15.2	.8	2.3		48.5								365.7
Sumilau, Bukidnon		1.3	1.3	5.8	5.1		6.9		27.2	12.4			2.5			150
Diklom, Tangkulan, Maluko, Bukidnon†			1	4.6	3.8					3	4.6					53.4
Cagayan, Misamis	9.1		2	5.6	9		3		1	27.9	39.1	3.8	24.6			259.9
Talacogon, Agusan				3.8	50.3		6.4				1.8					185.2
Butuan, Agusan	.3	3.6		1.5	28.4	1	8.9	1.8	17		37.6	2.5			.8	181.8
Mambajao, Misamis	6.6			8.9			1.3	.8	30	2		78.2	.8			230.9
Dumaguete, Oriental Negros	3.5	.3	3.3	.3	5.1				9.7			5.1				186.6
Meeth, Yap, Western Carolines	1.8	1.3	14.5	1.1	1			25.4	47	24.9	11.5			9.6	69.5	262
Hacienda San Jose, Tanjay, Oriental Negros†			19	5.3	7.4		11.7	8.1		6.6	6.9	6.4				202.2
Hacienda Palanas, Bais, Oriental Negros†	36.3	8.9		53.6	3.3	11.7	2		3.3		2.5	9.1	1.8			395.8
Hacienda Tamugon, Bais, Oriental Negros†	17.8	16.5		10.2		45.7	7.6		17.8							592.6
Tagbilaran, Bohol	5.6			12.4	15.2	17.3	.8	7.3	12	10.2	6.9	3.3			3.6	169.2
Iwahig Penal Colony, Puerto Princesa, Palawan		8.4	9.9	30.4			13.2	24.3	.8	7.6	6.6		10.2	13	2	202.7
Dalaguete, Cebu	.3		1.3	6.1	21.3	1.5			13.2	16.3			.5		1.3	149.4
Surigao, Surigao		1		6.1	20.1	16	.3	8.5	35.1	.5		.8			1.1	173.2
Central Palma, Ilog, Occidental Negros	28				50.8				1.5		1.3					405.5
Hacienda Naval, Himamaylan, Occidental Negros	30.5	18.3			8.9				4.6							408.9
Biaong Cui's Farm, Barili, Cebu	8.4	71.9		38.6												245.4
Maasin, Leyte	21.8	19			7.1	42.4					8.6					211.1
Binalbagan Estate, Binalbagan, Occidental Negros†	49.8	17.3			12.2			1.5	3.5							471.5
Isabela, Occidental Negros	28.7	12.2	18.6		5.8	.5			4.1			9.4				536.1
Hacienda Tanolo, Hinigaran, Occidental Negros	63.5	16.5			7.6	2										473.7
Cebu, Cebu	4.1	1	1	.8	35.6	.8			1.3		3.3	3.8			10.7	131.2
La Castellana, Occidental Negros	51.5	16.2			3.1	5.1				.5		.8				589.6
Hacienda Vallehermoso, Vallehermoso, Oriental Negros†	11.4	9.1	8.6			9.4					8.4	6.4				251.6
Central Azucarera de La Carlota, La Carlota, Occidental Negros	105.9	13.9			2.5	5.1		30.7				.5			2	637.5

† Voluntary or cooperative station. * No observation. ^a Rainfall corresponding to 28 and 29. ^b 23 days of observation.

Daily rainfall at the stations of the Weather Bureau, October, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Hacienda Canlaon, La Castellana, Occidental Negros.....	7.1		2.5	1	3.3	1.3	27.7	15	50.8	39.6	64.3	20.6	76.5	93.2	46.5	30
La Carlota Experimental Station, La Carlota, Occidental Negros†	4.6					51.3	17.8	6.1	20.5	8.1	83.8	27.7	68.3	172.5	43.9	29.4
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	4.3	2.3		43.2	5.1	.5	.5	15.5	3.3	1.8	166.1	1.3	84.8	158.5	21.6	14.4
Valladolid, Occidental Negros							1.3	1.3	1.8	3.6	15		80.3	115.3	4.9	5.4
Central San Carlos, San Carlos, Occidental Negros†		13.2	2.3		2	.3	5.1	26.9	6.9	4.3	63.8		18.5	46.7	1.3	
Hacienda Refugio, San Carlos, Occidental Negros†		21.8	2.5	24.4				10.4	22.6	4.8	6.4	5.6	16	37.6	1.3	7.6
Murcia, Occidental Negros	32				.8	2.8	13	7.2	7.4	13.7	15.2	2.5	59.7	35.6	3	6.8
Bacolod, Occidental Negros	26.9				16.3		.5	16.5	14	12.7	18.3		35.3	41.4	1.1	13.7
Oton, Iloilo				1.3	1		3.3		2	7.9	3		58.4	37	6.1	3.1
Iloilo, Iloilo				12.9	.3		7.3	6.4	1.8	.3	3.8		63.7	37.9	8	1.4
Lapuslapus, Iloilo, Iloilo†				24.4	1		1.3	1.3					38.1	33		1.3
San Jose de Buenavista, Antique	14.2	1.5		4.1	10.7	17.8	14	4.1	2.3	5.1	14.9		44.9	49.1	51.8	10.9
Tuburan, Cebu	2.3	1.8		3.6	28.2	.8	.8	3.8	6.9	17.3	43.9		8.1	15.3		0.5
Silay, Occidental Negros													53.3	34.1	0.3	1
Hawaiian Philippine Co., Malibug, Silay, Occidental Negros†	9.4			15.5	51.3	1.5	2.3	1	8.6	4.1	22.4		19.3	42.7		1
Cuyo, Palawan			14.5	12.7		41.4	5.3		3.5		14.7	3.8	9.4	10.9	17.5	5.1
Lucena, Santa Barbara, Iloilo†				2.5	.8					.8	2.3	.5	3.6	63.5		
Barotac Nuevo, Iloilo				2.8	5.8	2.5	4.1	3.6	7.6	1	29.7		11.2	18.8	2.3	3.8
Hacienda Ilaya, Victorias, Occidental Negros	2.8				12.2	34.3	12.7	5.1	25.4	35.3			11.4	37.6		
Hacienda Bilbao, Manapla, Occidental Negros			11.4	7.1		16.8	10.2	2.5		4.3	3.8		10.2	43.2		
Janiuay, Iloilo	*	*		*	49.5	4.6	*	*	*	9.2	2	10.4	26.9	19.1	10.7	9.2
Cadiz, Occidental Negros		16.5	10.2		.5	2.3		17.5	12.7	38.6			33.1	3.3		16.5
Ormoc, Leyte					.8	79	64.3	8.4	13.8				8	5		5.3
Guiuan, Samar	7.1	6.4	.5	8.1	8	21.3	2.3			6.6	4.6		2.3	7.6	.5	2.5
Bogo, Cebu	2.8			29.8	25.4				3.8		12.7	19.3	46.8	62.7	95.2	53.3
Duenas, Iloilo†		27.9			26.9	20.8		9.9	11.4	4.6	2	25.1		7.6	1.3	5.3
Bitaoagan, Passi, Iloilo†			10.7		1.8	20.3	2.3		29.5	9.9		15	8.9	5.2	.8	.8
Tacloban, Leyte	7.2	13	17		50.8			35.1	34.3	5.6						
Dumarao, Capiz†			17.5										18.5	4.1	3	5.1
Dao, Capiz†			51.3		1.5	13.2	20.3	9.1	5.8				16.3	5.4	.3	1.8
Capiz, Capiz	1	6.9	12.7	.3	4.8	6.9	48.3	12.7	65.3	40.1	3.9		7.9	21.8	5.8	3.1
Borongan, Samar		11.2	12.7	1.8	8.1	36.6	29.3	16.5	13.7	5.5			9.1	21.8	23.4	29.2
Catbalogan, Samar		7.7	.5		2.3	10.9	4.8	9.4	11.7	10.4	5.3	9.1	21.8	23.4	29.2	29.2
Calbayog, Samar	16.5	7.9	.3	.5	3.3	31.8	1.8	2	8.4	10.4	.3	5.9	25	8.4	20.3	19.6
San Jose Estate, Robles Camp D-17, San Jose, Mindoro†		14.7			9.4		3.8					43.4	5.3	20.8	18.3	34.3
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro†				13.7		3.8	52.1		21.1			38.6		27.4	66.5	16.8
San Jose Estate, San Agustin, San Jose, Mindoro†		5.1								3.3			18.3	101.9	15.2	11.5
San Jose Estate, San Jose, Mindoro†	26.7	3.3	1.5		8.4	1.5	19.6	.3		28.2	26.9	.3	84.6	63.3	25.4	2.6
Masbate, Sorsogon					10.7					6.4	5.6	.5	19	17.8	30.2	3.1
San Jose Estate, Tunnel D-12, San Jose, Mindoro†		30.5	22.9	7.6	116.8	12.4	7.4			4.1	14.2		16	5.1	7.6	3.6
Romblon, Romblon			7.9		5.6	9.1	9.3	1.1	12.4	4.9	11.7		.8	17		7.2
Batag Lighthouse, Laoang, Samar		20.9	58.9	19.6	8.6	1.3	38.1		6.4	6.4	17.8		60.1	71.9	78.7	60.2
Irosin, Sorsogon	.5	1.5		3	1.8	1.8	4.3	4	31.7	3			4.6	41.9	33.7	62.3
Sorsogon, Sorsogon		5.1	19.5		20.4	16.3	7.3	2.6	8.6	6.1		1.8	60.7	60.9	51	8.7
Legaspi, Albay, Albay				1.4	37.4	13.2	.3	1.3	6.1		.5		65.8	100.1	36.3	10.5
Guinobatan, Albay		6.9	51.1	15.4	6.9	1.5			6.4		.5		44.2	133.4	46.8	20
Polangui, Albay	1	51.1	.5	3.6	3.8	7.4							51.8	137.1	31.5	33
Tabaco, Albay	.3	38.8	36.1	2.5	55.1	8.4	9.9	2.1	3.3	6.1			46.5	69.8	59.2	8.9
Sumay, Guam, Ladrone Islands		9.4	4.6		.3	29.2	7.7	18	26.9	7.9	10.2	23.2	4.9	1.3	5.5	9.7
Iriga, Camarines Sur		26.4	26.2	5.6	4.8	.3	1		.5	.5			59.4	81.6	49	27.2
Calapan, Mindoro		.5			10.2	5.6	24.9			3.6						
Virac, Albay		1	8.1		.8	5.8	21.6	5.1	12	5.4	1.3	2	153.5	114.8	235.9	30.2
Naga, Camarines Sur	26.9	13.7	21.3	3.8		35.1	1.3	7.9		.5	1.8		51.8	80	47.7	39.1
Tigaon, Camarines Sur	.3	24.9	1.5	2.8	18.3	2.5	1.3	3.8	.8	.8		.5	52	93.2	58.6	29
Libmanan, Camarines Sur	*	*	*	*	.3	5.8	.3		2.3	7.1			55.1	32.5	56.4	6.1
Batangas, Batangas		2.8	1.8		7.4	31.5	10.7		5.8	5.1	2		3.3			
Calatagan, Batangas		1.5	1	1	3.6	5.9	3			.8	16.8		1.5	.5	18.1	12.4
Balayon, Batangas		3.8	4.6	4.1		4.8	9.1			4.3	13		3.8		25.4	29.2
Lipa, Batangas			2.5	1.3	5.8	13.7					6.4			4.1		.5
Lucena, Tayabas		3.6		3.6	22.4		30.5	2	.3		.8			19.6	1.5	.8
Atimonan, Tayabas	7.6	5.3		3.8	1.8	.8	12.7	.8	7.6	22.4	5.3		1.3	39.7	1	13.4
Lian, Batangas				4.3			41.1								162.8	
Nasugbu, Batangas	1	49.5			10.2	25.9	2.5		45.5	6.6						
Ambulong, Tanauan, Batangas		1.5	1.5	10.2	39.1	9.9	17			10.1			1.5	13	15.8	.3
Daet, Camarines Norte		17.8	5.1	.5	5.7	4.6	10	1	12.2	15		.5	75.6	112.3	115.5	25.5
Mendez Nuñez, Cavite	12	3.8	6.1	26	1		11.5						17.3	7.9	1	28.7
Alfonso, Cavite	11.2	5.3	16.3	11.4			4.3	9.7	3.3				1.3	3.8	2.8	1.5
Indang, Cavite	13.2	37.3	68.8				6.9	5.1	.5		5.6					38.4
Canluban, Calamba, Laguna	8.1						21.6						11.4	9.1	35	18
Silang, Cavite	2.5	6.1				5.6		7.4	6.4				5.8		3	2.8

† Voluntary or cooperative station.

* No observation.

Daily rainfall at the stations of the Weather Bureau, October, 1920—Continued.

Station.	Day of month.															Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
Hacienda Canlaon, La Castellana, Occidental Negros	62.2	20.4			36.3	3.6									0.3	602.2
La Carlota Experimental Station, La Carlota, Occidental Negros †	96	6.9				5.1		20.8				0.5				663.3
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	62.2	19			.3	2.5		3.3							5.1	560.7
Valladolid, Occidental Negros	94.8	3.6				1.3		6.4				.3	0.5			390.7
Central San Carlos, San Carlos, Occidental Negros †	26.7	12.4	3.3		7.6	14		15.7	8.4		2.8			11.7		293.9
Hacienda Refugio, San Carlos, Occidental Negros †	17.8	26.9	1.3		6.4	19		39.4	7.6	34.8	8.1			5.6		327.9
Murcia, Occidental Negros	39.1	24.8			4.8	9.7									11.2	278.1
Bacolod, Occidental Negros	30.8	23.6			1.8	5.1										269.2
Oton, Iloilo	9.7	28.7			4.3						3	3.8				171.3
Iloilo, Iloilo	7.7	20.3	.3		6.6				3		5.1	18.3				203.7
Lapuslapus, Iloilo, Iloilo †		27.9			12.7						1.5	3.8				146.3
San Jose de Buenavista, Antique	17.8	4.1		1.3				2		1.3						260.1
Tuburan, Cebu	3.6	38.6		4.8	8.6	.8		.8			12.2					179.8
Silay, Occidental Negros	14.5	18.3			6.1	17.8		6.1		0.8	1.3	3.8				275.7
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros †	9.9	16.6		.3	16.3	13.5	1.8	7.6		1	2.8	1.8	.3		10.7	261.7
Cuyo, Palawan	63.5	39.6	44.4	11.4	19.6						10.2					317.3
Lucena, Santa Barbara, Iloilo †					61											145.2
Barotac Nuevo, Iloilo		5.1									5.1	53.3				156.7
Hacienda Ilaya, Victorias, Occidental Negros	10.9	43.4			12.4	14.7	6.4				6.4	6.1			27.9	305
Hacienda Bilbao, Manapla, Occidental Negros	19	14	10.2	5.1	2.5	4.3	2.3	35.6		27.4	4.8				22.9	257.6
Janiuay, Iloilo	3.5	11	7.6	3.6	40.6	.5					58.4					220.5
Cadiz, Occidental Negros	7.4	33.3		8.9		25.4		6.6	2							252.3
Ormoc, Leyte	20.3	22.1			16.5	23.1		1.3	4.6	26.7	2.3	2			9.4	261.3
Guiuan, Samar			33.3	.5	22.6	42.6		9.1	1.5						19.6	325.2
Bogo, Cebu	84.6	25.1		3.8	6.4	1.5	.5		.5		.3	.5				216
Dueñas, Iloilo †	53.3	50.8									12.7					472.5
Bitaoagan, Passi, Iloilo †	7.1	50.8	11.7	15.5	3.6			3.8			15.7	5.6				239.4
Tacloban, Leyte	5.3	8			30.5	36		2.3	3	4.3		4			2.8	227.9
Dumarao, Capiz †	51.6		18.2										18			231.1
Dao, Capiz †		30.5	7.6		3.8		9.1	1.3			16.5	8.9				209.6
Capiz, Capiz	.6	8.1	15.8		1.3			14.7	15.2	3.8	11.2	4.3			15.2	316.9
Borongon, Samar	1.5	2.8	3.8	2.8	46	62.8	2.8	5.3	7.6		21.4	1.5		1	3	339.6
Catbalogan, Samar	3.8		26.7		18.3	5.1	4.9		5.6	24.3	6.6	7.9			5.6	284.3
Calbayog, Samar	.3	52.7			2.3	20.1	8.1	16.8		10.6	7.1					280.4
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †		30.2	3.6			7.4									1.5	197
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †		31.2	11.4		14.2	.8					21.1					318.7
San Jose Estate, San Agustin, San Jose, Mindoro †	12.2	20.3			5.1											192.9
San Jose Estate, San Jose, Mindoro †	1.3	33	9.6		2	.3		.5			14.3					353.6
Masbate, Sorsogon	1.8	6.1		6.1		.5		.5								108.3
San Jose Estate, Tunnel D-12, San Jose, Mindoro †	12.7	45.7	5.8		10.9	10.2		12.7	5.1		15.2					366.5
Romblon, Romblon	3.3	14	8.4	.5	17.5	4.3	1	1.6	7.8	4.5	.5					150.4
Batag Lighthouse, Laoang, Samar		18	8.4	1.8		34.8	10.4	1.8	.8		13		.8			551.1
Irosin, Sorsogon	4.8	25.9	.5	14.3		11.9	12.7	6.9	.5	3	.5			.3	.3	283.1
Sorsogon, Sorsogon		16.3		1.8		7.6	22.4	7.9	1.8	19.3	1.8					347.9
Legaspi, Albay, Albay		6.1		6.6	.3		28.9	8.1	1	3.3					3	330.2
Guinobatan, Albay	.8	8.6	.5	2.3		.8	.5	1	2.5	.5					.5	351.9
Polangui, Albay		9.9	2		7.6		1.3			1.3						344.7
Tabaco, Albay		9.1	1.8	59.7	7.9	.8	8.1	1		30.7	7.1		.8		11.2	485.2
Sumay, Guam, Ladrone Islands	44	10.4	5.6	100.3	2.8	4.3	.8	23.9	53	3.6	5.1		13.7	1.8	5.3	438.4
Iriga, Camarines Sur		13.7	18.5	11.2							5.1				5.3	336.3
Calapan, Mindoro	1	4.8	7.6	1.3	3.3	.6	55.7	4.3	.5	8.6	24.1	1.3				157.9
Virac, Albay				4.1	16.5	5.3	5.6	16.3	.3	29.2	17.7				7.4	699.9
Naga, Camarines Sur	.3	4.8	39.7	1.8			2.5								15.2	395.2
Tigson, Camarines Sur	.3	4.3	19.3	19	2	6.4	7.4	23.6	.8	4.3	34.8				11.9	424.4
Libmanan, Camarines Sur	11.2	49.8	26.4			.5	3	.5		11.4	4.6				11.7	285
Batangas, Batangas		.8	1.8	1.3	2				1.5	4.1						81.9
Calatagan, Batangas	3.6		46.7	.3	19.5											136.2
Balayan, Batangas			18.8		24.1							6.6				151.6
Lipa, Batangas	11.9	17.5	27	17.8	10		1.8		2.3							122.6
Lucena, Tayabas		5.6	4.1	.3	7.6	5.1	12.2		1.5	.3	3				3.8	129.1
Atimonan, Tayabas		2.3	3.6	7.4	1	15.8	18.8	2.8	1.9	9.4	11.2	2.3			3.3	207.1
Lian, Batangas			14		8.9				36.6	31.5	1.5	8.9	4.5	4.6		222.2
Nasugbu, Batangas		.8	15.5	27.6	53.3		.5	8.4							1.3	268.4
Ambulong, Tanauan, Batangas		5.8	1.5	12.5	15	36.3	20.1	70.6	13.8	.5	46.2	45.7			7.6	227.3
Daet, Camarines Norte	26.7		10.1	3												683.3
Mendez Nuñez, Cavite	45.8	5.9		6.4				1								155.1
Alfonso, Cavite	11.4	4.6		2.5												135.1
Indang, Cavite		24.9		26.9		1.3	1.5									190.7
Canluban, Calamba, Laguna				44.4	24.6								2			166.9
Silang, Cavite																114.9

† Voluntary or cooperative station.

a 22 days of observation.

b 27 days of observation.

Daily rainfall at the stations of the Weather Bureau, October, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Maragondon, Cavite	mm. 20.8	mm. 2.5	mm. ---	mm. ---	mm. 6.1	mm. 2.3	mm. 5.6	mm. ---	mm. .8	mm. 66	mm. .8	mm. 66	mm. .8	mm. 16	mm. 11.7	mm. 104.4
Paracale, Camarines Norte	---	.8	---	---	2.5	5.6	1.3	---	---	63.5	72.4	63.7	11.6	.8	1.5	12.7
Santa Cruz, Laguna	1.3	24.4	16.5	---	1.3	10.2	9.4	1.8	---	---	---	---	.5	1.5	10.4	1.3
Buenavista, Malabon, Cavite	.3	3.1	2	---	---	3.8	6.4	---	---	---	12.4	---	---	2.5	---	6.9
Imus, Cavite	---	13	---	.3	1.8	1.8	---	---	---	---	1.3	2.5	1	7.9	2.8	13
Alabang Stock Farm, Alabang, Muntinlupa, Rizal†	---	11.2	---	---	2.5	31	---	---	---	---	1	---	---	18.3	8.1	13
Cavite Naval Station, Cavite, Cavite	---	3.6	---	---	8.9	4.8	3	---	---	---	---	---	16.8	31.7	4.8	42.9
Lamao Horticultural Station, Lamao, Limay, Bataan†	---	---	---	---	2.5	---	---	---	---	50.8	20.3	---	---	5.1	27.9	2.5
Manila, Manila	---	7	---	.3	1.6	1.4	10.2	1	.6	---	---	---	---	32.6	2.5	11.1
Antipolo, Rizal	.5	20.1	2.5	.5	6.1	19.6	17.8	.5	10.4	9.9	58.2	1	---	6.4	8.1	5.1
Bosoboso, Antipolo, Rizal†	8.9	27.4	---	5.3	10.9	69.6	3.3	---	5.1	6.4	22.9	---	---	22.1	11.4	7.6
Balanga, Bataan	---	4.6	---	---	3	.8	13.7	---	---	---	44.7	6.4	---	1.8	.5	26.2
Montalban, Rizal†	.5	68.8	.8	10.9	10.7	17.3	6.4	4.3	---	.8	38.6	---	---	24.9	10.9	6.9
Hacienda Pintong Sapang, San Jose del Monte, Bulacan†	71.1	13.2	---	5.1	1	17.8	3	3.5	1.8	.8	1.3	---	---	.8	9.1	3.3
Mabayuan Dam, Olongapo, Zambales†	---	5.3	---	---	---	25.4	---	---	---	15.2	76.2	10.2	---	---	---	10.4
Malolos, Bulacan	---	1.3	---	---	---	10.2	14.5	31.5	---	19.6	5.1	---	---	3.3	20.1	35.6
Pampanga Sugar Mills, Del Carmen, Pampanga†	10.9	2	.5	3	6.6	9.7	---	.5	3	8.1	6.4	11.2	---	.5	---	3.3
San Fernando, Pampanga	4.6	6.9	1.5	.5	7.6	13.2	6.6	1.8	---	24.9	9.4	6.1	---	20.6	2.3	16
San Isidro, Nueva Ecija	1	10.7	1.8	---	5.3	13.2	---	.3	---	3.3	52.1	.3	---	.5	13.7	15.7
Iba, Zambales	.8	.8	28.2	---	---	6.6	6.6	11	2.8	---	---	---	---	1.3	1.3	2.3
Hacienda Luisita, Comillas, La Paz, Tarlac†	---	---	---	---	---	---	---	---	---	---	146	---	---	---	---	---
Hacienda Luisita, San Miguel, Tarlac, Tarlac†	15.2	57.7	32.3	---	20.8	---	37.8	---	---	66.3	25.7	---	---	---	---	20.8
Tarlac, Tarlac	2	43.2	15.7	---	9.7	33	---	---	---	50.8	27.9	---	---	5.1	15.7	45.7
Muñoz Agricultural School, Muñoz, Nueva Ecija†	7.6	13.2	3.3	.3	10.7	38.1	1	.5	1.5	41.9	---	---	29.5	32	1.3	.8
Baler, Tayabas	.5	41.4	---	10.2	9.1	3	1.8	.3	---	---	.2	---	---	---	17	16.6
Dagupan, Pangasinan	---	8.2	---	---	2.3	4.8	7.4	---	---	6.1	1.5	---	---	3.6	7.9	55.9
Baguio, Mountain Province	5.8	13.8	82.7	6.4	21.1	14.9	8.3	31.7	2.8	8.4	7.6	---	25.6	3	---	---
San Fernando, La Union	---	3	36.1	---	4.1	1.3	6.4	---	---	---	8.4	---	---	---	---	.3
Sagada, Mountain Province†	.8	35.6	15.7	5.1	28.7	34	---	---	---	---	2	6.3	---	---	2.8	---
Bontoc, Mountain Province†	32.5	15.5	20.9	---	9.1	33.5	3.6	---	---	---	---	5.3	---	---	4.3	1
Candon, Ilocos Sur	---	4.1	45.2	---	---	7.9	1.3	---	---	---	---	---	---	---	---	---
Vigan, Ilocos Sur	---	2.5	115.8	---	---	---	56.9	---	---	---	---	---	---	---	---	---
Tuguegarao, Cagayan	7.3	10.1	7.6	---	2.1	---	---	---	---	---	---	---	---	5.3	6.3	6.8
Tayum, Abra†	---	2.5	23.1	---	29.2	37.3	23.4	3.8	---	---	---	---	---	---	8.4	---
Laog, Ilocos Norte	---	20.3	19.3	7.4	---	1.3	.3	---	---	---	---	---	---	---	.8	---
Aparri, Cagayan	---	2.3	.8	---	---	---	---	.5	---	---	4.1	---	18.8	.8	0.3	4.4
Cape Bojedor, Burgos, Ilocos Norte	---	.3	.1	---	---	---	.3	---	---	---	---	---	---	---	3.3	.1
Basco, Batanes	---	45	16	15.2	3.1	2.3	---	2.5	---	---	1.3	11.2	.8	17	10.1	1.5

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, October, 1920—Continued.

Station.	Day of month.															
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	Total.
Maragondon, Cavite	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Paracale, Camarines Norte	5.3	3.8	6.9	.8	1			.3								252.1
Santa Cruz, Laguna	18.2		7.1			9.7	41.1	.5	.5			2.5	3.8	2.5	8.9	276.3
Buнавista, Malabon, Cavite	5.8															146.1
Imus, Cavite	12.2		9.4	4.3	17											80.3
Alabang Stock Farm, Alabang, Muntinglupa, Rizal†	7.9		2.5	.3			1.3									57.4
Cavite Naval Station, Cavite, Cavite	13.2	.5	3.8	5.3			2.5									110.4
Lamao Horticultural Station, Lamao, Limay, Bataan†		3.8	30.8				5.6									156.7
Manila, Manila			50.8	2.5	20.3		10.2			25.4						218.3
Antipolo, Rizal	5.4		.3				3			1.3						79.3
Bosoboso, Antipolo, Rizal†	5.1		.8		2.8		5.1			.5	9.9					190.9
Balanga, Bataan	38.1		2.5		2.5	5.6	12.7				10.2					272.5
Montalban, Rizal†	.8		22.1	1.5	20.8		5				2.8					150.2
Hacienda Pintong Sapang, San Jose del Monte, Bulacan†	50.3		7.1			2.8	26.5				3.8			1		293.3
Mabayuan Dam, Olongapo, Zambales†	9.4		.8	.3		1.8				.8			2.5			147.4
Malolos, Bulacan				45.7					25.4		5.3	20.3				239.4
Pampanga Sugar Mills, Del Carmen, Pampanga†	1.3		13.2		19.3											175
San Fernando, Pampanga					2.3						2.3	1.5		.8		72.6
San Isidro, Nueva Ecija			2.3		2		1.3									127
Iba, Zambales		3.1	36.3	.8	.3		6.4				1.1					165.9
Hacienda Luisita, Comillas, La Paz, Tarlac†	10.2		15.2	26.2					1.3	1.8					.3	168.2
Hacienda Luisita, San Miguel, Tarlac, Tarlac†					83.6											229.6
Tarlac, Tarlac	27.2		10.7		17.8					1.8						334.1
Muñoz Agricultural School, Muñoz, Nueva Ecija†	.5	.8			12.2					22.4	11.7					296.4
Baler, Tayabas				.8	81.3	1.3	1	13			5.6			15.7	3	200.3
Dagupan, Pangasinan					19.6						.5					203.2
Baguio, Mountain Province	.5	1.3	13.5		2.5	15			6.1	20.1	.8					117.8
San Fernando, La Union																59.6
Sagada, Mountain Province†		1.5			2			6.6	1.3							143.4
Bontoc, Mountain Province†							.3	.3	1.3	.8						128.9
Candon, Ilocos Sur	.5															58.5
Vigan, Ilocos Sur																175.2
Tuguegarao, Cagayan	5.1	1.3						12	18.6	1.8						84.3
Tayum, Abra†																128.2
Laog, Ilocos Norte																49.4
Aparri, Cagayan	5.8	1.8					2.8	1.6	85.9	3.8						203.7
Cape Bojeador, Burgos, Ilocos Norte																10.8
Fasco, Batanes		2.8				53.4	1.5	5.1	19.1					2.5		210.4

† Voluntary or cooperative station.

MAXIMUM AND MINIMUM TEMPERATURES AT THE STATIONS OF THE WEATHER BUREAU, OCTOBER, 1920.

Day.	Jolo.		Lais, Malita.		Lebak, Cotabato.		Lamitan, Isabela, Zamboanga.		Malamaui, Isabela, Zamboanga.		Davao.		Pikit.		Cotabato.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.8	22.2	32.9	21.4	31.5	23.7	32.7	21.1	30.6	23.5	31.7	22.5	34.1	22.7	33.8	22.8
2	30.8	22.3	33.2	22	32.1	23.4	33.4	20.8	31.3	23.8	32.8	23	35.4	22.9	33.5	23.1
3	30.5	22.9	32.7	21.8	32.6	24.7	32.7	20.5	29.9	24.2	32.2	23.1	34.6	22.3	31.1	23
4	31.3	22.3	32.9	23.3	32.5	23.4	33.4	21.2	29.8	24.1	32.8	22.6	35.1	22.1	32.1	23.1
5	28.5	22.8	33.7	21.9		24.1	32.8	20.4	28.5	21.8	31.8	21.4	33.6	22.2	30	22.8
6	30.3	21.9	33.7	21.3	32.2	24.4	31.4	20.6	30	21.8	31.8	22.5	35.6	23.5	31.6	22.8
7	30.2	22.7	32.4	21.2	32.2	22	33.7	21.9	29.9	22.2	31.2	22.1	33.6	21.9	29.9	21.9
8	30.3	23	32.5	21.9	31.5	23.4	30.2	21.7	29.6	22	31.8	21.9	34	21.9	30.5	22.2
9	30.4	22.6	32.8	21.5	32.5	24.5	31.5	21.1	30	22.2	32.2	22.9	32.9	22.3	30.5	22.5
10	29.3	22.6	33.1	22.3	31.7	24.1	32.1	20.4	29	23.5	31.7	23	31.9	22.3	31	23.6
11	27.4	23.4	34.6	21.9	30.4	23.3	33.8	20.5	27.5	21	31.2	22.6	32.1	22.5	30.1	23.2
12	30.8	23.8	33.7	22.9		23.6	32.4	21.6	30.3	18.7	30.7	23	29.3	23.3	29.5	22.8
13	29.6	23.5	30.7	22.6	25.6	23	31.6	24.3	28	21	27.7	23	25.2	23.2	26.1	22.5
14	32.8	24.9	32.8	21.4	29.6	23.4	32.3	21.4	30.3	19.57	31.7	22	30.3	22.3	29	22.1
15	31.5	23.6	33	21.5	29.2	24.4	32.6	19.5	29.5	20.27	33.2	23.3	31.5	22.9	29.7	23.1
16	31.6	22.9	31.8	21.4	31.3	23.2	33.5	21.6	28.9	16.5	31.7	23.5	29.1	23.4	29	22.7
17	32.3	23.3	33.2	21.5	30.4	23.2	31.8	21.4	31.8	19.8	31.7	22.6	32	22.8	28.3	23
18	31.1	25.1	33	21.4	31.8	23.6	32.4	20.6	30.3	21.7	30.7	22.9	32.6	23.4	30.1	23
19	31.4	24.4	33.1	21.5	31.5	23.6	31.5	20.2	30.3	21.5	31.7	23.4	34.2	23.2	32.4	23.1
20	31	23.1	32.3	23	31.6	24.5	30.8	22.4	29.4	22.2	32.2	22.8	33.2	23.7	31.8	23.3
21	30.8	23	30.7	21.9	31.4	23	33.2	21.4	30.9	23	31.7	22.5	31.47	23	30.8	22.4
22	31.1	22.4	27.2	21.4	28.9	22.4	32.7	20.6	29.5	19.8	29.7	21.3	31.6	22.1	31	22.3
23	31.3	22.9	32.4	20.2	30.5	23.7	32.9	20.9	30.3	22.7	32.2	21.2	33.9	22.9	32.4	23.1
24	29.8	22.6	33.6	22.7	32.1	23.2	34.5	22.4	30.3	23.2	32.5	23.57	34.2	22.7	32.8	22.5
25	30.1	22.2	33.3	22.2	31.3	24.8	33.6	19.9	29.4	22.6	33.2	22.6	33	22.5	30.5	23.4
26	29.3	23.5	31.4	21.9	30	23.1	31	21.9	30.3	21.9	31.2	22.9	33	23	30.8	23.1
27	30.1	23.1	31.8	21.5	31.5	23	31.6	20.2	29.8	21.1	31.2	22.4	32.6	21.5	31.4	22.8
28	31.3	21.8	32.7	20.7	32.2	23.5	33.5	20.8	31.3	22.6	31.7	22.5	33.6	23	31.6	23.4
29	30.7	22.1	32.4	23	30.4	25	31.7	20.2	29.6	21.7	30.9	23.5	32.3	23.4	30.9	23.6
30	30.6	22.8	30.4	21.9	31.6	23.2	32.4	21.4	30.8		31.9	23	33	23.2	30.5	23
31	31.3	21.9	30.9	22.5	32.5	23.3	33.8	21.2	31.4	22.2	31.2	21.4		22.9	31.6	23.4
Mean	30.6	23	32.4	21.9	31.1	23.6	32.5	21.1	30	21.7	31.6	22.6	32.6	22.7	30.8	22.9

Day.	Naganaga, Margosatubig.		Malabang.		Cateel.		Ganasi.		Camp Kalao, Monkayo.		Camp Keithley, Dansalan.		Sumilau.		Cagayan. ^a	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	34.3	22.1	32.6	20.9	31.7	21.8	28	17.2	32.6	21.5	27.3	17.7	30.1	18.8	31.97	21.2
2	35.2	23.2	32.6	23	31.6	22.5	29.6	18.8	31	21.6	28.7	18.7	29.6	20.1	30.6	20
3	34.5	22.2	32.6	23.5	31.8	21.5	28.4	18.6	34	20.9	28.3	19	29.5	18.4	32.4	21.5
4	33.5	23.3	32.8	24	31	22.1	29.2	18.5	33.4	21.1	28.3	18.5	29.7	17.8	32	21.5
5	33.7	23.5	32.4	22.7	31.5	22.2	28.5	19.5	33.5	21.9	27.5	18.7	29.4	18.6	31	20
6	33.5	22.2	31.2	22	32.2	22.1	28	18.1	30.5	21.9	27.8	17.5	29.4	17.9	31.8	21
7	34.7	23.1	32.5	21.8	32.3	20.6	27.2	18	33.5	21.7	27	18.5	28.4	17.8	30.9	19.6
8	33.5	22.3	31.6	20.7	33.5	22	28	17	32.2	21.5	27.8	18	28.5	18	31.4	20.1
9	33.2	22.5	31.4	21.2	32.2	22.7	28.3	18	32	21.2	27.8	18.3	28.4	18.5	31.7	19
10	33.7	19.2	32.2	21.3	32.5	23.5	28.5	19.8	32.9	21.1	27.8	19.4	27.6	19.7	31.2	19.7
11	33.5	20.5	32.4	20.7	30.3	22.4	26.5	19.5	31.8	21.9	25.4	20.4	27.1	19.3	30.2	19
12	33.3	21.2	30	21.5	32.5	22.3	27	17.6	31.9	21.5	25.9	18.9	27.2	18.3	30.7	17.57
13	34.2	22.2	30.6	21.4	32.5	23.3	26.3		30	21	23.8	19.7	26.5	18.8	30.3	20
14	34.5	23.1	31.2	22.7	31	24.5	25	19.6	30.6	21.4	27	19.7	28.7	18.7	31.2	20.2
15	35.5	22.2	31.6	23.3	34	23	25.1	20.8	31.6	21.5	26.9	21	29.1	19.8	32.7	22
16	33.5	20.5		22.6	34	24.4	26.7	20.5	30.6	21.5	26.5	20.7	29	20.5	31.4	20
17	33.7	22.2	31.4	22.8	34.5	27.87		19.2	33	20.5	27.4	20	28.6	19.2	31.37	20.8
18	34	22.5	32.4	21.8	31.7	22.8	27	19.9	33.5	21.4	27.8	20.6	27.9	19	31.7	19.7
19	34.5	22.3	32.4	22.3	30	22.5		19.7	33	21.9	28.8	19.5	28	19.57	32	21.6
20	35.4	23.3	30.8	21.7	31.1	22.5	29.5	17.5	29	20.5	28.8	17.7	29.4	18	31.9	20.5
21	33.2	22.2	30.8	21.8	29.5	22.1	29	20	30.5	22.4	27.9	19	28.1	18.7	31.4	20.4
22	33.2	22.5	30.6	21.3	27.6	20.6	29.6	17.5	29	20.3	27.4	18	28.3	17.9	30.2	18.37
23	35.4	20.3	31.8	21.4	30.5	21.6	29.5	17	32.9	21	27.8	17.9	30.9	18	31.8	20.7
24	34.5	22.2	31.6	21.6	30.9	22.7	30	17.5	32.5	22	27.8	18	31	19.5	32.2	21.2
25	34.2	23.5	31	21.4	31	22.9	29	18	31.9	21.6	27.3	18.1	29.2	17.6	31.4	20
26	35.7	23.37	30.8	21.4	31	22.2	30.5	19.2	32.9	21.1	27.5	19	29.3	18.7	31.9	20.5
27	33.5	22.2	31.2	21.8	30.9	21.5	28.5	18.6	32.9	21	27.8	18.1	28	18.2	32	21.2
28	34	23.4	31.2	21.3	31.3	22	29	17.5	33.9	21.97	28.1	18.6	28.9	18.1	31.7	19
29	34.7	22.2	31	22.1	29.2	23	29.5	17.8	31.9	22.5	24.5	18	29	18.3	29.1	16.47
30	35.5	23	30.6	21.4	29.8	22.8	27.2	17.9	30.5	21.4	25.9	18.7	25.5	19.6	30.6	19.6
31	34.7	22.5	31.4	21.2	30.7	21	28	15.2	33	20	27.5	15.4	27.5	15.4	30.2	19
Mean	34.2	22.3	31.6	21.9	31.4	22.5	28.2	18.4	32	21.4	27.3	18.8	28.4	18.6	31.3	20

^a The minimum temperatures of this station seem to be too low.

Maximum and minimum temperatures at the stations of the Weather Bureau, October, 1920—Ctd.

Day.	Butuan.		Mambajao.		Dumaguete.		Meeth, Yap.		Tagbilaran.		Iwahig Penal Colony, Puerto Princesa.		Dalaguete.		Surigao.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	31.9	22.6	31	22.9	32.3	24.2	29.7	23.6	31.7	22.5	31.6	21.2	31.4	24.2	33	23.4
2	31.1	23.4	30.5	26.2	31.5	25.4	30.8	23.5	30.7	22.8	32.3	22.4	31.2	24.5	32.6	24.7
3	33.6	22.2	29.8	23.7	30.4	24.8	31.1	24	31.7	24	31.5	22.1	30.9	24.3	31.9	24.2
4	34.2	22.8	31.3	23.3	31.8	24.3	30.6	24.2	31.7	23.3	32.3	22.2	31.7	24	32.2	24
5	34.1	22.9	32.3	23.2	32.1	24.3	31.9	24.1	32	23.5	32.7	21.2	32.3	24.7	32.3	24
6	33.5	22.5	30.5	23.9	31.9	24	31.7	23.6	31.7	22.7	32.4	21.2	32	23.9	31.5	23.9
7	33.1	22.6	31.3	24	31.9	23.3	31	25.1	29.6	23.1	31.7	21.6	30.6	24.2	31.4	23.9
8	32.8	22.4	31.4	23.5	30.9	23.9	30.7	24.8	31	22.7	31.6	21.2	30.8	23.4	32	23.7
9	32.4	23	30.6	23	32.1	24.1	31.2	24.5	30.6	22.9	32.2	22 ?	30.2	23.6	30.7	24
10	30.3	23.1	29.5	23.4	31.2	24.3	30.2	24	29.8	22.5	32.7	22	31	24.3	29.3	24
11	32.6	22.8	30.8	23.4	30.9	23.9	31.2	24.2	31.2	23.5	32	22.4	31.2	24.3	30	25.3
12	33.4	22.3	31.6	25.9	31.3	24	31.2	24.2	32.4	25	32.3	22.2	31.8	24.6	31.3	24.7
13	33.1	22.8	30.5	23.8	29.3	23.9	28	23.6	28.1	23.8	32.4	23.8	29.2	24.8	29.2	24.7
14	32.6	22.3	29.4	23.3	25.7	22.4	28.9	23	27.6	23.6	29.6	24	27.9	23.9	28.7	24.7
15	34.6	23	29.3	23.6	29.8	23.4	33.2	25	30.4	24	33.1	23.8	29.5	24	29.6	27
16	34.1	22.9	28.7	23.9	29.9	24.2	34.1	24.7	29.6	24.5	29.2	22	30	24.5	28.3	24.7
17	34.2	22.9	30.6	23.9	31.5	23.4	33.7	24.9	31	24	30.8	22	31.8	24.5	29.7	24.9
18	33.6	23.7	31.5	24.4	29.7	23.9	31	24.3	30.7	24	32	22.2	30.7	24	31.4	25.4
19	34.4	23.9	31	24.1	30.3	23.4	33	25	31	23.4	31.6	23	31.5	23.8	31	24.4
20	33.6	22.5	30.8	23.7	30.9	23.7	33.7	24.7	31.5	23.5	29.6	23.5	31.8	23.6	31.6	24.1
21	32.6	22.7	31.3	23.9	31.1	24	33.1	25.6	32.4	23.4	31.5	21	31	23.6	30.4	23
22	28.1	20.9	29.4	22.3	30.5	23.9	33.7	25.1	30.6	22.3	31	22.2	29.4	25	28.3	22.8
23	33.6	22.4	30.9	24.5	30.7	24.5	33.7	25.4	31.3	22.6	31.5	22.3	30	24.5	30.8	23.1
24	31.9	22.2	31	24	30.8	25.2	34.3	26	31.2	23	30.8	22	30.6	24.6	30.3	24.2
25	31.4	21.9	29.6	23.9	31.3	25.6	31.8	24	32.3	22.8	31.4	21.8	29.9	25.8	28.8	24
26	32.6	22.1	30	23.3	30.7	24.6	29.5	23	30.7	22.8	31.8	21.4	29.8	24.3	30	24
27	32.6	23	31.7	22.9	30.2	23.5	27.6	24	31.9	23	31.8	22.4	29.8	23.7	30.4	23.4
28	31.2	23.4	31.6	23	30.7	23.2	32.2	24.7	31.7	22.8	31.5	21.4	30	23.2	30.2	24.3
29	30.6	22.7	29.5	22.4	28.9	23.4	32.2	24.7	29.5	23.4	30.4	22	29.2	23.7	29.5	24.2
30	31.1	21.9	29.3	23.3	29.9	23	32.3	25.5	31.7	21.5	30.6	22	29.9	23.2	29.4	22.3
31	30.4	18.6	31.5	20.8	29.8	21.7	30.2	24.5	30.8	19.9	29.6	21.8	31.2	21.2	30.1	21
Mean	32.6	22.5	30.6	23.6	30.6	23.9	31.5	24.4	30.9	23.1	31.5	22.2	30.6	24.1	30.5	24.1

Day.	Central Palma, Ilog.		Hacienda Naval, Hima-maylan.		Biaong Cui's Farm, Barili.		Maasin, Leyte.		Isabela, Occ. Negros.		Hacienda Tanolo, Hiniganaran.		Cebu.		La Castellana.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	33.7	21.7	30.5	21.5	33	22.8	34.4	24.2	30.6	21.4	30.2	30.6	25	31.2	31.2	
2	33.8	21.4	33	22.5	31.8	22.5	33.2	23.8	32.7	22.1	31.6	30.6	25.5	33.6	33.6	
3	34	21.5	31.5	23	32.5	23.1	34	23.6	32	23	30.6	32	24.7	33.7	22.9?	
4	34.1	22	31.5	22.5	32.2	23.1	34.4	23.8	31.7	22.4	31.4	31.8	25.2	33.8	22	
5	33.1	22.5?	31.4	22.5	31.9	22.5	32.8	23.4	31.9	22.6	31.5	30	24.9	33.8	22	
6	33	22	31	22	33.3	22.8	34	23	32.2	21.5	30.9	32.4	24.2	34	22	
7	32.9	21.8	29.5	22	30.8	23.1	32.2	22.8	27.9	21.8	29.8	30.2	25	30	22	
8	33.2	22	30.5	21.5	31.1	22.1	34.4	23	30.7	21.5	31.5	30.6	24.4	32.8	22.4	
9	34.5	21.5	31.5	22	31.2	20	33	22.6	31.6	22.4	31.5	32.3	25	33.2	22.4	
10	34	22	30	23	32.5	22.5	30.8	22.5	30.6	22.9	30.2	30	24.5	30.2	21.5	
11	33.8	21.9	30	22	29.1	22.5	34	22.4	29.9	22.1	30	29.6	24.7	31.5	21.2	
12	33.1	22.2	31	21.5	30.5	22.5	34.5	23.1	31.7	22.7	30.5	32.4	25.4	32.4	21.5	
13	32.9	22.3?	25.5	23	30.1	22.8	30.6	23.8	25.1	22.4	25	29.6	24.2	24.8	21.3	
14	32.7	22	27	22	27.6	22.1	30	23.8	26.8	22.9	27.1	28.1	24.6	26.2	21.9	
15	33	21.8	29.5	23	28.5	22.5	31.8	22.8	29.4	22.7	27.8	30	24.9	28.5	21.9	
16	32.6	21.5	28.5	23.5	30.1	22.4	30.8	24.6	27.9	23.4	27.4	29	25.9	27.5	20.8	
17	30.7	22.1	30.5	23	31.2	22.5	32	24	29.9	23	30	29.3	25.4	30	21	
18	31	21.9	30.5	23	28.5	20	33	24.5	30	22.9	29.5	29.1	24.9	30.4	21	
19	31.3	22	29	22.5	30	19.1	33.3	23.2	31	21.6	30.4	31.3	24.3	32.3	21.5	
20	30.9	22.5?	31.5	23	30.5	20.4	32	23	31.7	21.8	31.2	31.3	24.4	33	21.5	
21	32.5	22.4	32	23	29.5	21.5	32.2	23.2	31.7	22.5	31.5	31.7	22.9	32.3	21.5	
22	31.9	22.3	32	22.5	30.4	21.5	30	22.5	31.7	21.4	31.5	29.4	22.8	32.7	21.3	
23	32.2	22.2	33.5	22.5	30	21.4	32.5	23	32.2	21.5	31.5	30.9	24.3	32.2	21.8	
24	31.7	22	32	22.5	30.5	21.5	33	23	32.8	20.5	31.5	31.4	25.5	32.2	21.7	
25	31.9	22.1	32.5	22	32.2	22.5	31.5	22.8	32.8	21.2	31.5?	31.7	25.5	33	22	
26	31.4	22	31.5	22	33.2	22.6	34	23	32.6	23 ?	32	30.7	25.1	33.5	20.2	
27	32.3	22	31.5	22	32.2	22.5	32.9	22.6	31.8	21.9	31	30.9	25.1	32.7	21	
28	32	21.9	31.5	21.5	32.5	22.8	33.6	22	32.2	21.5	31.7	31.2	24.8	32.7	20.2	
29	32.4	22.4	31	23	32	22.5	33.4	23	31.1	23.1	31.2	30.3	24.9	32	22.3	
30	32	22.1	31	21.5	33	22.6	33	22.5	30.2	21.5	31.5	29.6	24	31.5	21	
31	31.8	22	31.5	22.5	32.7	22.8	32.8	22.8	31.5	17.5	31 ?	31.1	21.4	32.5	20	
Mean	32.6	22	30.8	22.4	31.1	22.1	32.7	23.2	30.9	22	30.4	30.6	24.6	31.6	21.5	

Maximum and minimum temperatures at the stations of the Weather Bureau, October, 1920—Ctd.

Day.	Central Azucarera de La Carlota.		Hacienda Canlaon, La Castellana.		Mao Sugar Central, Bago.		Valladolid.		Murcia.		Oton.		Iloilo.		San Jose de Buenavista.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.3	21.5	31.2	18.8	31.6	21.2	31.7	22.5	31.4	21.4	33.2	23	31.2	23.3	31.2	22.5
2	31.8	22	32.3	19.4	33	21.5	32.2	22.2	32.2	22.3	34.1	23.9	32.2	24.6	31.9	22.6
3	31.5	23	31.3	20.3	31.7	22.8	33.5	23.2	31	22	31.8	24.3	30	24.2	31.2	22.8
4	31.9	22.7	31.4	19.7	33	21.9	32.2	24.2	32.8	21.9	32.8	23.2	32.3	23.8	31.2	22.9
5	32.4	22.3	32.5	19.9	32.5	22	34.2	21.2	32.4	21.7	31.8	24.5	32.1	24.4	31.4	23.3
6	31.9	22.8	32.3	19.8	33.4	22.5	33.2	23.2	32.1	21.7	31.8	23.2	30.8	23.7	31.2	23
7	29.8	21.5	29	19.4	30.2	22.5	32.2	23.5	29.2	22.6	29.4	23.4	28.8	23.8	29.9	22.6
8	31.1	21.9	29.9	19.4	32	21.6	30.2	23.2	31.8	21	31.4	22.9	30.4	23.5	31	22.4
9	31.4	22.3	32.1	19.6	32	22.1	32.27	22.3	32.4	22.1	33.8	23.2	31.9	23.8	31.7	23.8
10	31	22.9	32.1	19.4	30.2	22.5	34.2	24.2	29.6	22.7	32.2	23.8	31	24.3	30.6	23.3
11	31.3	22.5	29.9	20.1	32	23.6	34.5	21.2	31.7	22.1	31.4	23.5	30.8	24	31.4	23
12	31.8	22.7	31	20.2	33	22.5	32.2	23.2	31.8	22.7	32.4	23	31.4	23.3	31.1	23
13	25.8	21.5	27.5	20.6	27.3	22.7	32.2	22.2	27.5	23.4	29.2	24.9	28.8	22.6	26.7	23.5
14	27.5	21.8	25.3	20.3	28.5	22.4	31.2	20.2	27.6	22.3	28.4	23.5	27.8	22.6	27.6	23.5
15	28.6	21.4	27.7	19.6	29	22.2	29.2	23.2	28.1	22	29.3	23.7	28.6	24.6	27.9	23
16	27.8	23.1	26.8	19.5	27.2	23.6	32.2	22.2	27.1	22.7	28.5	24.8	27.9	24.5	27.5	24.4
17	30.1	22.5	27.8	20.6	30.5	23.5	30.2	20.2	28	23	30.2	23.8	29.8	24.1	30.4	22.8
18	29.9	22	29.4	20.5	30.2	22.7			29.6	22.7	30	23.8	29.8	23.4	30.1	22.8
19	31.2	21.2	30.6	20.6	31.5	21.7	30.2	23.2	31.6	21.6	30.2	23.2	30.2	23.2	31.4	22.4
20	31.9	21.3	31.9	19.9	33	22	31.27	23.2	32.5	21.9	32	23.8	31.2	24.3	32	23.5
21	31.3	22.3	32.1	20.4	32.7	22.7	33.2	24.2	31.5	21.7	32.7	24.5	30.8	24.5	31.6	23.6
22	31.8	21.8	31.8	20.2	32	22.6	34.2	24.67	30.7	23.1	31.7	24.3	30.2	24.5	31.3	23
23	31.8	21.9	32.3	20.3	33.5	22.5	32.2	21.2	32.8	21.5	32.5	23.9	30.9	23.9	31.8	22.6
24	33.6	20.9	32.8	19.8	33.6	21.6	32.2	23.2	32.1	22	33.2	24.5	31.3	24.6	31.3	22.3
25	32.4	20.9	32.5	19.9	32	21.7	33.2	22.2	31.6	22.2	32.7	24.2	30.9	24.5	31.6	22.5
26	31.8	20.7	33.4	19.5	32.2	21.6	32.7	23.4	30.8	22	33.7	23.9	31.8	24.3	31.4	22.1
27	31.5	21.5	31.9	19.8	32.6	22	30.2	24.7	32.2	21.8	33.3	23.2	31.4	23.8	31.1	23.1
28	32.1	20.3	32.3	18.9	32.4	20.6	32.9	22.67	31.6	20.8	32.5	22.5	30.7	23.2	31.1	22.4
29	31.6	22.7	30.5	20.2	31	23.3	33.6	21.3	30.3	22.8	31.6	23	30.3	23.6	31.2	22.5
30	31.1	19.7	30.6	18.2	31.2	20	31.3	21.8	30.67	22.47	31.6	21.1	29.3	22.3	31.2	21.3
31	31.3	19.5	30.8	16.4	31.8	17.5	32.7	22.4	31.3	20.4	32.7	21.1	30.8	20.8	31.3	20.1
Mean	31	21.8	30.7	19.7	31.5	22.1	32.2	22.6	30.8	22.1	31.7	23.5	30.5	23.7	30.7	22.8

Day.	Tuburan.		Silay.		Cuyo.		Barotac Nuevo.		Hacienda Ilaya, Victorias.		Hacienda Bilbao, Manapla.		Januay.		Cadiz.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	29.9	23.3	31.6	21	31.2	23.8	32.6	22.6	30	22.5	31.7	22.3			31	22.7
2	30.5	22.8	30.5	21.4	31.7	25.6	32.6	23.5	29.8	22.5	32.5	22.5			31	21.8
3	30.7	23.8	31.5	22.5	31	26.4	31.2	24.3	30.2	21.6	31.4	22.1			29.1	23.2
4	32.2	23.7	33.5	21.1	31	24.3	34.3	23.8	30.5	22	30.8	21.8			30.3	23.2
5	31.6	23.8	32	21.6	31.7	24.9	33.8	23.7	31.5	22	30.6	21.9			31	23.5
6	30.5	23.2	31.4	21.6	31.4	26.3	30.8	22.9	31.3	22.2	30.4	21.7			30.5	22.1
7	28.7	24.3	29	23	30.5	22.9	29.9	23.1	30.7	22.8	29.6	21.8			29.4	23.6
8	31.3	22.9	30.5	21.1	31.4	24.5	31.1	22.6	30.1	23.2	29.8	21.9			30.6	22.8
9	31.2	23.4	30.5	21.9	31.5	24.5	32.3		29.6	23	29.7	21.5	34.2		31	23
10	31.3	23.9	30.5	22.1	31.6	25.5	29.7	23.1	30	21.9	30	21.9	33.6	23.8	31.1	23.2
11	31.4	23.9	30.5	21.5	31.6	25.7	31.4	23.8	30	21.9	30.2	22	31.9	22.9	31.1	23.1
12	30.8	24.2	31	22.2	31.3	24	31.2	22.6	30.4	22.5	31.6	22.5	32.8	21.5	31	24
13	30.4	24.7	27	22.3	28.4	25	28.1	23.4	31.2	22.7	31.8	22.8	33	21.7	31.3	23
14	27.9	23.7	27.5	22.1	28.4	26	28.4	23.6	31.5	20.5	31.6	22.1	32.8	22.5	32.2	23
15	29.7	23.8	27.6	22.8	28.4	24	27.9	22.3	29.8	23.1	29.4	22	33	22.8	29.9	23.2
16	27.5	25.5	27.1	23.4	28.2	25.5	27.4	22.6	30.2	23.4	29.9	22.4	30	23	29.7	25.4
17	31.8	24.4	30	22.9	30.7	25	29.2	23.3	30.6	23	30.4	22.5	30.1	25.5	30.4	25
18	30.2	24.1	30.2	22.2	30.5	22.8	31.8	23.1	30.3	22.5	29.6	21.4	31.9	21.8	30.8	23.6
19	31	22.8	30.5	22.6	30.2	23.3	31.3	24.17	30	22.2	29.9	21.6	31.2	20.9	29.3	22.6
20	32.2	22.7	32.5	21.5	26.5	23.2	32.5	24.27	30.4	21	29.6	20.9	31.7	21.1	30.5	23
21	30.3	24	30.5	22.5	30.5	24	31.3	24.1	30.7	23	29.8	21.4	31.6	23.1	31.2	24
22	31.5	23.4	27.5	22.2	30.9	23.7	33.5	23.9	31.2	22.8	30.4	21.5	32	24.5	31	24.1
23	31.2	22.3	30	22.4	31	26.3	34.1	24.2	31	23	30.6	21.7	32.1	20.6	30.2	23.1
24	31.7	23	30.5	23.5	30.6	25.7	33.6	23.2	29.5	23.5	31.7	22.3	31	22.5	31	22.6
25	31.1	23.3	30.4	23.1	30.5	26.5	31.8	23.3	29.8	23.8	31.8	21.7	32.2	23	31	24.1
26	31.2	23	30.9	23.4	30.5	26.3	31.7	24.57	30.3	23.3	31.6	22.7	33.2	20.8	31	25.3
27	30.8	23.7	30.5	21.6	30.6	26.2	29.3	23.2	30.7	23.1	30.9	22.2	32.8	22	31.1	23.6
28	29.7	23.4	30.6	20.1	30.7	25.6	31.4	22.3	30	22.2	29.8	21.7	32.5	21.3	31.1	22.6
29	29.7	24.1	29.5	22.1	30.5	26	31.3	23.1	30	22.2	31.7	22.5	32.1	21.3	30.2	25.1
30	30	20.4	30.5	20.1	30.5	25.6	33.2	21.8	30.3	21	32.2	22.6	31.2	20	30	22.6
31	31.1	20.1	30.6		30.7	23.6	30.8	20.5	30.6	22.5	31.6	22.7	30.5	20	31.2	23.6
Mean	30.6	23.4	30.2	22.1	30.5	24.9	31.3	23.2	30.4	22.5	30.7	22	32.1	22.1	30.7	23.4

Maximum and minimum temperatures at the stations of the Weather Bureau, October, 1920—Ctd.

Day.	Ormoc.		Guiuan.		Bogo.		Tacloban.		Capiz.		Borongan.		Calbayog.		Masbate.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.9	22.1	33	24.8	31.9	23.7	33.1	23	34.3	23.1	31.8	23.8	31.6	22.3	31.6	24.2
2	31.2	22.1	32.9	24.2	32	23.9	30.9	23.5	33.8	24.1	32	23.5	30.3	23.1	31.8	25.4
3	33.6	22.4	31.2	24.4	31.6	23.5	32.3	23.9	32.7	24.4	30.5	23.5	29.9	23.2	30.8	25.6
4	33.9	22.4	32.7	23.3	30.2	23.1	33.8	23.2	35	23.5	31.3	23	31.8	22.9	30.8	24.8
5	33.8	22.8	30.4	23.5	30	23	33.4	23.1	33.4	24	31.8	23.3	32	23	31.6	25.2
6	33.6	22.7	32.5	23.8	31	23.5	33.6	23.2	32.8	24.5	31.7	23.7	32.1	23	31.4	24.6
7	30.6	22.7	28.9	23.2	31.5	23.8	27.1	23.9	29.3	23.5	27.5	23.6	26.2	23	30.4	25.5
8	30.2	22.7	33	23.5	31.6	23.8	31	23.6	32.9	23.2	31.8	23.5	31.2	22.3	31.4	24.6
9	31.4	22.4	32.4	23.6	31.4	23.5	31	23.9	35	23	32	23.5	31.1	23	31.8	25.4
10	32.1	22.6	31.9	24	30.8	23.3	31	24	32.3	23.1	31.7	23.2	31.2	23.4	31.4	25.5
11	32.2	22.6	31.3	24.8	31.1	24	30.8	23.7	31.8	23.9	32.6	22.7	31.1	23.5	30.6	25.4
12	32.5	23.9	28.6	26.8	31.2	24.1	29.1	23.5	33.3	23.5	30	23.6	30	23	31.2	25
13	29.9	24.2	29.7	26.1	30.6	23.8	29	23.5	32.8	24.3	27.6	24	27.9	24.3	30	25.6
14	28.9	23.8	29	25.1	29	23.7	27.8	23	27.3	23.5	26.8	23.8	26.7	25.1	26.8	23
15	31.3	24.2	30	26.1	28.6	23.9	30	23.2	29.4	23.2	28.6	24.8	26.6	25	27.8	24.6
16	30.2	24.8	29.7	24.2	28.1	23.7	27.6	24.5	28	23.7	27.1	24.3	25.9	23.9	26.8	23.6
17	30.6	23.8	29.3	25.8	28	23.5	29.2	23.5	29.5	23.3	30	24.5	27.2	24.9	27.6	25
18	30.8	23.9	29.8	24.6	26.3	23.3	29.8	23	32.8	22.6	30.3	23.6	30	22.6	31.6	24.2
19	32.2	22.3	31	24.1	28.7	23.4	31	22.5	32.2	22.5	31.2	22.5	30.3	22.3	30.4	22.3
20	34.2	22.4	31.8	22.5	29.2	23.2	32.2	23	32.6	23.5	31	22.6	32.3	22.9	30.2	24.6
21	33.8	22.4	31	24	30.3	23.3	32	23.2	32.4	24	31	22.9	32	23.3	30.6	24.6
22	31.4	22.5	30.5	22.5	30.6	23	29	22.2	32.8	25.2	28.1	23	31.6	22.7	30.2	25.8
23	33.4	21.6	32	22.3	30.7	23.2	32.1	21.5	31.9	25	31	22.6	31.6	22.7	31	25.6
24	33.7	21.6	32.4	24.1	31	23.5	32.1	23.4	33.3	24.4	31.3	23.4	31.4	22.6	30.8	25
25	32.4	22	32.1	24.5	31.1	23.7	30.2	23.9	33.3	24.5	31.2	24.2	32.3	22.6	31.4	25.8
26	33.2	21.9	32.5	24.3	31.2	23.8	31.2	23	32.9	24.1	31.6	22.5	30.6	22.7	30.8	25.6
27	33.4	21.9	32.1	23.4	30	23.5	30.5	22.2	32.3	23.8	31.2	22.4	30.9	22.9	30.2	24.3
28	33.4	21.7	32	23.2	30.7	23.4	30	22.8	32.3	23.6	30.8	22	30.1	22.6	30	24.6
29	32.8	21.7	32	23.7	30.9	23.5	30.6	23	32.3	24.1	30.7	21.6	30.9	21	31.2	24.4
30	32.7	18.1	32.1	22.3	30.1	23.7	30.9	19.8	31.9	21.9	30.5	19.3	30.8	19.9	30.4	22.4
31	32.6	18.3	31.3	24	30.4	23.5	28.7	22.6	31.9	21	30.6	21.3	28.6	21	29.8	22.4
Mean	32.2	22.4	31.3	24.1	30.3	23.5	30.7	23.1	32.1	23.6	30.5	23.4	30.2	22.9	30.4	24.7

Day.	Romblon.		Batag Light-house, Laoang.		Irosin.		Sorsogon.		Bacon.		Legaspi, Albay.		Guinobatan.		Polangui.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.9	23.2	30.8	23.2	34	22.1	32.8	24.3	33.2	21.8	32.7	21.2	32.7	21.2	32.7	22.5
2	32.6	24.4	30	24.1	32	23.7	32.8	23	32.8	24	32.8	24	32.1	23.2	32.4	23.8
3	32	24	30.8	23.2	30.6	22.1	30.5	23	32.6	23.8	32.1	22.7	32	22.7	32	22.2
4	32.1	23.7	30.5	23.4	33.8	21	32	22	33.1	22.6	30.7	21.6	32	21.6	32	21.4
5	32.5	23.7	31.2	23.5	32.2	22.1	31.5	23.2	32.5	23.3	31	22.2	32.7	23	32.7	23
6	32.1	23.3	30	23.7	32.2	22.2	30.1	22.5	31.5	22.4	30.7	20.3	31.4	22	31.4	22
7	30.5	22.9	25.6	22.3	31.7	21.5	29.6	23	31.4	24.2	31.2	23.1	30	23.9	30	23.9
8	32	23.4	30.6	23.8	32	21.7	32.5	23	33.1	24.9	31.6	22.1	32	22.1	32	22.5
9	32.4	24.5	31.4	23	32	22.7	32	23.4	33.2	25.6	32.3	21.5	32.7	22	32.7	22
10	32.1	24.5	31.5	23.7	34	22.9	32	23.1	33.1	25.4	32.4	22.6	32.9	22	32.9	22
11	32.1	24.1	30.5	24.3	34.2	21.4	32.6	22.9	32.8	23.3	30.9	21.1	33	22	33	22
12	32.1	23	27	23.9	32.1	20.9	31.2	22.5	31.7	22.9	31.1	21.6	32	22	32	22
13	31.1	23.8	26	22	27.7	23	27.8	23.6	28.4	23.3	27.9	23.2	31	22.9	31	22.9
14	27.5	23.6	26	22.4	26.3	21.9	26.5	22.9	26.1	22.9	25.3	22.6	23	22.6	23.3	22.5
15	30.5	24.3	25	22.9	27.5	19.6	26	22.5	26.4	22.9	26.3	22.4	26.5	23.4	26.5	23.4
16	29.5	23.6	25.7	23	26.3	19.5	25.4	23	27.2	22.8	24.9	22.2	27.2	22.4	27.2	22.4
17	28.9	23.2	26.3	23.4	28.1	20.4	27.8	23.9	26.9	24	28.1	24.2	27.3	23.6	26.5	23.4
18	30.9	22.2	30.2	23.2	31.8	22	30.9	22.5	28.9	23.5	32.2	23.2	30.3	21.6	29	21.8
19	29.5	22.3	30	21.7	33.9	20.9	31.1	21.5	30.7	21.7	30.8	22.4	29.4	21.5	31.3	21.8
20	30.7	23.3	30	23.1	29.4	21.3	32	22.8	27.9	22.5	31.7	23.4	30.9	22.8	31	22.5
21	31.1	23.2	30.2	24.3	30.1	21.4	30.7	23.4	28.9	23.5	31.7	23.4	31	21.9	31.5	21.8
22	31.5	24.1	30	22.5	29.3	21.6	31	23.8	30	25.8	31.4	24	31.4	21.2	30.5	21.3
23	30.5	25.2	30	22.3	31.4	21.5	30.5	23	29.9	23.1	31.9	25.1	31.3	22.5	31.5	22.3
24	30.9	24.2	30.3	23.6	30.5	21.9	30.5	23.5	30.7	23.3	31.3	24.5	30.7	23.2	32.2	23
25	30.6	24.2	30.1	24.5	29.3	20	31	24.5	29.4	23.8	31.6	25.7	31.3	21.6	32	21.7
26	31	24.2	30	24.6	22.8	31.1	24.2	30.4	30.4	24.5	31.5	24	31.7	20.7	32	21
27	31	23.6	30	23.9	22.3	30.6	22.9	31	31	23.6	30.8	24.2	31.2	22.9	31.9	22.8
28	31.5	23	29	23.5	21.5	29	22.6	29	29	24.5	30.7	24.6	30.5	21.8	31	21.4
29	31.1	24.2	31.5	23.5	20.3	29.7	22.2	29.3	24.6	31.1	24.7	30.9	18.2	30.2	17.5	17.5
30	31	21.4	30	23.5	18.4	30.2	19.6	29.7	22.7	30.8	21.5	30.3	19	30.3	17.5	17.5
31	30.3	20.7	29.5	22.6	15.1	30.5	19	29.7	23.1	31.5	18.6	15.6	30.2	16	30.2	16
Mean	31.1	23.5	29	23.3	30.9	21.3	30.4	22.8	29.4	23.6	31.1	23.5	30.4	21.6	31	21.8

Maximum and minimum temperatures at the stations of the Weather Bureau, October, 1920—Ctd.

Day.	Tabaco.		Sumay, Guam.		Iriga.		Calapan.		Virac.		Naga, Camarines Sur.		Tigaon.		Libmanan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	34.2	22	30.1	24.1	33.2	21.5	31.9	22.6	31.2	22.2	33	23.1	33.2	20.2		
2	33.5	23.5	30.8	26.2	32.2	23.4	31.5	23.6	31.1	23	32	23.4	33.4	23		
3	31.7	23.2	29.9	24	32.4	23.2	31	23.5	30.5	22	31.3	23.1	32.3	21.8		
4	34	21.6	31.3	25.7	32.9	22	31.5	22.6	31	21.5	33.5	22.7	33.3	20.8		
5	34.2	21.4	29.8	26	32.8	21.7	32.5	22.5	31	21.5	33.5	22.6	31.8	20.5	32.8	22.1
6	32.7	22	29.7	25.7	33.1	22.8	31	23	29.5	21.6	30.5	23	31.4	21.7	32.9	23.9
7	30.2	22.9	30.6	24.4	32.1	22	31.6	22.6	29.5	21.4	31.3	22.6	31.4	21.8	32.9	23
8	30.5	23	29.9	24.5	33.1	21.6	31.5	23.5	31.5	21.8	32.5	21.5	33	20.2	33	22.1
9	32	23.6	32.4	24.6	33.2	21.9	31.5	22.9	32.3	21.4	32.6	22.2	33.7	20.9	31.8	22.9
10	31.9	23.3	30.3	24.5	33.2	23.2	32.8	24	31.1	22.5	32.2	23.4	32.6	21.5	32	24
11	32	22.1	30.4	25	32.5	21.9	32.5	23.5	33.4	22	32	23	33	20.7	32	22.9
12	31.8	22.8	30.4	23.5	31.3	21.2	32.7	23.4	30.1	23	31.3	23.2	29.8	20.8	32	22.8
13	31.9	23.3	30.8	23.5	29	22.9	31.5	23.2	28.4	23.2	29	23.7	27.5	22.1	30.1	23.4
14	28.1	22.6	28.8	24	28	22.7	28.5	24	25	21.5	25.2	22.6	24.6	21.1	30	22.2
15	25.9	22.5	29.6	23.3	27.9	22.6	31	23.5	25	23	27.4	23.5	27.4	22	30	23.8
16	26.6	21.9	31	23	27.7	22.2	31	23.5	26.5	21.6	25	22.5	24.7	21.2	30.1	22.5
17	27.1	23.7	27.8	23	28	22.9			28.2	22.2	27	23.2	26.9	21.9	27.8	22
18	28.2	22.5	30.3	24.5	31.3	21.4	32	23.4	32.7	22	31.5	21.8	31.5	21.8	31.5	22.1
19	31.3	22.6	31.2	24.8	29.1	21.7	30.5	22.1	31.6	21.5	29.1	22	30	20.5	31.7	22.6
20	29.9	22.4	28.8	25	32.2	23	31	22.5	30.5	21.3	32.3	23	31.9	21.4	31.4	22.1
21	30.2	22	29.7	23.2	31.2	22.1	30.7	22.4	30.7	21.2	31	23.5	31.1	20.8	31.7	23.8
22	30.3	22.3	28.7	24.4	31.8	22.2	31	23	31	21	31.6	23.4	31.9	20.8	31.7	24.5
23	30.7	23	29.8	26	32.4	22	31	23.5	30.5	21.2	31.3	23.5	30.9	21.5	31.8	23.4
24	30.9	22.5	29	26	31.2	22.6	30.6	23.1	30.7	22.5	28.5	22.7	30.4	21.6	28.2	23
25	30.5	23.1	26.6	24.6	32.2	22.1	31.5	23.5	31.4	22	31.9	22.5	32	20.9	31.3	23.8
26	31.2	23.4	30.8	24	32.8	21.4	31	22.5	31.4	21.7	31.9	21.4	32.5	20.5	31.8	23.2
27	31.3	22	30.2	24.2	31.7	22.8	30.5	23.5	27.5	22.5	30.6	22.6	31.4	21.4	31.8	
28	29.6	22	30.8	24	30.2	21.8	29.5	22.5	32.1	21.7	30.2	22.5	29.5	20.7	31.8	24.2
29	30.3	20.3	30	24.4	30.8	20.3	30.4	22.5	31.2	20.3	31	20.6	31	17.8	30.5	21.4
30	30.1	20.1	30.7	24.2	30.5	18.2	30	21	31.8	21.2	31.4	19.1	30.8	17.9	30.8	20.9
31	30.4	19.1	30	26.5	31.9	16.1	30.3	20.1	30.5	21.1	31.1	17.6	31.7	16.4	30.8	
Mean	30.7	22.3	30	24.5	31.4	21.9	31.1	22.9	30.3	21.8	30.7	22.4	30.9	20.8	31.3	22.9

Day.	Batangas.		Calatagan.		Balayan.		Lipa.		Lucena.		Atimonan.		Nasugbu.		Ambulong, Tanauan, Batangas.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	33.1	23.8?	33.1	22.3	31.6	23.5	31.3	21.5	32.2	21.6	32.4	23.5	33.2	21.8	32.2	23
2	33.5	24.1	32.3	23.4	32.5	23.6	32.1	22	33	22.1	29	24	32.4	21	31.7	24.5
3	31.3	23.4	32.6	23	31.5	23.2	28.7	21.6	32.2	22	30.1	24.4	32.5	22.1	31.4	23.4
4	32.2	22.4	33.1	22	31.5	21.3	30.5	20	32	22.2	31.1	23	32.1	22	29.7	22.8
5	32.2	22.4	30.8	22.4	30	23	28.7	20.7	31.9	22.9	30.8	23.7	32.8	22	32	22.8
6	31.5	22.5	32.1	22.8	31.6	22.3	30.3	21.4	32	22.1	29.9	25	33.9	22	33	23.2
7	31.2	23.5	32.7	22	30.7	22.2	29.5	21.8	31.4	21.7	29.6	22.9	32.7	22.5	29.7	23.3
8	32.6	22.6	32.6	22.2	32.5	21.3	30.1	20.7	32	21.6	31.2	25.9	32	22	31.3	22.7
9	33.7	23.2	33.6	23.9	31	23.5	30.4	21.9	31.5	21.7	31.5	25.2	33	21.5	32.5	23.9
10	31.8	22.5	32.9	22.2	31.7	21.3	29.6	21.6	31.5	21.7	30.1	24.2	32.4	21.7	32.6	23.4
11	31.8	22.9	32.4	22.1	31.5	22.5	31.2	21.1	31.5	21.5	30.6	23.2	32.6	21.6	31.8	23.2
12	31.7	23.8	31.7	23.8	31.5	23.6	30	21.3	33.2	20.6	31.1	23.4	33.1	22.1	30.9	23
13	31.4	23.8	33.2	22.6	31.8	22.3	30.4	20.1	31.1	21.1	30.8	23.6	32.4	22.2	31	23
14			30.1	24.5	29.8	23.4	29	21	28	21.8	26.4	23.5	33.4	21.5	28.5	24
15			29.6	24	29.6	24.2	28	21.6	30.1	21.7	29.4	23.8	33.2	20.5	29.5	23.9
16			30.9	23.7	29.7	23.5	27.7	22.8	28.5	21.6	28.8	23.8	32.2	20.9	29.3	23.7
17			29.6	22.7	28.5	22.4	29.8	21.5	30.5	21.6	29.2	23.8	32.1	20.5	30	23.4
18	30.6	23.8	31.7	21.4	30.5	23.5	28.3	20.7	31.2	21.2	30.1	23.2	32.9	21.9	29.9	22
19	31.2	23.1	32	22.7	30.7	23	28.1	20.8	28.2	21	29.6	22.6	33.6	20.9	29.7	22.2
20	31.8	22.4	32.7	22.6	31.7	22.5	29.4	20.6	30.6	21.1	31.4	22.6	32.8	21	31.9	22.3
21	31.8	23.2	32.6	23.3	32	23	29.8	20.7	31.1	21.4	29.1	22.7	32.8	21.4	32	22.6
22	31.8	23.3	32.5	22.5	31.5	23.5	29.9	21.1	30.3	21.7	30.5	23.6	33	22	30.6	23.7
23	31.5	22.6	32.2	23.8	31.5	22.5	28.9	21.8	28.8	21.7	28	24.2	32	21.2	30.3	23
24	32.1	23.7	32.3	23.9	31.6	25.2	28.4	21.8	28.7	22	28.7	24.2	33.2	21.5	29.5	23.1
25	32.5	22.4	33.3	23	32	23.5	29.3	21	29.7	22	27.6	24.2	33.7	21.1	30.6	22.3
26	30.9	22.2	33	23.6	32.5	23.5	29.4	21.3	30.2	22.3	29	25.2	34.7	21.8	30.9	22.9
27	31.4	22.3	32.4	23.1	32.6	25	29.9	20.1	29	22.6	27.4	24.2	34.1	21.8	30	22.1
28	31.3	22.8	32.4	23.3	31	22.5	28.3	20.3	28	21.1	27.5	24	34.1	21.3	29.4	20
29	30.9	21.3	31.2	22.7	31.5	23.5	28.9	20	30	19.6	29.4	22.3	33.2	21.1	30	19.3
30	30.8	20.2	32.2	21.8	30.7	21	28	21.6	29	19.6	28.6	21.5	32.5	21.9	28.3	19.7
31	30.9	19.7	31.7	21.8	31.5	22.7	29	21.8	29.9	18.1	28.7	20	32.6	21.9	29.7	18.6
Mean	31.8	22.7	32.1	22.9	31.2	23	29.4	21.2	30.6	21.4	29.6	23.6	32.9	21.6	30.6	22.6

Maximum and minimum temperatures at the stations of the Weather Bureau, October, 1920—Ctd.

Day.	Daet.		Mendez Nuñez.		Alfonso.		Indang.		Canluban, Calamba.		Silang.		Paracale.		Santa Cruz, Laguna.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.7	21.3	29.5	19.9	30	20	29.5	22	32	21.6	30.2	22.2	30	23.5	32.9	22.4
2	32.8	23.9	28.5	20	29.5	21.1	25.5	22	31.2	22.5	30.8	22	30	24	33.9	23.2
3	30.8	23.3	29	20.5	29.3	21.3	29.7	21.4	31.3	22.7	30	20.5	30.2	24	32.8	21.8
4	31.7	22.8	28	19	28.3	20	30.2	20	32.2	21	29.8	19.7	30	24	31.3	21.9
5	31.5	22.1	27.2	19.9	27.9	20.6	30.2	21.8	32.4	21.5	29.4	21.2	30.2	24	32.8	22.3
6	29.3	23.2	28	20.5	28.6	21.6	29.6	22.3	31.8	22.4	29.2	22	30	24.5	32	23.2
7	30.8	22.6	26.7	20.5	28.1	21.2	29.3	21.9	30.5	22	29.1	21.1	30	24	31.4	23.1
8	31.3	22.3	27.5	20.2	28.5	21.1	29.7	21.6	31.4	21.8	29.2	20.5	31	24.2	32.9	22.2
9	31.4	23.2	28.5	21	29.2	22	30.2	22.8	32.7	22.6	29.7	21.2	30.8	24.2	32.5	22.1
10	31.3	23.6	29	20.2	28.9	20	30.2	21	32.5	21	29.8	21.5	30	23.8	32.5	22.3
11	31.5	23	29	20.2	29.2	21.6	30.6	22.3	32.6	22.2	29.4	22	30	24	32.8	22.8
12	30.8	22.4	27.9	20.2	28.4	21.6	29.8	22.4	32.4	22.1	28.7	20.7	31.2	24	33.4	22.8
13	30.7	22.9	28.5	19.8	28.5	20.6	30.1	21.3	32.2	21.8	29.4	20	30	23.2	33.4	22.6
14	25.7	22.4	25.5	20	26.4	21.1	27.4	23	29	22.2	29.3	21.5	31	23.8	29.8	23.3
15	28	22.6	26.5	21.7	26.5	22.6	28.8	23.2	30	22.5	28.8	22.7	31	23.8	30.9	23.2
16	25.5	22.5	26.5	21	27	22.1	28.9	23.2	29.2	22	29.7	21.5	31	24	31.1	23.2
17	28.1	23.2	27	20.2	26.8	20.7	29.5	21.4	31.4	22.2	28.3	22	30	23.8	31.2	23.5
18	31.7	22.4	27	19.9	27.3	20.6	28.4	21.2	31	21.6	27.5	21.3	30.2	23.8	30.2	22.7
19	30.6	22	26.5	19.9	26.6	20.7	27.2	21.5	29.5	22.2	27.7	21.6	30.5	24.4	30.9	23.2
20	31.1	22.3	28.2	20	29	20.7	28.6	21	31	21.2	27.2	20.7	30.5	24	32.8	22.2
21	29.6	22.8	27.8	19.2	28.5	20.5	29.8	21.2	31.8	22	28	20.6	30.8	24	31.9	22.3
22	30.6	22.3	26.7	20.2	27.5	21.2	28.4	21.8	30.6	22.1	28.7	21.7	31	24.2	31.2	23.3
23	28.6	22.8	26.5	20	27.6	21.1	28.4	21.7	30.5	21.8	28.9	21.5	31	24.2	27.6	22.4
24	28.8	22.6	26.5	19	27.3	21.4	28.2	21.8	31	22	28.5	20.7	31.2	24.2	29.2	22.3
25	30.3	23	27	20.2	28	20.9	29.2	21.5	30.5	21.8	28.1	21.5	31	24	30.9	22
26	29.8	23.1	27	20.5	27.9	21.4	29.7	21.8	31	22.4	28.2	21	30	24	29.3	23
27	27.6	22	27	20	27.8	20.3	29.8	21.4	30.2	21.9	27.9	21.6	30	24	30.3	22.6
28	28.9	21.6	26	20	27.9	22	29.4	21.4	30.5	22	27	21	29.8	24	30.4	22.2
29	29.6	21.5	26.5	18.9	28	20.2	28.7	21	30.7	20.9	28	20	29.8	23.5	30.4	21.6
30	29.8	19.8	27.5	19	27	20.1	28.8	20.2	30.6	21	28.7	21.6	29.5	23.5	30.1	21.9
31	29.6	18.2	27.5	18.5	27.8	19.1	29.8	20.3	30.9	20	28.2	20.1	29.5	23.2		20.1
Mean	30	22.4	27.4	20	28	20.9	29.1	21.7	31.1	21.8	28.8	21.2	30.4	23.9	31.4	22.5

Day.	Buenavista, Malabon, Cavite.		Cavite.		Manila.		Antipolo.		Balanga.		Malolos.		San Fernando, Pampanga.		San Isidro, Nueva Ecija.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.7	21.5	32.5	25.5	31.9	23.8	32.3	22.1	32.8	23.7	32.7	24.2	33	23.3	31.9	23.6
2	31	22.5	32.4	26.1	31.9	23.7	31.7	22.5	32.6	24	32.5	24.5	33.5	23.4	32	23
3	31.4	21.6	33	25	32.6	23.2	32.6	21.4	32.4	23.5	31.1	23.4	32.6	22.3	31	23
4	31.8	20.4	33.3	25.6	32.3	23.4	31.5	21.5	32.4	22.9	32.5	23.1	33	20.6	31.2	23.4
5	31.3	21.4	31.2	25.7	32.7	23.3	31.8	22.7	32.4	23	31.6	24.8	32.7	22.2	32.4	23.9
6	31.6	20.5	31	24.9	30.8	23.1	30.8	21.6	32.9	23.7	31.8	24.5	32.5	22	30.5	23.4
7	31.4	22	32	25	29.8	23.3	28.7	21.5	32.4	22.9	30.9	23.1	31	20	31.5	23
8	31.8	21.7	33.5	24.8	32.2	22.5	31.7	20.5	31.9	23.5	31.1	23.8	31.3	23.5	30.4	24
9	32	22.5	34.5	25.7	32.6	22.8	31.2	21	30.7	21.5	32	24	32.2	22.6	32	23
10	31.3	21.3	33.5	25.5	32.4	22.5	30.2	21	34.6	22.8	32.5	24.1	33.5	22.7	32.4	23.4
11	31.6	22.4	32.6	25.2	32.3	23.7	31.2	21.3	32.2	24	32.1	24.5	33.4	22.6	32.4	22.6
12	31.2	22.6	32	25.7	31.9	24.5	31.7	21.3	32	23.2	32.7	24.1	32.5	22.6	31	23.5
13	31	21.6	30.5	25.9	31.1	23.4	29.9	21.5	31.4	24	30.3	25	31.2	22.5	30.6	23.7
14	29.3	22.7	31	23.6	30.7	24.1	29.3	22.7	30.6	23.9	30.4	24.4	31.3		30.8	24.2
15	30.7	22.7	30	25	30.1	23.8	29	21.9	32	24.4	30.3	24	35	23.8	31	23.9
16	31.3	22.4	31	25.2	30.4	24	28.9	22.7	30.5	25	29.3	24	29.5	24.6	29	23
17	29.9	21.7	31.5	23.3	30.5	21.7	30	22.1	28.5	22.8	30.5	23.4	32.2	22.5	30.5	23.2
18	29.3	21	31	23.1	29.5	21.6	28.3	20.2	31.3	22.2	29.5	22	34.2	21.5	30	21.7
19	29.5	20.5	32.1	24.2	30.9	23.2	29.3	21.5	30.5	22.5	31.5	24.5	32.5	21.6	31.4	22.8
20	30.4	21.2	33.5	24.4	31.5	23.7	31.2	21.7	31.1	23.5	30.5	24	29.2	22.1	30.4	23.2
21	31.5	21.9	33	25.3	32.4	23.5	32.2	21.4	31.1	23.2	32.3	24.5	32.6	23	31.6	23.6
22	31.2	21.7	32.4	25.5	32.9	23.7	31.5	21.5	31.4	23.3	30.5	24	31.2	22	31	23.4
23	31.7	22.4	31.2	25	31.6	22.4	32	20.7	30.7	23.4	30.5	23.5	31.5	22.2	31.9	22.4
24	30.4	21.7	32.5	24.9	30.2	23.1	29.7	21.2	31.1	23.4	30.1	24.1	31	21.8	31.4	23.2
25	30.7	21	32.6	25.3	31.7	22.5	31.4	20.7	32.4	22	32.1	22.7	32.2	21.8	32.5	22.3
26	30.7	21.4	31.6		31.2	21.8	30.6	20.7	32.8	22.5	31.7	22.5	32.5	22	31.4	22
27	30.7	21.3	31	24.5	31	22.4	29.8	20.6	32.8	23	31.9	23.5	33	22.7	31.2	22.9
28	30.7	20.9	31.8	25	31.1	21.7	30.2	21.7	31.8	23.2	31	23.2	32	23	31.4	22.2
29	30.5	20.1	30.7	24.1	31	20	30.6	18.5	31.7	20.6	30.5	21	31.6	19.7	31.2	20.6
30	30.8	21.2	32.5	24.3	30.8	22.5	29.5	20.7	31.6	21.7	30.9	21.5	31.2	20.5	30.4	21.5
31	30.8	21.2	31.5	23.6	30.7	20.5	31.2	19.3	31.5	21.1	30.4	21.6	32.5	21.3	30.2	20.6
Mean	30.9	21.6	32	24.9	31.4	22.9	30.6	21.3	31.9	23	31.2	23.6	32.2	22.2	31.2	22.9

Maximum and minimum temperatures at the stations of the Weather Bureau, October, 1920—Ctd.

Day.	Iba.		Tarlac.		Baler.		Dagupan.		Bolinao.		Baguio.		San Fernando, La Union.		Candon.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.2	22.7	34.2	22.1	32.9	24	32.1	24.5	32.2	24	24	16.1	33	23.3	31.5	24.7
2	31.6	22.4	34.5	21.8	31.7	23	31.7	23.5	31.5	24.1	23.8	15.9	32.4	23.5	31.2	25.5
3	31.6	22.5	34.2	21.6	31.3	22.1	32.1	23.2	31.7	23.7	23.7	15.6	32.3	22.8	30.6	23.6
4	31	22	33.4	21.4	31.5	22.3	32.3	23.5	31	24.2	23	15.6	31.9	23	31	24.6
5	31.5	21.4	34	21.2	30.9	22	31.9	24.4	31.7	23.5	24.4	14.8	32	22.6	31.6	24.5
6	31.5	21.5	33	22.4	31.2	22.3	32	23.2	31	23.8	22.8	15	32	22.5	31.2	24.1
7	30.5	22	32.5	21.4	31.5	22	33	23	32.5	23.3	23.4	15	32.2	22.5	30.6	23.9
8	31.5	21	33	22.1	30	23.2	32.6	23.5	32.5	23	24.7	15	31.7	22	31.2	23.5
9	32.1	21.4	34.1	21	31.5	21.6	32.7	23.1	32.5	24	23.8	15.2	32.3	21.9	32	24.2
10	31.9	22.3		21.6	34.4	21.8	32.9	24.3	32.5	23.5	23.8	15.5	32.5	23.3	31.9	25
11	32.2	23.3		21.8	34	23.2	32.5	24.3	32.5	24.7	23.7	16.5	32.6	23.6	32	25.5
12	32.2	23.2	33.6	22.4	32.4	22.3	32.2	24.5	32.2	25.4	23.3	16.3	32.3	24.4	32	24.9
13	31.7	23.4	33.6	23.6	32.3	21.9	33.2	24.8	32.8	25.3	22.8	16.4	32.4	24.6	31	25.4
14	31.3	22.6	32	22.6	32	23	32.3	24	32.7	25.2	22.7	16.2	32.5	23.4	31.5	25
15	31.6	22.6	33.4	21.6	32.6	22.7	31.8	24.4	31.7	25.2	21.4	16.2	32	23.4	31	25
16	31.5	22.7	30.6	23.2	29.1	23.5	32.3	23.5	32	25	22.3	16	32.9	23.8	32.2	25
17	30.6	21.8	31.4	21.6	32.3	21.9	30.3	23	30.2	24.2	21.7	15.2	30.7	23.7	31.1	23.8
18	30.2	20.8	32.8	20.4	31.6	20.3	31.8	22.5	30.3	24.3	22.5	14.2	31.7	22	31	22
19	31	21	33.5	21.1	32.2	20.1	31.8	22.4	31	23.2	22.3	14	31.1	21.4	31	21.9
20	30.6	21.5	32.4	22.6	31.6	21.2	32.4	22.9	31.5	24.7	23.5	14.1	31.5	21.1	30.8	22.2
21	31	21.5	33.6	21.6	32	22.3	33.8	23.5	32.1	24	23.7	14.5	31.6	22.5	31	22.8
22	32.4	23	32.8	21.8	31.4	22	32.8	23	32.4	24.3	23.2	15	31.7	22.3	31.3	23.5
23	33.2	21.5	33.3	21.2	31.7	22.3	33.3	22.7	31.6	23.7	23.8	13.6	31.9	23	32.7	24.1
24	33.2	24.2	32.8	22	28.8	22.5	33.3	23.8	32.8	22.4	23.5	14.3	32.4	22.3	31.5	23.5
25	32.3	21.6	34.4	20.6	32.2	22.2	32.3	22.8	32.2	22.2	23.7	14.8	31.8	22.5	31.5	24.4
26	31.7	21.6	34.2	20.4	32.1	21.1	32	23.4	32.3	23.5	23.6	15.3	31.8	23.3	31.4	23.5
27	32.4	21.8	33.2	21.2	30.4	21.3	32.5	23	31.7	23.3	23.1	14.5	32	22	31.3	23.5
28	31.6	21	32.6	21.4	30.4	21.3	32.8	23	31.3	23.2	22.8	12.8	31.5	20.8	31	22
29	31.5	20.6	32.4	19	30.4	19.4	32.5	22.1	31.7	21.8	22.3	11.8	31.4	20.5	31	21.5
30	31	20.4	32.4	18.4	30.2	20.7	31.9	20.9	31.4	20.9	21.5	12.1	31.9	18.8	31	21.6
31	31.5	20.3	32.8	19.1	29.7	21.5	32.2	21	31.5	21.2	22.4	13.2	31.5	20.4	31	21.5
Mean	31.6	21.9	33.1	21.4	31.5	22	32.4	23.3	31.9	23.7	23.1	14.9	32	22.5	31.3	23.7

Day.	Vigan.		Tuguegarao.		Laoag.		Aparri.		Cape Bojeador.		Basco.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.6	24.4	32.8	23.6	31.5	23.7	30.5	23.8	30.6	23.3	30.8	25.2
2	31	24.1	28.2	22.7	32	23	28.8	23	30.2	25	31	23
3	31.7	23	32	22.5	31	22.5	30.8	22.5	29.2	24	29.5	23.1
4	30.6	23	32	22.2	30.8	23	32	22	29.3	23.1	31	23.4
5	31.4	24	32.1	23	31.4	22.9	31.8	22.5	30.7	25	31.3	23.1
6	31	24	32.2	23.3	31.7	23	31.3	22.5	29.5	24.1	31.5	23.5
7	31.5	23.5	32.9	22.2	31.6	23.5	31.9	22.8	30.4	24	31.5	23.8
8	30.6	22.9	31.7	22.7	31.3	23.5	31.6	23.5	30.5	24.2	32	25
9	30.3	23.9	32.4	23	32.2	23.5	31.3	23	31	23.7	32.4	23
10	31	23.8	33.8	22.3	32.6	22.5	31.1	23	29.1	24.4	30.7	22.2
11	32.5	24.2	32.8	22.7	32.2	23.4	30.6	22.8	29.5	24	31	21.8
12	31.9	23.8	33.7	21.7	32	21.9	30.4	22.6	29.1	24.4	30.5	22.9
13	31.4	24.4	32.5	23.2	32.9	23.2	30.2	23.5	29.2	24.6	30	23.6
14	32.4	23.8	32.1	22.7	33.6	22.9	32	24.1	29.4	24.4	31	23.4
15	32.4	24.2	30.2	22.6	32.6	23	29.7	22.8	29.4	24.6	27.2	23.1
16	32.5	24.6	28.5	22.6	32.6	24.3	28.6	24	28.1	22.8	29.2	23.4
17	32.5	23.2	28.9	21.8	31.9	21.4	29.3	23.6	28.2	24.5	28.7	23.4
18	31.8	22	28.5	21.3	31.6	22.1	29	23.4	28.1	22.6	29.5	22.4
19	31.4	21.4	29.8	21.6	32.5	20.1	29.7	22.3	27.7	22	29	23
20	30	21.4	32.3	20.5	31.8	18.7	29.3	20.3	27.7	22.6	31	24.9
21	30.5	21.6	32.5	21.5	32.1	20	31.2	21.4	29.6	22.8	31.4	20
22	30.8	22.6	30.8	21.5	33.4	21	30.8	22.6	29.8	23.1	28.7	22.4
23	32.2	24.2	28.7	20.7	33.2	20.5	30.4	22.2	29.3	23.2	28.7	22.4
24	33	26.5	26.2	22	33.4	20.1	29	24	29.6	21.5	28	22.5
25	31.2	25.7	23.5	21.2	33.2	22	26.6	22	28.4	23.8	29	22.5
26	32.5	24.4	28.4	21.5	33.8	22.1	28	20.9	27.8	22.4	28.4	22.6
27	31.1	22.4	29.6	20.5	32.8	20.8	28.9	23.9	27.8	23.5	28.7	19.1
28	30.6	20.5	29.6	18	32.5	16.4	28.2	19.4	27.7	21.3	28.4	23
29	30.9	21.9	29.5	19	31.9	18	28.7	20	28	21.7	28.4	22
30	31.5	22.5	30.7	17.8	31.7	17.9	28.9	19.6	29.4	21.2	28.7	20.9
31	31.2	21.6	31.6	19.8	31.6	18.5	29.3	20.5	29.8	24.3	29.6	21
Mean	31.5	23.3	30.7	21.7	32.2	21.6	30	22.4	29.2	23.4	29.9	22.8



SEISMOLOGICAL BULLETIN FOR OCTOBER, 1920.

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EARTHQUAKES FELT IN THE PHILIPPINES.¹

5, 4^h 28^m [5, 12^h 28^m]. Iba (W Luzon). Oscillatory earthquake, direction SW-NE, intensity III, short duration.

7, 4^h 26^m [7, 12^h 26^m]. Butuan (N Mindanao). Earthquake of intensity III, duration 10 seconds. It repeated with the same intensity at 7^h 53^m [15^h 53^m]. During the interval between these two earthquakes the seismograph recorded three instrumental shocks: the calm was complete afterwards during that day. All the shocks had a very near origin, probably towards the mouth of the Agusan River in the Butuan Bay.

9, 12^h 54^m [9, 20^h 54^m]. NE Mindanao. Earthquake of intensity IV, felt in the Provinces of Surigao and Agusan. The seismograph at the late place recorded on this date six instrumental shocks, before the perceptible earthquake, and three after, but only two of them had the same origin.

10, 16^h 20^m [11, 0^h 20^m]. Nasugbu (SW Luzon). Local earthquake shock of intensity III-IV.

10, 18^h 19^m 00^{s*} [11, 2^h 19^m 00^s]. N Luzon. Earthquake of intensity III-IV, felt through the whole portion of Luzon north of the parallel 15° 30' N, but specially on the western provinces. Its origin seemingly lay in the China Sea.

11, 14^h 15^m [11, 22^h 15^m]. Nasugbu (SW Luzon). Earthquake shock of intensity II-III.

13, 4^h 04^m [13, 13^h 43^m]. Guam (Mariana Islands). Earthquake of intensity IV, with rumbling sounds. Recorded at Manila.

13, 22^h 57^m 04^{s*} [14, 6^h 57^m 04^s]. Calatagan (SW Luzon). Earthquake of intensity III. Origin west of Mindoro Strait.

14, 18^h 30^m [15, 2^h 30^m]. E Mindanao. Earthquake of intensity IV, felt through the eastern portion of Mindanao, comprising the Provinces of Surigao, Agusan, and Davao. The intensity did not correspond to its great extension: probably of insular origin in the Agusan Valley.

17, 11^h 01^m [17, 20^h 40^m]. Guam (Mariana Islands). Earthquake of intensity III-IV. Repetition with the same intensity at 14^h 51^m [18, 0^h 30^m]. The origin of both shocks lay some 120 kilometers distant.

18, 2^h 47^m [18, 10^h 47^m]. Surigao (NE Mindanao). Earthquake shock of intensity III; recorded at Butuan.

19, 18^h 51^m 26^{s*} [20, 2^h 51^m 26^s]. Iba (W Luzon). Earthquake of intensity III-IV, duration 10 seconds. Origin in the China Sea.

¹The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that 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 report. All time indications are in Greenwich mean time (midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

22, 20^h 22^m [23, 6^h 01^s]. Guam (Mariana Islands). Earthquake shock of intensity III; recorded at Manila.

23, 5^h 00^m [23, 13^h 00^m]. Kidapauan (S Mindanao.) Earthquake of intensity III; recorded at Butuan.

26, 7^h 54^m [26, 15^h 54^m]. Butuan (N Mindanao). Earthquake shock of intensity III-IV, duration 5 seconds.

27, 5^h 22^m 37^{s*} [27, 13^h 22^m 37^s]. Guiuan (SE Samar). Oscillatory earthquake, intensity IV, duration 8 seconds. Recorded also at Butuan; epicenter off the coast of Samar in the Pacific.

28, 2^h 15^m [28, 10^h 15^m]. Ganassi (N Mindanao). Earthquake of intensity III-IV; three distinct shocks during four minutes; recorded at Butuan.

RECORDS OF THE MICROSEISMOGRAPH.

(Time: Greenwich mean. Midnight=0^h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N : $T_0=6.25$, $\epsilon=2,906$, $\frac{r}{T_0^2}=0.053$;
 A_E : $T_0=6.18$, $\epsilon=2,393$, $\frac{r}{T_0^2}=0.042$. Alluvium. 2.40 meters above sea level.)

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A_N μ	A_E μ	
292	2	Iv	eP F	h. m. s. 9 20 24	s.			
293	3	Iv	eP L M _N F	21 28 05 28 19 28 21 31	2	100		
294	4	I	e F	3 25 4 15				
295	4	Iv	e(PS) L M _N M _E F	4 26 28 27 38 27 52 28 02 42	5 5	42 24		
296	4	Iv	eP F	5 18 09 22				
297	8	III _d	eP L	7 34 31 34 56				Baguio (W Luzon). Maxima lost by the force of the shock. End overtaken by following earthquake.
298	8	II _v	eP	7 43 08				Baguio (W Luzon). End overtaken by following earthquake.
299	8	III _d	eP L M _N F	8 01 37 02 02 02 15 46	3	1,364		Baguio (W Luzon).
300	8	Iv	eP F	8 49 54 56				Baguio (W Luzon).
301	8	Iv	eP F	9 48 57 52				Baguio (W Luzon).
302	8	Iv	eP F	9 58 43 10 01				Baguio (W Luzon).
303	8	II _v	eP L M _N M _E F	11 52 17 52 42 52 52 52 54 12 07	3 3	176 109		Baguio (W Luzon).
304	8	III _d	eP L M _N F	13 23 10 23 35 28 48 45	3	581		Baguio (W Luzon).
305	8	Iv	eP F	14 03 31 14				Baguio (W Luzon).
306	8	II _v	eP L M _N F	14 28 02 28 27 28 44 39	3	104		Baguio (W Luzon).

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A _N μ	A _E μ	
307	9	Iv	eP F	h. m. s. 5 06 49	s.			Baguio (W Luzon).
308	9	Iv	eP F	8 12 22	48			Baguio (W Luzon).
309	9	Iv	eP F	11 05 11	00			
310	10	Iv	eP F	18 19 25	00			N Luzon. From Vicentini.
311	12	I	e F	7 03 51				
312	12	I	e F	7 58 8 24				
313	12	I	e F	8 19 9 05				
314	13	Ir	e F	4 03 25	55			Felt at Sumay (Mariana Islands).
315	13	Iv	eP L F	15 29 31 43	53 08			
316	13	Iv	eP F	22 57 59	04			Calatagan (SW Luzon).
317	15	I	e F	14 23 45				
318	16	Iv	eP F	10 57 59	21			
319	18	IIr	eP S iN iE iN iE iL M _N M _E F	8 19 24 25 25 26 27 29 29 29 9 02	02 58 21 46 32 09 00 05 07	7 7 6 7 8 7	291	384
320	19	Iv	eP F	18 51 56	26			Iba (W Luzon).
321	20	IIr	eP S iN L M _E M _N F	10 04 08 08 09 10 11 11 11 11	49 18 30 57 14 55 08	11 9	171	
322	20	Ir	eP S L M _N M _E F	19 18 21 22 24 24 20 18	35 39 21 40 59 18	12 12	55	62
323	21	Iv	eP F	22 22 27	10			
324	22	I	e F	3 48 4 18				
325	22	Ir	eP S L M _N M _E F	10 58 11 02 11 04 54 05 05 46	36 31 00 00 57 11 46	11 10	31	49
326	22	I	e F	12 29 13 27	58			
327	22	Iu	M F	13 37 14 18				
328	22	I	e F	20 21 44	57			Felt at Sumay (Mariana Islands).

Records of the Microseismograph—Continued.

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A _N μ	A _E μ	
329	23	Iv	eP F	h. m. s. 7 38 44	s.			
330	23	Ir	e L F	13 32 30 14 15 43				
331	24	I	e F	1 52 55 2 30				
332	24	Iv	eP L M _N M _E F	8 31 02 31 18 31 20 31 20 42	2 2	109	73	
333	25	Ir	e L F	8 09 00 12 30 42				
334	27	Ir	e F	5 22 37 37				Felt at Guiuan (SE Samar).
335	28	I	e F	7 33 49 8 22				
336	28	I	e F	11 25 52 51				
337	28	I	e F	13 10 17 15 02				Chile?
338	29	Iv	eP F	5 05 55 08				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS.¹

5, 4^h 28^m [5, 12^h 28^m]. Iba (W de Luzón). Temblor oscilatorio, dirección SW-NE, intensidad III, duración corta.

7, 4^h 26^m [7, 12^h 26^m]. Butúan (N de Mindanao). Temblor de intensidad III, duración 10 segundos. Repitió con la misma intensidad a 7^h 53^m [15^h 53^m]. Durante el intervalo que medió entre estos dos choques perceptibles, el seismógrafo registró otros tres instrumentales, siguiéndose calma completa durante el resto del día: todos los temblores de este día se originaron a corta distancia de la estación, a unos 30 kilómetros; probablemente cerca de la desembocadura del Agusan en la Bahía de Butúan.

9, 12^h 54^m [9, 20^h 54^m]. NE de Mindanao. Temblor de tierra de intensidad IV sentido en las provincias de Surigao y Agusan. El seismógrafo de Butúan registró durante este día varios choques instrumentales: seis antes y tres después de este temblor perceptible, pero sólo dos irradiaron del mismo centro.

10, 16^h 20^m [11, 0^h 02^m]. Nasugbú (SW de Luzón). Temblor de tierra local, de intensidad III-IV.

10, 18^h 19^m 00^{s*} [11, 2^h 19^m 00^s]. N de Luzón. Temblor de tierra sentido con intensidad III-IV en todas las provincias situadas al N del paralelo 15° 30' N, principalmente en las occidentales: el origen se halla probablemente en el Mar de la China.

11, 14^h 15^m [11, 22^h 15^m]. Nasugbú (SW de Luzón). Temblor de tierra de intensidad II-III.

13, 4^h 04^m [13, 13^h 43^m]. Guam (Islas Marianas). Temblor de tierra de intensidad IV, acompañado de ruido subterráneo. Registrado en Manila.

13, 22^h 57^m 04^{s*} [14, 6^h 57^m 04^s]. Calatagan (SW de Luzón). Temblor de tierra de intensidad III. Epicentro al oeste del Estrecho de Mindoro.

14, 18^h 30^m [15, 2^h 30^m]. E de Mindanao. Temblor de tierra sentido en toda la parte oriental de Mindanao, que comprende las provincias de Agusan, Surigao y Dávao. Su intensidad no correspondió a su grande extensión; el epicentro se hallaba al parecer en el Valle del Agusan.

17, 11^h 01^m [17, 20^h 46^m]. Guam (Islas Marianas). Temblor de tierra de intensidad III-IV. Repitió con la misma intensidad a 14^h 51^m [18, 0^h 30^m]. El origen de los dos parece fué el mismo, situado a unos 120 kilómetros de Guam.

18, 2^h 47^m [18, 10^h 47^m]. Surigao (NE de Mindanao). Temblor de tierra de intensidad III. Registrado en Butúan.

19, 18^h 51^m 26^{s*} [20, 2^h 51^m 26^s]. Iba (W de Luzón). Temblor de tierra de intensidad III-IV, duración 10 segundos. Origen en el Mar de la China.

22, 20^h 21^m 57^{s*} [23, 6^h 00^m 57^s]. Guam (Islas Marianas). Temblor de tierra de intensidad III. Registrado en Manila.

23, 5^h 00^m [23, 13^h 00^m]. Kidapauan (S de Mindanao). Temblor de tierra de intensidad III; registrado en Butúan.

26, 7^h 54^m [26, 15^h 54^m]. Butúan (N de Mindanao). Temblor de tierra de intensidad III-IV, duración 5 segundos.

27, 5^h 22^m 37^{s*} [27, 13^h 22^m 37^s]. Guiuan (SE de Samar). Temblor oscilatorio, intensidad IV, duración 8 segundos. Registrado también en Butúan; el epicentro se hallaba en el Pacífico algo lejos.

28, 2^h 15^m [28, 10^h 15^m]. Ganassi (N de Mindanao). Temblor de tierra de intensidad III-IV, distinguéronse tres diferentes choques durante cuatro minutos. Registrado en Butúan.

¹La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos 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 medio de Greenwich (Medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.



THE EARTHQUAKES OF BENGUET AND LA UNION PROVINCES

OCTOBER 8, 1920

On the 8th of October, at 7^h 34^m 31^s* [15^h 34^m 31^s], occurred in the Provinces of Benguet and La Union an earthquake of intensity VII–VIII, lightly perceptible also through the other northern and southern provinces of Luzon. In the region of Baguio the shocks opened small fissures in the masonry buildings and in the ground: in the Province of La Union they damaged many native bamboo and wooden houses, caused the fall of few old walls, fissured the ground and two or three culverts of the railway. To this first earthquake followed a second of nearly the same intensity, at 8^h 01^m 37^s* [16^h 01^m 37^s], and numerous aftershocks to the 10th.

The pleistoseist area of these shocks did not extend itself more than about forty kilometers in the N–S direction, and about the same number E–W. It comprised the southern portion of Benguet Province, and the part of La Union Province laying west of it. Along the coastal plains or low lands of La Union Province the area affected seems to have been shorter than in the interior highland. Most of the shaken area is located in the highlands of Benguet, which form an irregular plateau with a mean height of 1,400 meters above sea level: its base is only about 28 kilometers wide from the bottom of the Agno River Valley, laying east, to the western foot of the mountains. The coastal stripe of low land in the La Union Province is only about 8 to 10 kilometers wide: it is irregular and rough with narrow hills parallel to the coast. The width of the top of the highland or plateau of Baguio has an extension of about ten kilometers; it ends to the SSW with the Santo Tomas Mountain, more than 2,000 meters high, and to the south and southeast with the Kias heights or range, which forms an arch concentric to the Santo Tomas, but divided from it by the peculiar Bued canyon. This mountain region is a branch of the Central Cordillera of Luzon separated from it by the Agno River valley, which begins at the forking of the two ranges and runs southwards. Both sides or slopes of this mountain region drop very abruptly, and are carved by deep canyons; but the western presents the peculiarity of having the water courses perpendicular rather than parallel to the slope, giving origin to decreasing small ranges parallel to the direction of the plateau. The way by which the rivers advance to the sea below being through gaps open across the succeeding ranges. On the eastern side more natural water courses are found.

About the geological conditions of this region something was said in the Monthly Bulletin of August, 1913, describing the shocks occurred that year. Now we will only add that the geological formations in the portion of Baguio District and La Union, where the shocks had greatest intensity, are found in the following succession from E to W: plutonic and older extrusives, tertiary sediments. It seems that the principal axis of the pleistoseist area followed the direction of the highland, probably the contact between the plutonic and sedimentaries, which has nearly a SSW–NNE direction, and consequently it recedes from the sea coast, as it extends northwards. This may explain why at San Fernando and other towns located on the coast, only few kilometers north of Bauang, seem not to have been within the pleistoseist area; they are certainly situated farther W from the axis of the mountain region.

Undoubtedly the last shocks had the same character, and nearly the same extension as those of 1913. The movements were quick and of very small amplitude, the vertical component predominating in such a measure, that the steel wire supports of the pendulums Omori and Vicentini, at the Baguio Observatory, broke, unable to resist the great tension produced by the vertical jerks: the shocks of 1913 caused the same damage. Witnesses inform that the sensation was as if the whole mountain would slip down by short sudden impulses and jerks, without perceptible horizontal motion or swinging. As to their extension the only difference was that the movements maintained its intensity to the next sea shore, causing damage in some coastal towns, while in 1913 the pleistoseist area did not reach the coastal plain.

March 1892, occurred in the same region and to the south, in the Pangasinan Province, an extensive and very destructive earthquake, which had its epicenter about the great mountain group where the Santo Tomas, recognized as a block mountain, rises to more than 2,000 meters. That great earthquake was clearly of tectonic character; it had an excessively great extension, was recorded throughout the Globe, and the aftershocks lasted for many days. Neither the shocks of 1913 nor those of 1920 seem to have been the effect of any movement in the Santo Tomas Mountain; their pleistoseist area falling north of it. They had small extension, were not recorded at great distances, and the aftershocks lasted less than two days; consequently we believe that they must be classified as rockfall shocks. In fact the seismographs of Manila, about 250 kilometers distant, recorded only the two principal shocks and ten aftershocks. The true number of these, within the pleistoseist region, must have been somewhat greater: but as the seismographs of Baguio were put out of commission the observers only noticed six of the strongest during the 8th, seven on the 9th, and two on the 10th: in a report from one of the most affected towns it is stated that the total number of the aftershocks during the same period was twenty-three. The hours of the aftershocks recorded at Manila may be seen in the "Records of the Microseismograph." At Butuan, about a thousand kilometers from Baguio, only the two principal shocks were recorded. Outside of the Archipelago, we find both noticed in the Seismological Bulletin of Batavia, while only the first was recorded at Zikawei.

As a final note, in order to give the readers a better idea of the physiographical conditions of the shaken country, and of the character of the shocks, we may remark that the said seismic period of 1913 presented two critical dates, the 23rd of August and the 4th of September, respectively, about the middle and towards the close of the rainy season: while these of 1920 occurred practically at the end of such season. This circumstance seems to be rather significant: the amount of rainfall on the plateau during the wettest three months July, August, and September is very extraordinary: in 1913 it amounted to 4,768.5 mm. and in 1920 to 3,684.1 mm.: June and October have an average of only three to four hundred millimeters. In the western portion of this mountain region, where tertiary sedimentaries prevail, the run-off of this amount of water is made through underground channels; there exist some portions, where the crevasses and sinking holes are so numerous, that no water courses are to be found; and if any exists of short length, it leads to some sinking hole or cavern, to engross hidden water currents of unknown issue. As a result of underground currents and of the steepness of the hills, landslides and subsidences of great proportions are a frequent occurrence: some have been of sufficient extension to carry away and bury entire villages. Because of their costly consequences two of them deserve special mention; one occurred in August 1911 with the annihilation of many kilometers of the Baguio Road; the second began shortly after that year, some distance south of the town of Baguio; the part of a hill affected is yet sliding and sinking; the end of the road had

to be given another location, on the opposite side of the valley, and the Civil Hospital, which was located close to the edge left by the slide, rebuilt in another site. Recently, August 1920, in a town, some few kilometers north of Baguio, a landslide carried and buried a hamlet causing the death of many persons: moreover in a letter, dated November 1st, from Bontoc, a part of the Mountain Province, north of Benguet, where prevail identical sedimentaries, we find the information that the whole area, upon which the capital stands, began some months ago to slide very slowly, and it is yet sliding towards the bottom of the valley. Such superficial occurrences, in some instances, are not mere landslides along an inclined plane, but sinkings and partings of a portion of a hill; that is shown both by the nearly vertical section left, and the absence of forward advance of the moving down portion. Such superficial effects, we venture to say, lead us to devine what may happen in the interior of a land altogether so high above sea level.

LOS TERREMOTOS DE BENGUET Y LA UNION

OCTOBER 8, 1920

El 8 de octubre a 7^h 34^m 31^{s*} [15^h 34^m 31^s] ocurrió en dichas provincias un terremoto de intensidad VII–VIII, que fué también perceptible en las otras provincias del sur y del norte de Luzón. En Baguio abrió grietas en algunos edificios de mampostería y en el terreno: en la provincia de La Unión causó desperfectos en buen número de casas de materiales ligeros y mixtos, derrumbó algunas paredes viejas, agrietó alguno que otro imbornal o alcantarilla de la línea férrea y abrió también grietas en el suelo. A este primer terremoto siguió media hora después, a 8^h 01^m 37^{s*} [16^h 01^m 37^s], otro de intensidad VII, y luego numerosas réplicas hasta el día 10.

El área pleistosista de estos terremotos no se extendía mucho más de 40 kilómetros en la dirección N–S, y casi lo mismo de E–W; comprendía toda la parte sur de la provincia de Benguet con su vertiente occidental hacia el Mar de la China y la correspondiente porción de la provincia de La Unión, que ocupa la parte costera al W de Benguet; mas no en la misma extensión sino en una porción menor a lo largo de la costa. La región más afectada comprende las tierras altas de Baguio, especie de altiplanicie, la cual se eleva por término medio 1,400 metros, mientras que en su base tan sólo se extiende unos 28 kilómetros, desde el profundo valle del río Agno, que corre por el E, hasta el pie occidental de la montaña cerca ya de la costa del mar. La faja costera tiene una anchura de 8 a 10 kilómetros de terreno irregular con colinas paralelas a la costa. La anchura de la altiplanicie de Baguio no pasa en su parte más regular de 8 a 10 kilómetros y termina abruptamente al SSW con el monte Santo Tomás, de más de 2,000 metros, y al S y SE con las alturas del Kias: toda esta región montañosa forma una rama de la Cordillera Central de Luzón, separada de ella por el cauce del Agno, que, teniendo su origen en la bifurcación, corre hacia el sur. Las dos vertientes de la altiplanicie de Baguio son muy abruptas, profundamente surcadas por los cauces de los barrancos; pero la parte occidental, donde principalmente se sintió el terremoto, presenta la particularidad de que los cauces no son paralelos a la pendiente, sino más bien tienden a ser normales o perpendiculares, dando origen a largas colinas paralelas a la montaña, las cuales van decreciendo en altura hacia la costa del mar; a través de ellas las aguas se han abierto diferentes brechas: el sistema de desagüe de la vertiente del E hacia el valle del Agno parece mucho más regular. De la naturaleza geológica de la parte occidental del área pleistosista dijimos algo al describir los terremotos de 1913, en el Boletín de agosto de aquel año: consta de terrenos sedimentarios terciarios profundamente agrietados. Parece que el área pleistosista siguió realmente el eje de la montaña, probablemente la línea de contacto entre los terrenos terciarios con los plutónicos, la cual se interna hacia el NNE quedando más lejos de la costa. Esto puede explicar por qué los terremotos no fueron tan fuertes en San Fernando y otros pueblos costeros situados hacia el norte y a mayor distancia de la región montañosa.

No hay duda de que los últimos terremotos fueron semejantes en su carácter y extensión a los de 1913. Los movimientos eran súbitos y de pequeña amplitud, con tan grande predominio de la componente vertical que se rompieron los soportes de acero de los péndulos Omori y Vicentini del Observatorio de Baguio, como ocurrió también en 1913: la sensación era como si toda la región montañosa se resbalase en súbitos y

momentáneos deslizamientos o empujes, sin vaivénes perceptibles. La extensión fué prácticamente la misma, con la única diferencia de que esta vez el movimiento conservó su energía hasta la costa del mar.

En Marzo de 1892 un gran terremoto ocurrido en la misma región, y hacia el sur, en la provincia de Pangasinán, tuvo por epicentro el gran macizo montañoso del monte Santo Tomás, de más de 2,000 metros de altura, reconocido como montaña de bloque. El terremoto de 1892, por su intensidad, por su extensión, por el número de réplicas que le siguieron y por haber hecho vibrar todo el globo, se consideró como un gran terremoto tectónico. Los terremotos de 1913 y los últimos de este año tuvieron su epicentro más al norte, en la región montañosa descrita y en sus vertientes occidentales. Indudablemente deben clasificarse como de derrumbamiento. Ni su extensión correspondió a su mucha intensidad, ni se registraron a grandes distancias. Los sismógrafos de Manila, a la distancia de 250 kilómetros, registraron los dos principales terremotos y diez réplicas. Estas fueron sin duda mucho más numerosas; en el Observatorio de Baguio por carecer de aparatos, inutilizados por el primer choque, solo se anotaron las perceptibles, que fueron seis, la tarde y noche del 8, siete durante el 9 y dos el 10; mientras que de uno de los pueblos más afectados nos informan que allí se sintieron veintitrés réplicas. Las horas de las réplicas registradas en Manila pueden verse en la lista de Microsismos.

El sismógrafo de Butúan, a cerca de 1,000 kilómetros de distancia, registró tan sólo los dos terremotos principales a 15^h 34^m y a 16^h 01^m. Fuera del Archipiélago encontramos los dos registrados en el *Seismological Bulletin* de Batavia, mientras que en el de Zikawei solo figura el primero.

Como nota final, para que el lector se forme cabal idea de las condiciones fisiográficas de la región donde se originaron estos terremotos que clasificamos entre los de derrumbamiento, haremos notar que los de 1913 tuvieron dos períodos críticos, el 23 de agosto y el 4 de septiembre, o sea hacia el medio y el fin de la estación de lluvias: los de 1920 ocurrieron en octubre, poco después de la estación lluviosa. El agua que suele caer en esa región durante los tres meses de julio, agosto y septiembre es mucha: en 1913 cayeron 4,768.5 mm. y en 1920, 3,684.1 mm. Ahora bién; en muchas extensiones de esta región montañosa este inmenso caudal de agua no corre por canales superficiales sino que desaparece en multitud de grietas y sumideros, yendo a alimentar corrientes subterráneas que nadie sabe donde emergen. Tal vez sea resultado de la acción de estos cauces subterráneos y del exagerado declive de las montañas, la frecuencia con que ocurren derrumbamientos de tal consideración que algunas veces han arrastrado y sepultado pueblos enteros. Son muy conocidos por sus costosas consecuencias el ocurrido en la carretera de Baguio en 1911, y otro que comenzó poco después y todavía está en acción al sur de la población; el cual ha obligado a trasladar la carretera del uno al otro lado del valle y a cambiar de sitio el Hospital Civil. En agosto de este mismo año 1920, uno sepultó varias casas de Igorrotes con sus habitantes al norte de Baguio: además en una carta de Bontoc, provincia montañosa situada al N de la de Benguet pero con terrenos sedimentarios semejantes, se nos comunica que hace meses el terreno de la capital, situado en la ladera de un valle, está resbalándose hacia el fondo de él. Estos fenómenos superficiales, que no consisten en solos deslizamientos de terreno a lo largo de un plano inclinado, sino que en muchos casos son verdaderos hundimientos o roturas de porciones de terreno, como lo demuestran su sección vertical y el poco o ningún avance de la parte movida, pueden hacernos adivinar lo que es posible ocurra en el interior de esta extensa región tan levantada sobre el nivel del mar.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

BULLETIN FOR NOVEMBER, 1920

PREPARED UNDER THE DIRECTION OF

REV. JOSÉ ALGUÉ, S. J.

DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
1922

BULLETIN FOR NOVEMBER, 1920

METEOROLOGICAL BULLETIN FOR NOVEMBER, 1920

By Rev. JOSÉ CORONAS, S. J.,

Chief, Meteorological Division of the Weather Bureau

GENERAL WEATHER NOTES

Pressure and temperature.—The mean atmospheric pressure for this month is slightly below that of the preceding year and the normal for November. The highest pressures were observed on the 13th, and the lowest, with a few exceptions, on the 3rd and 4th, when a typhoon was traversing the Philippines through the Visayas and Mindoro.

The mean monthly temperature does hardly differ from the normal, it being very slightly above it in the majority of our stations. The absolute maximum and minimum temperatures of this month for Manila were 33.2° C. and 20.4° C.; they were registered on the 22nd and 1st, respectively. The extreme temperatures for Baguio were 25.7° C., 12.9° C. on the top of Mirador, and 26.8° C., 12.2° C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR NOVEMBER, 1920

Station.	Pressure.							Temperature.						
	Mean.	Departure from Nov., 1919.	Departure from normal.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from Nov., 1919.	Departure from normal.	Highest.	Day.	Lowest.	Day.
Meeth, Yap, Western Carolines	757.52	-0.06		759.66	8	754.56	1	27.2	+0.1		33.6	15	23.5	22
Tagbilaran	57.71	-.33	-0.42	60.18	13	52.34	3	25.9	-.3	-0.6	32.1	22	21.5	28
Surigao	57.84	-.25	-.41	60.60	13	51.34	3	25.5	-.7	-.8	32	11	22.6	4, 5, 13
Cebu	57.93	-.33	-.44	60.57	13	50.64	3	26.9	-.3	+.1	31.7	6	23	4
Iloilo	57.79	-.48	-.52	60.29	13	51.82	3	26.6	+.1	+.2	32.4	5	22.4	29
Tacloban	57.98	-.65	-.57	60.72	13	48.59	3	25.8	-.2	-.5	32.7	5	22.1	28
Capiz	58.10	-.29	-.68	61.02	13	50.16	3	26.9	+.3	+.2	33.3	5, 10	22.6	29
Calbayog	58.36	+.28	-.21	61.42	13	48.62	3	25.8	+.1	+.2	32.7	12	21.2	15
Legaspi, Albay	58.66	+.34	-.16	61.85	13	51.78	3	26.9	+.6	+.3	32.4	5, 6, 10	22.2	11
Atimonan	59.12	-.07	-.22	62.41	13	54.12	4	26.5	0	0	32.4	11	21.4	11
Ambulong, Tanauan, Batangas	58.36	-.14		61.66	13	51.95	4	26.4	+.1		33	5	18.9	1
Daet	59.29			62.53	13	54.81	3	26			33	11	21	11
Manila	59.04	-.07	-.32	62.61	13	53.20	4	25.6	+.1	-.2	33.2	22	20.4	1
San Isidro, Nueva Ecija	59.23	-.09	-.24	62.46	13	54.06	4	25.8	+.3	+.1	32.6	5	20	25
Dagupan	58.20	-.09	-.71	61.16	13	52.86	4	26.8	+.1	+.2	34	21	21	18, 21
Baguio*	636.77	-.06	-.11	639.36	13	632.27	4	18.4	+.5	+.5	25.7	24	12.9	1
Vigan	758.46	-.20	-.77	761.54	13	753.35	4	27.3	+.5	+.5	32.1	3, 5, 16	21.9	1
Tuguegarao	60.18	-.09	-.26	64.16	13	55.66	10	25	+.4	0	34.3	20	19.2	18
Laosag	58.46	-.56		62.05	13	54.36	4	26.4	+.2		35.1	7	19.2	3, 18
Aparri	60.38	-.50	-.48	65.14	13	55.19	10	25.3	+.3	+.2	31	21	19.5	18

* The barometric readings of this station are not reduced to sea level.

Rainfall.—The stations reporting this month a total amount of rainfall greater than the normal of November are about as many as those reporting a total monthly rainfall below the normal. Only in southern Mindanao and Sulu the monthly rainfall is, without

exception, below the normal of this month. The differences from the normal for Manila and Baguio are -4.4 mm. and -39.3 mm., respectively, their monthly amounts being 123.7 mm. and 42.3 mm.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF NOVEMBER, 1920

Station.	Total.	Departure from November, 1919.		Days of rain.	Departure from normal.		Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from November, 1919.		Days of rain.	Departure from normal.		Greatest rainfall in a single day.	Day.
		mm.	mm.		mm.	mm.					mm.	mm.					
Jolo	156.7	-88.3	-27.7	20	-2	+4	43.5	24	Legaspi, Albay	445.1	-189.1	+85.5	20	-4	-1	151.4	30
Malamaui, Isabela, Zamboanga	151.1	+11.7	11	+1	82	-2	52.1	8	Sumay, Guam	92.1	-109.7	-119.9	20	+6	+1	18.5	6
Zamboanga	68?	-14.9	-24.9	8	-1	-2	23.27	20	Calapan	158.6	-336.3	-154.6	19	-2	-2	93	3
Davao	66.4	+4.6	3.1	20	+6	+4	35.6	19	Virac	291	-141.6	-76.7	19	-4	-4	82.5	13
Cotabato	200.1	+87	+17.2	9	+1	0	34.3	2	Naga, Camarines Sur	254.9	-75.3	+3.6	18	-8	+2	82.9	3
Cagayan	110.2	-115.4	+41.4	27	+7	+7	118.1	2	Tigaon	230.1	+51	-28	13	+2	0	51.3	14
Butuan	304.9	18	15	157.7	65.8	3	3	2	Batangas	127.1	+125.9	16	-1	0	36.3	3	
Mambajao	364.6	15	157.7	65.8	3	3	3	2	Lucena	314.2	+73.7	-81	22	-5	+1	81.3	13
Dumaguete	146.8	15	157.7	65.8	3	3	3	3	Atimonan	346.7	+127.4	14	+2	79.5	13		
Meeth, Yap, Western Carolines	225.8	-31.3	+7.1	27	+8	+4	31.9	30	Daet	517.6	25	83.3	13				
Tagbilaran	398.6	+217.5	+214.4	21	+2	+5	92.1	3	Canluban, Calamba	245.7	+100.6	16	+1	53.3	13		
Iwahig Penal Colony, Puerto Princesa	241.3	+89.8	14	-6	61.7	15	15	3	Paracale	98	-404.3	-361.4	14	-16	-11	19	8
Surigao	827.7	+341.5	+405.4	26	+3	+5	100	3	Santa Cruz, Laguna	311.8	+15	+103.1	21	0	+1	56.9	15
Maasin, Leyte	662.2	+440.6	+345	16	+4	+4	167.9	3	Manila	123.7	-14.8	-4.4	13	-1	-1	49.5	13
Cebu	212.5	+58.8	+71.6	17	+1	+2	90.1	3	Antipolo	117	-96.1	13	-4	43.2	13		
Iloilo	250.5	+87.4	+78.1	11	-6	-3	208.4	3	San Isidro, Nueva Ecija	71.3	-36.6	-19	14	+1	+5	28.8	5
San Jose de Buenavista	201.1	+108.7	+42.5	5	-5	-5	155.7	3	Iba	32.2	-26	-11.7	9	0	+2	19.8	10
Cuyo	110	-53	-13.6	6	-7	-3	62	3	Tarlac	36.6	-61.5	-40.4	4	-8	-4	15.2	5
Ormoc	278.9	+13.8	+69.1	22	0	+2	112.2	3	Baler	389.6	-68.8	+30.2	16	+2	+3	102.1	5
Guiuan	662.5	+193.3	26	+4	137.5	3	3	3	Dagupan	21.2	-8.1	-34.5	5	-2	-1	7.6	10
Tacloban	420.3	+74.8	+132.5	22	+1	+1	143	3	Baguio	42.3	-18.4	-39.3	6	-7	-3	22.1	12
Capiz	342.2	+64.9	+66.3	22	-2	+3	134.9	30	San Fernando, La Union	44.4	+32.3	+5.3	6	-1	+2	16	10
Borongan	609.4	+178.3	+117.4	25	+3	+2	72.1	2	Candon	137.3	+92.9	+89.3	6	+1	+2	99.1	5
Catbalogan	295.4	-8.7	24	-2	70.7	2	2	2	Vigan	46.3	+40.1	+11.6	2	-2	-1	41.7	9
Calbayog	261.3	-300.4	-13.3	21	-2	-2	70.3	2	Tuguegarao	137.1	-189.3	-124.8	12	+1	0	37.3	9
Masbate	176.7	-198.1	-18.3	18	-1	+2	74	3	Laog	37.9	+29	+3.6	4	+1	-1	28.1	9
Romblon	331.3	+79.8	+44.1	22	-3	+1	164.1	3	Aparri	190.5	-196.6	-89.6	20	-2	+1	39.2	9
Batag Light-house, Laoang	547.9	-149.2	23	-4	153.6	30	30	30	Cape Bojeador	30.2	-61.7	6	-5	11.5	9		
Sorsogon	506.5	-519.3	24	-3	138.2	30	30	30	Basco	214.2	+27.5	-123.1	23	0	+1	53.6	5

DEPRESSIONS AND TYPHOONS

There were two typhoons over or near the Philippines during this month, and one depression or typhoon south of Jolo and near or over the northeastern coast of Borneo.

Typhoon over the Visayas: November 3 to 4, 1920.—The first typhoon appeared on October 31 near 5° latitude N and 147° longitude E, it being impossible with the observations at hand to determine whether it was formed there or further to the east. The observations made at Yap and those taken on board the Dutch steamer *Bali* are of the greatest value to follow the track of this typhoon while passing south of the former and north of the latter on November 1. Our readers may see these observations given below in two different tables. The steamer changed the course to SSE in order to avoid the typhoon center. Both the track of the typhoon and the course followed by the *Bali* may be seen in Plate XII. The typhoon moved WNW until the evening or night of the 2nd, when it began to move almost due west.

METEOROLOGICAL OBSERVATIONS MADE AT YAP, WESTERN CAROLINES, OCT. 31 TO NOV. 2, 1920

Date and hour.	Pressure.	Wind.		Rainfall.	Remarks.
		Direction.	Force.		
Oct. 31:	<i>mm.</i>		<i>0-12</i>	<i>mm.</i>	
6 a. m.-----	757.26	NE	1	7.6	Rainbow and passing rain.
2 p. m.-----	56.15	NE	2	5.8	Passing rain at intervals.
6 p. m.-----	56.83	Calm	-----	0.5	Bars of Cumulo-Nimbus over the horizon.
10 p. m.-----	56.94	NE	2	-----	Slight drizzle.
Nov. 1:					
2 a. m.-----	55.67	NNE	1	0.5	It begins to rain.
4 a. m.-----	54.85	N	2	-----	Thunderstorms.
6 a. m.-----	56.14	NE	2	62.7	Rain.
8 a. m.-----	56.29	NE	2	-----	Light drizzle.
10 a. m.-----	55.08	NE	3	5.1	Light drizzle; passing rain at 10.52 a. m.
Noon-----	53.77	NE by N	3	-----	Gusty winds at intervals.
1 p. m.-----	52.97	NE by E	4	-----	Slight drizzle and gusty winds.
2 p. m.-----	52.23	NE by E	4	5.3	As yesterday.
3 p. m.-----	51.87	NE by E	4	-----	Gusty winds.
4 p. m.-----	51.62	NE by E	4	-----	As yesterday.
5 p. m.-----	52.08	ENE	4	-----	Do.
6 p. m.-----	52.97	E	4	0.8	Convergence of Cirrus toward SSW.
10 p. m.-----	55.30	ESE	4	0.3	Passing rain after 10 p. m.
Nov. 2:					
2 a. m.-----	54.38	SSE	3	0.5	Fresh winds in general.
6 a. m.-----	55.78	SSE	3	-----	Overcast.
10 a. m.-----	57.21	SSE	2	-----	Slight breeze.
2 p. m.-----	55.66	S	2	-----	Slight breeze from S.

METEOROLOGICAL OBSERVATIONS MADE ON BOARD THE STEAMER "BALI," OCT. 31 TO NOV. 2, 1920

(Captain, R. H. Brouwer)

Date and hour.	Position.		Pressure.	Wind.		Remarks.
	Latitude north.	Longitude east.		Direction.	Force.	
Oct. 31:	°	'	<i>mm.</i>		<i>0-12</i>	
Noon-----	6 14	133 26	757.8	NW	4	After 1.30 p. m. showers and rain, moderate swell; at 3.45 p. m. rainbow toward NE.
4 p. m.-----	6 33	134 10	57.7	NW	3	
8 p. m.-----	6 53	134 55	58.7	NNW	4-3	Wind increasing during showers. 9 p. m. decreasing wind and sea.
Midnight-----	7 13	135 39	57.8	NNW	2	
Nov. 1:						
4 a. m.-----	7 32	136 24	57.1	NNW	2	1 a. m. passing heavy showers. High swell.
8 a. m.-----	7 50	137 04	57.6	NW	1	
10 a. m.-----	-----	-----	56.2	WNW	4	Increasing wind and sea. High swell.
11 a. m.-----	-----	-----	55.4	WNW	5	
Noon-----	7 56	137 47	54.6	WNW	6	Showers.
1 p. m.-----	-----	-----	53.1	W	7	
2 p. m.-----	-----	-----	51.4	W by S	8	Decreasing wind and sea. High swell.
3 p. m.-----	-----	-----	51.9	WSW	8	
4 p. m.-----	7 18	138 02	52.0	WSW	8	Decreasing wind and sea. High swell.
5 p. m.-----	-----	-----	53.2	WSW	8-7	
6 p. m.-----	-----	-----	54.1	WSW	7	9 p. m. decreasing wind and sea. Clear horizon.
7 p. m.-----	-----	-----	54.9	WSW	7	
8 p. m.-----	6 38	138 18	55.6	WSW	7	Clear horizon.
Midnight-----	6 19	139 01	57.8	SW	4	
Nov. 2:						
4 a. m.-----	6 12	139 50	58.6	SW	3	Clear horizon.
8 a. m.-----	6 38	140 26	58.9	SSW	2	
Noon-----	7 08	141 04	58.4	SSE	2	6 p. m. moderate long crossing swells.
4 p. m.-----	7 37	141 42	57.4	SSE	1	

As no telegraphic reports were received at the time from our station of Yap, the first typhoon warnings of a typhoon dangerous for the Visayas could not be issued by Manila Observatory until November 2, just one day before the storm struck the eastern coast of Samar. The center of the typhoon must have been situated at 2 p. m. of the 2nd between 10° and 11° latitude N, 131° and 132° longitude E. Shortly after noon of the 3rd the center reached the Island of Samar passing about six or eight miles to the south of Borongan ($125^{\circ} 25'$ longitude E, $11^{\circ} 35'$ latitude N), where a barometric minimum as low as 729.52 mm. was observed at 12.30 p. m., the winds veering from NNE to E and SE, and relative calm being observed for two minutes with light winds from the E.

The typhoon inclined to WNW while moving between Samar and Mindoro, so that at 6 a. m. of the 4th the center was situated between 12° and 13° latitude N and in about 121° longitude E. Once in the China Sea, the typhoon moved again almost due west, and it reached Indochina in the morning of the 6th, the center being situated at 10 a. m. of that day in about 109° longitude E and near 13° latitude N.

Although this typhoon is not considered very destructive, yet considerable damage was done to property and to the crops in the Visayan Islands, in southeastern Luzon and in Mindoro, particularly in Samar, northern part of Cebu and Negros, Masbate, Romblon, northern Panay and Mindoro.

The Pacific typhoon of November 6 to 13, 1920.—We call this the Pacific typhoon because it remained in the Pacific without touching either the Philippines or Japan, recurving northeastward to the east of Balintang Channel between 123° and 124° longitude E and in 20° latitude N. It appeared south of Guam on the 6th in about 145° longitude E and 11° latitude N, and moved WbyN or WNW until the 9th, when it began to recurve. See the track of this typhoon on Plate XII.

Depression or typhoon south of Jolo: November 23 and 24, 1920.—The observations of Jolo and Zamboanga gave clear signs of a depression or typhoon passing to the south on November 23. The track of this depression or typhoon is given in Plate XII, but only as probable.

NOTAS GENERALES DEL TIEMPO

Presión y temperatura.—La presión atmosférica media de este mes es ligeramente menor que la del año pasado y que la normal de noviembre. Las presiones más altas se observaron el día 13, y las más bajas, con raras excepciones, los días 3 y 4, cuando un tifón atravesaba las Filipinas por las Islas Visayas y Mindoro.

La temperatura media mensual apenas difiere de la normal, siendo muy ligeramente mayor que esta en la mayoría de nuestras estaciones. Las temperaturas máxima y mínima absolutas del mes en Manila fueron 33.2° C y 20.4° C., las cuales se registraron los días 22 y 1.º, respectivamente. Las temperaturas extremas de Baguio fueron 25.7° C., 12.9° C. en la cumbre del Mirador, y 26.8° C., 12.2° C en la llanura cerca del *City Hall*.

Precipitación acuosa.—Las estaciones que recogieron durante este mes una cantidad total de lluvia mayor que la normal de noviembre son aproximadamente tantas en número como las que dan una lluvia total menor que la normal. Solamente en el sur de Mindanao y en Sulú la cantidad mensual de lluvia es, sin excepción, menor que la normal de este mes. Las diferencias de la normal en Manila y Baguio son—4.4 mm. y 39.3 mm., respectivamente, siendo sus cantidades mensuales 123.7 mm. y 42.3 mm.

DEPRESIONES Y TIFONES

Durante este mes hubo dos tifones en, o cerca de, las Islas Filipinas, y una depresión o tifón al sur de Joló y en, o cerca de la costa NE de Borneo.

Tifón en Visayas: 3 al 4 de noviembre de 1920.—El primer tifón apareció el 31 de octubre cerca de 5° latitud N y 147° longitud E, siendo imposible, con las observaciones que tenemos, determinar si se formó en dicho sitio o más allá hacia el E. Las observaciones hechas en Yap y las tomadas a bordo del vapor holandés *Bali* son de sumo valor para seguir la trayectoria de este tifón mientras pasaba por el sur de aquella isla y por el norte del citado vapor el día 1.º de noviembre. Nuestros lectores pueden ver estas observaciones en dos diferentes tablas que van en el texto inglés. El mencionado vapor cambió de rumbo dirigiéndose al SSE a fin de evitar el centro del temporal. Tanto la trayectoria del tifón como la dirección seguida por el *Bali* pueden verse en la Lámina XII. El tifón se movió al WNW hasta la tarde o noche del día 2, en que empezó a moverse casi directamente al W.

Como ningún servicio telegráfico se recibió entonces de nuestra estación de Yap, los primeros avisos de tifón dando cuenta de un baguio peligroso para Visayas no se pudieron dar hasta el día 2 de noviembre, exactamente un día antes de que el temporal desfogara en la costa oriental de Sámar. El centro del tifón debía hallarse a las 2 p. m. del día 2 entre 10° y 11° latitud N, 131° y 132° longitud E. Poco después de mediodía del día 3 llegaba a la Isla de Sámar, pasando a una distancia de seis u ocho millas por el sur de Borongan (125° 25' longitud E, 11° 35' Latitud N), en donde se observó a las 12.30 p. m. la mínima barométrica 729.52 mm.: los vientos rolaron del NNE al E y SE, y se observó calma relativa que duró unos dos minutos con vientos flojos del E.

El tifón se inclinó al WNW mientras se movía entre Sámar y Mindoro, y así a las 6 a. m. del día 4 se hallaba el centro entre 12° y 13° latitud N y en los alrededores de 121° longitud E. Una vez en el Mar de China, el tifón volvió a moverse casi directamente al W, y llegó a Indochina la mañana del día 6, hallándose su centro a las 10 a. m. de dicho día en los alrededores de 109° longitud E y cerca de 13° latitud N.

Aun cuando no se considera este tifón como muy destructor, con todo, causó daños considerables a la propiedad y a las cosechas en las Islas Visayas, en el SE de Luzón y en Mindoro, especialmente en Sámar, en la parte septentrional de Cebú y Negros, en Masbate, Romblón, en el N de Panay y en Mindoro.

El tifón del Pacífico, de 6 al 13 de noviembre de 1920.—Llamamos a este tifón del Pacífico porque permaneció en el Pacífico sin tocar ni las Islas Filipinas ni el Japón, recurvando hacia el NE por el E del Canal de Balintang entre 123° y 124° longitud E, y en los 20° latitud N. Apareció al sur de Guam el día 6 en los alrededores de 145° longitud E y 11° latitud N, y se movió al $W\frac{1}{4}NW$ o WNW hasta el día 9 en que comenzó a recurvar. Véase la trayectoria del tifón en la Lámina XII.

Depresión o tifón al sur de Joló: 23 al 24 de noviembre de 1920.—Las observaciones de Joló y Zamboanga dan claros indicios de una depresión o tifón que pasó por el sur el día 23 de noviembre. La trayectoria de esta depresión o tifón se da en la Lámina XII, pero sólo como probable.

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY *

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

Day.	Pres- sure (mean).	Air temperature. ^b			Underground temperature.					Rela- tive humid- ity (mean).	Vapor pres- sure (mean).	Radiation.			Evaporation ^b .	
		Mean.	Maxi- mum.	Mini- mum.	0.25 meter.		0.50 meter.		1.50			2.50	Mini- mum on Black grass.	Maxi- mum in sun- bulb in vacuo. ^c	Free expo- sure (to- tal).	Shel- ter (total).
					8 a.m.	2 p.m.	8 a.m.	2 p.m.	8 a.m.			8 a.m.				
									°C.			°C.				
1	761.03	25.1	31	20.4	27.7	29.8	29.1	29.3	29.6	29.3	81.5	19.1	18	53.2	3.1	2.1
2	59.81	26.4	33	22.6	28.2	30.5	29.2	29.5	29.6	29.4	77.1	19.3	20.8	53.8	4.8	3.5
3	55.94	26.4	31	23.1	28.3	29.5	29.2	29.5	29.6	29.4	73.5	18.5	21.2	47.2	4.5	4.2
4	53.20	25.8	29.2	23.3	28.1	28.3	29	29	29.5	29.4	83.9	20.6	22.6	41.3	2.1	2.2
5	58.11	27.5	32.9	24.2	27.7	29.7	28.8	29.1	29.6	29.5	76.1	20.6	23.4	52.5	4.1	3.2
6	60.16	26.3	31.1	23.3	28.3	29.6	29.1	29.3	29.5	29.4	82.8	20.9	22.2	49	2.3	1.8
7	60.28	25.7	30.2	21.9	28.5	29.4	29.1	29.3	29.6	29.5	86.2	21	22.6	41.7	1.6	1.2
8	59.17	24.9	31.1	21.4	27.5	29	28.8	29.2	29.5	29.4	82	19	19.6	52.2	2.3	1.7
9	57.77	26.2	31.2	21.5	27.6	29.9	28.8	29.1	29.5	29.5	82.2	20.7	19.9	52.2	3.8	2.7
10	57.28	27.5	31	24.5	28.3	30.2	29	29.3	29.6	29.4	81.7	22.2	23.6	52.4	3.7	2.2
11	58.77	27	32	23.7	28.5	30.3	29.2	29.5	29.5	29.4	85.1	22.4	22	51.5	3.1	2.1
12	60.90	25.9	33	23.5	28.6	29.9	29.3	29.5	29.5	29.4	87.6	21.5	22.3	52.2	1.8	1.5
13	62.61	24.2	27.3	22.5	28.3	27.8	29	29	29.3	29.2	91.8	20.6	21.7	38.5	0	0.4
14	61.98	23.4	26.3	22	27	27.4	28.3	28.4	29.1	29.2	94.2	20.2	21.3	31.1	0	0.4
15	61.39	24.4	30	21.7	26.6	28.1	28	28.2	29.3	29.2	90.6	20.5	20.5		1.2	0.9
16	61.39	25.2	30.7	22.4	26.8	28.6	28	28.3	29.5	29.5	87.8	20.8	21.5		1.6	1.3
17	60.94	24.3	28.5	22	27	27.8	28.1	28.2	29.5	29.3	88.4	19.9	20.4		1.2	1.1
18	60.15	24.9	30.8	20.5	26.6	28.2	28	28.1	29.3	29.3	85.4	19.8	18.9		2.1	1.7
19	59.66	25.7	31	21.6	26.7	28.4	28	28.2	29.2	29.3	85	20.7	19.9		2.4	1.7
20	59.58	26.2	32.6	22.6	27.5	29.5	28.3	28.5	29.3	29.4	81.1	20.3	21.3	48	3.1	2.1
21	59.18	26	32.5	21.3	27	29.5	28.2	28.7	29.4	29.2	78.2	19.3	19.2	58.8	3.2	2.6
22	58.72	26.2	33.2	22	27.4	29.6	28.5	28.7	29.2	29.3	77.5	19.3	20.2	50	3.3	2.5
23	58	25.1	31.9	21.6	27.3	29	28.4	28.7	29.1	29.3	83.8	19.6	19.8	47	1.9	1.7
24	58.10	25.6	31	22.2	27.3	29	28.4	28.6	29	29.3	84.9	20.6	20.6	48.4	1.4	1.3
25	58.59	25.3	31.7	20.5	27.2	29	28.3	28.7	29	29.2	82.9	19.7	18.4	51.8	2.6	1.8
26	58.34	25.6	32	21.3	27	29.2	28.4	28.7	29	29.2	80.1	19.3	19.1	51.5	3.1	2.1
27	57.23	25.2	31.2	21	27.1	29	28.3	28.6	29	29.2	82.1	19.3	19	50.9	3	2
28	57.27	24.9	29.8	20.8	27	28.8	28.3	28.4	28.8	29.2	85	19.8	18.5	47.5	2.3	1.5
29	57.74	26.3	32.6	22.7	27.5	29.6	28.3	28.6	29	29.2	81	20.2	20.9	53	3.2	2.1
30	57.87	25.1	30.9	20.7	27.2	28.9	28.3	28.6	29	29.1	81.4	19.1	18.7	50.2	2.7	2.2
Mean	759.04	25.6	31	22.1	27.5	29.1	28.6	28.8	29.3	29.3	83.4	20.2	20.6	49	2.5	1.9
Total															75.5	57.8
Departure from normal	-0.32	-0.2	+0.5	0							+0.7	-0.1			-4.2	

Day.	Wind.				Amount (mean).	Clouds.				Sun- shine.	Rain, 24 hrs. beginning 6 a. m.		Miscellaneous.	
	Prevailing direction.	Total move- ment.	Maxi- mum hour- ly veloc- ity.	Direction at the time of the maximum velocity.		Form and direction.					On the tower.	In the park.		
						Upper.	Lower.	h.	m.					
1	NE	92	12	SE	0-10	A.-Cu.	E	Cu.	E	5	30			
2	NE	149.5	19	NE	4.1	Ci.	ESE	Cu.	E by N	8	10			
3	N, NNE	424	29.5	NNE	8.5	Ci.-S.		Cu.	ENE	1	55	2.4	2.5	d p.
4	ESE	473.5	34	ESE	9.8	Ci.-S.		Cu.	SE	0	00	16.9	17.7	● a. p.
5	ESE	288	25	ESE	3.5	Ci.		Cu.	SE	9	35			
6	NE	133	18	WNW	3.9	A.-Cu.		Cu.	E	6	55	1	1.3	
7	NE	82	11	SW	6	Ci.		Cu.-N.	E	4	10	.3	.3	● a. d p.
8	NE	85	11	NE	6.8	Ci.-S.	ESE	Cu.	E	4	10			⊕ a.
9	SW	251.5	24	SW	7.2	Ci.-S.	E	Cu.	NNW	6	30			⊕ a.
10	WSW, SW	413.5	30	WSW	6.7	Ci.		Cu.	W	6	30	2.3	2.3	⊕ a.
11	NE quad.	116	15.5	W by N	6.3	Ci.		Cu.	N	6	10			< p.
12	NE	108	14.5	NW	5.2	Ci.		Cu.	E	5	05	14.7	15.3	⊕ a.
13	NE	156.5	19	NNE	9.2	Ci.		N.	NNE	0	30	49.5	50.8	● a. ● a. p.
14	NE quad.	43.5	5.5	NE	10	Ci.-S.		Cu.-N.	SE	0	00	7.7	7.4	● a. p. ● p.
15	NE	112	11	SSE	8.2	Ci.-Cu.		Cu., Cu.-N.	ENE	3	05	22	22.6	● a. p.
16	NE quad.	88	10	ENE	7.6	Ci.-S.		Cu.	E	1	45	.3	.3	d a.
17	NE	84	8.5	ESE	8.3	Ci.-S.		Cu.-N. E, ENE	E	0	00	4.1	4.3	● a.
18	NE	109.5	12	NW	6.7	Ci.		Cu.	E	6	55			d ○ p.
19	W	112.5	17	W	6.7	A.-Cu.		Cu.	E	6	35			
20	E quad.	132	16	W	3.7	Ci.		Cu.	E	9	15			
21	NE	123	12.5	WSW	4.5	Ci.-S.		Cu.	E	8	35			
22	NE	112	14.5	ESE	4.3	A.-Cu.		Cu.	E	8	40			⊕ a.
23	NE	86.5	11.5	E	6.3	A.-Cu.		Cu.	E	3	50	.5	.5	⊕ a. d ² p.
24	W	89.5	11	W	5.9	Ci.-S., A.-Cu.		Cu.	E by N	5	35	2	2.5	⊕ a. d ² a. ● p.
25	NE quad.	90.5	12	W	5.8	A.-Cu.		Cu.	E	6	50			
26	NE	112.5	12	NE	3.3	Ci.		Cu.	ENE	8	35			⊕ a.
27	NW	118	12	WSW	5.3	A.-Cu.		Cu.	E	6	05			⊕ a.
28	NE	97	12	WSW	3.2	A.-Cu.		Cu.	ESE	2	55			⊕ a. d ^o p.
29	SE	116	15.5	SE	7.2	A.-Cu.		Cu.	E	3	35			⊕ a.
30	E	87.5	10	W	7.1	Ci.		Cu.	E	5	05			⊕ a.
Mean		151	15.5		6.4					5	05			
Total		4,531.5								152	30	123.7	127.8	
Departure from normal		-298.5			+0.1					-10	07	-4.4		

* All the mean values given in this table are deduced from hourly observations.
^b These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
^c Maximum of hourly observations taken from 6 a. m. to 6 p. m.

METEOROLOGICAL DATA FOR MIRADOR OBSERVATORY, BAGUIO *

[$\phi=16^{\circ} 25' N$; $\lambda=120^{\circ} 35' E$; barometer above sea, 1,512.5 meters; gravity correction not applied, -1.65 mm.]

Day.	Pres- sure ^b (mean).	Air temperature at Mirador (on the top of the mountain).				Air temperature in the pla- teau near the City Hall.				Rela- tive humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation.		
		Mean.	Maxi- mum.	Hour.	Mini- mum.	Hour.	Maxi- mum.	Hour.	Mini- mum.			Mini- mum on grass.	Maxi- mum in sun. Black bulb in va- cuo. ^c	Free ex- posure (total)	Shel- ter (total)	
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	°C.	°C.	mm.	mm.	
1	638.16	17	23.3	9.55a.	12.9	5.10a.	24.5	11.00a.	12.5	5.30a.	87.3	12.5	12	3.8	1.6	
2	37.53	17.7	21.7	10.40a.	14.2	2.00a.	24.1	11.55a.	12.8	4.15a.	85	12.8	12.8	3.7	2	
3	35.34	19.2	25.2	0.40p.	15	1.55a.	26.3	1.00p.	13.4	4.00a.	64.2	10.6	13.1	9.4	4.7	
4	32.27	18.6	19.8	10.15a.	16.6	11.20p.	21	10.15a.	16.5	11.30p.	82.7	13.1	16.3	6.2	3	
5	36.05	18.4	23.2	2.40p.	16.2	6.05a.	24.6	2.10p.	15.9	6.25a.	80	12.6	15.3	4.9	2.5	
6	37.74	18.5	24.2	11.30a.	15.6	5.55a.	25.5	0.20p.	15.5	5.45a.	87	13.7	15.2	4.1	1.8	
7	38.03	18.8	25.3	10.45a.	15.6	12m.n.	26.2	11.50a.	14.3	12m.n.	74.5	11.8	14	6.6	3.4	
8	36.90	18.5	23.5	11.20a.	15.5	0.15a.	25.2	9.50a.	12.2	5.15a.	80	12.6	12.4	2.6	1.5	
9	35.26	16.8	22.6	11.30a.	14.4	6.15a.	21.7	11.30a.	13.5	5.00a.	95.3	13.6	12.7	1.2	.5	
10	34.82	18.3	22.7	11.55a.	16.1	3.00a.	24.2	1.30p.	15.8	3.00a.	96	15.1	16	.8	.4	
11	36.54	18.4	22.7	9.30a.	15.5	4.15a.	23.8	1.00p.	14.7	6.10a.	93.8	14.8	14.7	1.5	.8	
12	38.38	17.5	22.8	10.00a.	15	9.30p.	23.8	11.05a.	14.5	10.30p.	83.7	12.5	14.1	3.9	2.4	
13	39.36	18.2	24.3	11.00a.	14.8	11.45p.	24.8	11.45a.	13.8	5.30a.	79.8	12.4	13.5	4.7	2.5	
14	38.78	18.1	24.2	11.55a.	14.3	3.00a.	24.5	0.20p.	14	6.00a.	72.8	11.1	13.1	6.6	3.1	
15	38.37	18.1	23.7	11.10a.	15	12m.n.	24.3	11.20a.	15.1	6.00a.	80.8	12.4	14.2	4	2.1	
16	38.42	18.6	24.7	11.35a.	14.4	4.35a.	25.4	11.40a.	14.7	6.15a.	75.7	11.8	13.3	7.2	3.4	
17	38.09	17.9	22.7	11.55a.	15.3	5.10a.	24.3	0.35p.	15.5	7.30p.	67.3	10.3	14.5	13.3	6.2	
18	37.68	18.4	24.7	0.05p.	13.9	4.30a.	25.6	1.35p.	12.2	5.40a.	71.8	11.3	11.4	6.2	3.5	
19	37.56	19.2	25.1	11.30a.	15.4	5.00a.	26.2	11.30a.	15.1	3.00a.	77.5	12.7	13.7	4.7	2.5	
20	37.48	18.7	24.3	10.40a.	15.9	11.30p.	25.7	11.00a.	14.5	6.00a.	83	13.2	13.2	4.7	2.5	
21	37.01	18.8	24.6	1.30p.	15.5	2.25a.	26.2	0.45p.	14.1	4.30a.	75.8	12.3	13.7	7.4	3.7	
22	36.73	18.6	25.2	0.30p.	15.7	2.45a.	25.7	11.40a.	13.9	3.00a.	75	12	14.3	6.4	3.3	
23	36.05	19	24.8	10.30a.	14.9	4.30a.	26.6	11.45a.	14.4	6.15a.	71.8	11.7	13.5	7.1	3.7	
24	36.18	19.3	25.7	11.55a.	15.7	4.30a.	26.6	1.00p.	14.3	5.05a.	73.8	12.4	13.5	6.4	3.1	
25	36.51	18.8	24.2	1.45p.	15.7	5.25a.	25.8	2.00p.	14.6	6.00a.	77.5	12.6	13.3	4.2	2.3	
26	36.17	18.3	23.7	10.45a.	15	5.55a.	25.9	11.30p.	13.2	6.00a.	78.8	12.2	12.3	3.4	2.3	
27	35.16	18.7	25.2	11.00a.	15.6	2.10a.	26.8	0.30p.	14.3	5.45a.	79.8	12.8	13.8	2.8	1.7	
28	35.14	18.4	24.3	0.20p.	15.5	5.50a.	25.2	1.00p.	15.5	6.20a.	83.2	13	14.3	3.2	2	
29	35.63	17.5	21.3	9.25a.	15.2	3.50a.	22.7	0.30p.	15	4.00a.	81.3	12.1	14	6.5	3.1	
30	35.68	18.5	24.7	11.05a.	14.7	4.10a.	26	0.30p.	13.3	4.20a.	75.7	11.9	12.5	6.7	3.4	
Mean	636.77	18.4	23.8		15.2		25		14.3		79.7	12.5	13.7	5.1	2.6	
Total															154.2	79

Day.	Prevailing direction. ^d	Wind.			Amount (mean).	Clouds.		Sun- shine.	Rain, 24 hours begin- ning 6 a. m.	Miscellaneous.
		Total move- ment.	Maxi- mum hour- ly veloc- ity.	Direction at the time of the maximum velocity.		Form and direction.				
						Upper.	Lower.			
1	E	Km. 327.3	Km. 25.9	E	0-10. 5.3	Ci.	Cu.-N. SE	h. m. 4 50	mm. 4 50	☉ a. ☉ a. p. d° p.
2	E	281.8	23.1	E	5.7	Ci.	Cu.-N. SE	4 50		☉ a. ☉ p.
3	E	430.8	40	NE	7.6	Ci.-S.	Cu. SE	3 15	1	☉ a. ☉ d p.
4	E	1,406.6	79.4	E	8.3	Ci.-S.	Fr.-N. E	0 00	.5	d° a. ☉ a. p.
5	E	598.2	38.9	E	5.1	Ci.	Cu. E	4 00	5.1	☉ a. ☉ a. p.
6	E	421.3	46.2	E	6	A.-Cu.	Cu.-N. SE	5 00		☉ a. ☉ a. p.
7	E	322.7	21.4	E	5.4	A.-Cu.	Cu. E			☉ a. p.
8	W quad.	160.5	14.5?	SW	6	Ci.	Cu.-N. E, SSE	4 40		☉ a. p.
9	W	397.4	27.6	SW	7.7	Ci.	Cu. N	3 20	9	☉ a. ☉ a. p.
10	NW	368.9	21.9	W	9.1	Ci.	N. NW	3 25	4.6	d a. ☉ a. p. ☉ p.
11	W, E	219.9	18.2	E	7	Ci.	Cu. SE	3 10		d a. ☉ a. p. d° p.
12	E	424.6	43.3	E	7.7	Ci.	N. ESE	3 45	22.1	☉ a. ☉ a. p. d° p.
13	E	344	21.5	E	4.9	Ci.	Cu. E	6 15		☉ a. ☉ a. p. d° p.
14	E	395.5	26.6	E	4.9	Ci.	Cu. SE, ESE	6 50		☉ a. p.
15	E	350.3	27.4	E	6.6	Ci., Ci.-S.	Cu.-N. E	3 15		☉ a. p. d° p.
16	E	470.4	26.8	E	2.6	Ci.	Cu. E			☉ a. p.
17	E	586.4	47.2	E	1.6	Ci.	Cu. E	7 55		☉ a. p.
18	E	280.8	25.4	E	1.7	Ci.	Cu. E	8 20		☉ a. p.
19	E	293.7	27.2	E	2.3	Ci.	Cu. SSW	6 40		☉ a. p.
20	E	247.8	18.5	SW	3.6	Ci.	Cu. E	6 25		☉ a. p.
21	E	316.4	22.8	E	1.1	Ci.	Fr.-Cu. E	7 50		☉ a. p.
22	E, SE	424	31.4	E	2.4	Ci.	Cu. ESE	7 00		☉ a. p.
23	E	406.1	29.8	E	1.7	Ci.	Cu. SSE	7 10		☉ a. p.
24	E	302.3	24.6	E	2.7	Ci.	Cu. SSE	7 20		☉ a. p. ☉ p.
25	E	313.4	22.2	E	3.4	Ci.	Cu.-N. SSE	7 30		☉ a. p.
26	E	255.4	17.9	E	3.7	Ci.	Cu.-N. SSE	5 45		☉ a. p.
27	E	283	21.7	E	3.7	Ci.	Cu. E	5 30		☉ a. p. ☉ a. p.
28	E	249	22.8	E	5.9	Ci.	Cu. E	6 35?		☉ a. p. ☉ a. p.
29	E	431.9	28.8	E	9.6	Ci.-S.	S.-Cu. E	0 45		☉ a. p. ☉ a. p. d p.
30	E	281.6	20.1	E	5.4	Ci.-S.	Cu. E, SE	6 15		☉ a. p.
Mean		388.1	28.8		5			5 16		
Total		11,642							42.3	

^a All the mean values given in this table are deduced from six daily observations taken at 2, 6, 10 a. m. and 2, 6, 10 p. m.
^b The barometric readings of this station are not reduced to sea level.
^c Maximum of hourly observations taken from 6 a. m. to 6 p. m.
^d This element is based on hourly observations taken from a quadruple register, which gives only eight possible directions of the wind.
^e Five hours missing.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, NOVEMBER, 1920

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Lapac Agricultural School, Siasi, Sulu †	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Glan, Cotabato †	17.8	25.4	10.2	8.9	11.4			26.7			35.1	1.5			19	10.2
Jolo, Sulu	11.7	4.4		2.5				.3	8.4	5.1	6.4	8.1			19.9	.1
Lais, Malita, Davao	21.3	6.9	8.9	4.1	*	42.9		1			34.3	12.7	4.6	19.5	5.1	20.1
Malita, Davao			*	*	*	17.5	24.9	.5	.3		40.9	3.3	10.9		8.4	18.5
Lebak, Cotabato	20.8	35.1	2									6.3		7.6		39.3
Lamitan, Isabela, Zamboanga					19											
Basilan Plantation, Kabunbantan, Isabela, Zamboanga †				13				3.8	23.9						30.7	5.8
Basilan Plantation Office, Isabela, Zamboanga †	.5	24.9	4.3	1.3				3		16.8					4.6	1.3
La Union, Sigaboy, Davao †	3.6	.3					21.3				1.3				3.5	
Paranglalap, Isabela, Zamboanga †	15.2						2.5									
Latuan, Isabela, Zamboanga †	1.5	28.4					28.4		3.8		2		1			
Buluang, Cotabato †	27.4	4.3	.3	10.9	5.8	19.6							1		6.9	
Malamaui, Isabela, Zamboanga	*	*	8.9	19	*	*	*	52.1		14.5						3.6
Zamboanga, Zamboanga																24.1
Cagayan de Sulu, Sulu †		8.9	23.4		17		2.5	2.3		30.5	7.6	11.9			5.8	19.6
Kidapawan, Cotabato †	13.7		2.5				14.7				6.6					
Davao, Davao			30	.5	1			1.5	1.3					12.7	2	
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †		2.3	24.9	2			17	9.1		2	3.3	.8	3	14.5	10.4	
Pikit, Cotabato	2	20.8	1.8	3.8	12.7			10.2		6.4	2.3		7.6	12.7		8.9
Cotabato Seed Station, Pikit, Cotabato †	9.9	30.5	6.6							3.6	50.8					
Awang, Cotabato †	50.8	11.4	6.6		24.9	16.3		53.3				19.8		22.6		
Sirib, Guianga, Davao †		.8	2.3			1	.5						3		1.5	1.3
Kabakan, Cotabato †		3.3	27.9	.8	.8	14.2				19.3	13.2	6.6		51.3		
Bual, Dulauan, Cotabato		4.9	33.2	16.5	*	16.3	.5				1.5	5.3	1.5	3	2	
Cotabato, Cotabato	*	*	*	*	*	*	*	*		2.5	5.1	16.3				
Kabasaran, Buldun, Cotabato	38.9	24.1			3.6				30.5					11.4		.5
Naganaga, Margosatubig, Zamboanga	25.9	15.3	7.1	1	3.6	2.8	5.1	28.4		.8			1			
Banasilan, Banisilan, Cotabato †	4.6	7.1	24.9	8.1				66.6								
Malabang, Lanao		1	.3			1								.5	.3	
Compostela, Monkayo, Davao †		17.8	43.6	20.3	.3	15.5	7.9	12.4						5.1		
Lumbatan, Lanao †	16.3	7.3		2.8	16.8	10.9	1.3			18.8			.8	42.4	1.8	
Cateel, Davao		27.7	74.2	33.2	9.4			12.4				6.4	2.5	26.7	3.3	
Ganasi, Lanao		19.8	1.8			17.3	8.9					4.3		15.7	.5	
Camp Kalao, Monkayo, Davao		23.4	29		.5	40.9	2.3				21.4	5.3	1.3	10.6	2	
Camp Keithley, Dansalan, Lanao	4.1	26.9	.8			21	37.1	5.6		1.5	1.6	11.4	3	3.6	5.8	
Veruela, Agusan		50.8	78.7			36.8			2		1.3	29.5		1		
Sindangan, Zamboanga †	14.5	14.8	3			3	32.5	33			2.8					
Sumilau, Bukidnon		6.6	20.3	20.8				17.3	11.7					8.6		
Diklom, Tangkulan, Maluko, Bukidnon †		34.3	21.6					16.5	7.6							
Cagayan, Misamis	8.4	33	13.8		2.8	11.2					8.6	5.1	10.2			
Talacogon, Agusan	2.3	113.1	21.3		.8	3	18.3	.5	10.4			26.9	1	.8	1	.3
Butuan, Agusan	22.9	98.7	157.7	12.7		32.5	2			1.3	2					
Mambajao, Misamis	2.3	38.1	65.8	8.4	3.3	4.1	.3				1	6.4		5.6		
Dumaguete, Oriental Negros	12		1.3	5.6	8	2.3		3.8	.8	2	.5	3.1	.8	4.9	8.6	
Meeth, Yap, Western Carolines		62.9	37.8	9.1	19.9	8.9	3									
Hacienda San Jose, Tanjay, Oriental Negros †		58.7	87.6	18.5	1		22.9									
Hacienda Palanas, Bais, Oriental Negros †		73.7	76.2	40.6		25.4						12.7		12.7	12.8	
Hacienda Tamugon, Bais, Oriental Negros †	3	75.8	92.1	3.4			19.8	8.7				33.4		3.6	21.6	16.3
Tagbilaran, Bohol																
Iwahig Penal Colony, Puerto Princesa, Palawan			55.1	12	14.7		4.6					1.5	1.3	10.4	61.7	
Dalaguete, Cebu		46.8	49	18.8		.5	12.7	1.3	25.7			25.9		18.5		
Surigao, Surigao	9.4	99.9	100	55.4		5.1	31.3	48.5			9	31.3	20.3	7.9	3.6	15.2
Central Palma, Ilog, Occidental Negros		33	33.1	10.2					2.5							
Hacienda Naval, Himamaylan, Occidental Negros		17	106.7	35.6		2.5						2.5				
Blaong Cui's Farm, Barili, Cebu			97.5	148.6	23.9											
Maasin, Leyte	6.1	142.7	167.9			58.2			5.3				11.4			
Binalbagan Estate, Binalbagan, Occidental Negros †		32.5	205.2	4.9			9.1								2.3	
Isabela, Occidental Negros		34.5	123.2	13		.3		.8	.5	1					1.3	
Hacienda Tanolo, Hinigaran, Occidental Negros		55.3	203.2	5.3			2.5	1	1	2	1.8		7.1			
Cebu, Cebu		52.1	90.1	18.6			2.8	9.7			.3	1.3	1	2.3	1.3	
La Castellana, Occidental Negros		38.1	258.8	9.7			6.1									
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †	5.3	41.7	122.9	1.5	18				14.2			8.6		20.1	2.3	
Central Azucarera de La Carlota, La Carlota, Occidental Negros	.3	42.6	223.7	4.6		17.6	3.3	.8			10.2	1		3.3	5.1	
Hacienda Canlaon, La Castellana, Occidental Negros		69.1	103.7	8.6			1.5			.6	9.9			3.8		
La Carlota Experimental Station, La Carlota, Occidental Negros †		60	245.1	54.4		3.3	1.3				3.8			17.3		
Maa Sugar Central, Santa Cecilia, Bago, Occidental Negros		45.2	279.7	1.8	.5			.3				2.8		.3		
Valladolid, Occidental Negros		3.3	100.1									3.8				
Central San Carlos, San Carlos, Occidental Negros †		35.6	100.3				50				15.7			4.3		

† Voluntary or cooperative station.

* No observation.

Daily rainfall at the stations of the Weather Bureau, November, 1920—Continued

Station.	Day of month.														Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
Lapac Agricultural School, Siasi, Sulu			18	12.7		26.7									210.8
Glan, Cotabato †															167.8
Jolo, Sulu	10.5		9.8	2.3		1	4.7	43.5	0.6		3	8.9	5.5		156.7
Lais, Malita, Davao	30.5	13.2	24.4	2.3	10.7	11.4	4.1	13.7	1.8	3.8	128	29.2			454.5
Malita, Davao	11.4	24.9	40.4	1	6.9		1	7.7		86.1	160.8	14.7			480.1
Lebak, Cotabato	21.8	21.4		35.1				14.2			120.4	21.6	5.1	8.9	359.6
Lamitan, Isabela, Zamboanga			24.4	20.3							17.8				81.5
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †			18.3	18.3			1.3	2.5	3	1.3	3	5.1			130
Basilan Plantation Office, Isabela, Zamboanga †			16.5	20.8			1.3	1.3	3		.5	2	4.3		106.4
La Union, Sigaboy, Davao †			8.9		2.8	1	6.6					2.3			51.6
Paranglalap, Isabela, Zamboanga †			27.9						16.5				6.4		68.5
Latuan, Isabela, Zamboanga †			4.1	8.6		2.5	20.3		1.3		4				105.9
Buluan, Cotabato †			5.6	3			8.1	15			.5			7.4	116.1
Malamaui, Isabela, Zamboanga			7.4	7.1	2		24.4		1.5	8.1	6.1				151.1
Zamboanga, Zamboanga	5.3		6.1	23.2			9.4			4.3	15.6	5			186.6
Cagayan de Sulu, Sulu †			16.5	8.9	3.8			36.8	37.6	2.5	36.8				195.2
Kidapauan, Cotabato †		7.9	6.9	9.4				.5	25.9		20.5	12.9	1.3		185.2
Davao, Davao			19.3						3.3		3.8			2.5	66.4
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †						30				3	2	1.3			85.3
Pikit, Cotabato		5	1.3	.8		35.8	10.7			32.5	1	2.8			174.7
Cotabato Seed Station, Pikit, Cotabato †	1		.8		31	11.2	.5	30.5		1.8		2.5		6.6	175.1
Awang, Cotabato †				4.3		50.8	3.8	10.7			6.4	34.3			211.7
Sirib, Guianga, Davao †		48.3	99.1	22.6		20.8		41.7	20.1	12.2		56.1	25.1		551.7
Kabakan, Cotabato †			2	2.3			1.3					8			14.1
Bual, Dulauan, Cotabato	3	3.8	.3	.3	3.6	2.5	34.5							3	185.7
Cotabato, Cotabato		17.3	4.6		33.5	1.8	.3	11.4		2	35.6	1.5		7.4	200.1
Kabasaran, Buldun, Cotabato †	7.1	2.5	14.7							4.6	30.5	6.9	10.2		181.2
Naganaga, Margosatubig, Zamboanga	5.8		9.7		1.8			25.9	1.8		13.5		11.9	2.3	99.5
Banisilan, Banisilan, Cotabato †	1.3	1				2.3			1.3		8	8		.5	257.5
Malabang, Lanao	14.7	2.8	13.7	4.8		72.1	8.1	9.1			20.9				7.4
Compostela, Monkayo, Davao †		3	.6			1.8	.5			.3		8			162.5
Lumbatan, Lanao †	10.7							18			10.9				437.3
Cateel, Davao	13.5	1.5	38.4	5.8	17.3	79.3	23.6	89.4		25.4	19.8	3.3			244.7
Ganasi, Lanao		1.8	15		5.8	3.8	4.8				12.7		2.5	2.5	220.1
Camp Kalao, Monkayo, Davao	2.5	.3	10.9		12.4	27.7	3.1	25.1		6.6	22.3	2.3		38.6	272.7
Camp Keithley, Dansalan, Lanao	8.6	.6	22.8	1.8	2.5	4.3	18.8	21.6	2.5	4.3	44.9		3.3		298.6
Veruela, Agusan	4	16.5	14.7	2.8	8.4	33.3	13.8	34.5	3.8	8.6	25.4	2.5	.3	8.1	242.7
Sindangan, Zamboanga †				15.2	3		3.8			5.6	14.2				163.5
Sumilau, Bukidnon	2.8	4.3	5.3	1.8		5.6	3.3	6.4	13	6.4	6.4		3.3	1.3	148.7
Diklom, Tankulan, Maluko, Bukidnon †	21.3		41.1							1					110.2
Cagayan, Misamis	2		21.7			2.4		1.1						3	277.7
Talacocon, Agusan	10.2	22.4	5.4	3.6	19.6	53.6	3.6	27.7	13.8	5.6	10.2	1	2	5.9	304.9
Butuan, Agusan	5.1		32.7	.3	1.8	2.8	10.6	22.3	2.8	7.6	5.3	2	4.1	2	364.6
Mambajao, Misamis	6.1		3.8	1.3	5.3	1.5	4.3	2.8	7.6		5.1				146.8
Dumaguete, Oriental Negros		1.3	6.4				3	.3	.5						225.8
Meeth, Yap, Western Carolines	1.3	21.6	7.2	3.4	6.4	18.8	13	6.2	8.9	3.6	19.1	1.5	29.2	31.9	156.6
Hacienda San Jose, Tanjay, Oriental Negros †								15							238.5
Hacienda Palanas, Bais, Oriental Negros †	1		6.4	2.3		3.6	2.5	11.9						14	431.9
Hacienda Tamugon, Bais, Oriental Negros †	12.7	25.4	38.1	25.4		12.7	12.7	38.1						12.7	398.6
Tagbilaran, Bohol	.6	5.4	19.6	5.6	1.8	1.3	3.7	5.6		21.9	37.3		20.8		241.3
Iwahig Penal Colony, Puerto Princesa, Palawan	.5					8.4		4.3			53.6	2			335.6
Dalaguete, Cebu		2.5	34.3	2		25.4	18.1	39.6			8.9			5.6	827.7
Surigao, Surigao	28.9	23.6	23.9	25.9	28	40.1	62.9	26.9	41.1	10.5	25.4		49.3	4.3	78.8
Central Palma, Ilog, Occidental Negros												15.2			179.5
Hacienda Naval, Himamaylan, Occidental Negros												5.3	48.3		323.6
Biaong Cui's Farm, Barili, Cebu			14.5	5.6			25.9	64.2	35.1	18.3	32.5		42.7	19.6	662.2
Maasin, Leyte	12.2														256.3
Binalbagan Estate, Binalbagan, Occidental Negros †	1										1.1	1.1		1.3	178.1
Isabela, Occidental Negros	1	.3													284.5
Hacienda Tanolo, Hinigaran, Occidental Negros							5	1.5				5		2.8	212.5
Cebu, Cebu	15.7	.3	.8				1.8		1.3	6.4				6.7	318.4
La Castellana, Occidental Negros	.8	1.3	.8				2.8								269.4
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †	12.2							11.2	7.4	2.5	1.5				360.8
Central Azucarera de La Carlota, La Carlota, Occidental Negros		.3	20.3		.8		.8	.5	1	.5	20.8			3.3	215
Hacienda Canlaon, La Castellana, Occidental Negros	.5	1.3	1				1.3		6.1	7.6					407.9
La Carlota Experimental Station, La Carlota, Occidental Negros †				10.7			1.3				10.2		.5		340.2
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros			2.3							.5	3.8			3	110.8
Valladolid, Occidental Negros										.8	2.3			.5	
Central San Carlos, San Carlos, Occidental Negros †	4.3	15				4.1			8.9				8.9		247.1

† Voluntary or cooperative station.

° 25 days of observation.

Daily rainfall at the stations of the Weather Bureau, November, 1920—Continued

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Hacienda Refugio, San Carlos, Occidental Negros †	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Murcia, Occidental Negros		26.9	115.6	2.5		32.8	0.8	1			48.3	2.5		7.1		
Bacolod, Occidental Negros	4	58.9	69.3			2.5	23.1				2	3.8		1.3		
Oton, Iloilo		29	257.2	4.3		1	63.5	1.3				3.3	1.3		2.3	
Iloilo, Iloilo		4.6	196.3	1.3			17.7		14.5			3	2			
Lapusalap, Iloilo, Iloilo †		4.3	208.4	.6			6.6					3.6	2.3			
San Jose de Buenavista, Antique		8.9	180.3			8.9						2		2.5		
Tuburan, Cebu	2		155.7	27.9				4.3								
Silay, Occidental Negros	10.2	86.1	162.8	2.1			2	3.8				1.3	8	2.8		5.8
Hawaiian Philippine Co., Malibug, Silay, Occidental Negros †	13.8	22.6	243.8	1.8			27.2	4.8				7.6	48.8	9.2		
Cuyo, Palawan		18.8	62	13.2						11.2		11.2	72.1	8.9	.5	
Lucena, Santa Barbara, Iloilo †	10.2	113.8	3.8			31.7	1.3					12.7				3.6
Barotac Nuevo, Iloilo	4.8	5.1	175.8				18.8						2.5			
Hacienda Ilaya, Victorias, Occidental Negros	62.5	25.4	192				45.7	3.8				33	157.7	3.6	6.1	1.3
Hacienda Bilbao, Manapla, Occidental Negros	4.3	54.6	150.6	4.1			43.2	9.6		29.7	28.5	4.3	32.5	13	5.3	
Janiuay, Iloilo		.5	72.9	27.7	5.6	9.7	25.4	.3	23.6			2	2.8	5.3		
Cadiz, Occidental Negros		61	156.7		15.2		21.3	3.3				21.8	52.1	23.2	1.8	
Ormoc, Leyte	3.8	96	112.2	1.8		4.8	1.3					1.3	5	6.9	.5	.5
Guiuan, Samar	14	99.6	137.5	5.8		6.4	10.7	29.8		1.5		12.2	16.5	17	8.6	12.7
Bogo, Cebu		63.5	142.2	10.2		14.7	8.4	4.1	4.6			64		3.6		1.8
Dueñas, Iloilo †			111.7	50.8	1.3		30.2	1	16.5			1.8	5.1	2		1.3
Bitaoagan, Passi, Iloilo †		10.7	57.1	15.2			16.8		6.4					12.7		
Tacloban, Leyte	6.8	42.4	143	12.4		1	6.6		34.8			3.6	1.3	16.2		
Dumarao, Capiz †			52.1													
Dao, Capiz †	16.5	21.1	213.4	8.6	19		19			11.4	14.2		16.5	15.7	5	
Capiz, Capiz	1.5	7.1	126.6	10.1	3		36.1	.5	1.6	.8		3	1.8	3		.5
Borongon, Samar	4.8	72.1	64			14	17.1					6.4	71.6	53.9	1	6.4
Catbalogan, Samar	4.1	70.7	15.2	1		7.6	3.5	.3				2.1	3.6	3.9	18.8	
Calbayog, Samar	2.8	70.3	70	12.7		1.5	12.5					7.1	3	11	.3	
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †			109.4	26.4										5.1		
San Jose Estate, San Agustin, San Jose, Mindoro †			76.2	15.3												
San Jose Estate, San Jose, Mindoro †			133.3	3.3			1.8					.8		2.8		
Masbate, Sorsogon	1.5	4.6	74			1	.5					.8	11.7	9.4		2.3
San Jose Estate, Tunnel D-12, San Jose, Mindoro †			102.1	57.2			2	2.3						5.6		
Romblon, Romblon	1.5		164.1	14.2	3	.5						7.4	1	4.1	1.8	.3
Batag Lighthouse, Laoang, Samar	31.7	50.3	21.4	13.7			26.5		.5	9.7		7.1	22.6	45.7	6.6	8.9
Irosin, Sorsogon	2.5	26.2	32.8	1.3	66.6	3.6	3.1					15.2	31.5	8.2	10.2	7.6
Sorsogon, Sorsogon	.5	20.8	47.5	1.3	4.1	3.8						13	31	25.1	7.1	.3
Bacon, Sorsogon		15.2	24.4	1.8	7.1	3.3	.5					10.2	32.5	37.1	3.3	
Legaspi, Albay, Albay		14.8	71.7			32.3	2					1.8	42.2	24.4	8.6	
Guinobatan, Albay		27.9	100.1	.3	1.8	15.2	6.9					13.2	50.4	20.6	31.3	.3
Polangui, Albay		6.1	69.3		.5						8.6	4.8	12.4	19.6	22.9	.8
Tabaco, Albay		23.6	47.7	.5		4.6	.3					11.7	25.1	37.1	22.2	
Sumay, Guam, Ladrone Islands	13.7	.3	6.6	5.8	1.3	18.5		1.5		2.5		2.3	3.3			
Iriga, Camarines Sur		8.1	61.2		1.5	3.3		.3			.8		11.2	16.8	1.8	
Calapan, Mindoro	1.8		93	10.7	1.3			6.1	.5				4.8	1.3	4.1	1.3
Virac, Albay		7.9	20.9	14.8				1.5		1			82.5	8.9	4.6	.5
Naga, Camarines Sur	6.9	2.4	82.9		45	6.8			.5	.5			4.4	19.8	18	
Tigaon, Camarines Sur	1.5	5.3	39.1	.3		10.2	2.8	.5			1	.3	20	51.8	10.6	2.3
Libmanan, Camarines Sur	1.6	27.7	8.2	23.8	1.3	8.3	1.5		2			7.1	8.4	33	2.8	
Batangas, Batangas	1.3		36.3	23.6	1		.8						23.6	2.5	20.6	4.6
Calatagan, Batangas	.5		25.4	12.7		.3		1.3					15.2	3.3	4.3	
Balayan, Batangas			16.5			5.1							11.4		3.6	8.9
Lipa, Batangas	.3		51.3	71.4	1.5		1.8	.5					28.7	16.6	25.6	5.5
Lucena, Tayabas	7.1		72.4	23.1			10.4	.5					81.3	37.3	28.9	5.8
Atimonan, Tayabas	15.5	.3	40.4	6.6	3.6	1	4	.5				1	73.2	62.3	54.4	9.4
Lian, Batangas			22.1	5.6												
Nasugbu, Batangas			64.9	27.7		2.5	1.3			53.3			79.5	27.5	39.6	1.3
Ambulong, Tanauan, Batangas			30.5		.8	4.9	.3				1	14.5	83.3	49	63	4.1
Daet, Camarines Norte	22.3		66	15	.5			.5			3.8		29.5	19.5	15.7	1.8
Mendez Nuñez, Cavite	.5		59.9	19.1				.5			16.5		25.6	14.7	17.5	1.8
Alfonso, Cavite			55.1	13								3	27.9	11.7	21.6	1.3
Indang, Cavite			33.5	24.9			2			1.5	5.1		53.3	31.5	50	8.3
Canluban, Calamba, Laguna	.8		33.5	9.1		1	2		.5		.3		7.1	19.3	36.5	4.1
Silang, Cavite			16.5	7.9		1.3							18.3	5.8	16	
Maragondon, Cavite			8.4	.8												
Paracale, Camarines Norte	17.3	13.2						19	8.1	6.6						
Santa Cruz, Laguna			40.4	16	1.5	18.3	6.7					.5	55.4	41.4	56.9	4.1
Buenavista, Malabon, Cavite			27.4	16.2		1.3							26.4	20.6	39.7	.5
Imus, Cavite			8.1	16.5		3							33.3	4.5	20.8	1.3
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †			16.5	19.8	1.3								36.6	3.3	20.8	
Cavite Naval Station, Cavite ^a				5.8	13.7		1						54.6	3.3	13.2	2.8
Lamao Horticultural Station, Lamao, Limay, Bataan †			14								10.2		27.9		43.2	7.6
Manila, Manila			2.4	16.9		1	.3			2.3		14.7	49.5	7.7	22	.3
Antipolo, Rizal			8.9	9.4	4.8	2	.8					6.4	43.2	8.2	20.3	4.1
Bosoboso, Antipolo, Rizal †			22.6	7.1	8.1	8.4						12.2	61	76.2	172.7	12.7
Balanga, Bataan			4.1	6.9		2.3						5.1	16.8	16.8	.5	24.4
Montalban, Rizal †			18.5	4.5	1	9.1			.8			8	5.3	40.9	2.8	16

† Voluntary or cooperative station.

^a Rain in 24 hours beginning 8 a. m.

Daily rainfall at the stations of the Weather Bureau, November, 1920—Continued

Station.	Day of month.														Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	
Hacienda Refugio, San Carlos, Occidental Negros †	6.1	2.8				6.9			4.8	2.5	2.8		11.4		274.8
Murcia, Occidental Negros			18.5							6.6		19.3			205.3
Bacolod, Occidental Negros		.3						4.3	.5	7.9			1.3	2.3	388.8
Oton, Iloilo								2	1.3	14.5					256.5
Iloilo, Iloilo		1.3				5.3	1.3		2.5	14.3					250.5
Lapuslapus, Iloilo, Iloilo †						8.9	1.3		4.1	20.3					237.2
San Jose de Buenavista, Antique										12.2				1	201.1
Tuburan, Cebu	.5		1				.5		8	2.3			2	2.3	278.9
Silay, Occidental Negros	.8	17.3			7.9	63.5	.3		27.9	32.5	9.6		6.1	.8	581.8
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros †	26.9	16	6.4		44.7	32	11.7		13.7	7.7	8.1		7.9	1.5	583.3
Cuyo, Palawan											3.8				1
Lucena, Santa Barbara, Iloilo †		2		2	3				7.1	15.7	21.6				224.9
Barotac Nuevo, Iloilo					6.1			5.3			5.6				227.6
Hacienda Ilaya, Victorias, Occidental Negros	8.9	21.1	2.5	14.2	6.4		5.8	1.3	6.4	10.4	13.2		19		640.3
Hacienda Bilbao, Manapla, Occidental Negros	19	22.6	7.3	22.9	8.6	15.2	13.7	24.1	18				19	3.6	553.7
Janiuay, Iloilo			.5		.3	4.3	2.6	17.8	4.9			6.6	1.3	27.9	242
Cadiz, Occidental Negros					6.4					14.7			45.2	1.3	429
Ormoc, Leyte	.5		1.8	2.5	2	12.4	.5		10.4	.3	4.1		6.4	8.4	278.9
Guiuan, Samar	9.2	10.9	1.8	32.8	6.3	34.8	.8	31.8	36.1	23.6		.5	33	68.6	662.5
Bogo, Cebu							.5		8.1	1	2	1.3	.3	5.4	335.7
Dueñas, Iloilo †									11.4	6.4	12.7		6.4		258.6
Bitaoagan, Passi, Iloilo †			7.6								7.9		3.8		138.2
Tacloban, Leyte		2.6	5.3	5.1	23.6	5.8	18.8	1.5	15.3	8.4	18.8		11.2	35.8	420.3
Dumarao, Capiz †						1.3	1.3		1.3	2.5	1.3	31.7			91.5
Dao, Capiz †	3.6			1	6.1	3.8	7.4			3.8	10.4		5.1	13.7	415.3
Capiz, Capiz					1		3.6		1	1.3	4.1	2.3	.8	134.9	342.2
Borongan, Samar	6.6	4.8	6.9	18.8	16.8	15.5	26.9	6.9	15.5	36.8	14.7	1.3	27.2	60.2	609.4
Catbalogan, Samar	3.5	1.8		3.8	1.8	23.6	5.6	3	7.2	23.7	24.8		14	45.7	295.4
Calbayog, Samar	.8		.5		2.3	6.4	.6	2.8	.3	15.8	8.6		6.1	25.9	261.3
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †							.5	3							144.4
San Jose Estate, San Agustin, San Jose, Mindoro †															91.5
San Jose Estate, San Jose, Mindoro †							.3	2.3				.3			145.2
Masbate, Sorsogon	2				3.8	5.3		.8	2.5	9.7	14.5		.5	31.8	176.7
San Jose Estate, Tunnel D-12, San Jose, Mindoro †								2							168.9
Romblon, Romblon	9.1	6.6			1	3.8	14.9	5.3	5.6	3	22.4	9.5		49.9	331.3
Batag Lighthouse, Laoang, Samar	10.5			6.6	9.2	8.1	2.5	12.4	18.8	58.4	7.4		15.7	153.6	547.9
Irosin, Sorsogon	12.7		3.8	1.5	27.9	22.1	33.5	8.4	19.3	39.6	18.3	4.5	12.2	78.7	491.3
Sorsogon, Sorsogon		1.8	10.4	7.9	36.6	9.6	18.3	5.6	37.6	53.9	23.6	4.4	4.1	138.2	506.5
Bacon, Sorsogon	15		2	.5	16.5	6.6	11.7	13.2	45.5	59.7	18.8	1.5	5.3	191.5	523.2
Legaspi, Albay, Albay	2.1	1.3	1		18.3	4.9	3.3	11.7	7.5	25.6	5.2	15		151.4	445.1
Guinobatan, Albay	.3	.5			.8	2.5	3.8	.5	1	6.4	1.5	3.1		69.3	337.7
Polangui, Albay	10.2	2.5			20.6	5.3	10.4	7.6	.3	2.3	.3	1.8		45.5	251.8
Tabaco, Albay	8.4	19.3	.8		13.7	14	9.9	22.6	5.9	8.1	3.3	4.8		117.8	406.9
Sumay, Guam, Ladrone Islands	12.7	5.3	2.8		1.5	2.5	2.8	5.1	.3	2				1.3	92.1
Iriga, Camarines Sur					7.6	2.5	.5	5.1		2.5			8		43.4
Calapan, Mindoro		1.3				3		.3		3		22.9	3	3.8	158.6
Virac, Albay	2	1				13.5	1.5	19.8	6.1	12	.8	11.4		80.3	291
Naga, Camarines Sur			8.4		6.4	1.8		8.6		1.8		9.7		30.2	254.9
Tigaon, Camarines Sur		.3			.3	3.6	.5	4.6	1	3.8	3.8	22.3		44.2	230.1
Libmanan, Camarines Sur		.8			5.1	1.5	6.4	8.9	3.3	17				50.3	219
Batangas, Batangas			2.3								3.6	4.6		2.3	127.1
Calatagan, Batangas	4.6		.5								.3	5.4	.3		74.1
Balayán, Batangas													2.8		48.3
Lipa, Batangas	14.5		2.5		5.1	1					3.3	6.6			236.2
Lucena, Tayabas	2.8		5.3			4.8	2			21.8	4.6			6.1	314.2
Atimonan, Tayabas	2.6		7.8			11.4	2.6	.5	3.6		15.7	21.6		8.7	346.7
Lian, Batangas	20.8										4.8				53.3
Nasugbu, Batangas									21.3			58.4		58.3	187.6
Ambulong, Tanauan, Batangas	2.5				2.8	.5	2.5	.8				1		12.4	265.5
Daet, Camarines Norte	23.9	9.9	10.7	5.8	14.7	16	16.7	12.9	4.8	8.9	63.4	6.4	.3	49.5	517.6
Mendez Nuñez, Cavite					3.3	.5	4.1	2.5				3.3			166.5
Alfonso, Cavite					1.5		2.8	1.5				2.3		.8	164.5
Indang, Cavite												11.2			148.1
Canlubán, Calamba, Laguna	9.9				13.2		5.6	.5			1	4.6			245.7
Silang, Cavite	4.6				5.1	2	4.1	2.3	1		11.4	11.4		1.5	157.1
Maragondon, Cavite												10.4			76.5
Paraale, Camarines Norte	3.3	3.3						6.1	4.8	2.5				3.8	98
Santa Cruz, Laguna	12.7	.3	.3			1.3	18.3	6.7	.5		8.1	13.5	.3	8.6	311.8
Buenavista, Malabon, Cavite	7.1		.5				1		.5			3.8			136.9
Imus, Cavite															95.6
Alabang Stock Farm, Alabang, Muntinglupa, Rizal †	8.4														106.7
Cavite Naval Station, Cavite ^a	6.6		.5	1.3											102.8
Lamao Horticultural Station, Lamao, Limay, Bataan †	2.5							5.1							110.5
Munila, Manila	4.1						.5	2							123.7
Antipolo, Rizal	5.8											1.3			117
Bosoboso, Antipolo, Rizal †	142.2														523.2
Balanga, Bataan	1		3.8									4.6		.5	87.6
Montalban, Rizal †	2.5		.5						.8			.8		4.8	110.9

† Voluntary or coöperative station.

^a Rain in 24 hours beginning 8 a. m.

Daily rainfall at the stations of the Weather Bureau, November, 1920—Continued

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †	mm. 0.5	mm.	mm. 15.5	mm.	mm. 0.8	mm. 29	mm.	mm. 0.5	mm.	mm. 1.3	mm. 2.3	mm. 42.4	mm. 66.3	mm. 13.9	mm. 22.9	mm. 12.7
Mabayuan Dam, Olongapo, Zambales †				25.4		7.6			2.5	7.6	2.5	5.1	12.7		7.6	7.6
Malolos, Bulacan			1.8	16	1.3	10.4				1.3	30.5	10.9	30.4	10.9	20.5	1
Pampanga Sugar Mills, Del Carmen, Pampanga †				20.8	1	1.3				1.5	9.7	14.7	4.6	2.5	17.8	2.3
San Fernando, Pampanga				7.6	4.8	3.8	3			.5	26.9	15.7	10.2	2.5	20	1
San Isidro, Nueva Ecija			1	10.7	23.8	4.9	.3			3.6	8.4	.3	.3	.3	8.1	.8
Iba, Zambales				3.8	1		.5			19.8	2	2.3	1.5		.8	
Hacienda Luisita, Comillas, La Paz, Tarlac †																
Hacienda Luisita, San Miguel, Tarlac, Tarlac †					23.1											3.8
Tarlac, Tarlac				1	15.2	9.7										10.7
Muñoz Agricultural School, Muñoz, Nueva Ecija †				14	12.7	1			5.8	52.8						
Baler, Tayabas				40.7	102.1	11.5	.5		2	7.6	2.3	46.2		38.1	2.1	60
Dagupan, Pangasinan				7.1	4	.5			9	4.6		22.1				
Baguio, Mountain Province			1	.5	5.1				3.8	16		11.5			11.5	
San Fernando, La Union				.3	1.3				3.8	16		11.5			11.5	
Sagada, Mountain Province †				13.2	15.2	13.7	9.7	1	13.5	6.6	.3	41.7	.3		2.8	
Bontoc, Mountain Province †				10.7	22.8	25.7	2.3		2.8			74.5				
Candon, Ilocos Sur					99.1	1.3			13.5	7.9		2.5			13	
Vigan, Ilocos Sur									41.7	4.6						
Tuguegarao, Cagayan			10.7	34	10.1	7.8	.5	.5	37.3	11.7				7.3	9.6	
Tayum, Abra †			.8		5.8	3.6			2.5	19.5						
Laoag, Ilocos Norte			.8	.5					28.1	8.5						
Aparri, Cagayan			25.9	10.4	7.8	1.3		.5	39.2	6.1	3.5	9.5	4.1	22.4	33.8	
Cape Bojeador, Burgos, Ilocos Norte				9.7	2	2			11.5	3.5					1.5	
Basco, Batanes		1.3	11.1	5.6	53.6	7.1	.3		8.1	2.3	.3	.8	.5	1.5	2.5	11.4

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, November, 1920—Continued

Station.	Day of month.														Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †	mm. 3.3	mm. 2.1	mm. 1	-----	-----	-----	mm. 0.5	-----	mm. 0.3	-----	mm. 0.8	mm. 0.5	mm. 3.8	mm. 5.1	mm. 225.5
Mabayuan Dam, Olongapo, Zambales †	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 1.3	mm. 78.6
Malolos, Bulacan	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 2.5	-----	-----	mm. 138.8
Pampanga Sugar Mills, Del Carmen, Pampanga †	-----	-----	-----	-----	-----	-----	-----	mm. .8	-----	-----	-----	-----	-----	-----	mm. 77
San Fernando, Pampanga	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 1	-----	mm. 4.1	mm. 100.1
San Isidro, Nueva Ecija	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 2.5	-----	mm. 1.3	mm. 71.3
Iba, Zambales	-----	-----	-----	-----	-----	-----	-----	mm. .5	-----	-----	-----	-----	-----	-----	mm. 32.2
Hacienda Luisita, Comillas, La Paz, Tarlac †	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 0
Hacienda Luisita, San Miguel, Tarlac, Tarlac †	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 26.9
Tarlac, Tarlac	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 36.6
Muñoz Agricultural School, Muñoz, Nueva Ecija †	-----	-----	mm. 2.5	-----	mm. 1	-----	-----	mm. .3	-----	-----	mm. .5	mm. 17.5	mm. 49.8	mm. 14.5	mm. 86.3
Baler, Tayabas	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 389.6
Dagupan, Pangasinan	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 21.2
Baguio, Mountain Province	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 42.3
San Fernando, La Union	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 1.5	-----	-----	mm. 44.4
Sagada, Mountain Province †	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 1	mm. 1.8	mm. 5.1	-----	mm. 124.6
Bontoc, Mountain Province †	-----	-----	mm. 3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 144.6
Candon, Ilocos Sur	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 137.3
Vigan, Ilocos Sur	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 7.1	mm. .5	-----	-----	mm. 46.3
Tuguegarao, Cagayan	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. .5	-----	mm. 137.1
Tayum, Abra †	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. .5	mm. 32.7
Laoag, Ilocos Norte	-----	-----	-----	-----	mm. 1.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 37.9
Apurri, Cagayan	-----	mm. 1	-----	-----	-----	-----	-----	mm. 3.6	-----	mm. 2.9	mm. 13.5	mm. 2.6	mm. .3	mm. .3	mm. 190.5
Cape Bojeador, Burgos, Ilocos Norte	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	mm. 30.2
Basco, Batanes	-----	-----	-----	mm. 39.4	mm. 48.3	mm. .5	mm. 2.1	mm. 2.5	-----	mm. 8.9	mm. 1	-----	mm. 4.8	mm. .3	mm. 214.2

† Voluntary or coöperative station.

MAXIMUM AND MINIMUM TEMPERATURES AT THE STATIONS OF THE WEATHER BUREAU, NOVEMBER, 1920

Day.	Jolo.		Lais, Malita.		Malita.		Lebak, Cotabato.		Malamaui, Isabela, Zamboanga.		Zamboanga.		Davao.		Pikit.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	30.1	22.4	31.6	21.9	-----	-----	32	23.5	30.9	22.6	-----	-----	31.2	22	32.8	21.5
2	31.9	23.8	31.7	21.7	-----	-----	31.8	24.2	29.8	22.8	-----	-----	28.7	22.1	30.3	22.7
3	27.9	23.2	30.1	22.2	-----	-----	29	23.5	29.2	22.5	-----	-----	29.2	23.3	28.7	23
4	31	25.1	28.4	22.9	28.3	-----	-----	24	30.5	22.9	-----	-----	29.7	25.4	31.3	23.2
5	31.4	23.3	31.7	20	32	22	31	22.2	29.5	21.3	-----	-----	31.7	24	33.3	22.4
6	31.3	22.1	33	21.4	34.3	22	31.8	23.3	30.5	20.9	-----	-----	33.7	22.9	33.1	23.6
7	30.5	23.4	33.2	22.3	33.6	22.8	32.1	24.6	31.3	19.4	-----	-----	33.7	23.2	33.5	22.5
8	29.5	24.1	31.3	22.7	30.3	22.7	31.3	24.2	29.4	21.3	-----	-----	30.2	23.1	32.6	23.8
9	29.3	22.3	31.7	21.4	31.3	21.9	32.6	24.2	29.7	22	-----	-----	31.3	23	33	23.6
10	30	21.8	32.2	21.7	32.7	22.6	31.6	23.5	29.5	21.1	-----	-----	31.7	23	33.3	23
11	30.6	21.9	32	21.5	33.8	22.5	32.1	23.6	29.3	21.4	-----	-----	32.2	22.8	33.9	23.7
12	29	23.6	31.5	23	31.1	22.8	29.4	23.5	29.2	21.6	-----	-----	31.7	23	32.6	22.5
13	30.6	21.3	31.9	21.6	32	22.7	30.5	23.7	30.3	22.6	-----	-----	31.7	22.4	32.8	22.5
14	30.8	21.2	31.5	22.6	32.2	22.5	-----	-----	30.6	19.9	-----	-----	32.2	22	32.8	22.2
15	31.6	21.9	31.5	22	33.3	23.3	30.5	23.5	30.9	21.3	32.6	23.8	32.7	22.5	33.5	23.1
16	31.2	21.9	31.7	22.9	32.3	23.4	32.4	22.7	31.2	24.3	30	22.9	32.2	22.1	32.9	23.3
17	28.5	22.4	32	22.6	32.2	22.8	31.6	24.1	31.4	23.7	28.7	23.3	31.7	22	33	22.8
18	31.3	22.2	32.2	23.6	32.8	23.2	31.7	24	30.9	20.8	31	23.4	32.7	23.4	33.4	24.2
19	31.7	23.1	30.8	23.4	30.7	23.9	31.9	25	31.3	19.9	32.5	24.4	31.7	22.9	33.5	23.5
20	28.9	22.5	31	22.4	31.5	21.5	29.8	23.2	29.8	18.9	30.5	23	32	22.9	32.3	23.7
21	31.1	22.3	31.4	22.6	31.8	22.7	30.8	23.4	29.5	20.7	32.5	22.9	32.7	22.5	33.4	23
22	30.6	23.1	31.3	22.3	31.7	23.6	30	23.4	30.5	21.8	32.5	23.5	31.7	22.8	32.8	23.2
23	31.3	24.2	29.9	24	31.6	24.2	31.5	24.5	30.5	19.7	34.2	24	32.2	23	33.4	23.7
24	29	23.4	30.6	22.4	30.6	23.2	30.8	23.7	29.8	21.4	29	23.9	26.8	23	31.1	23.1
25	30.6	23.4	32.1	22.2	33.1	22.9	31	23.7	30.4	19.7	31.1	23.5	32.2	22	32.4	23.5
26	30.5	22.8	31.9	22.8	33.1	23.5	30.8	24.3	30.5	20.7	31.3	23.3	32.2	22.2	32.5	24.1
27	30.6	23.5	31.9	24	32.5	23.4	30.7	24.2	30.2	21.4	28.9	23.5	32.2	24	33.3	23.7
28	28.3	23	31.4	23.6	32.1	23.3	30.6	23.2	28.5	21.4	27.3	23.1	32.7	23.4	32.8	24.2
29	29.5	22.9	29.4	22.9	30.1	23.1	30.8	23.2	30.6	21.4	31	23.5	31.2	23.6	31.7	23.8
30	30.8	22.2	21.7	29.7	22.5	-----	30.7	23.5	29.5	21.2	29.5	22.7	30.2	23.3	31.4	23.4
Mean	30.3	22.8	31.4	22.4	31.9	22.9	31.1	23.7	30.2	21.4	30.8	23.4	31.5	23	32.6	23.2

Day.	Bual, Dulauan.		Cotabato.		Naganaga, Margosatubig.		Malabang.		Cateel.		Ganasi.		Camp Kalao, Monkayo.		Camp Keithley, Dansalan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	32	20.3	30.8	22.5	33	22.5	32.6	20.6	30.8	20.5	28.4	19.8	32	19.1	26.5	15.4
2	30	20.3	29.5	22.8	33.5	21.5	32.4	21.1	26.6	22.5	29	18.2	26.5	21.9	22.5	19.3
3	27.6	22	27.1	23.5	33.5	20.7	31.6	21.8	31	23	26.5	18.3	29.5	20.8	21.8	18.1
4	31	22	30.6	22.8	35.1	21.2	32.4	-----	31.2	23	27.2	18.5	32.5	20.9	26.9	20.5
5	33.3	21.5	32.1	23	34.7	22.5	31.5	22	30.8	22	18.6	18.6	32	21	29.4	19.2
6	32.9	21.6	32.4	23.6	35.2	22.2	31	21.8	31	23	29.5	17.8	31.9	21.7	27.5	17.9
7	32.8	21.5	31	23	34.5	23	31.4	22	30	22.9	29.8	18.6	29	22	27.1	18.9
8	31.9	22.6	30.2	23.2	34	20.5	30.4	22.5	30.5	22.9	29.8	19.4	32.4	21.9	26.7	18.5
9	32.4	22.6	30.5	23.6	33.5	22.2	30.8	22.2	31.3	22.7	28	20.5	33.1	22.9	27.8	20.5
10	32.8	20.5	32	23	33	20.2	30.8	22.2	31	21.6	28.4	17.2	33.1	21.4	28	18.5
11	32.9	21.7	32.4	23.5	33.5	21.5	31.4	22.3	31.6	21.6	29.5	18.3	32.5	21.2	27.8	18
12	31.6	20.3	31.6	22.3	34.3	22.5	30	21.8	31	22.3	29.4	18	33.9	21	27.3	18.4
13	32.4	20.9	32.2	22.5	34.5	21.3	31	22.2	30.2	22.5	30	17.9	31	22.4	27	17.7
14	32.7	20.3	31.8	22.4	33.8	22.2	30.4	-----	31.1	22.6	29.5	17	31	22	25.9	17.5
15	32.5	21.9	32.4	22.9	34.5	20.5	31.2	20.7	30	22	30.5	17.2	31.8	21	28.3	17.3
16	32.7	21	32.5	23	34.2	21.3	30.8	20.5	29.2	21.5	29.5	18	31.5	21	27.2	17.1
17	32.2	21	32.5	22.5	33.2	22.3	30.8	20.6	30.6	22.2	30.5	17.5	32	21	26.9	17.6
18	33.3	22.8	32.6	23.6	33.5	22.2	30.4	22.7	30.7	22.5	29.6	18.5	31	22	26.6	17.6
19	31.7	21	32	22.9	33.2	22.2	30.8	21.4	29.6	23	30.2	18.3	31.5	22	27.8	18
20	31.8	21.9	30.8	22.9	34	22.5	-----	22.7	30.9	22.4	30.1	18	31	22.4	24.1	18
21	32.9	21.4	32.5	23.4	34.5	22.3	-----	21.6	30.5	23.1	29	17.5	33	21	27.2	18
22	32.7	21.5	32.5	23	33.5	21.7	30.2	21.8	28.5	23.5	29.9	18.2	28	21.3	26.5	18
23	33	21.5	32.6	23.2	34	22.2	30.4	22	29.9	22.7	29	17.5	32	21	26.5	19.1
24	-----	21	30.8	22.9	33.7	22.5	29.4	22	24.9	22.5	30.5	18.5	25.9	22	26.3	18.5
25	-----	-----	31	23.3	33.3	23.2	30.8	20.8	31.8	22	29.7	18.2	31.5	21.6	26.3	19
26	-----	-----	32.5	23.5	34	22.7	30.8	21.2	28.5	23.5	30.7	18.8	29.5	21.4	27.4	18.6
27	-----	-----	32.2	23.1	33.7	21.5	30.8	21.7	28	23.5	30.8	19.5	31	22.9	27.4	18.4
28	32.6	-----	31	24	33.5	19.7	30.6	22.2	29.2	23	29.9	19.6	29.9	21.4	27.6	18.8
29	32	22.3	30.5	23.8	33	20.5	30.4	22.4	29.7	23.3	28.9	18.2	29	22.5	26	19
30	32	21.1	30.6	23.2	33.5	22.2	30.4	22.3	29.5	22.5	29.6	18.9	30.5	21.5	26.5	19.5
Mean	32.1	21.4	31.4	23.1	33.8	21.8	30.9	21.8	30	22.5	29.4	18.4	31	21.5	26.7	18.4

Maximum and minimum temperatures at the stations of the Weather Bureau, November, 1920—Cont.

Day.	Veruela.		Sumilau.		Cagayan.		Butuan.		Mambajao.		Dumaguete.		Meeth, Yap.		Tagbilaran.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.4	19.4	27.3	15.2	30	-----	31.2	20.9	29.4	22.9	30.8	24.4	28.3	23.7	32	22
2	26	22.7	24	18.8	26.8	-----	26.1	22.7	25.6	23.2	29.7	23.9	31.9	25	27.4	23.5
3	27.6	-----	20.4	19.1	25	-----	25	21.8	27.5	20.4	26.4	23.2	33.2	25.6	25.8	23.2
4	31.3	22.7	28.3	17.8	31.5	-----	33.3	22.7	30.5	22.3	28.2	22.9	33.2	25	30	23
5	33.8	21.9	29.2	19.5	30.9	-----	33.9	22.3	30	23.1	30.3	23.1	33.5	25.4	31	22.4
6	31	23.4	29.8	17.4	31.2	-----	31.6	21.8	30.5	23.8	30.6	24.4	29.8	24.4	31.6	23.9
7	31.2	23	27.7	18.3	31.4	-----	30.9	22.7	29	23.9	31.5	25.3	28.6	24.8	31.9	23.6
8	33.2	23	27.5	19.5	31.3	-----	30.3	23.3	28.4	22.9	30.3	24.5	33.4	26.1	28.3	23.5
9	32.6	23	27.2	19.8	30.4	-----	32.6	22.7	29.3	23.4	31.4	23.9	32.7	25	30.5	23.3
10	32.5	22.7	29.1	17.6	30.6	-----	33.2	22.3	30	22.3	30.6	23.3	32.9	24.5	30.5	22.9
11	30.9	23.2	29.8	16.9	31.2	-----	33.9	22.9	30.6	22.7	31	23.7	31.7	25	30.9	22.9
12	30.6	21.8	29.7	19.2	31.6	-----	32.6	22.7	30.1	24.4	30.7	24.2	33.3	25.7	31.2	22
13	32	23.4	29.3	18.6	30.5	-----	31.1	22.4	29.1	25.2	30.1	24.9	32.7	25.2	30.7	22.7
14	29.3	22.7	28.4	18.5	32.5	-----	31.9	22.4	29.4	24.4	30.3	24.3	33.4	24.7	31	22.7
15	29.5	22.2	28.6	18.4	31.4	-----	27.6	22.3	30.4	24.6	29.2	24.5	33.6	24.8	29.7	22.6
16	29.5	22	30.1	17.4	31.6	-----	33.1	21.4	30	24.4	30.7	23.7	32.4	25	31	22.4
17	29.8	21.7	28.4	20	31.3	-----	32.4	22.4	30.5	24.4	30.9	25.7	33.3	23.7	30.7	22.6
18	28.8	23	29.4	18.5	30.2	-----	31.6	22.7	28.8	24.5	29.7	24.9	33.1	25	30.7	22.5
19	29.5	22.4	30.1	20.3	31	-----	30.6	22.6	30.7	25.1	30.6	24.4	32.3	23.7	31.7	22.5
20	29.2	23.2	27	20.2	28.9	-----	28	22.9	26.3	23.5	30.9	23.8	32.7	24.6	30.7	22.3
21	30.2	23.5?	29.4	21.1	31	-----	31.6	22.4	30.3	25	30.9	24.6	32.1	25	31.3	23.3
22	25.8	23.5	28.1	21	28.5	-----	31.7	22.7	29.9	25.2	30.4	24.6	32.7	23.5	32.1	23
23	29.4	23.3	28.6	21.5	31.2	-----	30.1	22.8	28.7	24.8	29.4	26.2	30.7	24.6	30.3	23.1
24	24.6	23.2	26	19.3	29	-----	27.5	23.2	27.8	24.1	30	25.1	31.6	25.1	31.1	23
25	30.2	23.2	28.2	18.3	30.2	-----	29	21.2	28.5	23.9	30.4	24.2	32.3	24.6	31	22.5
26	28	23.7	29.1	18	30.4	-----	30.4	22.5	29.6	24.8	30.5	25	32.6	24.5	31	22.9
27	30.5	23.8?	26.6	19.4	30	-----	30.3	23.2	29.5	25.3	30.6	25.4	29.8	24.1	29.7	23.3
28	29.7	22	29.1	16.7	30	-----	32.5	21.9	29.9	24.1	29.9	24.1	32.1	25	31	21.5
29	28	23.4	26.2	19	29.8	-----	29.1	22.7	28.4	23.9	30.6	23	32.8	25.2	29.9	22.2
30	30.4	22.8?	27	19.2	30	-----	30.4	23.2	28.9	23.4	30.6	24.7	32.1	24.3	29	22.8
Mean	29.9	22.8	28	18.8	30.3	-----	30.8	22.5	29.3	23.9	30.2	24.3	32.2	24.8	30.5	22.8

Day.	Iwahig Penal Colony, Puerto Princesa.		Dalaguete.		Surigao.		Central Palma, Ilog.		Hacienda Naval, Himamaylan.		Biaong Cui's Farm, Barili.		Maasin, Leyte.		Isabela, Occidental Negros.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.6	21.2	29.6	23	29.7	24.1	31.1	21.6	31.5	23.6	31.5	22.4	32	22	32.1	21.5
2	32.2	20.5	29.6	23.7	25.5	23.5	31	21.1	28.5	22	31.5	21.8	27.2	22.8	28.1	21.8
3	31	21.8	26.5	23.4	25.3	23.2	30.6	20.4	25	23	25.8	21.5	27.6	22.2	24.4	22.6
4	28.2	21.7	28.4	23.3	31.4	22.6	31.2	19.9	27	23	27	21.6	31	23.4	27.5	19.9
5	29.4	22.5	30.7	23.7	31	22.6	32	20.6	32	21	30	21.8	32.5	22.4	33.1	21.5
6	30.5	22.4	30	25.6	30	23.7	32.4	21.2	31.5	23.5	31	21.5	33.2	23.2	31.7	22
7	32.2	20.8	30.1	23.7	27.1	23.4	33	22	31	22	29	22.1	31.6	22.8	31.1	21.5
8	31	22.2	28.6	24.3	27.4	23.7	32.4	21.8	30	23.5	27.2	21.9	30.5	23	29.9	23.4
9	31.5	21.8	31.4	23.6	29.6	23.2	31.8	21	30.5	23	30.5	22.3	32	23.4	30.9	22
10	31	22	31.2	23	31.2	23.3	32.1	20.7	31	22	30.5	22.5	33	23	21.8	21.2
11	30.8	21.5	30.2	23.8	32	23.4	33	21.4	30.5	23	30.1	22.4	33.2	23.5	31.3	21.9
12	31.2	22.2	29.2	23.1	30.4	23.6	33.4	20.8	32.5	22.5	30.8	22.6	32.8	23	32.3	20.9
13	31	21.8	29.5	24.2	29.4	22.6	34	20.6	32.5	23.4	30.2	21.4	33.2	23.2	32.4	23.4
14	31.2	22	29.8	24.1	26.4	22.9	34.1	21.4	32.5	22	31.5	22	28	23.6	32.1	21.5
15	29.8	21.5	28.8	22.7	28.9	22.9	34	22	31.5	22	27.8	21.5	31.5	23	30.9	22.4
16	30.2	21.5	30.1	24.4	30	23	34.2	22.6	33	22	30.2	22.3	34.4	22.8	32.3	21
17	30.4	22.4	30.6	24.2	29.1	24	33	21.2	33.4	23.5	27.9	22.5	29.8	19.4	32.9	23.5
18	30.4	22.4	29.9	25	27	23.4	32.6	20.9	33.5	23.4	28.9	22.4	32	22	30.5	22.8
19	29.9	22.4	30.1	24.6	30	23.8	31.4	19.9	31.8	22.5	30	22	34	21	33.2	22.9?
20	30	22.4	29.6	24.4	26	23.6	32	21	32.5	22	31.2	22.5	29.8	21.4	31.5	21.5
21	30.8	21.5	30	25	30.2	23.9	33.6	22.3	33	23.5	30.1	22	33	21.8	32.2	24.1
22	30.8	24.5	30.2	24.6	29.2	23.8	33.6	22.4	33.5	24	30.5	22.5	30.3	22	32.6	23.7
23	30.8	22	28.6?	24.8	27.4	23.8	32.5	21.2	32	22.5	31.2	22.2	30.5	22.4	32	22.8
24	30.2	22.8	29.9	24.7	28.5	23.3	31.4	21	33	24	29.5	22.1	30	21	32	22
25	30.2	22.4	29.6	24	27.3	23	32	21.7	31.5	22.4	29	22	30.2	21	32	20
26	30.8	22.1	29.8	25.5	28.7	23.8	31.9	20.4	31.8	22.5	29	22	32	22.2	31.6	20.7
27	30.2	22.8	29.5	24.8	29.2	24.2	32.2	21	31.5	23.5	29.5	22.2	30	22	32.7	24.8
28	29.5	23.2	29.9	23.5	30.5	22.7	33	22.6	31.5	21.5	30.7	22	33.8	22.4	32.4	22.9
29	30.2	21	30.6	22.2	27	22.8	32.1	22	31.5	20.5	29.1	20.5	30	22.1	33.1	19.4
30	31.7	20.5	28.6	23.3	28.4	23.1	31.6	21.4	28	22.5	26.5	22.5	31.6	22.7	28.1	22.1
Mean	30.6	22	29.7	24	28.8	23.4	32.4	21.3	31.3	22.7	29.6	22	31.4	22.4	31.3	22.1

Maximum and minimum temperatures at the stations of the Weather Bureau, November, 1920—Cont.

Day.	Cebu.		La Castellana.		Central Azucarera de La Carlota.		Hacienda Canlaon, La Castellana.		Maa Sugar Central, Bago.		Valladolid.		Murcia.		Bacolod.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.2	23.7	32.5	22	32.1	22	31.9	19.6	32	21.8	31.5	22.2	31.6	20.2	30.8	
2	29.2	24	28.3	21.7	28.2	20.4	27	18.5	28	21.1	33.2	22.5	28.6	21.6	26.9	
3	26.6	23.1	24.4	21.5	24.8	21.8	23.6	20	23.4	22.7		23.3	26.8	22.7	25.2	
4	27.5	23	27.2	21.4	28.3	20.9	27.3	18.8	29	21		21.2	28.5	21.3	28.8	
5	31	24.2	33.4	22.4	33.9	21.4	30.5	19.6	33	21.5		22.4	31.6	22.3	31.1	
6	31.7	25	32.5	21.3	31.3	21.3	33	19.2	33	21.4		21.5	31.4	21.5	31.6	
7	30.5	25	32.5	21.2	31.2	21.3	31.9	19.4	32	22.3		23.4	30.7	21.8	30.8	
8	28.9	24.9	28	20.9	27.8	22.6	27.2	21.1	28.6	23.3	31.2	23.2	28.6	23.2	27.9	
9	29.8	24.7	32.5	21.4	31.8	22.3	31	20.4	32.1	22.7	31.3	23.3	30.1	23.3	29.4	
10	30.9	24.4	33.6	20.6	31.9	20.9	32.2	19.4	32.2	21.3	27.2	22.4	32.1	21.4	31	
11	30.7	24.9	32.9	21.5	31.4	22.1	30.7	19.7	31.6	22	33.2	21.7	30.9	21.7	29.9	
12	30.8	24.9	32.8	20	32.4	20.9	32.2	19.6	33.8	20.4	32.2	23.2	30.2	21.5	31.1	
13	30.1	25	32.6	21.9	31.7	21.2	32.1	19.9	32.2	22	33.2	23.2	30.5	21.7	29.7	
14	28.9	23.9	32.7	21.2	32.2	20.7	31.8	19.2	32.2	21.3	32.2	22.2	30.9	21.8	30.2	
15	28.7	23.8	30	20.5	30.8	20.5	30.6	19.5	32	21.1	33.7	21.7	31.1	20.8	30.8	
16	31.1	24.1	32.8	20	32.8	19.5	32	19.6	33.2	20.2		21.9	31.8	21.3	30.7	
17	30.7	24.7	32.5	21.2	33.5	21.3	32.6	19.9	34	21.5	32.6	22.2	34.4	22.8	31.5	
18	29.9	24	32	21.8	31.9	21.8	31.5	19.9	32.4	21.8	34.2	22.4	30.9	21.2	31	
19	30	24.9	32.3	21	32.8	20.6	33.2	19.2	33	21	32.2	22.7	32.1	21.2	31.2	
20	29.2	25	32.5	21.5	32.9	20.1	32.4	19.5	32.5	21	33.2	22.3	32.2	21.5	31	
21	30.3	25	33.2	21.2	31	22	33	20	32.5	22.3	33.4	24.3	31.3	22.4	31.1	
22	30.6	25.6	33.8	22.5	33.9	21.5	33.3	19.8	33.5	22	30.9	23.2	33.9	22.5	31.9	
23	28.9	25.4	33		33.9	22.2	32.4	19.7	33.2	22		21.5	32.8	22.8	31.3	
24	29.9	24.4	33.2	22.6	33.7	22.2	33.2	20.1	34.5	22.3	31.2	23.2	33.7	22.6	32.4	
25	30.5	24.3	32.7	21.3	31.5	20.8	32.7	19.8	32	21.2	33.7	23.5	30.1	20.6	30.5	
26	27.4	24.5	31.6	22.1	31.8	21.8	31.4	19.6	32.4	22	32.2	22.2	33.2	23.2	28.5	
27	29	24.1	33.4	22.1	32.5	22.2	33.2	18.7	33.7	22.4	31.7	21.2	32.3	23.3	30.1	
28	30.2	24.3	32.5	21	30.8	20.9	33.4	21.7	32.2	21	33	21.3	31.4	22.4	29.5	
29	30.8	23.5	34.5	20	32.2	19.5	33.9	19.8	32.5	19.4	32.7	22.2	31.1	20.4	30.5	
30	27.9	23.9	28	21.1	26.9	21.8	30.7	18.7	26.7	22.5	33.5	23.2	29.4	22.5	26.4	
Mean	29.7	24.4	31.8	21.3	31.4	21.3	31.4	19.7	31.8	21.6	32.3	22.5	31.1	21.8	30.1	

Day.	Oton.		Iloilo.		San Jose de Buenavista.		Tuburan.		Silay.		Cuyo.		Hacienda Ila-ya, Victorias.		Hacienda Bil-bao, Manapla.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.4	22	30.6	22.7	32.1	20.6	30	22.8	29.5	22.1	30.1	26.1	29	22	29.6	
2	29.2	23.7	27.8	23.8	29.6	21.1	27.6	23.4	27.5	19.6	28.9	24	29.3	22.2	30.7	
3	25.7	23.2	25.1	22.8	26	23	26.7	24.4	24.5	22.5	28.7	25.1	30	21	29.3	
4		23.2	28.9	22.5	29.2	24	28.4	22.9	28.4	22.6	30	21.4		21.3	28.6	
5	33.2	23.5	32.4	23.8	33	22.5	30.7	23.3	31.7	21.6	30.8	22.6	30.2	22.3	30.7	
6	32.3	24.5	30.9	24.8	32	22.6	31.2	23.3	30	21.6	31	23.6	30.5	22.5	31.6	
7	32	24.5	30.9	24	31.7	22.4	29.8	23.5	30	22.5	30.3	26.6	30.8	23	32.4	
8	29.8	24	28.9	24.2	30	23.1	27.4	23.4	27	22.4	29.4	26.5	30.2	22.2	30.7	
9	30.2	24	30.3	24.4	30.3	23.7	31.1	23.7	30.5	22.5	32	24.1	30.5	23.1	30.8	
10	30.4	23.5	30.5	24.5	30.7	22.5	31.2	22.8	31.4	21.5	30.9	23.3	31.3	23.2	30.9	
11	31	22.7	31.5	23.3	31.5	22	31.4	23.1	30.6	21.3	30.7	23.9	30.7	22.5	29.8	
12	32.4	23.7	30.9	23	31.7	21.6	31.4	22.2	30.5	22.5	31.5	26	31.6	23.1	30.6	
13	31.4	22.7	29.4	23.3	33	22.7	29.7	23.5	28.5	20.6	30.4	26.8	30.8	21.5	31.7	
14	31.4	23.8	30.1	24	31.7	21.8	30.5	23.1	29	22	29.5	26	29	20.4	31.6	
15	31.8	23.5	30.8	23.6	31.7	21.5	31.6	22.3	29.5	22.5	30.4	25	30.5	22.2	31.7	
16	32.2	24	30.7	24.1	32.4	21.4	30.8	22	29.3	23.2	31.5	25.8	31.4	22.5	31.8	
17	32.6	24	30.9	24.3	31.9	22	32.2	23	30.5	23.4	30.5	26.2	31.5	23.2	32	
18	31.5	24.2	30.5	24.4	31.5	22	30.9	23.7	30	22.5	31	26.3	30.2	21.6	31.2	
19	32.8	24.4	31	24.6	32.3	21.5	30.2	23.7	30	22.5	32.2	26.6	30.5	23	31.7	
20	32.2	23.9	31.1	24.3	33.4	22.2	30.3	22.2	29.1	23	31.7	26.8	31	23.2	31.6	
21	32.4	24.1	30.5	24.3	32.6	22.7	32.1	22.7	27.8	23.5	30.8	26.2	30.8	22.8	30.8	
22	32.7	24.5	31.2	24.9	34.1	22.5	33	23.5	30	24.3	31.2	26.1	31	23	31.4	
23	32.4	24.6	30.6	24.7	34.1	22	31.7	24.1	30	23.6	31.4	26.8	31.5	23.2	31.4	
24	32.7	24.5	31	24.5	32.6	22.5	33.4	22.8	30.5	24	32.2	26.7	31	23.5	29.9	
25	32.5	24	31.2	24.3	32.7	22	30.3	22.3	29.5	23	30.4	26.4	30.7	22	30.2	
26	30.4	24.2	29.5	24.6	31.4	22.1	31.1	24.1	28.5	23.2	30.2	26.6	30.7	22.2	31.7	
27	30.2	24.2	30.4	24.5	31.8	23	30	24.7	29.5	24.5	30	26.4	30.5	22.2	31.7	
28	31.1	23.7	30.3	24.1	31.8	22	30.5	21.6	29.1	24.1	31	25	31	23	31.9	
29	32.2	22	30.3	22.4	30.5	21.6	30.4	22.3	29.5		30.9	23.3	31.3	23.2	31.7	
30	29.2	23.2	27.7	23.8	30.2	22.6	26.2	23.8	30.3	22.5	29.6	25.4	30.6	22	29.8	
Mean	31.4	23.7	30.2	24	31.6	22.2	30.4	23.1	29.4	22.6	30.6	25.4	30.6	22.5	30.9	

Maximum and minimum temperatures at the stations of the Weather Bureau, November, 1920—Cont.

Day.	Januay.		Cadiz.		Ormoc.		Guiuan.		Bogo.		Tacloban.		Capiz.		Borongan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.5	20.8	30.1	24.3	31	21.4	31.3	23.4	30.8	23.8	29.9	22.6	32.3	24	31.6	21
2	33	21.7	30	25	29.9	22.3	27.7	24.3	29.5	23.4	27	23.6	30.3	24.4	28.4	23.9
3	31.2	20.5	29.8	23	27.8	23.9	28	23	28.1	23	26.6	23.3	27.3	23.8	27	24.3
4	30.5	20	28.8	22.3	30.2	23.4	31.2	22.5	26	26	31	23.3	28.8	22.9	30.9	24.2
5	31	22.5	32	22.8	33.8	22	31.1	24.2	26.6	22.1	32.7	23.6	33.3	22.9	31	22.8
6	31.7	21.1	31	22.4	33.6	21.8	33	24	28.5	23.2	32.2	23.5	32.3	24.5	31	23
7	32.1	21.3	29.8	26.1	30.4	21.9	30.8	24.5	29.8	24	27.1	23.8	32.8	24.5	29	24.2
8	33	22.8	28	24.3	29.6	22.8	29.4	23.4	30.2	23.8	30	23.6	31.3	24.2	30.8	23.9
9	32.1	20.4	29.7	23.2	32.8	23.4	32	24	29.6	24	29	23.1	32.2	24	32.6	33.4
10	32.5	22.5	30.3	21.8	33.5	22.4	31.5	26.3	30	23.5	30.4	22.9	33.3	23.5	31.2	22.6
11	32	21.4	29.7	22.5	33.6	21.9	32.5	23.5	31.2	23.6	30.9	24	32.8	23.1	30.9	23.5
12	33	21.2	30.1	23.4	32.3	22.1	33	25.2	31	23	31.5	23.5	32.6	24.4	31.3	24.1
13	32	22.5	29.3	24.2	32.1	22.9	31	22.9	31.3	23.7	31.2	23.1	32.3	24.4	30.4	22.4
14	31	20.2	29.4	24.1	32.6	22.9	27.7	22.1	30.4	23.8	26.3	22.7	31.4	24.9	29.3	22.6
15	32	20.1	30	22.8	32.6	22.8	33	24.5	29.8	23.9	31	22.8	32.5	24.2	30.8	23.1
16	33	21.2	30	23.4	32.9	22.4	31.4	24.5	31	23.5	31.8	23.3	32.2	25	31.4	23.6
17	31.2	21.3	30.3	24	33	23.3	32.7	24.2	31.3	24	31.4	23.5	32.7	25.1	30.8	25.8
18	30.5	20.5	31.1	23.9	33.9	22.3	28.6	24.5	31.5	24.1	29.3	24.2	31.8	25.5	30	23.5
19	30 ?	20.1	31.5	23.5	33.1	23.1	31.8	24.5	31.4	24.2	31.2	23.9	32.8	24.9	30.1	24.5
20	32.2	23	30	23.8	31.7	21.6	27.9	22.3	31	24.2	26.7	22.9	31.8	25	28.5	22.3
21	31.8	22.9	31.2	23.4	31.9	21.8	32	25	30.7	24.3	29.9	22.8	32.7	25	29.7	24.8
22	33	22.8	31.1	23.6	33.3	23.6	33	25.4	31	23.5	32	22.9	32.4	24.6	31	25.8
23	31.9	21.8	30.2	23.7	32.5	23.5	31.3	24.7	31.8	23.9	30	23.7	32.8	25.5	30.5	25.7
24	31.2	20.9	30.2	24.2	33	24	31.8	23.5	31.1	24	30.9	23.3	32.8	25.5	30.2	24
25	32.8	22.5	31	24	33.5	22.2	30.6	23	31.5	24.1	31.4	23.6	32.8	25.4	31.1	23.2
26	32.1	21.3	30	23.8	29.5	23.2	30	23.5	31.8	23.8	27.6	23.9	31.8	25.5	28.1	23.6
27	31.6	23.1	30.2	23.9	29	23.8	32.7	24	31	23.9	28.5	23.5	30.5	24.8	29.9	25.3
28	30.5	20	29.2	22.1	32.5	20.9	31.8	23.4	29.5	23.3	31	22.1	32.3	23.8	31	22
29	31.2	21.3	30	22.6	31.2	20.9	30.6	24	30.3	23	28.5	23.6	32.3	22.6	28.5	23.2
30	32.1	20.6	29.9	23.4	28.4	22.8	29	22.5	30	22.8	25.2	23.3	28.7	23.6	27.2	23.9
Mean	31.8	21.4	30.1	23.5	31.8	22.6	30.9	23.9	30.3	23.6	29.7	23.3	31.9	24.4	30.1	23.7

Day.	Catbalogan.		Calbayog.		Masbate.		Romblon.		Batag Light-house, Laoang.		Sorsogon.		Bacon.		Legaspi, Albay.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.4	21.5	31.9	21.5	30.6	25.8	29.2	22.3	30.8	23.5	30.7	21	29.9	21.1	31.4	22.5
2	28.5	27.9	27	23	29.5	22.8	30	23.7	27	22.3	31	24.5	30.3	25.9	30.4	24.5
3	30	26.4	24.4	29.2	23	29.5	24.7	26.4	23	28.5	23.5	29.3	24.9	28.3	24.6	24.6
4	31	28.7	24	29.8	22.8	28.5	23.7	30.9	24	27.5	22.8	28.2	23.9	29.3	24.6	24.6
5	30	30.6	22.3	31 ?	23.6	31.7	23.2	30.3	24	32.4	22.1	27.8	21.8	32.4	22.7	22.7
6	30.3	32.1	22.1	31.4	25	31.9	23.1	30.4	24.5	30.9	23.6	32.2	23.9	32.4	24.4	24.4
7	28.4	28.2	23.1	29.2	25.4	31.5	24	27.5	23.4	28.5	24.5	30.9	25.5	28.4	24.4	24.4
8	30	31.3	23.8	29.8	25.6	31.5	24.3	30.2	23.5	31.1	24.9	28.9	25.7	31.3	24.2	24.2
9	30.5	29.2	22.9	30.6	23.8	31	23	29.8	23.4	27.4	22	31	22.7	28.1	23.6	23.6
10	32.4	31.4	23.4	31.8	24.6	31.7	24.6	31.4	23.6	31.5	24.3	27.5	23.4	32.4	23.6	23.6
11	30.5	31	23.1	30.8	24.2	32.1	22.1	28.8	23.9	32.1	22	31.8	21.7	32.3	22.2	22.2
12	31	32.7	22.5	31	25	32	23.3	30	24.5	31.1	22.8	32.1	22.2	32.3	25.7	25.7
13	29.5	30.6	23.8	27.6	24.2	30	22.3	27.5	22.2	25.5	22.9	30.9	23	27.2	23.3	23.3
14	31	26.5	21.9	27.6	22.8	30.3	24.6	25.5	21.8	28.5	23.4	26.5	23.3	28.5	24	24
15	31.6	31.7	21.2	30.6	23.6	31.9	24.5	30.1	22	30.9	23.1	28.9	23.8	29.3	24.9	24.9
16	32	32	21.7	31	24	31.1	25.1	29.8	22.7	30.9	23	31	23.9	31.7	24.5	24.5
17	32	31.9	24.1	30.6	25	31.5	24.9	30.1	23.5	29	24	30.3	25.7	30.8	24.5	24.5
18	29.8	32.4	23.1	30.6	24	31	24	30.5	23.4	30.5	23.6	29.8	24.4	32.3	25.1	25.1
19	31.3	32.3	23.4	30.6	25	31.5	23.7	30.2	23.4	31	24	30	25.5	31.8	25.5	25.5
20	28.2	31	21.5	30	24.6	31.5	24	30.2	24.5	30	23	30.3	24.5	32	25.4	25.4
21	28.6	31.5	22.5	29.8	24.5	31.5	25.2	28.5	23.8	26.3	24	30.2	25.1	30	24.5	24.5
22	31.2	32.4	23.1	30.8	25.2	31.9	25	30.2	24.2	30.4	23.4	29.6	24.3	30.3	25.2	25.2
23	31	31.8	22.9	30.8	23.2	31.5	24.7	29.5	24.6	30.1	23.5	30.2	23.8	30.3	25.2	25.2
24	31.2	32.3	23.3	30.8	25.4	31.5	24.7	30	24.7	28.5	24.7	30.1	25.1	29.3	24.6	24.6
25	31.5	32.3	23.6	30.4	24.6	30.4	24.3	30	22.5	30.2	23.6	29.7	24.3	30.4	24.4	24.4
26	31.5	29.5	23.9	28.6	24.4	31	24.7	27.3	23.9	27.8	24	27.7	23.9	27.5	24.7	24.7
27	30	28.6	23.8	28	23.6	30.3	25.3	29.5	23.4	29.3	23.6	27.9	24	30	25	25
28	31.5	30.3	21.9	30	24	30.1	24.2	30	23.8	29.6	23.7	29.5	23.9	30.6	23.9	23.9
29	29	31	22.4	30.6	24	30.5	22.5	30	23.8	30.5	23.1	30.2	22.8	30.3	22.6	22.6
30	25.5	25.2	23	27.2	23.5	29.5	22.7	25	23	26.9	23.5	30.2	23.5	26.8	23.4	23.4
Mean	30.3	21.4	30.5	22.9	30	24.2	30.9	23.9	29.2	23.5	29.6	23.4	29.8	23.9	30.3	24.3

Maximum and minimum temperatures at the stations of the Weather Bureau, November, 1920—Cont.

Day.	Guinobatan.		Polangui.		Tabaco.		Sumay, Guam.		Iriga.		Calapan.		Virac.		Naga, Camarines Sur.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	32	22	31	21.5	30.2	21.9	29.6	26.4	31.5	20.7	30.2	21.6	31.2	21.4	30.5	21.7
2	29.6	21.8	31.5	21.9	30.8	25.3	30	24.7	29.5	21.8	30.5	24	30.9	23.5	30	23.4
3	27.4	23.5	29.2	23.5	30.3	24	30.5	25.6	29.7	23.7	28	24.9	29.1	23	27.4	23.5
4	28	24	28	25.3	27.9	24.5	29.8	25.5	29.2	25.1	29	20	29	23	29	24.7
5	30.6	21.3	29	21.3	28.4	21.5	28.7	25.5	32.4	21	30.5	23.9	30	23.6	31.1	21.9
6	31.6	21.7	32	21.3	31.9	23.2	27.3	25	32.4	21.4	31.6	23.5	31	22.1	31.4	22.3
7	28.5	22.7	32.5	22.8	31.7	23.5	30.8	24.8	29.8	23.4	31.4	24	30.2	22.3	29	23.2
8	30.2	21.3	31	20.9	29.6	23.6	30.6	26	30.8	23.4	31	23.5	32.4	22.2	29.9	23.4
9	27.4	22.4	30.9	22.5	31	22.9	29.5	25.5	29	23.2	31.6	21	28.1	22.4	28.6	22.5
10	31.5	21.3	31	23	32	22.8	30.2	26	31.9	22.2	31	21	30.6	23	31.6	23.5
11	32.3	20.8	32	21.2	32.9	21.1	30.8	26	33.3	20.5	32	21	31.5	22.4	33.9	21.7
12	32	21.5	32.9	21.5	31.8	22.8	29.3	26.2	32.2	21.1	31.2	23	31.4	21.5	33.8	22.6
13	25.9	23.1	32.3	22.2	31.7	22	30.3	24.7	28.1	22.8	30	25	28.1	22	30.6	23.8
14	27.6	22.9?	31.8	23	31.6	22.5	31.3	23.7	28.4	22.8	27.9	23	28.7	22.2	29.5	22.1
15	29.3	22.1	27.5	21.3	28.1	22	31.3	22.8	29.7	22.1	30.3	22.4	29.5	23	29.4	20.5
16	30.4	22.2	29	22.5?	29.2	22.1	31.7	22.4	31.2	21.4	30.5	24.1	30.5	22.8	31.5	21.8
17	30.9	22.2	31	23.2	31.1	25	30	25.8	31.8	23	30.4	24	30.5	24	30.9	21
18	31.5	22.1	30	21.7	30.4	22.6	30.6	25	31.9	22.4	30.4	23.6	31	21.3	32	21.6
19	31.5	22.5	31	23	30.8	23	30.4	25.6	32.3	21.2	30.6	24	30.5	23.2	32	23.5
20	31.3	20.9	31.5	20	31.2	22.5	30.2	26.4	33.1	20.8	30.1	25.5	31	21.2	32	21.6
21	30.6	21.2	31.9	22.4	31.3	22.9	30.5	26.5	29.7	22.5	30.5	24	30.4	23	32.2	22
22	31.3	24.3	30	22.7	30.2	23.5	29.7	26.2	31.2	23.4	31	23.2	30.5	24	31.7	22.1
23	32.1	23.2	30.2	23	30.6	23.1	28.7	24.1	31.4	23.3	30.5	25.1	30.7	22.3	32.5	22
24	30.1	24.2	31	23.4	30.3	23.8	30.3	25.2	30.9	23.1	31.1	25	29.6	23.9	31.4	23.9
25	30.3	22.2	30.5	22	28.9	22.3	29.5	25.2	32.1	22.1	30.5	24	30.5	22	31.5	22.8
26	27.9	23.2	31.3	23	30.2	23.2	30.3	25.2	30	23.5	31.1	25	30	23	28.9	23.6
27	31.4	23.6	28.3	23.9	28.7	23.8	30.3	26.6	32	24	30.5	23.5	30.5	23.1	29.6	24
28	31.7	20.9	31	21	29.9	22.9	30.5	26	32.1	21.5	30	23.5	29.8	23	31.2	22.8
29	30.4	21.4	30	21	30.3	21	29.3	25.7	31.3	20	29.6	22.6	30	21.5	30.5	22.2
30	25.6	20.8	31	20	30.1	22.1	30.2	26.5	26.7	21.1	30	22.5	27.5	22.5	26.5	21.5
Mean	30	22.2	30.7	22.2	30.4	22.9	30.1	25.4	30.9	22.3	30.4	23.4	30.2	22.6	30.7	22.6

Day.	Tigaon.		Libmanan.		Batangas.		Calatagan.		Balayan.		Lipa.		Lucena.		Atimonan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	31.8	21	30.8	24	30.4	18.8	32.8	19.8?	31.5	22.5	28.1	19.4	29	20.5	27.6	22.8
2	30.3	22.4	30.7	24	32	22.4	32.6	21.8	31.5	22.5	29.4	20	29.5	21.5	27.2	23.8
3	26.3	22.8	28.8	24.8	28.8	22.9	31.4	20.7	32.6	22.3	25.6	27.7	27.7	21.5	27.8	23.9
4	28.2	23.6	28.4	25	29.4	23.8	31.7	23.4	30	23.6	24.6	20.8	26.1	23.2	28.1	24
5	31.5	21.2	31.9	22.2	30.8	24.6	31.1	22.4	30.5	28.7	28	21.9	31.5	21.5	31.4	22.6
6	32.6	20.3	32	22.9	33.2	24.2	33	23.2	31	23	29.5	22.1	31	23.3	30.4	23.7
7	29.9	21.7	32	23.4	32	23.7	32.5	23.1	32	22.8	28.9	21.9	29.5	22.6	29.4	25.8
8	31.1	22	30	24.9	31.8	22	31.8	21.8	31	22	29.4	20.5	29.5	22.3	28.8	26.2
9	26.6	21.7	30	22.8	30.7	21.1	31.6	19.7	30.7	20.5	29.6	19.6	31	19.1	29.1	22.9
10	31.2	23.1	30.1	23.5	31.4	25.5	34.6	23.8	30.5	22.5	29.9	21.8	29.6	21.7	30.2	24.6
11	32.8	19.6	31.7	22.2	31.6	21.4	32.7	20.5	31.5	21.5	30.3	20.6	30.5	18.2	32.4	21.4
12	32.8	22.8	31.9	23.2	33	23.6	33	22.6	32.5	21.5	30.5	20	32	21.9	31.4	23.6
13	28.8	22	31.9	23.9	31.2	22.7	31.3	23.9	32.5	22.5	27.1	21.5	28.4	22.3	28.3	23.6
14	28.2	21.6	29.1	22.8	28.4	22.3	27.3	21.8	29.8	22	23	20	24.2	20.7	25.4	23.1
15	27.4	21	29.2	22.5	29.4	22.6	31	22.2	27.5	23	26.4	19.5	28	21.6	26.8	23
16	31	21	31	23.8	30.6	23.1	31.4	25	30	22.5	29.3	20.1	28.8	21.6	27.4	23.8
17	31.9	21.2	31	23.5	31.7	23.1	30.4	25	30.5	22.5	27.8	20.5	29.7	21.5	28.2	24.5
18	31.8	20.1	32.2	23	31.9	21.9	30	23	30.5	20.5	30.5	20.3	30	22	29.1	24.2
19	31.7	22.9	31.2	24.5	32.2	23	32.2	23.5	31.6	23.6	28.3	20.2	29.8	23.9	28.6	25.2
20	31.8	19.7	31.5	23.8	32.3	23.5	32.8	23.9	31.5	24.5	30	21	30.1	21.8	29.2	25.1
21	30.2	21	31.6	24.6	32.2	25.2	32.9	23.9	32	21	28.9	21.5	30.4	22.1	29.7	25.1
22	31.6	21.6	31.8	24.2	32.9	24.5	32.5	24.2	31.7	23.6	30	21.3	29.9	23	29.5	25.2
23	32	21	31.5	24.2	32.2	23.7	32	25.4	30.4	24.5	28.6	21.6	29.5	23	29.1	24.8
24	30.6	22.7	30.8	24.5	31.7	24.3	32.1	24.5	31	24.6	29	22	30.3	23.9	29.2	25.1
25	32	21.9	30.7	23.3	31.8	21.9	32.7	23.5	32	25	28.3	21.1	29.5	22.1	28.4	25.2
26	30.2	22.6	30.5	24	31.9	22.9	32.8	23.8	31.5	24	30	21	29.7	22.7	28.8	24.8
27	30.9	23.5	30.8	23.6	32.3	23.3	33	24	31.7	23	30.2	20.8	29.6	22.9	29.3	25.9
28	30.9	21.8	30.9	23.2	32.3	23.7	31.6	25.6	32	25	29.6	21.6	29.7	21.8	29.2	23.9
29	30.8	20.8	29.9	22.3	30.2	23	31.4	21	31.5	21.6	28.6	21.3	31	21.4	28.3	23.7
30	26.4	21.2	29.8	22.2	30.9	21.3	32.2	20.8?	31	20.5?	28.9	19.6	29.4	20.5	28.4	24
Mean	30.4	21.7	30.8	23.5	31.4	23	32	22.6	31.1	22.7	28.6	20.8	29.5	21.9	28.9	24.2

Maximum and minimum temperatures at the stations of the Weather Bureau, November, 1920—Cont.

Day.	Nasugbu.		Ambulong, Tanauan, Batangas.		Daet.		Mendez Nuñez.		Alfonso.		Indang.		Canluban, Calamba.		Silang.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	34	22	30.7	18.9	29.5	22	25.5	18.5	27.1	19.7	28	20	30.1	21	27.8	20.5
2	31.9	23	31.4	23.7	29.8	24.9	26.5	20.2	27.5	20.5	28.3?	20.5	30.8	21.4	27.5	21
3	32	22	29	24	27.7	24.5	25.2	19.2	25.3	20.3	27.5	20.8	30	21.9	27.8	21.4
4	21.5	20.9	27.7	24.1	29	23.4	24	19	24.6	21.5	25.5	22.2	27.8	21.3	27.4	21.6
5	33.1	21	33	24.4	31.7	21.8	26.5	21	28.2	21.6	29	22.5	31.6	22	27	22.5
6	33.1	21	32.2	24.7	30.5	22.4	27	20.5	28.5	21.6	29.2	21.5	31.2	22	28.7	22
7	32	22.5	30.7	24.4	29.3	23.9	26	19.9	26.5	22	28.2	22.5	30	21.8	28.3	22.1
8	31.5	22.5	31	22.1	30.3	24.4	26.5	20.5	27	20.8	27.8	21.4	30.2	22	27.2	21
9	31.5	22.5	30.7	21	32.3	23.1	27.5	18.9	27.5	17.9	28.9	19.2	31.4	19.9	27.7	20.8
10	32.3	24	31	23.9	32.1	24.1	27.3	21	27.6	22.1	28.4	22.6	31	22.5	28.1	21.7
11	31.5	21.5	32.2	22.9	33	21	28	20.6	26.5	21.1	29.3	21.3	32	21.6	28.2	21.1
12	32.5	22	31.6	23.8	30.5	23.1	27.5	20.5	27.8	21	29.1	21.2	31.8	21.5	29.1	21.9
13	33.5	20.5	29.2	22.3	29.4	22.4	23.5	21	24.5	21.6	25.6	22.2	28.2	22	28.2	22
14	33	22.5	24	22.7	26.4	21.6	21.5	19	21.6	20	22.4	20.3	26	20.5	28.1	21
15	33	20.5	27.8	22.7	29	23.1	24	19.9	25	20.5	26	21	26.6	21	27.5	21.5
16	33.9	21.5	29.7	23.8	29.5	23.9	24	20.3	26	21.3	25.3	21.5	27.8	22	27.2	20.1
17	33.4	23	29	23.7	28.7	23.7	24.5	21	25.5	21.2	25.3	21.8	26.2	21.8	26.6	21
18	32.5	24	31.7	24	29.8	23	26.5	19.9	27.5	20.5	28.3	19.8	30	21.3	27.2	20.4
19	33.9	21	30.9	24.8	30	24.6	26.5	19.9	27.5	21.6	28.1	21.8	30.1	22	27.2	20
20	34.5	22	31.8	23.8	30.2	23.2	27	20.9	28.1	21.6	29	22	30.5	21.3	28.2	20.6
21	33.5	21.5	31.3	23	29.9	23.6	26.5	20.5	27.5	21.5	28.4	21.4	30.7	22	27.6	21
22	34.5	20.5	31	24.4	30	24.1	26	19.9	27	21.6	27.8	22.2	30.5	21.8	27.8	21
23	34	20.5	30.5	24.6	30.1	24	26.5	20.5	26.9	21.5	27.8	21.9	30	22.2	27.9	21.5
24	34	20.5	31	25	30.1	23.5	25.7	21	26.6	21.7	27.9	22.3	30.2	22	27.6	21.5
25	33.5	20.5	30.8	23.8	29.8	24.1	26	19.9	26.5	20.6	27.8	21.2	30.4	21.9	26.9	20.6
26	34.5	20.5	31.4	24	29.7	23.9	26.5	19.9	27.5	20.6	28.3	20.9	30.9	22.1	26.5	20.7
27	32.5	21.5	32	24.8	29.6	23.8	26.5	20	27.7	21.1	28.4	21.8	30.4	21.9	27.5	20.6
28	32.5	21.5	30.9	24	29.2	23.1	26.5	20.5	27.5	21.4	28.5	21.6	29.8	22	27.2	20.5
29	32	22.5	31	22.8	29.1	21.6	26	20	27.5	20.7	27.4	21.2	30.2	21.7	27.5	20.8
30	32.5	22.1	31	22.8	28.3	23.1	26	20	27.1	20.6	28.1	21	30	21.3	26.6	20.4
Mean	32.9	21.7	30.5	23.5	29.8	23.3	25.9	20.1	26.7	21	27.7	21.4	29.9	21.7	27.6	21.1

Day.	Maragondon.		Paracale.		Santa Cruz, Laguna.		Buenavista, Malabon, Cavite.		Manila.		Antipolo.		Balanga.		Malolos.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.1	18.2	29.8	23.2	29.8	20.3	29.7	19.4	31	20.4	30.5	18.6	31.4	20	30.5	21
2	31.5	18.8?	29.8	23	30.7	22.2	30	20.1	33	22.6	31.6	20.3	32.7	21.9	31.5	22
3	29.4	19.2	30	23.2	28.3	23.7	30.7	20.3	31	23.1	29.3	20	31.1	22	31.4	22.5
4	27.7	22.4	30	23.8	28.1	17.2?	26.3	22.3	29.2	23.3	27.3	20.2	27.7	24.1	-----	22
5	32	20.1?	30	23.5	31.9	24.4	30	21.4	32.9	24.2	31.5	22.9	31.8	24.1	32	22.5
6	30.7	21.8	30	23.8	31.4	23.4	30.1	22.3	31.1	23.3	31.2	21.7	32.1	23.2	31.4	23.5
7	30.9	21.5	30	23.8	30	23.4	31	22.3	30.2	21.9	29.5	21	31.8	23.2	30.7	23.5
8	29.8	18.2?	30	23.8	30.3	22.4	31.4	21.1	31.1	21.4	30.3	20	32.3	21.7	29.9	-----
9	30.8	19.1	29.5	23.5	31.4	20.8	31.2	20	31.2	21.5	30.2	20.3	32.5	21.1	30.5	21.5
10	31.5	21.5	29.8	23.8	33	22.3	30.1	20.3	31	24.5	30.5	22.8	31.9	21.4	30.8	24
11	31.3	20.1	30	24	32.9	21.8	30.9	20.6	32	23.7	32.1	22	33.5	23.8	32.5	24
12	32.6	20.7	30.2	24	31.8	22.8	30.8	21.4	33	23.5	32.2	21.7	33.7	24.3	31.1	22
13	28.5	20	30.2	24	26.1	23.3	30.9	21.6	27.3	22.5	26.9	21.7	26	23	31.5	23
14	24.7	20.3	31	24.2	24.6	21.6	30.7	21.3	26.3	22	25.4	20.5	28.1	22	26.7	21.8
15	28.1	20.9	30	24	25.1	22.2	28.8	21.6	30	21.7	29.8	20.5	29.7	21.7	29.5	22
16	29.2	21.6	29.8	23.8	28.2	22.5	28.5	20.7	30.7	22.4	27.9	20.8	29.8	22.3	28.4?	22
17	27.9	21.2	29.8	24	27.4	22.9	27.2	20.4	28.5	22	28.7	20.7	30.1	21.6	29.5	22.6
18	31.1	19.9	30	23.5	30.7	21.8	30	20.6	30.8	20.5	31.2	19.6	31.4	20.5	31.4	21.5
19	30.7	20.4	30.2	24	30	23.2	30	19.5	31	21.6	31.7	20.3	31.5	22	31.5	23
20	31.3	21.1	30.5	24	31.6	22.5	30.8	20.4	32.6	22.6	31.7	21.1	32.6	23.5	32	23.5
21	31.5	20.9	30.5	24	30.1	23	30.3	20.6	32.5	21.3	32.1	20.6	32.2	21.4	31.8	21.4
22	30.2	22.1	30.2	24	29.4	23.5	30.7	20.5	33.2	22	31.6	20.9	32	21.6	30.9?	22
23	30.2	21.8	30.2	24	30.3	23.4	30.1	21.3	31.9	21.6	31.5	20.8	31.6	21.7	30.5	22.4
24	30.1	21.4	30.2	24	28.3	23.5	29.7	22	31	22.2	31.2	21.3	31.2	22.5	31.2	23.7
25	29.4	20.6	30	23.5	28.9	21.4	30.5	20.3	31.7	20.5	31.7	19.7	30.8	21.7	31	22
26	30.2	21.1	30	23.2	30.5	22.1	30.3	21	32	21.3	31.6	19.8	32.2	21.3	31.4	23
27	31.5	20.9	30	23.5	30.5	23	30	20.3	31.2	21	31.5	19.8	31.9	21.2	31.6	21.4
28	30.5	21.3	30.2	24	29.8	23.2	29.8	20.3	29.8	20.8	29.5	19.8	31.1	21.1	31.4	21.2
29	30.2	22.1	30.2	24	30.2	22	29.7	21.1	32.6	22.7	30.8	20	31.7	23.1	31.8	22.5
30	30.3	21.3	30.2	24	29.6	21.1	29.8	20	30.9	20.7	30.8	19.7	31.9	21.3	30.4	21.5
Mean	30.1	20.7	30.1	23.8	29.7	22.4	30	20.8	31	22.1	30.4	20.6	31.3	22.1	30.9	22.4

Maximum and minimum temperatures at the stations of the Weather Bureau, November, 1920—Cont.

Day.	San Fernando, Pampanga.		San Isidro, Nueva Ecija.		Iba.		Tarlac.		Baler.		Dagupan.		Bolinao.		Baguio.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1.....	31.5	19.2	30.9	20.4	31.1	20.5	33.2	20.4	30	20.8	31.6	21.9	31.2	22.4	23.3	12.9
2.....	33.4	21.8	32.5	21	31.9	20.3	34	20.8	30.7	20.5	31.4	22	31.4	22.2	21.7	14.2
3.....	31.6	22	32.4	21.8	31.8	21	33.8	19.8	30.1	21.2	30.3	22.6	30.5	22.7	25.2	15
4.....	29.8	24.7	29	23.9	31	24.5	29.4	20.1	30.4	24.4	30.6	23.8	31.3	26.2	19.8	16.6
5.....	33.3	21.5	32.6	22.2	33.7	25.2	33	20.4	30.7	23.4	33	23.8	33.7	25.3	23.2	16.2
6.....	32	22.4	31.8	22.6	34.3	24.3	33.6	20.6	30.2	23.2	32.8	22.9	32.9	24.5	24.2	15.6
7.....	31	23.6	31.1	22.8	32.2	23.6	32.4	20.6	30.8	23.5	32.3	23	32	24.5	25.3	15.6
8.....	32	20.7	31.5	21.2	31.7	19.1	33.4	19.6	30.9	21.2	31.2	21.4	31.3	22.5	23.5	15.5
9.....	32	20.4	30.6	22.3	31.5	20.6	33.5	20.2	31.2	21.1	30.7	23	30.7	22.6	22.6	14.4
10.....	33	22	31	23.4	30.6	23	31.8	19.6	31.6	21.4	30	24.5	30.2	25.1	22.7	16.1
11.....	32.5	23.2	31.5	23.2	31.5	21.1	33	19.6	31.6	24	30.8	24.5	30.4	26.5	22.7	15.5
12.....	31	24	30.4	23.2	30.5	23.1	31	19.9	30	23.5	32.3	23.9	32.5	26	22.8	15
13.....	26.5	21.8	30.6	22.4	30.4	21.3	33.6	20.2	31	23.3	32.9	21.4	32	23.7	24.3	14.8
14.....		21.5	28.5	21.9	31.1	23.3	32.6	21.8	30.3	21.7	32.4	22.9	30.8	22	24.2	14.3
15.....	28.5	18 ?	27.9	21.6	31	23.2	30	19.1	29.9	22.1	33.2	22.9	33.2	23.3	23.7	15
16.....	30	21.6	28.8	22.4	31.7	22.6	30.2	19.8	29.3	22.9	31.8	22	31	22.5	24.7	14.4
17.....	30.5	21.4	29.1	22	32.5	22.1	31.4	20.4	29.7	22.9	33.3	22.6	33	23.2	22.7	15.3
18.....	31.7	20	30.9	20.2	32.8	19.9		19.1	30.8	21.4	33.6	21	32.5	22.2	24.7	13.9
19.....	31	22	31.6	22	31.9	21.6		20.8	30.5	23.4	32.7	21.9	32.5	23	25.1	15.4
20.....	30.9?	21.7	32.1	22.5	31.6	22.4		21.6	30.5	23.1	33.5	22.5	32	23.4	24.3	15.9
21.....	33.5	20.7?	31.9	20.8	31.5	20.5		19.4	31.4	20.5	34	21	33	22.2	24.6	15.5
22.....	31	21.4	32	22.1	31.9	21		20.4	32	23.4	32.7	22.5	31.1	23.7	25.2	15.7
23.....	31.8	20.2	32.5	21.2	32	21.2		20.4	30.7	22	32.2	22.2	30.8	22	24.8	14.9
24.....	30.6	21	32.3	22.2	32.1	21.4	33.6	21.6	29.2	22.9	31.3	22	31.4	21.4	25.7	15.7
25.....	31	20.2	31.6	20	31.8	20.5	33.8	20.4	30	21.2	32.1	21.8	31.6	21.8	24.2	15.7
26.....	31.5	21.1	31.4	21.4	31.7	21.6	33.8	19.4	30.2	21.7	32.9	22.8	31.8	23.1	23.7	15
27.....	32	19.5	31.6	20.3	31.8	21.4	34.2	19.8	30	21.4	32.3	22.3	31.4	22.6	25.2	15.6
28.....	31.5	20.6	30.4	20.9	31.7	22.5	33	20.8	30.7	20.6	33.3	23.3	33	23.2	24.3	15.5
29.....	32	22	30.4	22.4	33.8	22.4	30.6	21.2	26.4	20.8	30.8	23	32	23.2	21.3	15.2
30.....	32	20.5	31.4	20.9	31.5	21.2	32.8	19.8	30.2	20.7	32.9	21.8	31.7	24.2	24.7	14.7
Mean.....	31.3	21.3	31	21.8	31.8	21.9	32.6	20.3	30.4	22.2	32.2	22.6	31.8	23.4	23.8	15.2

Day.	San Fernando, La Union.		Candon.		Vigan.		Tuguegarao.		Laoag.		Aparri.		Cape Bojeador.		Basco.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1.....	31.5	20	30.6	21.4	30.9	21.9	29.3	19.4	31.6	19.6	28.8	20.9	29.2	21.7	28.9	19.4
2.....	31.7	21.5	31.1	22.5	31	22.5	30.2	21.4	33.2	19.8	30.5	21.4	29.3	23.3	29.4	20.8
3.....	31	21.9	31.6	22.5	32.1	25.4	29.2	20.8	32.8	19.2	29	21	29.3	24	28.5	22.8
4.....	30.5	22.8	28.5	26	31.9	25.9	25.6	23	30.9	26.1	28.5	24.3	26.8	23	30.2	23.7
5.....	34	23.5	30.5	24.4	32.1	25.1	32.5	22.2	33.2	25.4	30.7	23.2	31.5	22.7	30.4	25
6.....	32.5	24	29.9	24.2	30.9	24.9	31.5	22.5	32.9	23.5	30.1	22	31.2	24	30.5	24.5
7.....	32.5	23	31.4	25	31.2	24.1	31.7	22	35.1	21.5	30.8	22.9	30.4	24.7	30.5	24.5
8.....	32.2	22.3	31	22.7	31.1	22.9	31.5	20.5	34.6	19.6	30.3	21.4	29.8	23.5	30.3	23.8
9.....	32.9	22.5	30.5	23.8	30.9	23.1	29.5	22.7	30	20.7	28.9	23.3	27.3	23.7	28	25.2
10.....	30.5	23.9	29.4	25.1	29.6	24.1	30.6	23	28.1	22.8	28	23.4	27.8	23.9	28	23.5
11.....	31.4	24.4	32	24.8	29.1	23.4	31.2	23	29.9	23.2	29.6	22	29.6	24.2	29.4	24
12.....	31.7	23.4	31	24.5	30.5	22.6	29.2	23.2	32.7	21.7	26.6	23	29.6	23.2	26.2	22.7
13.....	31	21.5	31.5	23.5	32	24	27.7	21.9	31	23.5	27.5	22	26	22.7	25.2	21
14.....	31.5	22.7	31.5	22.2	31.5	23.1	27.5	20.8	31.3	22	27	21.6	26.5	19.5?	25.6	20.5
15.....	31.6	23	30.5	23	31.6	23.6	25	21.6	32.9	21.2	26.1	21.6	25.4	21.4	27	21.7
16.....	31.1	21.1	31	23	32.1	23.6	30.2	22	33.1	21	29.4	22.6	27.4	22.8	28	21.5
17.....	31.2	22.4	30.5	23	30.9	23.5	32	21.6	33	20.7	29.4	21.1	29.7	23.2	29.4	22.4
18.....	31.7	19.8	30.5	22.5	31.3	22.6	30	19.2	32.1	19.2	28.8	19.5	31.1	21.7	30.3	21.8
19.....	31.6	21.2	31	22.8	30.6	22.9	32.6	22.2	32.3	20.6	30.5	21.9	30.8	23.6	30.2	23.8
20.....	31.4	21.5	30.5	23.4	31	23.4	34.3	21.5	31.3	22	30.8	21.1	30.8	24.6	30.1	24.1
21.....	31.9	21.5	31	23.7	31.5	23.1	33.3	22	32.2	22.1	31	22.4	30.9	23.7	25.5	23.1
22.....	31.4	20	31	23.1	30.1	22.8	32.3	20.5	32.2	21.5	29.8	21.6	29.8	24	30	22.5
23.....	32	21.7	30.5	23.5	30.5	22.6	34.2	21.6	32.5	21.5	30.5	22.2	31.7	23.5	31.1	23.6
24.....	32	21	31	23	31.5	22.3	29.5	20.5	33.6	21.3	28.4	21.6	27.6	22.7		22
25.....	31.5	22.5	31.2	23.5	30.3	23.7	32.4	22.6	32.4	21	28.1	22.4	27.9	23.7		22.2
26.....	31.2	22.5	31	23.4	31	22.2	30.5	22	33	20.4	29.1	23.1	27	23.3		22.5
27.....	31	20.5	30.5	22.5	32	22	29	22.4	33.4	20.3	27.9	22.6	26.6	22.4		21.2
28.....	31.5	22.4	31	24.2	31.2	24.3	27	22	32.5	22.8	28	21.5	25.7	19.8		21.4
29.....	31.4	22.1	29.6	23.7	30.1	24.2	28.2	21.4	32.4	22	29	21.5	31.1	22.5		21.5
30.....	31.3	22	31	22.9	30.4	23.4	32.5	21.4	32.1	23.1	29	21.4	30.7	24.4		22.2
Mean.....	31.6	22.1	30.7	23.5	31	23.4	30.3	21.7	32.3	21.6	29.1	22	29	23	28.8	22.6

SEISMOLOGICAL BULLETIN FOR NOVEMBER, 1920

By Rev. MIGUEL SADERRA MASÓ, S. J.,

Chief, Seismic and Magnetic Divisions, Weather Bureau

EARTHQUAKES FELT IN THE PHILIPPINES¹

1, 8^h 56^m 16^{s*} (1, 16^h 56^m 16^s). Lais (SE Mindanao). Earthquake of intensity III. The origin of this earthquake lay, according to the Seismological Bulletin of Batavia, far away to the south of Mindanao, in the neighborhood of Sanguir Islands. It was recorded also at Butuan and Zikawei, China. At about 15^h 00^m (23^h 00^m) a repetition was noticed at Lais, recorded only at Butuan, its origin being seemingly the same.

3, 15^h 38^m 00^{s*} (3, 23^h 38^m 00^s). Sulu and W Mindanao. Extensive earthquake of intensity V-VI, felt through the Sulu Archipelago, and the whole western portion of Mindanao, comprising the Provinces of Zamboanga and Lanao. A few minutes later it repeated with less intensity but with the same extension. A second repetition, at about 18^h 00^m (4, 2^h 00^m), was noticed only at Zamboanga and Basilan. Its origin must be located in the Celebes Sea, SE of Zamboanga near to the 123° E meridian. Recorded over the world.

Again at 20^h 44^m (4^h 44^m) and the following day at 4^h 00^m (12^h 00^m) two light shocks were felt at Zamboanga and Basilan, which can be considered also as aftershocks.

5, 3^h 54^m 12^{s*} (5, 11^h 54^m 12^s). Iba (W Luzon). Oscillatory earthquake, direction SW-NE, intensity III, duration 10 seconds. Origin in the China Sea, close to the Zambales coast.

11, 10^h 25^m (11, 20^h 04^m). Guam (Mariana Islands). Earthquake shock of intensity III.

16, 19^h 21^m (17, 3^h 21^m). Butuan (N Mindanao). Earthquake of intensity III-IV, direction NNE-SSW, duration 8 seconds.

17, 7^h 24^m 53^{s*} (17, 15^h 24^m 53^s). SE Luzon and Samar. Earthquake of intensity IV-V, felt chiefly in Catanduanes Island and in the Provinces of Albay, Camarines Sur, Sorsogon, and Samar. Its epicenter lay in the Pacific, ENE of San Bernardino Strait.

17, 10^h 51^m (17, 18^h 51^m). Cape Bojeador (NW Luzon). Earthquake shock of intensity IV-V, duration 5 seconds.

19, 1^h 26^m (19, 9^h 26^m). Cotabato (SW Mindanao). Earthquake of intensity III. Recorded at Butuan.

21, 6^h 58^m 25^{s*} (21, 14^h 58^m 25^s). Laoag (NW Luzon). Earthquake shock of intensity III.

25, 7^h 32^m (25, 15^h 32^m). Laoag (NW Luzon). Earthquake of intensity III-IV.

28, 19^h 30^m (29, 3^h 30^m). Lais (SE Mindanao). Earthquake shock of intensity III.

30, 9^h 11^m (30, 17^h 11^m). Sulu Islands. Earthquake shock of intensity II-III and very short duration.

¹ The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that 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 report. All time indications are in Greenwich mean time (midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

RECORDS OF THE MICROSEISMOGRAPH

(Time: Greenwich mean. Midnight=0h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N : $T_0=6.25$, $\epsilon=2.906$, $\frac{r}{T_0^2}=0.053$;
 A_E : $T_0=6.18$, $\epsilon=2.393$, $\frac{r}{T_0^2}=0.042$. Alluvium. 2.40 meters above sea level.)

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A_N μ	A_E μ	
339	1	I	e F	<i>h. m. s.</i> 8 56 16 9 32	<i>s.</i> ----- -----	-----	-----	Felt at Lais (SE Mindanao).
340	1	I	e F	17 00 45 44	----- -----	-----	-----	
341	3	IIr	eP S L ME1 MN1 MN2 ME2 MN3 ME3 F	15 38 00 39 58 40 27 41 02 41 19 42 20 43 06 44 03 44 04 16 42	<i>s.</i> ----- ----- 7 8 9 8 8 9 ----- -----	----- ----- ----- 306 318 300 ----- 234 394 318	-----	Sulu Island and W Mindanao.
342	4	Iv	eP L MN ME F	22 30 09 30 32 30 37 30 37 34	----- ----- 3 4 -----	----- ----- 93 ----- 82	-----	
343	5	Iv	eP L MN ME F	3 54 12 54 23 54 29 54 34 58	----- ----- 4 4 -----	----- ----- 173 ----- 95	-----	Felt at Iba (W Luzon).
344	16	I	e F	8 43 9 15	----- -----	-----	-----	
345	17	IIv	eP L ME MN F	7 24 53 25 38 25 51 26 09 39	----- ----- 3 4 -----	----- ----- 68 204	-----	SE Luzon and Samar.
346	20	Iv	eP F	11 03 21 10	----- -----	-----	-----	
347	20	I	e F	13 01 55 40	----- -----	-----	-----	
348	21	Iv	eP L F	6 58 25 59 26 7 07	----- ----- -----	-----	-----	Laoag (NW Luzon).
349	23	I	e F	6 52 19 7 10	----- -----	-----	-----	
350	24	I	e F	12 11 49	----- -----	-----	-----	
351	29	I	e F	4 57 07 5 09	----- -----	-----	-----	
352	29	I	e F	8 20 9 02	----- -----	-----	-----	
353	30	I	e L? F	11 11 56 16 42 38	----- ----- -----	-----	-----	

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS ¹

1, 8^h 56^m 16^{s*} (1, 16^h 56^m 16^s). Lais (SE de Mindanao). Temblor de tierra de intensidad III. El origen de este temblor, según el Boletín Seísmico de Batavia, se hallaba lejos al sur de Mindanao, cerca de las Islas Sanguir. Registróse en Butúan y solamente en Zikawei. En Lais hubo una repetición a 15^h 00^m (23^h 00^m), originada al parecer a la misma distancia.

3, 15^h 38^m 00^{s*} (3, 23^h 38^m 00^s). Joló y W de Mindanao. Extenso temblor de tierra de intensidad V-VI, sentido en todo el Archipiélago de Joló y en la mitad occidental de Mindanao. A los pocos minutos repitió con menor intensidad en toda la región afectada por el primero. Más tarde a 18^h 00^m (4, 2^h 00^m) otra repetición se notó solamente en Zamboanga y en Basilan. Su origen se hallaba en el mar de Célebes al SE de Zamboanga, hacia el meridiano 123° E. Registrado en todo el globo.

Deben considerarse además como réplicas, los ligerísimos temblores sentidos en la península de Zamboanga y en la Isla de Basilan, a 20^h 44^m (4, 4^h 44^m) y hacia 4^h (12^h) del día siguiente.

5, 3^h 54^m 12^{s*} (5, 11^h 54^m 12^s). Iba (W de Luzón). Temblor oscilatorio, dirección SW-NE, intensidad III, duración 10 segundos. Originado al parecer en el mar de la China, cerca de la costa de Zambales.

11, 10^h 25^m (11, 20^h 04^m). Guam (Islas Marianas). Temblor de tierra de intensidad III.

16, 19^h 51^m (17, 3^h 51^m). Butúan (N de Mindanao). Temblor de tierra de intensidad III-IV, dirección NNE-SSW, duración 8 segundos.

17, 7^h 24^m 53^{s*} (17, 15^h 24^m 53^s). SE de Luzón y Sámar. Temblor de tierra de intensidad IV-V, sentido principalmente en la Isla de Catanduanes y, con menor intensidad, en las provincias de Albay, Camarines Sur y Sorsogón y en la Isla de Sámar. El epicentro se hallaba en el mar Pacífico al ENE del Estrecho de San Bernardino. Registrado en Butúan.

17, 10^h 51^m (17, 18^h 51^m). Cabo Bojeador (NW de Luzón). Temblor de tierra de intensidad IV-V, duración 5 segundos.

19, 1^h 26^m (19, 9^h 26^m). Cotabato (SW de Mindanao). Temblor de tierra de intensidad III. Registrado en Butúan.

21, 6^h 58^m 25^{s*} (21, 14^h 58^m 25^s). Laoag (NW de Luzón). Temblor de tierra de intensidad III.

25, 7^h 32^m (25, 15^h 32^m). Laoag (NW de Luzón). Temblor de tierra de intensidad III-IV.

28, 19^h 30^m (29, 3^h 30^m). Lais (SE de Mindanao). Temblor de tierra de intensidad III.

30, 9^h 11^m (30, 17^h 11^m). Isla de Joló. Temblor de tierra de intensidad II-III y de muy corta duración.

¹ La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos 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 medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

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THE GOVERNMENT OF THE PHILIPPINE ISLANDS

WEATHER BUREAU

MANILA CENTRAL OBSERVATORY

BULLETIN FOR DECEMBER, 1920

PREPARED UNDER THE DIRECTION OF

REV. JOSÉ ALGUÉ, S. J.

DIRECTOR OF THE WEATHER BUREAU

MANILA
BUREAU OF PRINTING
1922

BULLETIN FOR DECEMBER, 1920

METEOROLOGICAL BULLETIN FOR DECEMBER, 1920

By Rev. JOSÉ CORONAS, S. J.,
Chief, Meteorological Division of the Weather Bureau

GENERAL WEATHER NOTES

Pressure and temperature.—The mean atmospheric pressure of this month for the Philippines is slightly below that of December, 1919, and below the normal of this month. The highest monthly pressures were generally observed on the 26th or 28th, and the lowest on the 7th or 22nd.

The monthly mean temperature is as a rule very slightly below the December's normal and the monthly mean of the preceding year. The extreme temperatures for Manila were 32.5° C. and 17.3° C.: they were recorded on the 10th and 24th, respectively. The absolute maximum and minimum temperatures for Baguio were 26.1° C., 8.6° C. on the top of Mirador, and 26.1° C., 7.4° C. in the plateau near the City Hall.

PRESSURE AND TEMPERATURE AT THE FIRST AND SECOND CLASS STATIONS OF THE WEATHER BUREAU FOR DECEMBER, 1920

Station.	Pressure.							Temperature.						
	Mean.	Departure from Dec., 1919.	Departure from normal.	Highest mean.	Day.	Lowest mean.	Day.	Mean.	Departure from Dec., 1919.	Departure from normal.	Highest.	Day.	Lowest.	Day.
Zamboanga	757.91	-0.62		759.72	26	756.60	22	26	-0.2		33.5	9	20	25, 26
Tagbilaran	58.18	- .51	-0.38	60.89	28	56.35	22	25.3	- .4	-0.7	32.7	12	19.3	24
Surigao	58.22	- .68	- .33	61.32	28	55.96	22	25.6	+ .1	- .2	30.8	10	20.7	23
Cebu	58.46	- .53	- .25	61.18	28	56.68	22	26.6	- .1	0	31.3	8, 12, 13	21.8	25
Iloilo	58.57	- .32	- .06	61.16	29	56.75	7	25.7	- .3	- .3	32.3	2	19.5	25
Tacloban	58.62	-1.04?	- .45?	61.79	28	56.29	22	25.4	- .2	- .5	32.6	11	18.3	24
Capiz	58.93	- .41	- .33	62.04	28	56.45	7	26.2	- .2	- .1	32.8	2	21.5	24
Calbayog	59.04	- .38	+ .03	62.28	28	56.84	22	24.7	0	- .5	31.7	11	18	25
Legaspi, Albay	59.38	- .51	- .10	62.75	28	57.10	7	25.9	- .2	- .3	31.4	4	20.8	26
Atimonan	59.91	- .50	- .16	63.22	28	57.09	7	25.6	- .2	- .2	29.9	2	20.5	24
Ambulong, Tanauan, Batangas	59.19	- .28		62.29	28	56.34	7	25.3	- .7		31.9	10	18.4	23
Daet	60.03			63.51	28	57.30	7	25.2			30.8	9	20.2	24, 26
Manila	59.86	- .37	- .44	62.99	26	56.90	7	24.5	- .6	- .6	32.5	10	17.3	24
San Isidro, Nueva Ecija	60.02	- .41	- .17	63.12	25	56.92	7	24.5	- .5	- .6	32	12	15.8	25
Dagupan	58.95	- .50	- .62	61.95	26	55.94	7	25.8	- .3	- .2	34.2	4	17.5	26
Baguio ^a	636.90	- .65	- .26	638.99	28	634.59	22	17.1	- .4	- .3	26.1	1	8.6	25
Vigan	759.18	- .61	- .68	762.18	26	756.18	7	26.2	0	0	34.1	16	18.1	23
Tuguegarao	61.16	- .52	- .22	64.56	26	58.36	7	23.5	- .2	- .3	33.9	3	15.6	22
Laog	59.30	- .84		62.29	26	56.27	7	24.9	- .2		32.9	12	13.6	26
Aparri	61.33	- .99	- .52	64.62	25	58.50	7	23.9	+ .2	+ .1	31.4	2, 4	16.9	23

^a The barometric readings of this station are not reduced to sea level.

Rainfall.—The total rainfall of this month is for a great majority of our stations below the normal of December. As compared, however, with the monthly total of the preceding year, it is generally greater in Luzon. In the gauges of Manila 117.9 mm. of water were collected during the month, an amount which differs from that of December, 1919, by +92.3 mm. and from the normal of this month by +55.5 mm. The total monthly rainfall of Baguio was only 52.1 mm., it being below the normal by 0.9 mm.

RAINFALL AT VARIOUS STATIONS OF THE WEATHER BUREAU DURING THE MONTH OF DECEMBER, 1920

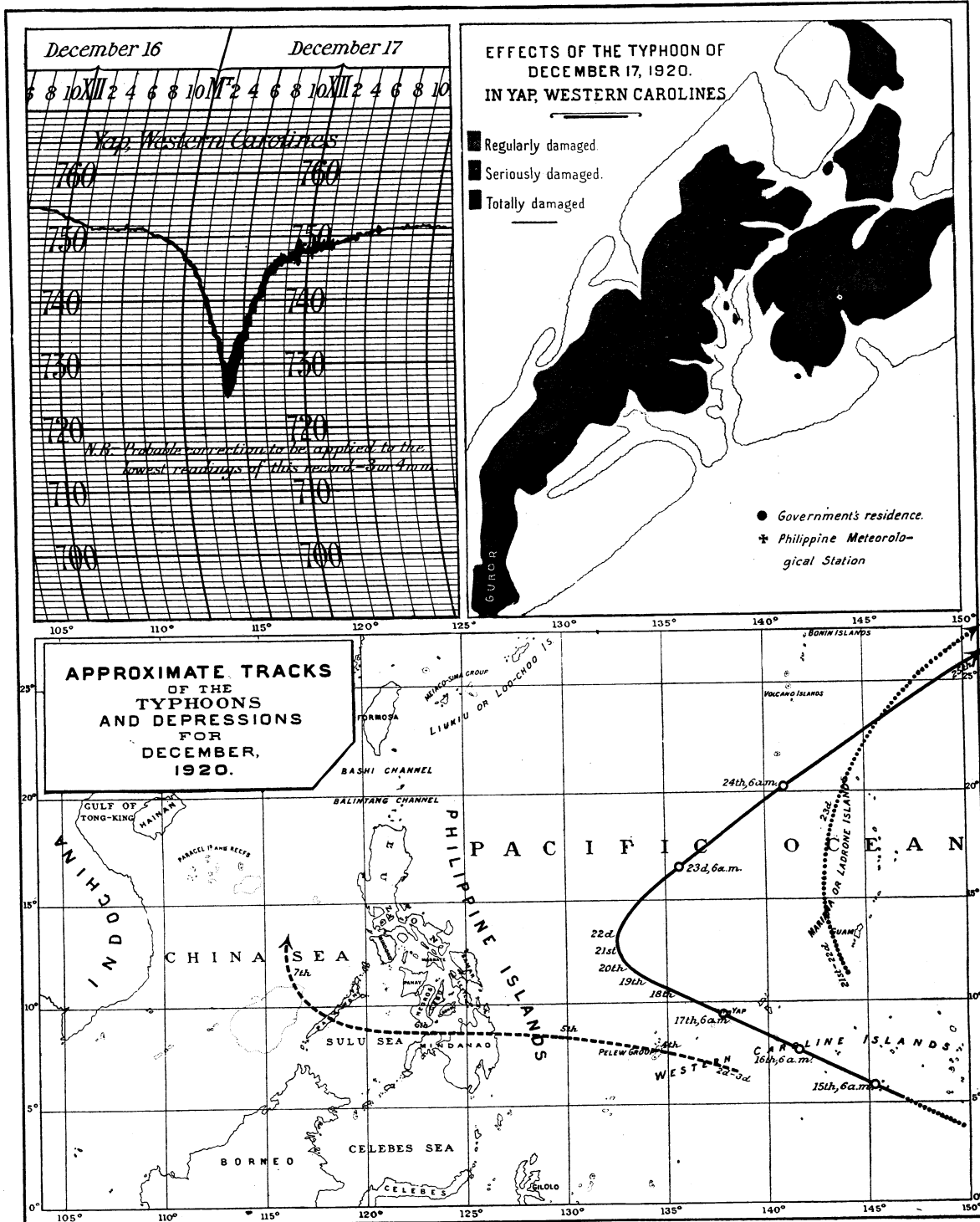
Station.	Total.	Departure from December, 1919.	Departure from normal.	Days of rain.	Departure from December, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.	Station.	Total.	Departure from December, 1919.	Departure from normal.	Days of rain.	Departure from December, 1919.	Departure from normal.	Greatest rainfall in a single day.	Day.
Jolo.....	154.8	- 52.1	- 12.5	13	- 8	- 3	33.1	15	Sumay, Guam.....	141.7	+ 25.1	0	26	+ 16	+ 8	23.4	21
Malamau, Isabela, Zamboanga	22.2	-143.4	6	0	0	0	9.4	9	Calapan.....	452.3	+292	+228.9	26	- 1	+ 2	101.6	2
Davao.....	176.4	- 29.9	- 14.3	14	+ 3	+ 3	33	8	Virac.....	329.9	+ 12.6	- 92.6	20	- 3	- 4	69.1	5
Zamboanga.....	23.9	- 33.6	- 73.2	6	- 9	- 4	10.4	9	Naga, Camarines Sur.....	124.5	-122.2	-151.3	18	- 2	+ 1	38.3	16
Cotabato.....	102.3	- 59.4	- 19.5	16	+ 5	+ 3	29.2	6	Tigaon.....	317.8	- 58.3	27	+ 2	+ 0	87.1	1	
Cagayan.....	53.1	+ 1.4	- 55.5	9	+ 2	- 2	12	9	Batangas.....	101.9	+ 82.7	- 1.4	9	- 4	- 2	51.3	1
Butuan.....	269	- 20.4	- 23.9	28	+ 2	+ 6	55.9	13	Lucena.....	323.3	+147.8	21	+ 1	53.6	15, 16		
Mambajao.....	111	15	16	15	27.4	14	20.3	1	Atimonan.....	362.8	+ 40.8	- 21.4	23	- 5	- 1	85.7	5
Dumaguete.....	50.4	16	19	- 1	+ 3	37.1	3	Ambulong, Tana-uan, Batangas.....	100.1	+ 81	12	+ 4	40.6	15			
Tagbilaran.....	159.9	-118.5	- 3	19	- 1	+ 3	37.1	3	Daet.....	460	27	12	+ 4	158.8	5		
Iwahig Penal Colony, Puerto Princesa	121.9	12	12	12	27.9	18	18	18	Canluban, Calamba.....	194.5	+159.5	19	+ 12	41.1	15		
Surigao.....	440.3	-373.3	-100.7	28	+ 5	+ 6	68.6	2	Paracale.....	55.6	-505.7	-416	12	-17	-13	7.6	6
Maasin, Leyte.....	129	-369.4	-189.4	7	- 2	- 5	41.9	15	Santa Cruz, Laguna.....	209.9	+121.9	+ 52.9	19	0	+ 1	55.9	15
Cebu.....	53.7	88.3	90	13	- 3	- 4	17.3	4	Manila.....	117.9	+ 92.3	+ 55.5	15	+ 6	+ 3	20.5	5
Iloilo.....	166.2	+ 27.2	+ 47.7	18	+ 2	+ 3	44.6	6	Antipolo.....	211.5	+170.2	16	+ 4	63.7	7		
San Jose de Buenavista	53.4	- 22.4	- 5.2	10	0	+ 1	21.9	5	San Isidro, Nueva Ecija.....	61.2	+ 2.3	+ 14.1	13	+ 2	+ 5	14	6
Cuyo.....	253.9	+142.4	+183.2	8	+ 1	+ 3	173	5	Iba.....	43.3	+ 20.2	+ 14.4	4	- 4	- 1	38.1	9
Ormoc.....	134.2	- 58.8	- 56.8	16	- 3	- 3	45.7	4	Tarlac.....	11.9	- 42.2	- 25.2	5	- 3	0	5.1	5
Guiuan.....	349.8	-312.7	27	- 2	- 5	57.7	4	Baler.....	345.2	+ 95.1	- 11.4	19	+ 3	+ 3	56.6	7	
Tacloban.....	199.5	-230.9	-147	18	- 2	- 5	43.5	4	Dagupan.....	2	- 48.3	- 17.7	2	- 4	- 2	1.5	9
Capiz.....	137.6	+ 6.7	- 99.6	23	+ 5	+ 4	29	15	Baguio.....	52.1	+ 22.1	- 9	10	- 1	+ 4	18	9
Borongan.....	619.3	-171.1	+ 3.3	29	+ 2	+ 1	131.1	5	San Fernando, La Union.....	15.3	+ 10.7	+ 6.7	2	0	0	12	13
Catbalogan.....	244.6	-104.6	20	+ 1	72.4	4	4	4	Candon.....	0	- 5.8	- 9.7	0	- 2	- 2	0	0
Calbayog.....	196.8	-167.2	- 82.2	24	+ 3	+ 1	41.8	4	Vigan.....	0	0	- 6.3	0	0	- 2	0	0
Masbate.....	125.1	- 59.6	- 87.7	16	0	- 1	21.9	5	Tuguegarao.....	127.2	- 12.2	- 22.1	10	0	0	48.5	17
Romblon.....	315.4	+129.4	+ 80.1	22	+ 2	+ 1	67.3	2	Laoag.....	4.1	+ 2.6	- 15.5	2	+ 1	0	2.8	8
Batag Light-house, Laoang	423.9	+ 23.4	22	- 4	75.7	1	1	1	Aparri.....	349.5	+151.9	+ 96.5	18	- 3	- 1	113.6	8
Sorsogon.....	395.8	- 40.5	23	65.8	15	15	65.8	15	Cape Bojeador.....	52.3	+ 17.9	6	- 7	15.7	9		
Legaspi, Albay.....	471.7	+123.8	+ 2	27	+ 4	+ 3	67.9	15	Basco.....	226.4	-275.8	-150.8	16	-10	- 8	59	8

DEPRESSIONS AND TYPHOONS

The most important typhoon of this month was that which caused great havoc in the Western Carolinas on December 17, and of which we shall speak presently. Besides this, there was only a depression or low-pressure area, which came from the south of the Western Carolines and crossed Mindanao in a westerly direction on December 6; and a very distant depression or typhoon that recurred northeastward on December 23 to the west of the Ladrone Islands.

The Yap typhoon: December 17, 1920.—This typhoon was shown by our weather map at 6 a. m. of the 15th as situated to the south of Guam in about 145° or 146° longitude E and 5° or 6° latitude N. It moved WNW and struck the Island of Yap during the night of the 16th to 17th, when a barometric minimum as low as nearly 721 mm. was recorded at 4.30 a. m. of the 17th, and hurricane, destructive winds from the NE and SE quadrants were blowing for more than six hours. No vortical calm was observed in our station: but according to the report of our observer, the wind abated for about three minutes in Guror, the extreme southern district of the Island of Yap. According to the same observer, the destructive effects of the typhoon were still worse in Sorol Islands (about 150 miles ESE of Yap) than in Yap: hence we had to suppose in our track (Plate XIII) that the typhoon was moving WNW, although the direction of the winds given for our station of Yap would seem to indicate that the storm was formed more to the south and moved in a NW or NNW direction. Yet, as the barometric readings of Guam agree well with a WNW direction of the typhoon, we suspect that an error was committed in the wind observation of Yap.

The natives of Yap considered this as the worst typhoon they ever experienced: they thought it was even worse, both as to the force of the winds and to the height



of the sea, than the big typhoon of January 20, 1895: but we have our doubts as to the truth of this. Our readers are referred to what we said on this typhoon in our *Boletín Mensual de 1895*, pages 4 and 5.

In the following table we publish some of the observations taken under the most trying circumstances by our observer Mr. Prudencio Urbiztondo:

METEOROLOGICAL OBSERVATIONS MADE AT YAP, WESTERN CAROLINES, DECEMBER 15 TO 18, 1920

Date and hour.	Pressure.	Wind.		Rain every four hours.	Weather.	Date and hour.	Pressure.	Wind.		Rain every four hours.	Weather.
		Direction.	Force.					Direction.	Force.		
	<i>mm.</i>		<i>0-12.</i>	<i>mm.</i>			<i>mm.</i>		<i>0-12.</i>	<i>mm.</i>	
Dec. 15:						Dec. 17:					
6 a. m.	756.04	NE by N	2		og	1 a. m.	742.52	NE by N	11		oq ² ul
2 p. m.	55.11	NE by N	2		ogz	2 a. m.	37.96	NE by N	12	(¹)	oq ² ul
10 p. m.	55.34	NE by N	3		o	3 a. m.	32.05	NE by E	12		oq ² ul
Dec. 16:						4 a. m.	(¹)	E by N	12		oq ² ul
2 a. m.	53.87	N by E	3	2.8	o	5 a. m.		E by S	12		oq ² ul
6 a. m.	54.28	NE by N	4		ogz	6 a. m.		E by S	10		oqu
10 a. m.	54.45	N by E	3	8.6	ou	7 a. m.		ESE	9		oqu
Noon.	52.76	N NE	3		oz	8 a. m.		SE by E	8		oqu
2 p. m.	51.10	NE by N	3		oz	9 a. m.		SE by E	7		og
3 p. m.	51.12	N NE	3	0.8	ozg	10 a. m.		SE by E	7		og
4 p. m.	51.11	N by E	3		ogu	11 a. m.		SE by E	5		o
5.08 p. m.	51.16	N NE	3		odg	2 p. m.		SE by E	3		o
6 p. m.	50.98	N NE	4	13.0	oqrg	6 p. m.		SE by E	3		o
7 p. m.	51.00	NE by N	5		oq ^o g	10 p. m.		SE by S	3		o
8 p. m.	50.22	N by E	6		oq ^o g	Dec. 18:					
10 p. m.	48.52	NE by N	8	16.0	oqu	6 a. m.		E by N	3		o
11 p. m.	47.15	NE by N	8		oug	2 p. m.		SE by E	3		o
Midnight.	44.89	NE by N	10		oqug						

¹ The barometer, rain gauge, etc., were destroyed by the typhoon.

Our observer gives the following resumé on the effects of the present typhoon in Yap:

Persons dead.....	5
Persons seriously wounded.....	2
Houses of light or mixed materials totally destroyed	1,330
Houses of light or mixed materials seriously damaged.....	493
Houses of strong materials damaged..... per cent....	49
Animals:	
Dead pigs..... do.....	40
Lost chickens..... do.....	70
Dead cows.....	3
Loss of small crafts:	
Boats	20
Canoes	32

The sea waves contributed to the great damages done to the eastern and southern part of the Island. The sea water rose about 4 meters above the highest ordinary sea level.

NOTAS GENERALES DEL TIEMPO

Presión y temperatura.—La presión atmosférica media de este mes en Filipinas es ligeramente menor que la de diciembre de 1919, y menor también que la normal de este mes. Las presiones más altas se observaron generalmente el día 26 ó 28, y las más bajas el 7 ó 22.

La temperatura media mensual es, en general, muy ligeramente menor que la normal de diciembre y que la media mensual del año pasado. Las temperaturas extremas de Manila fueron 32.5° C. y 17.3° C., las cuales se registraron los días 10 y 24, respectivamente. Las temperaturas máxima y mínima absolutas del mes en Baguio fueron 26.1° C., 8.6° C. en la cumbre del Mirador, y 26.1° C., 7.4° C. en la llanura cerca del *City Hall*.

Precipitación acuosa.—La lluvia total de este mes es, en una gran mayoría de nuestras estaciones, menor que la normal de diciembre. Comparada, sin embargo, con la lluvia mensual del año pasado, es generalmente mayor en Luzón. En los pluviómetros de Manila se recogieron durante el mes 117.9 mm. de agua, cantidad que difiere de la de diciembre de 1919 en +92.3 mm., y de la normal de este mes en +55.5 mm. La lluvia total del mes en Baguio fué solamente 52.1 mm., siendo menor que la normal en 0.9 mm.

DEPRESIONES Y TIFONES

El tifón más importante de este mes fué el que causó gran destrucción en las Carolinas Occidentales el día 17, y del cual hablaremos luego. Fuera de este tifón no hubo más que una depresión o área de baja presión, que vino del sur de las Carolinas Occidentales y, dirigiéndose al W, cruzó Mindanao el 6 de diciembre; y una depresión o tifón muy distante que recurvó, al NE el 23 de diciembre, por el W de las Islas Ladrones.

El tifón de Yap: 17 de diciembre de 1920.—Este tifón se echó de ver en nuestro mapa del tiempo de 6 a. m. del día 15 como situado al S de Guam, en los alrededores de 145° ó 146° longitud E y 5° ó 6° latitud N. Se movió al WNW y desfogó en la Isla de Yap durante la noche del 16 al 17, en que se registró una mínima barométrica de 721 mm. próximamente, la cual tuvo lugar a las 4.30 a. m. del día 17, y soplaron vientos huracanados y destructores de los cuadrantes del NE y SE durante más de seis horas. En nuestra estación no se observó calma vortical: pero, según nuestro observador, el viento amainó su fuerza durante unos tres minutos en Guror, el distrito más meridional de la Isla de Yap. Según el mismo observador, los efectos destructores del tifón fueron aún peores en las Islas Sorol (unas 150 millas al ESE de Yap) que en Yap. De ahí el que tuviésemos que suponer en nuestra trayectoria (Lámina XIII) que el tifón estuvo moviéndose al WNW, aun cuando la dirección de los vientos dada por nuestra estación de Yap parecía indicar que el temporal se formó más al sur y se movió al NW o NNW. Con todo, como las lecturas barométricas de Guam concuerdan bien con la dirección WNW del tifón, sospechamos que se ha cometido algún error en la observación del viento de Yap. En el texto inglés publicamos algunas de las observaciones hechas en circunstancias bien difíciles por nuestro observador Sr. Prudencio Urbiztondo.

Los naturales de Yap consideran este tifón como el peor de los allá experimentados hasta el presente: piensan que fué aún peor, tanto en la intensidad de los vientos como en la altura a que llegó el mar, que el gran tifón del 20 de enero de 1895: pero tenemos nuestras dudas acerca de la certeza de esto. Remitimos a nuestros lectores a lo que dijimos sobre este tifón en nuestro *Boletín Mensual de 1895*, páginas 4 y 5.

Nuestro observador da el siguiente resumen de los efectos del tifón en Yap:

Personas muertas.....	5
Personas gravemente heridas.....	2
Casas de materiales ligeros o mixtos totalmente destruidas.....	1,330
Casas de materiales ligeros o mixtos seriamente dañadas.....	493
Casas de materiales fuertes dañadas..... por ciento....	49
Animales:	
Cerdos muertos	id..... 40
Pollos perdidos.....	id..... 70
Vacas muertas.....	3
Pérdida de pequeñas embarcaciones:	
Bancas	20
Canoas	32

Las olas del mar contribuyeron a los considerables daños causados en la parte meridional y oriental de la Isla. El agua del mar se elevó a unos cuatro metros sobre su más alto nivel ordinario.-

METEOROLOGICAL DATA FOR MANILA CENTRAL OBSERVATORY.*

[$\phi = 14^{\circ} 34' 41''$ N; $\lambda = 120^{\circ} 58' 33''$ E; barometer above sea, 14.2 meters; gravity correction not applied, -1.72 mm.]

Day.	Pres- sure (mean).	Air temperature. ^b			Underground temperature.				Relative humid- ity (mean).	Vapor pres- sure (mean).	Radiation.			Evaporation. ^b		
		Mean.	Maxi- mum.	Mini- mum.	0.25 meter.		0.50 meter.				1.50 meters.	2.50 meters.	Mini- mum on grass.	Maxi- mum in sun. Black bulb in vacuo. ^c	Free exposure (total).	Shelter (total).
					8 a.m.	2 p.m.	8 a.m.	2 p.m.			8 a.m.	8 a.m.				
1	758.09	24.9	27.5	22.9	27.3	28.1	28.3	28.4	28.8	29.1	89.9	21.1	21.5	36.5	0.2	0.7
2	58.92	25.4	30.5	22.8	27.3	28.8	28.2	28.5	29	29.1	88.8	21.4	22.2	50	1.4	1
3	58.40	25.6	30.2	23.2	27.6	28.8	28.3	28.5	29.1	29.2	87.6	21.3	22.1	41.8	1.5	1.1
4	58.75	25.2	30.5	21.2	27.3	29	28.2	28.5	29	29.2	86.7	20.4	19.4	48.7	2	1.2
5	59.14	24.8	28.2	22.5	27.3	28	28.6	28.4	29.3	29	92	21.3	21.1	41	.4	.6
6	58.14	25.1	28.6	23.2	26.9	27.8	27.8	28.1	28.8	28.9	91.4	21.6	22.2	40.5	.6	.6
7	56.90	25	30	23.1	27.1	27.8	28	28	28.9	29.1	91.9	21.6	21.8	47.9	.8	.7
8	57.68	25	30.8	22.3	26.7	27.8	27.7	27.9	28.7	29	91.5	21.5	21	45	1	1
9	58.77	25.6	31.1	22.9	27	28.3	28	28.1	28.8	29.1	89.8	21.9	21.2	48.9	1.2	1
10	59.34	26.5	32.5	22.7	27.2	28.8	28	28.4	28.8	29	84.5	21.5	21.3	49	2.8	1.9
11	59.35	26.5	31.2	23.6	27.8	28.7	28.4	28.5	28.7	29	85.2	21.8	23.1	49.9	1.9	1.8
12	59.09	25.6	31.6	21.8	27.2	28.7	28.3	28.5	28.7	29	86.5	20.9	20.4	51.5	2.1	1.6
13	59.57	25.5	31.5	22.5	27.5	29	28.4	28.5	28.7	29	84.9	20.5	20.8	44.8	1.5	1.2
14	59.59	25.5	32	22.7	27.4	28.8	28.3	28.5	28.6	29	80.6	19.3	21	48.8	3.2	2.6
15	59.99	25.3	31.8	22.3	27.3	28.6	28.3	28.5	28.7	28.8	84	20	21.6	50.7	1.9	1.5
16	60.22	24.9	31.1	22.9	27.2	28.4	28.1	28.3	28.6	28.8	88.9	20.7	22.2	40.5	1.2	1
17	59.41	25.3	31	22.2	27	28.6	28	28.4	28.8	29	84.8	20.2	20.8	50.3	2.1	1.2
18	59.65	25.2	31.7	21.7	27.2	28.8	28	28.4	28.6	28.9	79.4	18.5	20.4	49.7	3.2	2.2
19	60.56	24.3	31.9	20.2	26.6	28.6	28	28.2	28.5	28.9	79.6	17.5	18.6	49.5	3.3	2.4
20	59.73	23.8	30.6	19.6	26.5	28.3	27.8	28.1	28.7	28.8	77.2	16.5	17.7	49.7	3.5	2.7
21	58.87	23.5	29	19.7	25.8	28.1	27.4	27.8	28.5	28.8	79.9	17	17.6	49.5	3.1	2.6
22	58.23	23.2	29.2	19	25.7	28	27.3	27.7	28.6	28.7	77	16	16.5	48	3.5	2.4
23	59.36	22.5	28.5	17.6	25	27.7	27	27.6	28.6	28.7	76.8	15.3	16.3	47.5	3.4	2.3
24	61.41	21.8	28.3	17.3	25	27	26.8	27.2	28.4	28.7	79	15.1	15.1	46.4	2.6	1.5
25	62.73	22	28.5	18.7	25.3	26.9	26.8	27.1	28.7	28.9	76.3	14.7	16.5	47.7	3.6	2.5
26	62.99	21.9	28.7	18	24.6	26.7	26.8	27	28.4	28.6	80.6	15.6	15.6	51.2	2.2	1.5
27	62.41	23	28.7	18.5	24.7	26.7	26.3	27.6	28.5	28.7	82.2	17.1	16.4	44.6	2.4	1.9
28	62.73	24.1	30.9	19.7	25	26.7	26.5	27	28.6	28.8	79	17.2	18	49.5	3.9	3.2
29	62.62	24.2	31.1	20	25.2	27.2	26.5	27.1	28.4	28.7	71.9	15.6	17.8	51.6	4.6	3.3
30	61.80	23.4	29.1	19.9	25.5	27.1	26.7	27	28.2	28.7	79.5	16.9	17.4	47.3	1.8	2.5
31	61.28	23.9	29.8	18.9	25	27.2	26.4	27	28.3	28.5	80.2	17.5	16.7	51.5	3	2
Mean Total	759.86	24.5	30.2	21.1	26.5	28	27.7	28	28.7	28.9	83.5	19	19.5	47.4	2.3	1.7
Departure from normal	-0.44	-0.6	+0.2	-0.1							+2	-0.2			-15.2	

Day.	Wind.			Direction at the time of the maximum velocity.	Amount (mean).	Clouds.		Sun- shine.	Rain, 24 hours beginning 6 a. m.			Miscellaneous.	
	Prevailing direction.	Total move- ment.	Maxi- mum hourly veloc- ity.			Form and direction.			On the tower.	In the park.			
						Upper.	Lower.						
1	N	80.5	7.5	NNE	9.3	Ci.-S.	N.,S.-Cu.	E	0 00	5.7	5.9	● a. d p.	
2	NE	148	11.5	NW	8.6	Ci.-S.	Cu.	E	3 20	8.7	8.9	d a. ● p.	
3	SE	108	8.5	SE	8	A.-Cu.	Cu.	E	1 05				
4	Variable	99	11	WbyS	5.6	Ci.	Cu.	E	5 50	1.6	1.6	○ ² a. ●● p.	
5	N	35.5	4.5	NbyW	9.6	Ci.-S.	N.	E	0 05	20.5	20.8	○ ² d a. ●● p.	
6	NNE	110.5	12	NNE	9.8	Ci.-S.	Cu.-N.	E	0 00	7.3	7.9	● a.	
7	N	102	15	WNW	8.8	Ci.	Cu.-N.	ESE	3 05	16	16.3	● a. p. ○ p.	
8	NE quad.	92.5	13.5	NW	8.4	Ci.	Cu.-N.	ESE	2 35	16	17	d a. ● p.	
9	E quad.	83	12.5	NNW	7.6	Ci.	Cu.	E	4 25	8	9.1	○ ² a. ● p.	
10	N quad.	82	13.5	W	4.9	A.-Cu.	Cu.	E	7 05				
11	NE	102.5	12.5	W	5.5	Ci.	Cu.	ENE	4 10	1	1	●○ p.	
12	NE	112.5	16	WNW	3.4	Ci.	Cu.	E	5 05	3	3.3	○ a. ● p.	
13	NE	86	9	NNW	4.7	Ci.	Cu.	E	6 00	4.2	4.3	● p.	
14	NE	166.5	22	N	7.2	Ci.	Cu.	E	5 10	7.9	7.9	● p.	
15	NNE	99.5	10	ENE	6.7	A.-Cu.	Cu.	E	3 20	9.8	10.2	● a. d p.	
16	N	95	10	E	9.2	Ci.-S.	Cu.	E	1 45	7.9	8.1	● a. p.	
17	NE	109.5	12	WbyS	7.5	A.-Cu.	S.-Cu.	ENE	3 25	.3	.4	d a.	
18	NE	98.5	13	ENE	7.1	A.-Cu.	Cu.	E	4 00				
19	NE quad.	97.5	15	NE	5.7	Ci.-S.	Cu.	ENE	6 00			○ ² a.	
20	NE	160	17	NE	5.1	Ci.	Cu.	E	6 15			○ a.	
21	NE	135.5	12.5	WSW	4.2	Ci.	Cu.	ENE	8 20			○ a.	
22	Variable	123.5	13	WNW	3.7	Ci.	Cu.	ENE	8 30				
23	E quad.	125	14	WNW	5.1	Ci.	Cu.	E	7 20			○ a.	
24	NE	119	14	ENE	6.8	Ci.	Cu.	E	3 00			○ ² d a.	
25	NE	191.5	27	NE	6	Ci.	Cu.	ENE	5 00				
26	N	130	11	SE	7.3	A.-Cu.	Cu.	E	2 25			○ ² a.	
27	NE	121	10	W	6.2	A.-Cu.,Ci.-S.	Cu.	E	4 45			○ ² a. d p.	
28	E	143.5	19	W	3.3	Ci.	Cu.	E	8 05			○ a.	
29	NE, E	166.5	23	ESE	3.1	Ci.	Cu.	E	9 00				
30	NE	121.5	11	SW	6.7	A.-Cu.	Cu.	E	3 20				
31	N, NE	132	13	ESE	7.5	A.-Cu.,Ci.	Cu.	E	3 20				
Mean Total		115.4	13.3		6.5				4 23	135 45	117.9	122.7	
Departure from normal		-1,179.7			+0.3				-18 21	+55.5			

^a All the mean values given in this table are deduced from the hourly observations.
^b These values are taken from instruments mounted in the Observatory Park, 1.5 meters above ground.
^c Maximum of hourly observations taken from 6 a. m. to 6 p. m.

METEOROLOGICAL DATA FOR MIRADOR OBSERVATORY, BAGUIO.*

[$\phi=16^{\circ} 25' N$; $\lambda=120^{\circ} 35' E$; barometer above sea, 1,512.5 meters; gravity correction not applied, -1.65 mm.]

Day.	Pres- sure ^b (mean).	Air temperature at Mirador (on the top of the mountain).					Air temperature in the pla- teau near the City Hall.				Rela- tive humid- ity (mean).	Vapor pres- sure (mean).	Radiation.		Evaporation.	
		Mean.	Maxi- mum.	Hour.	Mini- mum.	Hour.	Maxi- mum.	Hour.	Mini- mum.	Hour.			Mini- mum on grass.	Maxi- mum in sun- Black bulb in va- cuo.	Free ex- posure (to- tal).	Shel- ter (to- tal).
	mm.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	Per ct.	mm.	°C.	°C.	mm.	mm.	
1	636.02	19.3	26.1	11.30a.	15.3	0.15a.	26.1	11.30a.	14.6	1.00a.	71	11.8	14.1	5.2	2.8	
2	36.50	19.2	24.8	11.55a.	16.2	2.50a.	25.9	0.15p.	16	4.00a.	72.3	12	15.5	4.8	2.8	
3	36.13	17.8	22.3	8.45a.	15.5	5.55a.	24.7	10.00a.	15.2	6.15a.	91.5	13.9	14.1	1.6	1.3	
4	36.41	18.5	25	11.20a.	15.2	2.30a.	25.8	0.30p.	13.6	6.20a.	80.5	12.6	13.7	3.8	1	
5	37.15	18.3	24.8	11.55a.	15.2	2.35a.	25.7	2.10p.	13.8	6.00a.	78.8	12.3	13.4	5.9	3	
6	36.38	17.9	19.7	3.55p.	15.2	7.15a.	21	3.45p.	15.7	7.15a.	83.5	12.7	15.1	4.8	2.7	
7	35.33	18.5	22.4	1.30p.	16.3	6.30a.	23.3	3.50p.	16.4	6.30a.	82.3	13	15.5	4	2.1	
8	35.56	17.9	23	11.00a.	16	6.35a.	23.7	11.30a.	15.6	12 m. n.	84.2	12.7	14.8	3.8	1.8	
9	36.46	18.6	23.8	10.20a.	15.5	3.50a.	24.3	10.45a.	15.2	4.50a.	84.3	13.4	14.2	2.4	1.4	
10	37.21	18.2	24.8	0.30p.	15.5	3.25a.	25	0.50p.	15	5.00a.	85.7	13.3	14.5	4	2.2	
11	37.35	18.6	23.3	2.30p.	15	4.05a.	25.7	10.30a.	15	6.00a.	90.5	14.5	14	2.2	1.3	
12	36.90	18.3	24.3	10.30a.	16.5	6.05a.	25.2	11.00a.	15.4	5.00a.	92.5	14.4	14	7	.5	
13	37.13	17.5	19.9	9.30p.	15	12 m. n.	21.7	2.00p.	14.3	11.30p.	91.8	13.7	13.5	1	.6	
14	36.74	17.4	23.2	11.40a.	14.8	6.20a.	25.2	0.40p.	13.4	6.35a.	81.8	12.1	13.2	3.2	1.7	
15	37.16	17.7	23.3	0.05p.	14.2	4.45a.	24.8	0.50p.	12.8	3.15a.	77.3	11.6	12.6	5.8	2.8	
16	37.46	18.4	23.3	2.15p.	14.7	0.50a.	24.8	0.30p.	13.5	7.00a.	72.7	11.2	12.8	6.5	3.5	
17	36.95	18.4	24.1	1.30p.	14	10.50p.	24.7	0.45p.	13.8	10.50p.	80.2	12.6	14.8	8.2	4.6	
18	36.96	18.1	25.2	11.55a.	14.8	11.40p.	26	1.00p.	13	11.40p.	77.8	12.1	13.7	7.2	3.9	
19	37.44	17	22.2	1.25p.	13.6	12 m. n.	24.2	0.55p.	12.5	2.35a.	73.7	10.6	11	4	2.2	
20	36.39	15.9	21.7	11.10a.	12.6	6.40a.	22.7	1.00p.	11.3	12 m. n.	78.7	10.5	9.5	2.7	1.7	
21	35.43	14.6	20.2	1.10p.	11.6	1.00a.	22.2	2.40p.	10.5	5.30a.	89.5	11	9.4	1.7	1	
22	34.59	15.1	21	11.55a.	11.3	2.40a.	23.3	11.55a.	9.5	5.55a.	83.8	10.6	10.6	2.5	1.6	
23	35.31	14.5	20.3	0.45p.	10.7	12 m. n.	22.7	1.00p.	10	6.20a.	73.7	8.9	14.2	4.3	2.5	
24	36.76	13.7	19.7	1.00p.	10.3	12 m. n.	21	10.10a.	9.4	5.15a.	79.8	9.3	11.2	4.2	2.1	
25	37.89	13.1	20	11.10a.	8.6	3.35a.	21.3	11.50a.	7.4	6.30a.	73.7	8.1	5.4	7.2	3.4	
26	38.25	14.4	21	0.10p.	9.8	0.05a.	21	0.30p.	9.6	5.40a.	62.8	7.6	8.2	9.9	5.1	
27	38.45	15.9	22.7	11.55a.	12.2	2.10a.	23.8	0.50p.	11.2	5.10a.	79.8	10.6	10.1	4.7	2.7	
28	38.99	16.7	23.8	11.30a.	12.7	5.00a.	25.3	0.45p.	11.9	6.00a.	77	10.7	11.4	4.6	2.5	
29	38.60	16.5	22.3	11.55a.	12.6	5.35a.	23.2	0.20p.	11.9	6.20a.	73.8	10	11.4	9.3	4.8	
30	38.10	16.6	23.5	10.50a.	12.7	0.45a.	24.2	11.10a.	12.7	0.10a.	77.2	10.5	12.3	3	1.8	
31	38.04	16.6	22.7	11.30a.	12.8	5.55a.	23.4	0.30p.	12	6.00a.	77.3	10.7	11	5.4	3.2	
Mean	636.90	17.1	22.7		13.8		23.9		13		80	11.6	12.6	4.5	2.4	
Total															138.6	74.6

Day.	Wind.				Amount (mean).	Clouds.		Sun- shine.	Rain, 24 hours begin- ning 6 a. m.	Miscellaneous.
	Prevailing direction. ^c	Total move- ment.	Maxi- mum hour- ly velo- city.	Direction at the time of the maximum velocity.		Form and direction.				
		Km.	Km.		0-10.	Upper.	Lower.	h. m.	mm.	
1	E	565.8	36.7	E	7.3	A.-Cu.	SE S.-Cu. ENE, E	6 30		∞ a.
2	E	374.8	37.3	E	5.3	A.-Cu.	Cu. E	6 00		∞ a. p. ∞ p.
3	E, SW	209.4	17.4	E	6.9	Ci.	Cu. E	2 35	13	b ² a. ∞ a. ∞ p.
4	E	256.5	18.3	E	4.3	Ci.	Cu.-N. E	6 15		d b ∞ a. ∞ p.
5	E	299.5	24.3	E	6.4	Ci.-S.	Cu. E	4 30	1	b ² a. ∞ a. ∞ p.
6	E	589.2	39.9	E	9.3	Ci.-S.	FR.-N., s.-cu. E	0 00	1.6	∞ a. ∞ a. ∞ p.
7	E	467.4	39.7	E	8.3	A.-Cu.	S.-Cu. E	0 45	1.5	∞ a. ∞ a. ∞ p.
8	E	344.4	27.2	E	9.3	Ci.-S.	FR.-N. SSE, SE	1 35	1	d a. ∞ a. ∞ p.
9	E	280.4	31.9	E	7.3	Ci.-S., Ci.	N. W	2 45	18	∞ a. ∞ a. ∞ p.
10	E	434.3	32.2	E	7.9	A.-Cu.	Cu. E	3 55	3.6	∞ a. ∞ a. ∞ p.
11	E, SW	213.3	17.4	E	5.1	Ci.	Cu. SW	5 20		b ² a. ∞ a. ∞ p.
12	E	236.1	16.3	W	7	A.-Cu.	N. SW	3 10	9.9	b ² a. ∞ a. ∞ p.
13	SW quad.	175.5	15.6	SW	9	Ci.-S., Ci.	Cu.-N. NE	0 15	1.5	d a. ∞ a. ∞ p. ∞ p.
14	E	298.8	19.3	E	4.9	Ci.	Cu. E	4 25		∞ a. ∞ a. ∞ p.
15	E	418.6	40.7	E	5.3	A.-Cu.	Cu. E	4 30		b a. d ∞ p.
16	E	355.5	38.8	E	4.4	A.-Cu.	Cu. E	7 05	1	∞ a. p. ∞ a. ∞ p.
17	E	433	48.3	E	7.6	A.-Cu.	Cu.-N. E	2 25		d ² a. p. ∞ a. ∞ p.
18	E	477.6	40.4	E	6.6	A.-Cu.	Cu. E	5 10		∞ a. ∞ a. ∞ p.
19	E	265.6	18.8	E	5.7	Ci.	Cu. NE	6 10		b ² a. ∞ a. ∞ p.
20	E quad.	283	22.2	SW	4.9	Ci.	Cu. S	5 40		b ² a. ∞ a. ∞ p.
21	E, SW	251.5	17.1	SW	5.4	Ci.	Cu. ENE, SW	3 50		b ² a. ∞ a. ∞ p.
22	W quad.	265.8	19.5	SW	3.4	Ci.	Cu. NE	7 20		b ² a. ∞ a. ∞ p.
23	NW quad.	334.6	23.5	E	3.4	Ci.	Cu. NE	8 45		b ² a. ∞ a. ∞ p.
24	E	310.9	21.7	SW	5.3	Ci.	Cu. NE, ENE	6 30		b ² a. ∞ a. ∞ p.
25	E	363.4	31.4	SE	2.9	Ci.	Cu. NE	6 50		b ² a. ∞ a. ∞ p.
26	E	632.2	40.2	E	1.9	Ci.	Cu. E	7 15		∞ a.
27	E	438.4	32.7	E	3	Ci.	Cu. SE, ESE	3 55		∞ a. ∞ a. ∞ p.
28	E	342.6	20.6	E	2.4	Ci.	Cu. SE	7 40		∞ a. ∞ a. ∞ p.
29	E	464.1	34.6	E	1.4	Ci.	Cu. SE	8 25		∞ a. ∞ a. ∞ p.
30	E	398.5	35.7	E	3.7	Ci.	Cu.-N. W	4 55		∞ a. ∞ a. ∞ p.
31	E	319.8	26.9	SE	4.3	Ci.	Cu.-N. SE	5 50		b ∞ a. ∞ p.
Mean		358.1	28.6		5.4			4 51		
Total		11,100.5						150 15	52.1	

* All the mean values given in this table are deduced from 6 daily observations taken at 2, 6, 10 a. m. and 2, 6, 10 p. m.

^b The barometric readings of this station are not reduced to sea level.

^c This element is based on hourly observations taken from a quadruple register, which gives only eight possible directions of the wind.

DAILY RAINFALL AT THE STATIONS OF THE WEATHER BUREAU, DECEMBER, 1920.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Lapac Agricultural School, Siasi, Sulu†					3.6					4.3		15.2			18.5	
Glan, Cotabato †		16		20.6	4.1					13.7		26.9	10.2			
Jolo, Sulu					12.4	11.4			11.7	7.6		16.8			30.2	3.6
Lais, Malita, Davao	7.9		8.6					7.6	10.2	3	6.4	165.1	3.8	7.9		
Malita, Davao	5.1		.8					3	2.8		12.7	81.3	8.6			
Lebak, Cotabato				5.8	10.9			11.9				14.7	41.1			13.2
Lamitan, Isabela, Zamboanga					5.1			14.2						17.8		
Basilan Plantation, Kabunbatan, Isabela, Zamboanga †					19.8					15.7	5.1				9.7	10.2
Basilan Plantation Office, Isabela, Zamboanga †		3			1.8			20.8	10.7	13.5		4.6	1		8.4	1.3
La Union, Sigaboy, Davao †			4.8	1.3	1.8			3.6				5.8	5.6			1
Paranglalap, Isabela, Zamboanga †		10.2					13.9	11.4				5.1				16.8
Latuan, Isabela, Zamboanga †		12.2					3.8		9.1	1.3		4.3				1.3
Buluan, Cotabato †		62.2	3				20.1	3.8		1.3	17.8	1.5	15.2		.3	
Malamaui, Isabela, Zamboanga		1.3						5.1	9.4			4.6				1.3
Zamboanga, Zamboanga			.3	5.9					10.4	1.3		5.5				
Cagayan de Sulu, Sulu †	1.5	2.6			3.3			.8		14.7			35.5	41.2	35.5	16.5
Kidapawan, Cotabato †		50.8	9.9				5.1	8.6	3.8		7.4	8.9		2.5		
Davao, Davao	19.8		24.4				6.6	33	14.7		1.5	14.5				
Piang Agricultural School, Kudarangan, Dulauan, Cotabato †	8.6		1	2.3			1	1.8	2.8		2			6.1		
Pikit, Cotabato	7.9	.5					2	6.6	19.3	.3		3	1.3	1		
Cotabato Seed Station, Pikit, Cotabato †	1	7.1				2	8.9	23.4	.8		3	1.3				
Awang, Cotabato †			8.9	5.8			4.6				8.4		32.3			
Sirib, Guianga, Davao †	48.3		16.5	6.4		58.4	25.4	19.8	3			12.4	2	8.9		53.3
Kabakan, Cotabato †	2.5		10.2					83.8							38.1	
Bual, Dulauan, Cotabato	7.1		16.3	2.5			2.3		3.6	7.6		6.4		2.5		
Cotabato, Cotabato	29.2	2.5	13.5	11.2	.3		.5		2.5	1	1.3	11.4	.3	11.4		12.7
Kabasaran, Buldun, Cotabato †	5.1	10.2	6.4	9.9			4.3	3.6	28.2	11.4		3	26.7	34.3		38.1
Naganaga, Margosatubig, Zamboanga				50.8				2.8	5.1	10.7	5.6	12.2	11.9	16.5	3.8	15.7
Malabang, Lanao	1	.5	11.9	8.4	4.3		4.6	7.4	1.8		2	22.4		30.2	4.6	
Compostela, Monkayo, Davao †			.5	.3			1		.5		1.6	.8		.8		
Lumbatan, Lanao †		10.2	10.2	12.7	15.2									20.3	48.3	
Cateel, Davao		1.3	4.3	4.8			4.1	4.3	38.8	13	20.6	74.4	12.9	61.7	12.2	3.8
Ganasi, Lanao	18	4.6	.8	1.5					4.6		4.3	10.2	8.9	5.8		6.6
Camp Kalao, Monkayo, Davao			1.3	3.8	33.3			1.8	8.4	1.3	4.1	46	15.2	37.1	1.8	
Managok Agricultural School, Managok, Malaybalay, Bukidnon	17.1	4.1	31.3	15.2	16.3	5.1	74.9	37.8	4.5	1.5	4.3	1.3	.1	1.2		
Camp Keithley, Dansalan, Lanao	4.1	2.5		21.3	.8		39.3	2.3	11.5	5.8		2.8	16.7	9.9	2.3	1.8
Veruela, Agusan	16.5		16.8	3.8	3.6		19.8	6.6	6.9	3.3	5.8	44.4	4.6	33	11.9	.5
Sindangan, Zamboanga †			5.6	.8			25.9			2.3	3	2	63.5	10.7	1.5	2.6
Sumilau, Bukidnon	9.7	8.9	1.3	26.9	38.1	9.9				6.9	2.5	6.4	6.1	3.6	4.1	
Diklom, Tangkulan, Maluko, Bukidnon †				14							4.6					1.5
Cagayan, Misamis	3.7	3.8	2.3	3	3.3	10.7	10.5		12							
Talacogon, Agusan	53.6		5.4	4.6	6.3	10.2		19	19.6	2.8	21.8	26	18.3	15.8	8.2	6.6
Butuan, Agusan	1.3	2.5	43.5	11.4	2.8		.3	3.8	1.8	3.3	4.1	11.2	55.9	2.3	5.8	16
Mambajao, Misamis	1.8	.8		2				2.3				10.7	3.3	27.4	2.8	
Dumaguete, Oriental Negros	20.3	2.8		.5				1.3	3.3			1.5	1.5	2.6	1.5	
Meeth, Yap, Western Carolines	24.9	4.4		21.4	3.4	2			4.1	.5	1.8	1.9			2.8	38.47
Hacienda San Jose, Tanjay, Oriental Negros †		13.2						14								
Hacienda Palanas, Bais, Oriental Negros †	.5	29.2	1	8.6	1.3	19.3		10.2	4.3			.5			5.1	
Hacienda Tamugon, Bais, Oriental Negros †	22.9		17.8	7.6				5.1	2.8			5.1				
Tagbilaran, Bohol	2.8	6.9	37.1	.5	2.5	3		.5	32.8	.8		.3	1	.3	28.2	6.6
Iwahig Penal Colony, Puerto Princesa, Palawan		9.9		6.6	7.6	3.6	23.6	1								3.8
Dalaguete, Cebu	.5	.8		3		4.6		2.8	3.6			3	2.3	3.3	4.3	
Surigao, Surigao	2.5	68.6	14.1	16.8	.3	18.3	4.6	16.8	5.1	5.3	8.1	19.6	23.3	45.2	22.6	15.5
Central Palma, Ilog, Occidental Negros		1.5	1		3			1.3		1.3					1	
Hacienda Naval, Himamaylan, Occidental Negros		2.5	17.8	1.3												
Biaong Cui's Farm, Barili, Cebu			3												73.7	
Maasin, Leyte		16.5	25.4	11.2											12.4	41.9
Binalbagan Estate, Binalbagan, Occidental Negros †		1.3	12.7	12.4	40.4	17.8	.5		11.4						4.6	1.5
Isabela, Occidental Negros		9.6	4.8	4.1	24.4	21.6	38.4	2.6				3				
Hacienda Tanolo, Hinigaran, Occidental Negros			13.5	2.8	24.1	3			12.7			9.1			6.1	
Cebu, Cebu	2.5			17.3	5.6	12.4			1		3.1				2.8	
La Castellana, Occidental Negros	.5	11.9	8.9	21.3	24.7	75.7	62.2	3.3	.8			3			4.3	
Hacienda Vallehermoso, Vallehermoso, Oriental Negros †			2.5	3.8	50.8							11.9			15.7	
Central Azucarera de La Carlota, La Carlota, Occidental Negros		4.1	23.1	5.1	10.7	36.9	10.7		14			.3			3	39.3

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, December, 1920—Continued.

Station.	Day of month.															Total.
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Lapac Agricultural School, Siasi, Sulu†							9.4			1.3						52.3
Glan, Cotabato†						0.8					0.8	0.8				91.5
Jolo, Sulu											14					154.8
Lais, Malita, Davao		1.8									3			1.8		235.1
Malita, Davao													0.8	.8	0.5	119.4
Lebak, Cotabato		12.4		9.4	16.8	13.2			5.1	8.1						182.6
Lamitan, Isabela, Zamboanga																37.1
Basilan Plantation, Kabunbatan, Isabela, Zamboanga†																60.5
Basilan Plantation Office, Isabela, Zamboanga†																65.1
La Union, Sigaboy, Davao†										2	11.2		1.5			38.6
Paranglalap, Isabela, Zamboanga†																57.4
Latuan, Isabela, Zamboanga†															1.3	33.3
Buluang, Cotabato†										1.8			.5		11.2	138.7
Malamau, Isabela, Zamboanga					.5											22.2
Zamboanga, Zamboanga		.5														23.9
Cagayan de Sulu, Sulu†			12.7	6.9	1.3					.3		12.7		5.3		190.8
Kidapawan, Cotabato†											1.3					98.3
Davao, Davao	6.6	19.8								3.3	14.5	3.8	2.5	11.4		176.4
Piang Agricultural School, Kudarangan, Dulauan, Cotabato†															.5	26.1
Pikit, Cotabato																41.9
Cotabato Seed Station, Pikit, Cotabato†																36.3
Awang, Cotabato†																83.8
Sirib, Guianga, Davao†			3.3							1.5			1			60
Kabakan, Cotabato†																260.2
Bual, Dulauan, Cotabato												.5	.3	.3	7.6	134.6
Cotabato, Cotabato	4.1											.3				57
Kabasaran, Buldun, Cotabato†	3.8											.3				102.3
Naganaga, Margosatubig, Zamboanga																185
Malabang, Lanao																135.1
Compostela, Monkayo, Davao†				.3											1.3	99.1
Lumbatan, Lanao†						7.6										8.1
Cateel, Davao									36.6	74.6	28.7	35.3	20.8	30.5	14.7	125.5
Ganasi, Lanao																497.4
Camp Kalao, Monkayo, Davao	1.3									3.8	32.5	16	1.3	12.4		65.3
Managok Agricultural School, Managok, Malaybalay, Bukidnon	18	5.8														221.4
Camp Keithley, Dansalan, Lanao	.8	1.3	2	1.5	.6	3					2.3	5.1	.3		.8	247
Veruela, Agusan	2								6.4	21.8	10.7	1	2.3	.8	2.5	148.9
Sindangan, Zamboanga†	.3				1											310
Sumilau, Bukidnon	1.3			6.6												120
Diklom, Tangkulan, Maluko, Bukidnon†												3.6	2.5			138.4
Cagayan, Misamis	3.8										.8	1.3				22.2
Talacocon, Agusan	12.2	4.8					3.6		1	15.5	21.4	33.8	29.2	17.8	9.4	53.1
Butuan, Agusan	18		5.6	17	3	1	4.1		1.3	9.6	18.3	18	.5	4.3	2.3	366.9
Mambajao, Misamis	24.4		2						5.1	3.8	15	1	8.6			269
Dumaguete, Oriental Negros	1.6								2.3	1.3	1.8	2.8	2.5	2.8		111
Meeth, Yap, Western Carolines	*	*	*	*	*	*	6?		1	4.3		.5	4.1	4.8	148.6	50.4
Hacienda San Jose, Tanjay, Oriental Negros†										4.6	5.1					148.6
Hacienda Palanas, Bais, Oriental Negros†		.8								18	11.6				7.6	36.9
Hacienda Tamugon, Bais, Oriental Negros†																118
Tagbilaran, Bohol	3.1	.5									48.3				5.1	114.7
Iwahig Penal Colony, Puerto Princesa, Palawan	3.1	.5								11.2	21.3	.5				159.9
Dalaguete, Cebu	6.1	27.9														121.9
Surigao, Surigao	1.3								1.5	34.3	38.4		4.8		8.9	117.4
Central Palma, Ilog, Occidental Negros	35.8		5.8	1	.8		.5		15.8	36.9	6.9	14.5	18	12.5	5.1	440.3
Hacienda Naval, Himamaylan, Occidental Negros																9.1
Biaong Cui's Farm, Barili, Cebu																21.6
Maasin, Leyte												14.2			7.4	81.7
Binalbagan Estate, Binalbagan, Occidental Negros†		14										1				129
Isabela, Occidental Negros	8.2	1.5										.3				116.1
Hacienda Tanolo, Hinigaran, Occidental Negros																120
Cebu, Cebu	6.9	3			2.3							.8				84.3
La Castellana, Occidental Negros	1.5								1.3	3.1	1.3				.5	53.7
Hacienda Vallehermoso, Vallehermoso, Oriental Negros†	10.2															216.6
Central Azucarera de La Carlota, La Carlota, Occidental Negros	1.8				3.6							6.1	10.2		7.9	119.1

† Voluntary or cooperative station.

* No observation.

a 25 days of observation.

Daily rainfall at the stations of the Weather Bureau, December, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Hacienda Canlaon, La Castellana, Occidental Negros.	22.9	5.3	19.3	13.5				8.8	0.5						6.1	0.5
La Carlota Experimental Station, La Carlota, Occidental Negros†			23.9	12.2		18	48.2	19.8								13.2
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros		5	3.3	5.6	44.5	41.4	21.3		31.3						1.3	
Valladolid, Occidental Negros		3.8	5.3	6.6	35.6	51.6	.5		2							7.9
Central San Carlos, San Carlos, Occidental Negros†	3.3	4.1	9.1	30.2							9.7		7.1	19.8		
Hacienda Refugio, San Carlos, Occidental Negros†	2	2.5	17.5	6.4	25.4							11.2		11.4	18.3	5.6
San Joaquin, Iloilo	*	*	*	1.8	17.6	4.6	14								.5	.3
Murcia, Occidental Negros		42.4	16.8	5.1	32	49.8	35.1	7.9	9.4							12.4
Bacolod, Occidental Negros		29.2	1.8	7.4	18.5	16.8	7.4		3.6							4.8
Oton, Iloilo		7.4		3.3	49	17.5	3	1.3				1.3	1			4.8
Iloilo, Iloilo	8.1	23.4	2.3	9.9	38.1	44.6		9.6	4.9	0.3		4.3	6.1			4.5
Lapuslapus, Iloilo, Iloilo†	12.2			10.2	2.8			22.9	8.8					7.6		3.8
San Jose de Buenavista, Antique		6.6	1.5	6.4	21.9		3		2.5			4.6				1
Tuburan, Cebu		10.9		11.7	14.3							6.1		1.5	45.5	.3
Leon, Iloilo		2.8	.5	2.8	55.8	6.9	8.4	.5								
Silay, Occidental Negros		27.7	.8	11.9	126.5	8.4	33		.8		14.2		43.5	.8	6.1	5.4
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros†		10.2	.8	13.2	142.5	3.3	46.2	.3			8.4	9.7	4.3	.8	10.4	12.2
Cuyo, Palawan		4.6	48	6.4	173	5.8	8.7	2.8	4.6							
Lucena, Santa Barbara, Iloilo†	47		26.7	22.9	15.7											3.8
Barotac Nuevo, Iloilo		22.6		20.1	133.1	21.8				2.5						4.8
Hacienda Ilaya, Victorias, Occidental Negros		19		11.9	54.7	64.8	20.6	4.6	7.1	3.3	2.5		1.8	3.3	54.1	28.7
Hacienda Bilbao, Manapla, Occidental Negros	3.8	2	15.2	8.1	11.7	12.9	19.6	8.2	14.2	8.1	15.2		41.9	18	20.8	8.4
Cadiz, Occidental Negros		52.1		49				29.2	2.3						22.9	5.6
Dingle, Iloilo		13	20.8	26.7	163.8	18										
Ormoc, Leyte	7.4	2	1	45.7	19.3		1.3						5.8	2.3	19.3	3.3
Guiuan, Samar	11.4	45	9.6	57.7	10.4		3	1.3	12.4	12.7	7.2	10.9	5.1	10.9	26.2	18.3
Bogo, Cebu		1		19.8	19	4.1			2.5			6.6	5.8	3.8	3	.3
Dueñas, Iloilo†		8.9	43.2	5.1	57.2	42.4	.5						3.8			3
Bitaoagan, Passi, Iloilo†		4.1	2	8.6	50.8	50.8		16								15.7
Tacloban, Leyte		14.5		43.5	19					3.8	4.1	1.3	1	3.3	41.1	13.7
Dumarao, Capiz†	1.3	7.6	2.5	53.3	3.8			3.8							10.2	2.5
Dao, Capiz†	4.1	34.3	14.8	25.9	51.6	30.5	5		21.6				21.6		15	8.9
Capiz, Capiz	.8	18.5	1	23.9	8.8		3	1.3	2	10.1	.3			21.2	29	2.6
Borongan, Samar	43.4	67	2	87.6	131.1	12.7	21.1	2.1	6.1	6.1	6.6	15	4.8	.5	59.2	37.8
Catbalogan, Samar	7.1	19.8	2.8	72.4	34.1	7.8			.5	3	1	4	24.1	1.8	31.7	10.6
Calbayog, Samar		4.6	3	41.8	27.7	21.1	2		.5	3						
San Jose Estate, Robles Camp D-17, San Jose, Mindoro†	12.7	11.9	1.6	1.3												
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro†	51	4.6	1	1.5	8.9	10.2	16.5	3.1	2.5						22.9	20.3
San Jose Estate, San Agustin, San Jose, Mindoro†		25.4			1.3	3.8	10.2	2								
San Jose Estate, San Jose, Mindoro†	45.5	7.9	18.6	2	2.8	5.6	17.2	4.6							1	2.6
Masbate, Sorsogon		1		19.6	21.9			8.6		.3		5.1	6.4		16.5	13.7
San Jose Estate, Tunnel D-12, San Jose, Mindoro†	45.7	71.6	5.1		10.2	3.3	30.4	2.8								2.5
Romblon, Romblon	19	67.3	.5	25.5	23.4	33.5	1.3	34.3					20.3	2.3		11.2
Batag Lighthouse, Laoang, Samar	75.7	29.5	15.5	50	28	9.1	41.7	10.2		6.6	16.3	1.5	26.5		16	53.3
Irosin, Sorsogon	6.9	14.7	1.3	24.4	30	23.1		1.3	2.3		5.8	18.8	12.2		48.7	77.2
Sorsogon, Sorsogon	24.9	39.1		43.7	38.4	15	5.1	8.9	3.3	2	9.7	3	15.3		65.8	55.6
Bacon, Sorsogon	42.9	33.5	6.1	39.9	35.8	7.4	2.3	6.9	2.8	6.6	2.5	3	24.4	.5	40.4	34.8
Legaspi, Albay, Albay	34.8	55.4	1.1	35.6	54.7	25.2	23.7	.8	3.6	7.6	27.2	33.6	8.7		67.9	34.8
Guinobatan, Albay	11.4	10.4	1.6	25.9	22.1	18.5	6.7	.3	.5	2.3	1	1	1.5		28.9	15.2
Polangui, Albay	24.9	8.6		19.6	27.5	1.5	1.8		2.5				.8		14.2	11.7
Tabaco, Albay	4	50.6	2.3	11.7	24.9	2.8	51.3	14.7	12.4	35.3	3	.5			33.2	31.7
Sumay, Guam, Ladrone Islands	5.3	4.3	8.6	11.2	2	1	.8		3.6	1.8	.8		1.5	6.1	2.8	4
Iriga, Camarines Sur	4.1	4.3	1.3	23.8	23.3	2.3	3.6			1.3					10.4	24.1
Calapan, Mindoro	60.4	101.6	1.3	8.6	27.2	37.6	58.9	77.4	10.4	5.1	.3	1.3	1.5	5.6	4.8	14
Virac, Albay	40.1	18	5.5	30.7	69.1	.8	16.3	13.5				2.8	10.7		41.1	65.2
Naga, Camarines Sur	7.6	23.4	.8	7.4	17.5	.5	2.8		1.8	1.5			.5		16.5	38.3
Tigzon, Camarines Sur	87.1	16.8	.5	9.1	16.5	4.8	43.9	44.9	.6	9.4	4.3				35.8	21.6
Libmanan, Camarines Sur	51.3	9.1	4.6	24.7	5.8	.3		11.4					10.9	1	72.1	5.1
Batangas, Batangas	50.8	15.8		4.6		1	3.8							15.5	2.3	3.8
Calatagan, Batangas	72.9	2.8		5	2.8						.3	.3			1	5.3
Balayan, Batangas			22.9							17.5						8.4
Lipa, Batangas	4.6	4.6	.5	3.8	9.1		.8						7.9		29.5	4.8
Lucena, Tayabas	9.7	4.1		13.5	46	.5	52.1				5.3	3.1	46.7	53.6	58.6	58.6
Atimonan, Tayabas	2.5	6.4	3.8	16.5	85.7		23.9	8.7	34.4			2.8	30.5	22.6	30.5	51.1
Lian, Batangas		16	16	2.8											3	6.6
Nasugbu, Batangas			10.2		2.5		5.3		2			6.1		8.6	40.6	6.5
Ambulong, Tanauan, Batangas	17	8.9			2.5				10	1.8	12.7	3.3		2.5	39.1	18.8
Daet, Camarines Norte	22.1		17.5	8.5	158.8	5.6	34.2	2.6	2					4.3	25.4	1.8
Mendez Nuñez, Cavite	34.8	14.2		3.8	12.2	2.5	18.3	6.9	1			2.8				
Alfonso, Cavite	37.4	10.4		1.8	11.4	1.8	3.8	10.2				.8		2.3	18.8	4
Indang, Cavite	27.9	11.7	.3	1	20	3.3	2	24.9						6.1	22.1	6.8
Canluban, Calamba, Laguna	22.8	5.3		1.5	33.1	8.9	7.2	8.6	9.6	1.5		7.4		41.1	41.1	9.6

† Voluntary or cooperative station.

* No observation.

Daily rainfall at the stations of the Weather Bureau, December, 1920—Continued.

Station.	Day of month.															Total.	
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	
Hacienda Canlaon, La Castellana, Occidental Negros	3.6																80.5
La Carlota Experimental Station, La Carlota, Occidental Negros †																	135.3
Mao Sugar Central, Santa Cecilia, Bago, Occidental Negros	.5				1.3												155.5
Valladolid, Occidental Negros	2.5																115.8
Central San Carlos, San Carlos, Occidental Negros †			6.4	3.6					4.8			8.9			14		121
Hacienda Refugio, San Carlos, Occidental Negros †													19				119.3
San Joaquin, Iloilo	.8										0.5						40.1 ^a
Murcia, Occidental Negros																	210.9
Bacolod, Occidental Negros	11.2	4.6						0.5	.3	0.8	1						108.7
Oton, Iloilo	2.5										2.8						97.7
Iloilo, Iloilo	.3	.8			3						3.6	1.8					166.2
Lapuslapus, Iloilo, Iloilo †												7.1					75.4
San Jose de Buenavista, Antique	.8											5.1					53.4
Tuburan, Cebu	4.8	.8	3.6	1.5	3.8						1.3	7.1	1				114.2
Leon, Iloilo	3.3	.8															81.8
Silay, Occidental Negros	9.6	19.3							1.3	2	5.1						316.4
Hawaiian Philippine Co., Malisbug, Silay, Occidental Negros †	13.9	18.8							1.3	2	15.5				7.1	4.6	325.5
Cuyo, Palawan																	263.9
Lucena, Santa Barbara, Iloilo †	2	7.6										12.7	3				150.3
Barotac Nuevo, Iloilo		1		.5								14.5					242
Hacienda Ilaya, Victorias, Occidental Negros	12	9.1						2	5.8	3.3	24.9	2.5		2.8	27.9		366.7
Hacienda Bilbao, Manapla, Occidental Negros	16.8	27.7	4.8			5.1	7.1	3.8	4.3	7.9	2.5		3.6	7.1	31.7		330.5
Cadiz, Occidental Negros	24.1										20.6						213
Dingle, Iloilo	13				10.4						9.7		15.5				6.4
Ormoc, Leyte	16.6								.5	.8	1.3						7.1
Guiuan, Samar	12.7	3	5.9	1	1.5				7.4	38.3	5.6	4.4	12.2	4.1	16.6		349.8
Bogo, Cebu	5.3		2.3	.5					1	2	4.4		1.3		.8		86.8
Dueñas, Iloilo †	10.2	1.3			2.5						11.4	3					213.8
Bitagan, Passi, Iloilo †		7.7									7.6						163.3
Tacloban, Leyte	6.3	10.9	1							19	7.6	.5	3.4		6.4		199.5
Dumarao, Capiz †	1.3			12.7						1.3	1.3		1.3		1.3		113
Dao, Capiz †	2.5	2.3		10.2	6.6				1.3	2.5	2.3	2.8	2.8	2.8	8.9		278.3
Capiz, Capiz	2	.3		1.3	.3				5.3	1.3	4.9	1.1			.8		137.6
Borongan, Samar	11.2	4.8	2.5	4.1	1.3				2.5	1	38.4	5.6	.6	23.1	4.1	17	619.3
Catbalogan, Samar	.8	1	1						.8		15.5	9.9	.5	2.3	2.5	3.3	244.6
Calbayog, Samar	5.8	3.6			1.3			.5	.5	15.5	3.8	.3	1.3	.5	2.3		196.8
San Jose Estate, Robles Camp D-17, San Jose, Mindoro †																	27.5
San Jose Estate, Tamaraw Plantation, San Jose, Mindoro †																	142.5
San Jose Estate, San Agustin, San Jose, Mindoro †																	42.7
San Jose Estate, San Jose, Mindoro †																	107.8
Masbate, Sorsogon	4.6	1.5								9.7	10.9		.8	1	3.5		125.1
San Jose Estate, Tunnel D-12, San Jose, Mindoro †																	171.6
Romblon, Romblon	3.6			3.7	2.1			3.6	8.1	4.8	5.6	2.3	1	.3			315.4
Batag Lighthouse, Laoang, Samar	3.1							3.8	11.2	8.9	6.1		4.3	4.1	2.5		423.9
Irosin, Sorsogon	5.8	15							6.1	27	8.1	2.6	4.1	2.8	6.9		345.1
Sorsogon, Sorsogon	13	2.5							6.6	13.2	1.3	7.4	4.8	.8	11.4		395.8
Bacon, Sorsogon	13.2	1.8							4.1	19.3	2.8	3.8	2	.5	1.8		339.1
Legaspi, Albay, Albay	8.4		1.8	5.4	.5		2	.3	7.1	15.5	2.1	7.4	1.1		5.4		471.7
Guinobatan, Albay	1.5			.3			3	1.8	1.6	.3	.8		.3	.5	1.5		158.9
Polangui, Albay	1.3	.5					1		1		4.3	.5			.5		101.3
Tabaco, Albay	.8		1	.8	3.5		5.3	3.8		11.4	2.8	6.1	4.6	7.1	8.1		354.6
Sumay, Guam, Ladrone Islands	21.8	22.1		11.5	23.4	.8	2	2.8	2.8	.3		.3		.3	.3		141.7
Iriga, Camarines Sur	.3									.3				.3			99.4
Calapan, Mindoro	5.1	5.1	.3	5.1				8.4	.8	1.3	7.6	2.3	.3				452.3
Virac, Albay	2				.5						3.6	1.8	.8	4.3	2.3		329.9
Naga, Camarines Sur	1	.5	1.5			.8		.8	1	.8							124.5
Tigaon, Camarines Sur	4.4	.6	.5	.8	2.3		2.3	2.5	1.3		1.6	.8	1.3	.8	2.8		317.8
Libmanan, Camarines Sur	11.4	3	3.5	4.9	3.6		17	4.1	5.3								197.8
Batangas, Batangas								3.8									101.9
Calatagan, Batangas								.3									64.6
Balayan, Batangas																	121.7
Lipa, Batangas															.5		66.1
Lucena, Tayabas	14.7		1		1.8			5.6	.3	1.6	1.6	1.3	.8		6.4		323.3
Atimonan, Tayabas	12.7		3.1	2.1			3.3	7.9		.3	7.1	.8	.5		5.6		362.8
Lian, Batangas																	37.8
Nasugbu, Batangas										8.9							25.7
Ambulong, Tanauan, Batangas								.8					1.3	.5			100.1
Daet, Camarines Norte	13.7		.5	5.3	.5		9.9	6.2	4.1	38.9	5.5	.5	2.6	.8	34		460
Mendez Nuñez, Cavite	1.5							1.3	1.3	.5			2				134.1
Alfonso, Cavite	1.5							1.3			.3		1				96.8
Indang, Cavite	3.8									3.3					1.3		134.5
Canluban, Calamba, Laguna	4.3							1.3	8.9		.5		7.6	4.6			194.5

† Voluntary or cooperative station.

^a 28 days of observation.

Daily rainfall at the stations of the Weather Bureau, December, 1920—Continued.

Station.	Day of month.															
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.
Silang, Cavite			4.1	11.4	16.5	7.4	5.5	22.4				0.8	0.3	4.3	7.9	7.4
Maragondon, Cavite	11.2	4.6			18.8	3	.5	7.4						3.8	6.9	2.5
Paracale, Camarines Norte	2.5				3.8	7.6	4.6	3.3	3.3	5.1						
Santa Cruz, Laguna	29.7	2.5		1.6	40.9	13.2	8.1	7.9	1.6	5.8		3.1		3	55.9	17.3
Buenavista, Malabon, Cavite	17	16			15.7	4.6		32.3						9.7	14.2	2.5
Imus, Cavite	8.4	5.6		3.6	23.7	4.9	7.4	9.9	.5			.3		4.1	9.1	7.4
Alabang Stock Farm, Alabang, Muntinglupa, Rizal†	12.9	1.8			33.7	4.4	11.7	1.3				1.8		7.9	15.2	7.9
Cavite Naval Station, Cavite, Cavite	7.6	2.8		5.1	24.4	5.1	24.6							7.4	7.6	2.1
Lamao Horticultural Station, Lamao, Limay, Bataan †		14			20.3	5.1				6.4					14	14
Manila, Manila	5.7	8.7		1.6	20.5	7.3	16	16	8		1	3	4.2	7.9	9.8	7.9
Antipolo, Rizal	33.5	6.1	2	6.4	29.7	11.7	63.7	22.6	1		1.5		.8	8.4	10.7	10
Bosoboso, Antipolo, Rizal†	3.8			.5	4.3	11	24.6	20.3		17.8				96.5		
Balanga, Bataan	2.5	28.4		.3	13.2	2.1		9.7	1.3	.8				1	3.6	5.8
Montalban, Rizal†	10.9	.5	.8		29	20.8	17.2	5.6	15					5.8	31.2	5.6
Hacienda Pintong Sapang, San Jose del Monte, Bulacan †	8.9	18.6	2.3	16.3	48.5	5.8	13.3	9.1	4.9		22.1	.3	.5	13.2	22.4	11.2
Mabayuan Dam, Olongapo, Zambales †																
Malolos, Bulacan	10.6	41.2	.3		33		9.4							9.7	10.9	8.4
Pampanga Sugar Mills, Del Carmen, Pampanga†	2.3	3.6	58.4		16.3	7.9			15.2	.5				.8		2
San Fernando, Pampanga	5.4	6			20.8	11.4	4.1		11.9					1.3	.5	5.6
San Isidro, Nueva Ecija	1.3	2.3			13.7	14	3.2		2.8	1.3			11.5		4.1	.3
Iba, Zambales			3.1		1.3	.8			38.1							
Hacienda Luisita, Comillas, La Paz, Tarlac†																
Hacienda Luisita, San Miguel, Tarlac, Tarlac†																
Tarlac, Tarlac					5.1	2.5	.5							2.3		
Muñoz Agricultural School, Muñoz, Nueva Ecija†		25.1					11.4									
Baler, Tayabas	21.3	1.3	3.8		28.4	12.7	56.6	31.3	24.9	.5	7.4			22.9	27.9	40.6
Dagupan, Pangasinan						.5			1.5							
Baguio, Mountain Province			13		1	1.6	1.5	1	18	3.6		9.9	1.5			1
San Fernando, La Union							3.3					12				
Sagada, Mountain Province†	1.5				3.3	3.8	1.5	11.4	78.7			4.3	2.5	1.5	1.8	.8
Bontoc, Mountain Province†					2	13.9	4.1	24.1				3.3	1.3		.8	4.1
Candon, Ilocos Sur																
Vigan, Ilocos Sur																
Tuguegarao, Cagayan					4.3	9.7	9.5	6.6	1.3					1.9	8	35.8
Tayum, Abra†											20.8					
Laoag, Ilocos Norte							1.3	2.8								
Aparri, Cagayan	4.1					11	91.5	113.6	50.8		5.6	1.3	.5	33.9	8.1	13.1
Cape Bojeador, Burgos, Ilocos Norte							14	13.4	15.7				4.3	4.6	.3	
Basco, Batanes	6.6	.3		2.8	1.3		50.8	59	12.7	54.6	1.6		2.5	22.8	5	1.3

† Voluntary or cooperative station.

Daily rainfall at the stations of the Weather Bureau, December, 1920—Continued.

Station.	Day of month.														Total.	
	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.		31.
Silang, Cavite.....	mm. 2.3	mm. 7.6	mm.	mm.	mm.	mm.	mm.	mm.	mm. 5.1	mm. 0.5	mm.	mm.	mm. 7.4	mm. 0.8	mm.	mm.
Maragondon, Cavite.....								0.3	3					3.6		111.7
Paracale, Camarines Norte.....	4.8	5.6	4.8	5.1							5.1					62.9
Santa Cruz, Laguna.....	2.8							1.8	5.8	.8			4.8	3.3		55.6
Buenavista, Malabon, Cavite.....									1.3					6.6		209.9
Imus, Cavite.....	.3								.5	.3						119.9
Alabang Stock Farm, Alabang, Muntinglupa, Rizal†																86
Cavite Naval Station, Cavite, Cavite.....		.5														98.6
Lamao Horticultural Station, Lamao, Limay, Bataan†																87.2
Manila, Manila.....	.3															73.8
Antipolo, Rizal.....	2.6							.8								117.9
Bosoboso, Antipolo, Rizal†																211.5
Balanga, Bataan.....							0.3								0.3	178.8
Montalban, Rizal†	1.5															69.3
Hacienda Pintong Sapang, San Jose del Monte, Bulacan†	1.6								.3							143.9
Mabayuan Dam, Olongapo, Zam- bales†																0
Malolos, Bulacan.....		1.8														125.3
Pampanga Sugar Mills, Del Car- men, Pampanga†																107
San Fernando, Pampanga.....																67
San Isidro, Nueva Ecija.....	6.1								.3				.3			61.2
Iba, Zambales.....																43.3
Hacienda Luisita, Comillas, La Paz, Tarlac†																0
Hacienda Luisita, San Miguel, Tarlac, Tarlac†																0
Tarlac, Tarlac.....						1.5										11.9
Muñoz Agricultural School, Mu- ñoz, Nueva Ecija†																36.5
Baler, Tayabas.....	31								6.1	9.1			4.6	7.9	6.9	345.2
Dagupan, Pangasinan.....																2
Baguio, Mountain Province.....																52.1
San Fernando, La Union.....																15.3
Sagada, Mountain Province†	2.5			1												114.6
Bontoc, Mountain Province†		2				.5									2	58.9
Candon, Ilocos Sur.....																0
Vigan, Ilocos Sur.....																0
Tuguegarao, Cagayan.....	48.5				1.6											127.2
Tayum, Abra†																20.8
Laoag, Ilocos Norte.....						.3	3.3	2	2.8							4.1
Aparri, Cagayan.....	1		4.3	2.3												349.5
Cape Bojeador, Burgos, Ilocos Norte.....					1.3	1.3										52.3
Basco, Batanes.....															2.5	226.4

† Voluntary or coöperative station.

MAXIMUM AND MINIMUM TEMPERATURES AT THE STATIONS OF THE WEATHER BUREAU, DECEMBER, 1920.

Day.	Jolo.		Lais, Malita.		Malita.		Lebak, Cotabato.		Malamaui, Isabela, Zamboanga.		Zamboanga.		Davao.		Pikit.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	30.8	22.2	31.7	22.6	32.4	22.9	30.8	25	30.6	21.7	28.5	23	31.8	23.8	32.2	24
2	31.2	23	31.9	22	32.7	22.7	31	25	28.8	23	28.9	23.4	30.7	23.9	30.4	23.2
3	32.4	25.7	31.6	23	33	22.6	31.5	24	29.3	22.7	30.1	23.4	31.7	23.4	32.5	22.6
4	31.8	26.7	31.1	22.9	29.8	22.8	29.5	23.7	28.8	21.7	29.3	23	29	22.5	29	23.6
5	31.5	26.7	31.2	22.3	32	22.5	30.5	23.4	27	21.7	28	23.8	30.2	22	30	21
6	29.9	23.4	32	21	31.6	22.2	29.5	23.3	29.9	19.7	29.4	22	31.2	22.1	31.4	21.3
7	31.4	24.2	32.1	21.8	32.8	22.5	29.8	23.5	31.3	22.2	29.3	22.9	31.7	23	32.6	21.3
8	30.4	24.3	31.4	22	32.4	22.9	30.9	23.5	30.3	21	29.3	23.8	31.5	22.3	32.9	22.3
9	30.7	22.7	30.8	22.5	31.9	22.8	31.2	23.7	31.2	23.7	33.5	24.2	30.7	22.7	33	22.2
10	29.5	24.1	31.7	23	33	23.2	29.6	24.4	29.3	23	31.2	23.3	32.2	22.2	32.5	22
11	30.5	22.3	32.3	20.9	33.1	22.5	23.4	30	22.7	23	29.2	23	32.5	22.8	32	21.1
12	28	22.8	32	22.2	28.7	23.1	31	23.6	30.2	23.3	30.2	23.5	31.4	23	32.1	21.4
13	27.7	23.5	28.8	23	27.4	22.4	29.3	23.3	28.9	23.3	28.5	22.9	28.2	23.4	28	22.3
14	27.3	22.8	29.3	22.8	29.7	22.1	30.6	23	30.3	22.7	32.6	22.7	30.2	22	31.4	21.4
15	27.6	21.8	29.6	22.6	30.5	23.1	31.1	23.1	30.8	23.4	31	23.5	31.3	23	32	22.1
16	30.2	22.5	30.9	21.9	32	22.7	30.1	23.2	30.5	23.9	28.7	23	31.7	22.6	33.4	21.2
17	28.2	22.8	31.3	22.2	32	22.8	31.2	23.6	29.9	23.3	28.9	22.6	32.7	22.1	31.7	21.4
18	29.6	23.1	31.4	21.7	33	22.7	30.5	23.5	29.8	23.7	28.4	22.6	31.7	22.5	32.7	22.1
19	29.6	23.5	30.4	21.6	31.3	22.9	30	23.4	29.8	24	30.5	22.5	31.7	23.1	32	22.2
20	29.5	27	30.1	22	31	22.4	30.3	23.1	29.8	22.8	31.1	21.9	32.2	22.5	32	20.2
21	28.8	26.8	29	21.1	29.3	21.2	29	22.2	28.6	21.7	32.1	22	29.6	21	31.6	19.2
22	29.3	26.4	30.7	18	31.3	19.4	28.1	22.3	28.4	22.9	31.2	22	30.3	18.9	31.4	18.1
23	29.2	24.3	31.4	17.4	31.7	18.3	22.1	21.6	27.5	21.5	32.8	21.4	30.2	20.5	31.2	17.3
24	29.1	21.7	31	18.5	29.8	19.9	30.2	21.6	30.3	20	31.2	21	30.7	19.8	32	18
25	28.5	19.9	31.5	19.9	31.3	21.4	30.3	24.1	28.3	20.8	31.2	20	31.2	19.4	32.4	17.3
26	29.3	19.8	31.8	20.5	31.8	21.1	30.1	24.2	30.3	21.7	31	20	31.7	21.2	33.4	18.3
27	28.4	21.6	30.8	20.4	31.4	21.5	31.3	23.3	30	23.4	32.1	22	30.5	21	33.6	21.1
28	29.6	22.2	29.4	22.5	29	22.4	23	23.4	30.3	23.4	30.7	22.8	27.2	21.5	29.9	21.2
29	28.9	23.6	30.9	24	32.1	24.7	23	23.6	30.8	23	31.7	22.4	31.7	21.5	33.8	18.1
30	28.9	23	29.9	23.9	32	23.2	30.6	23	29.5	23.4	31.3	22.4	30.7	21.8	32.5	20
31	28.6	23	31.6	22.9	32.4	23.4	31.8	23.3	29.9	23	32.6	22.4	30.7	22.6	33	22.1
Mean	29.6	23.5	31	21.7	31.4	22.3	30.4	23.4	29.7	22.5	30.5	22.6	30.9	22	31.9	21

Day.	Bual, Dulauan.		Cotabato.		Naganaga, Margosatubig.		Malabang.		Cateel.		Ganasi.		Camp Kalao, Monkayo.		Camp Keithley, Dansalan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	32.7	23.9	31.1	23.9	34.7	22.3	30.6	22.8	30.2	22.8	29.8	19.2	32.2	20.1	27.3	18.4
2	31.1	23.1	30.2	23.1	33.5	22.5	29.8	22.6	29.2	22.2	30	19	30	20	27.8	19.1
3	32.4	23.4	31.2	23.4	34.5	20.2	30.2	21.8	30.7	22.1	27.5	18.8	31.6	22	27.8	18.4
4	28.6	23.1	33.3	22.2	29.8	22.5	29.8	22.5	29.5	23	29	19.5	29.5	22.5	25.4	19.5
5	31.4	22.2	34	22.8	29.6	22.2	30	22.2	30	22.2	28.9	20.2	32.5	21.5	25.4	18.1
6	32.5	22.6	33.5	22.2	30.4	21	30.4	22.3	30.4	22.3	28.2	18.2	32	22.4	26.5	19.5
7	32.5	22.9	31	22.9	33.5	22.5	30.8	21.3	30.8	23.4	28.5	19.5	30.5	22	28	18.6
8	32.5	23.5	31.6	23.5	34	20.3	31.2	21.2	30.4	23.4	30.8	18.4	31.1	21.5	27.1	18
9	32.4	23.4	32	23.4	35.2	21.5	30.2	21	31.1	23.1	29.3	19.5	32	22.4	27.8	19.4
10	32.8	23	31.6	23	33.5	22.2	30.6	21.4	30.2	21.8	28.6	17.3	31.9	21.9	27.3	18.1
11	32.6	22.6	31.9	22.6	34.3	20.2	30.2	22.5	30.4	22.5	29.5	18.7	31	21.5	26.7	17.9
12	32.9	23	31.7	23	33.2	20.5	30.4	21.6	30.8	22.8	30.5	18.3	31.5	22.4	26.3	19
13	28.2	23.1	29.5	23.1	32	21.5	29.6	20.8	30.7	23	31	19.5	27.2	21.9	26	18.7
14	31.3	23.4	30.7	23.4	33.5	22	30.2	20.7	29.4	23	28.2	18.5	29.5	20.9	25.4	18.5
15	31.5	23	29.6	23	34.7	22.5	29.4	22.3	30.5	23.4	29	19.6	31	21	26.8	19
16	32.4	22.9	31.8	22.9	35	21.5	30.6	21.7	30.6	21.7	29.5	18.7	32.4	21.9	26.6	18.1
17	31.2	23.4	30	23.4	33.7	22.2	29.6	21.6	30.8	21.8	28.2	18.5	31.9	21	25.9	18.1
18	31.4	23.1	29.5	23.1	34.7	20.5	29.8	21.4	31.9	22.8	28.3	19.5	31.9	21.6	25.8	19.5
19	32.3	23	30.2	23	33.5	21.5	30.8	21.6	31.5	22	29	20.4	31	20.8	25.3	18.5
20	32	21.5	30.8	21.5	33.5	22.2	30.6	21.4	31	23.2	28.8	20.3	31.4	20.4	23.6	18.5
21	30.7	20.9	29	20.9	34	22.5	31.4	21.2	30	23	27.7	19.3	29.5	19	24.3	16.8
22	31.4	19.8	29.2	19.8	35.7	21.5	31.2	21.8	31.1	22	28.5	17.2	31	18	23.3	16.2
23	31	17.4	29.2	17.4	35.5	22.3	31.6	21.8	29.7	18.5	27.6	16.8	30.4	17	23.4	15
24	30	28.8	28.8	19	34.5	20.27	31	21.8	29.8	18.8	26.9	17.4	30.3	18	24.2	15.2
25	31.5	18.4	30.1	18.4	33.5	22.2	30.6	21.4	30	19.8	27.6	16.5	30.5	18	23.2	14.3
26	32.4	23	29	23	33	23.5	29.8	21.4	28.9	21.9	28.5	18.8	27.9	20.5	24.8	15
27	33.5	22.4	32	22.4	34.5	22.3	29.6	21.6	27.8	21.5	27.6	17.5	25	21.4	25.9	16.6
28	31.1	20.6	30.6	22	35.5	23.2	29.4	20.8	26.6	22.6	30.2	17.3	26	20	24.6	18.1
29	33.2	21.2	32.4	21.2	34.2	22.2	31.6	21.8	27	22	29.7	18.4	30	20	24.5	18
30	32.5	21.4	30.7	21.4	33.5	22.5	31.4	21.6	29.3	22.3	30	17.3	29.5	20.9	25.4	16.7
31	33.4	22	31.2	22	35.5	23.7	31.6	21.4	29.5	22.2	28.9	18.5	30	21.9	25.3	18
Mean	31.8	22.1	30.5	22.1	34.1	22	30.4	21.6	29.9	22.2	28.9	18.6	30.4	20.8	25.7	17.8

Maximum and minimum temperatures at the stations of the Weather Bureau, December, 1920—Ctd.

Day.	Veruela.		Sumilau.		Cagayan.		Talacogon.		Butuan.		Mambajao.		Dumaguete.		Meeth, Yap.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.8	22.8	29.5	19	29.2	19.2	32	21	33.3	23	29.1	22.8	30.4	23.2	32	23.1
2	27.3	22	27.5	18.3	29.5	19.3	32	21.7	30.2	22.6	29	23	31	22.8	31.3	23.5
3	30.8	22.1	27.4	18.3	31	20	31.5	21.3	32.4	21.8	29.3	22.5	29.9	22.8	32.7	24.7
4	28.9	23.3	27	19.5	29.2	18.6?	30	21.7	28.4	22.9	28	23.4	29.7	23.4	32	25
5	32.8	22.1	27	18.6	30	19.4?	30.2	21.3	31	22.7	29	23.3	29.5	24.1	30.8	25.4
6	31.8	23.7	27.6	17.9	30	19	32.4	22.6	32.6	22.5	29.8	22.5	30.6	23	31.7	24.4
7	32.3	23.4	28	18	30.6	19.8	31.5	23.2	33.1	22.7	30.1	22.6	29.9	23.3	32.2	25.5
8	32.4	23.2	28.3	19	31.5	19.5	30.8	23	32.8	22.9	30.1	22.8	30.7	23.2	32.3	24.3
9	28	23.8	27.4	17.9	31	22.2	31.2	23.1	29.6	23.2	30.1	24.5	30.9	24.5	31.4	24.5
10	30.8	22.6	29.4	17.5	30.8	20.8	30.8	22	32.1	22.2	30	24.4	30.6	24.3	31.8	24.4
11	30.5	22.8	29.4	17.8	31.2	21.8	31.6	22.4	31.6	22.4	29.8	24.3	30.7	24.8	31.7	24.3
12	30	23.6	29.2	20	31.2	22.2	30.7	22.4	32.3	22.7	30	24.9	31	25.8	32.2	25.1
13	27	23.2	27.6	18.3	30.5	22.1	31.5	23.2	28.5	22.1	28.3	23.1	30	23.8	32.8	25
14	30	22.2	28.3	17.5	30.2	21.5	31.6	21.2	29.7	20.7	27.3	23	29.4	24.4	31.1	24.5
15		23.6	29	19	30.5	21.9	32.4	23.2	31.7	23	28.8	23.8	30.7	24.3	31.1	25.2
16	31.6	22.7	29.7	17.5	30.6	21.3	31.7	23.2	32.6	22.7	28.9	24.8	30.1	24.5	28.5	22.2
17	30.2	22.3	27.5	17.4	30	21.6	33.2	22.2	30.1	22.3	28	24.3	29.8	24.8		
18	32.8	23.2	26.1	19	30	23	34.2	24.3	31.1	22.9	29.4	22.8	30.6	24		
19	29.6	21.7		17.3	30.2	23.1?	33.4	21.2	29.1	23.7	29.6	23.3	29.9	23.9		
20	29.6	21.7	26.1	19	30	23	34.4	22.2	29.6	22.2	29.3	23.4	30	24.2		
21	29?	19.7	25.3	17.3	29.4	21.2	32.2	20.2?	29	21.5	29.5	22.2	29.5	21.4		
22	30.2	19.7	25.1	18	29.5	20.4	31.5	20	28.6	21.9	29.2	23.4	30.8	22.8		
23	27.8	18.2	25.3	15.6	29	19.4	32.2		28.9	20.9	28.6	22.8	29.9	19.4		
24	30	19.5	26	14.5	29.2	19.2	31.6	20	28.1	19.3	27.3	22.6	28.3	23.6		
25	30	19.2	26.5	13.6	29.8	18.6	32	21.7	29.9	18.5	27.1	22.6	28.5	22.6		
26	25.3	21.3	26.7	15.9	30	19.2	33	21.2	29.9	20.7	25.7	22.5	28.4	22.7		
27	28.3	21.4	27.3	19.6	31	22.4	32	22.2	29.8	22	28.4	22.5	28.9	22.6		
28	25.3	22.6	25.6	19.1	29.2	21.4	31.7	20.2	28.1	22.3	26.8	23.9	28.3	24.3		
29	28	21.2	28.2	16.2	32.7	19.8	34.2	21.1	29.4	20.2	26.5	23.2	29.8	23.2		
30	28.6		25.3	20	30.4	19.7	30.4	20.3	32	21.2	28.5	23.5	28.6	24.6		
31	28.6	22.7	27.6	20.7	32.4	22.3	34.7	22.3	29.6	22.2	27.9	24.5	28.2	23.2		
Mean	29.6	22	27.4	18	30.3	20.7	32	21.9	30.5	22	28.7	23.3	29.8	23.5		

Day.	Tagbilaran.		Iwahig Pental Colony, Puerto Princesa.		Dalaguete.		Surigao.		Hacienda Naval, Hima-maylan.		Biaong Cui's Farm, Barili.		Maasin, Leyte.		Isabela, Occidental Negros.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.8	22.8	31.4	21.8		23	29	23.1	31.5	21.4	28.1	22	33.4	22.5	32.3	20.9
2	29.6	23	29.8	23.2	30.5	23.4	26.3	23.9	31.5	22.8	29.5	22.5	31.4	22	31.5	21
3	29.4	22.5	31	21.2	29.8	23	29	23.2	30.5	22	28.1	22.1	31	22	30	21
4	29	22.4	32	21.4	29.4?	23	25.5	23.5	30	21	28.3	22	32	21.6	30.5	20.7
5	29.1	22.5	30	21.7	29.7	24	29.2	23.4	28	22	28.1	22	31.2	21.4	27.7	
6	30.1	23.5	29	22.8	30.4	23.9	29.4	23.2	28	22	29	22.1	34.5	23	30.8	21.5
7	30	22.7	29.7		30.4	23	30.5	23.2	32	22	28.5	22	34	22.8	30.5	21.7
8	31	22.6	30.7	22.5	30.2	23.4	29	23.2	31.8	22	28.1	22.2	34.6	22	31?	21.6
9	30.2	23.1	30.2	23.5	30.2	24.8	30.6	24	31.5	21.5	28.5	22.5	33.5	24	30.4	21.3
10	31.4	22.7	30.4	22.7	30.1	24.5	30.8	23.8	31	22.3	28	22.1	33.6	23.6		20.7
11	31.8	22.5	31.4	22	30.5	25.4	30.7	23.6	32	22	28.5	22	33	22.2	32	22.4
12	32.7	23	31.4	22	30.6	25	29.6	22.9	33.5	22	28.7	22	35	23	32.6	21.7
13	30.7	22.4	30.8	28	29.6?	24.7	27.3	22.8	33	20.5	29.5	22.1	34	22	31.5	20.9
14	30	22.5	30.5	21.5	29.2	25.1	27	23.2	33.5	20.5	28.2	22.1	32.4	22.4	31.6	21.8
15	31.9	22.8	29.8	22	29.8	23.5	28.8	23.8	34.5	23.5	27.2	22	32	21.8	32.2	22.6
16	30.8	23.4	30.2	21.5	29.2	24.8	29.2	23.9	31	23	28.3	21.8	33	22.6	30.7	23.4
17	29.4	22.5	27.5	22.7	29	24.7	26.9	28.4	31	22.5	28.3	22	32.8	22	31.8	21.1
18	30.2	22.3	25.5	23.4	30	22.4	27	23.8	31.5	20	29.1	22	32	22.1	30.2	20.8
19	29.3	22.2		22.4	30.1	23.4	28.2	24.5	30	22.5	28.5	22	30.1	21.6	29.5	20.5
20	30.3	21.6	30	21	30.4	24.7	27.6	24.6	30.5	20.4	28.2	21.5	30.4	21.2	29.7?	19
21	29.8	19.9	30	20.4	29.8	22.8	28.8	23.8	29.5	20	27.5	21.2	30.6	19.4	29	18.2
22	29.6	19.4	30.4	20.2	30.3	21.3	27.4	22.1	29.5	22	27.2	20.1	30.6	19.1	29.5	18.5
23	29.8	19.5	29.4	19.4	30.2	22.2	28.2	20.7	30.5	19	28.1	19.8	30.4	20	29.7?	20.5?
24	29.7	19.3	29.8	19.5		22.8	28.1	21.3	29.5	17.8	27.3	21.5	32	20.6	28.1	
25	29.2	20.3	29.4	19.4	27.8	22	28.1	23	30.5	20	28.1	21.5	31.6	19.5	29	20.8
26	29.1	21.5	28.8	18.5	28.8	22.6	26.7	23.5	31	21	28	21	29.5	19.3	30.5	20.5
27	27.7	22.3	29.2	21.2		23.2	28.4	24.4	31.5	21	28.2	20.3	31.6	21	29.8	22.8
28	29.2	21.6	29.6	24	27.6	23.5	27.3	24	33	22	27.3	20.4	31.5	21.5	30.5	22.5
29	30	20.4	29.3	21.6	29.1	23	26.8	22.7	33	21.5	27.1	20.1	30	21	31.4	21.6
30	30	20.4	30.4	21	28.3?	23.2	28.9	23.4	33	23.4	28.2	21.8	33	22	31.4	23.4
31	29.4	22.5	31	21.1	28.5	24.2	27.3	23.5	31.4	21.8	28	22.1	29.6	22.9	29.7	20.3
Mean	30	21.9	30	21.6	29.6	23.6	28.3	23.3	31.2	21.5	28.2	21.6	32.1	21.7	30.5	21.1

Maximum and minimum temperatures at the stations of the Weather Bureau, December, 1920—Ctd.

Day.	Hacienda Tanolo, Hinigaran.		Cebu.		La Castellana.		Central Azucarera de La Carlota.		Hacienda Canlaon, La Castellana.		Mao Sugar Central, Bago.		Valladolid.		San Joaquin.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	21	30.8	23.8	34.2	20.2	31.7	21.6	31.3	20.7	32.5	21.2	33.2	21.9	33.2	23.2	33.2
2	23	30.3	24.2	31	22	30.9	23.3	31.9	22	31.7	23.2	33.2	23.2	33.2	23.2	33.2
3	22.1	31	24.5	31.5	21.1	30.3	21.7	32.1	21	31	21.7	33.7	21.5	33.7	21.5	33.7
4	21.5	30.7	23.9	31.5	21	30.7	21.3	31.9	21	31.4	21.6	32.2	22.3	32.2	22.3	32.2
5	22.7	30.2	23.7	31.8	21.4	27.5	22	29.1	21.2	27	22.5	28.9	23.2	28.9	23.2	28.9
6	22.1	30.3	24.4	32.8	21.6	31.7	21.7	33.8	21.9	31.8	22.4	32.7	23.4	32.7	23.4	32.7
7	22	30.6	24.3	33.6	21.5	32.3	21.8	34.8	21.8	32	22.4	32.5	22.9	32.5	22.9	32.5
8	22	31.3	24.9	33.5	21.3	32.7	21.3	32.2	21.8	33	21.7	32.2	22.3	32.2	22.3	32.2
9	22.5	30.4	24.9	31.5	21.6	31.7	22	32.7	21.9	32.4	22	32.4	22.7	32.4	22.7	32.4
10	21.9	30.3	24.7	32.3	21.2	31.9	20.5	31.2	21.2	32.5	20.7	32.2	21.7	32.2	21.7	32.2
11	21.9	30.5	25.3	32.8	21.5	33.3	20.8	31.3	21.7	33.7	21.3	33.2	23.27	33.2	23.27	33.2
12	22.5	31.3	25.6	33	20.6	33.2	21.3	34.8	21.2	32.9	21.6	32.2	23.7	32.2	23.7	32.2
13	21.5	31.3	24.9	32.5	20.6	33.1	21.2	33.7	20.8	32.5	21.8	32.4	23.5	32.4	23.5	32.4
14	21.5	30.4	24.7	33	20.2	32.1	20.2	33.9	21	31.5	21	32.4	23.57	32.4	23.57	32.4
15	22.4	30.6	25.4	33.5	21	33.5	21.1	34.8	21	33	23.4	32.5	23.4	32.5	23.4	32.5
16	23	29.3	24.8	32	20.7	30.8	22.5	32.2	20.2	31	23	30.2	22.7	30.2	22.7	30.2
17	22.2	30.3	24	32.5	20.5	30.1	21.3	32.7	21	30.1	21.5	31.2	22.6	31.2	22.6	31.2
18	20.6	30.9	24.7	31.2	20	30.4	20.7	32.4	21.1	30.8	20.5	31.7	22.7	31.7	22.7	31.7
19	23	30	24.8	30	20	30	21.4	30.4	22	30	22.3	30.2	23.7	30.2	23.7	30.2
20	20.1	29.4	24.4	31.5	19.2	30.1	20.9	31.3	21.4	30.2	22.3	30.7	21.7	30.7	21.7	30.7
21	18.2	29.5	22.7	29.5	18	29.5	17.7	30.4	18.7	31.2	19	30.5	19.7	30.5	19.7	30.5
22	19.4	29.4	22.6	29.5	18	29.6	19.4	30.3	19	29.4	19.6	31	20.7	31	20.7	31
23	18.6	29.3	22.2	30.7	21	30.5	17.4	31.7	19.4	29.8	19.3	31.6	19.27	31.6	19.27	31.6
24	18	28	22.3	29.5	19.1	29.6	16.37	33.5	19.7	29.5	16.7	30.5	19.7	30.5	19.7	30.5
25	17.2	28.5	21.8	29.5	20	29.7	16.7	32.4	19.4	30	18.5	31.2	18.2	31.2	18.2	31.2
26	20	28.7	23	30.5	20	31.4	16.9	31	19.9	31.3	21.3	30.2	21.7	30.2	21.7	30.2
27	22.7	28.9	22.4	31.2	20.8	30.3	21.5	30	19.8	32.2	23.1	30.7	22.27	30.7	22.27	30.7
28	22	29.5	24.7	32	20.2	32.9	19.8	31.9	18.6	33.1	20.5	32.4	22.7	32.4	22.7	32.4
29	21.7	29.6	23.3	33.2	20.2	32	19.5	33	18.4	32.5	22.9	32.2	21.8	32.2	21.8	32.2
30	22.4	29	23.5	32.6	21	31.9	19.8	32.6	19	32	20.3	32.7	23.2	32.7	23.2	32.7
31	22	28.5	24.1	31.5	20	31.5	19.3	31	19.5	31.9	19.8	31.2	22.4	31.2	22.4	31.2
Mean	21.3	30	24	31.8	20.5	31.2	20.4	32.1	20.5	31.4	21.2	31.7	22.2	30.9	22	30.9

Day.	Murcia.		Bacolod.		Oton.		Iloilo.		San Jose de Buenavista.		Tuburan.		Silay.		Cuyo.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.6	21.4	30.1	30.6	23.5	30.7	24.2	30.8	23.2	30.2	21.9	31.2	21.5	30.9	25.6	
2	31.6	21.6	29.5	31.8	23.6	32.3	23.2	31.3	22.2	27.7	22.8	29.9	21.2	32.3	23.3	
3	31	21.7?	30.5	32.2	23	30.4	22.9	30.3	22.7	31.2	23.1	29.5	21.5	30.5	24	
4	30.2	22.3	30.5	31.1	22	31	23	30.8	21.6	29.3	22.9	30.4	22.5	30.4	25	
5	28.5	22.5	26.2	27.3	23	26.7	23.3	26.8	22.7	26.4	22.4	26.5	20.2	27.5	23.9	
6	29.4	21.8	28.9	30.2	23.5	30.8	23.7	31.7	23	30	22.9	29	20.5	29.9	23.5	
7	31.1	22.5	30.4	31.4	23.6	31.7	23.6	31.5	23	31.3	23.3	31.5	21.2	29.5	24.6	
8	30.2	21.8	29.8	31.2	23.5	30.8	23.9	30.4	23.1	30.7	23	30.5	23.5	31	23.9	
9	30	21.6	30	32.2	23.2	30.4	23.9	31.1	22.6	31.1	23.1	29.5	22	31	24.5	
10	32.1	21.4	30.7	32.4	23.1	30.8	24.3	31.3	21.4	32	23.8	30	22.1	31	23.8	
11	32.7	21.8	30.7	32.6	23.4	31.9	24.3	31.2	22	32.1	22.7	30.4	20.4	31.3	25.6	
12	31.2	21.4	30.5	32.8	23.5	30.8	24.3	31.9	21.8	30.5	23.4	29.4	22.5	31	26.6	
13	34.7	21.9	30.1	31.7	23.3	30.3	23.9	31.7	20.5	29.7	22.4	29	22.9	30.3	26.6	
14	30.1	21.8	29.9	31.6	23.2	29.3	23.4	32.4	21.5	30	23.2	29	23.6	30.5	25.5	
15	30.2	21.9	30.4	31.7	23.2	30.2	23.4	32	21.1	29.4	22.9	29.2	22.6	30.6	25.4	
16	31.3	22.8	28.6	30.2	24	28.9	23.8	30.5	22.5	27.6	23.9	28	23	29.5	25.8	
17	29.2	22.9	29.4	30.2	23.5	29.5	23.9	32.1	21.2	29.1	22.4	28	22.5	30	26.1	
18	29	22.5	28.7	30.2	22.5	29.8	23	31.5	21	28.4	22.7	28	22.7	30.3	26	
19	29.3	22.9	29.7	30.7	23	29.8	23.7	29.8	19.9	28.2	24.3	28.5	23.2	29.4	26.4	
20	29.4	22.5	28.9	30.2	22	29.2	22.6	30.3	19	28	25.4	29.2	22.5	28.8	25.8	
21	28.7	20.2	29	30.2	21	28.7	21.1	29.9	18.5	28.8	21.1?	30.5	23	28.3	24.9	
22	28.4	20.3	28.6	28.8	21.8	27.9	21.9	29.7	18.5	28.2	24.3	28.2	22.8	27.9	24.5	
23	29.3	20.2	29	30.2	19.1?	29.3	20.5	30.3	18	29.3	23.7	30	22.4	28.4	24.1	
24	28	20	27.8	29.2	20	28.3	20.4	29.1	18.9	27.7	20.7	27.4	22.4	28.4	24.1	
25	29.2	20.1	28	30.1	20.1	28	19.5	30.3	19.2	29.2	18.1	28	19	28.3	23.5	
26	28.4	21.7	29.2	30	21.5	29.3	21.3	31.5	18.7	28.7	21.5	28.5	20.2	29	24	
27	28.6	21.8	28.8	31.2	22.5	28.2	22.5	30	22.3	28.3	23.4	28.4	20	29	24.2	
28	30.1	22	29.7	31.2	22.8	29.2	23	32.2	21.3	29.8	22.9	28.5	22.2	29.9	24.9	
29	30.5	22.1	29.4	31.4	23.1	28.9	22.7	31.3	19.2	28.2	21	28.5	22.5	28.5	25	
30	31.6	20.2	30	31.2	23	29.7	23.3	30.5	19.6	28.8	20.1	29.5	22.5	30.6	24.4	
31	31.5	20.4	29.5	31.6	22.8	30.5	23.1	31.9	19.8	28.2	22.1	28	22.4	28.2	24.7	
Mean	30.3	21.6	29.4	30.9	22.6	29.8	23	30.8	21	29.3	22.6	29.1	21.9	29.7	24.8	

Maximum and minimum temperatures at the stations of the Weather Bureau, December, 1920—Ctd.

Day.	Barotac Nuevo.		Hacienda Ilaya, Victorias.		Hacienda Bilbao, Manapia.		Cadiz.		Dingle.		Ormoc.		Guiuan.		Bogo.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.8	23.2	30	22.5	30.6	21.3	30.1	22.4	32	22	30.5	22.2	30.6	23.5	29.6	22.4
2	30.9	22.5	29.8	22.7	29.9	21.2	30.2	22.4	31	22.1	31.4	22.4	27.6	24.1	29.5	23.7
3	31.4	23.57	30.5	23	31.4	22.1	30	22.4	32.1	22.1	32.9	22.7	30.7	24	28.3	22.9
4	32.5	22.6	30.5	22.8	30.9	21.6	31	23.1	31	22	33	21.4	29.1	23.6	29.8	22.3
5	29.5	22.9	29	21.2	29.9	21.4	30	22.1	28	22.5	27.8	21.4	31.4	22.4	29.6	22.3
6	32.3	23.3	30.7	22.7	29.7	20.8	30.3	22.9	32	23	32.5	22.4	31.6	25	28.9	23
7	32.5	23.2	30.6	22.5	30.4	20.9	30.4	22.8	33.1	23	32.8	23	31.4	24	29.8	23.1
8	33.3	23.5	29.3	22.8	29.6	20.4	30.2	22.2	32.5	23.1	33.9	22.9	28.9	23.5	30.1	28.4
9	30.8	22.9	31.2	22.8	30.8	21.2	29.5	22	31.1	23	32.8	22.2	32.5	22.9	30.2	23.9
10	32.3	23.1	30.3	23.2	30.4	21.7	30.3	21.8	32	23	33	22.4	32.5	23.8	30.8	24
11	31.3	22.9	30	23	31.2	22.1	30.1	22.7	32.4	21.5	32.6	22.6	32.7	22.4	30.4	23.8
12	31.3	24.1	31.5	23.3	30.7	21.2	30.2	22.8	32	23.1	32.5	22.5	32	25.8	30.5	23.5
13	30.7	23.4	31.5	23.9	31.4	21.8	30	24.7	31.5	22.1	33	22.1	31.2	24	30.4	28.4
14	30.3	22.9	30.7	23.6	30.8	20.6	29.4	25.3	31.1	22	32.8	22.9	30.5	23	30.5	23.5
15	30.7	22.5	30.2	23.4	30.4	20.8	29.6	24.8	31	22	29.8	23	31.6	24.1	30.4	23.2
16	29.3	22.4	29.6	23	31.1	20.7	27.6	22.9	29	23.1	28	23.1	31	23.6	30.3	23.8
17	30.3	23.4	30	23.5	30.7	21.3	29.5	23.9	30.1	22.5	29.9	22.5	31	24	29.8	23.6
18	30.4	22.9	29.5	23.5	29.8	20.8	29	23.5	30	23	30.6	23.1	31.4	23.7	30.2	23.4
19	30.1	23.1	30.2	24	31.4	20.1	29.2	22.1	30	23	31.5	22.2	29.4	24	30.3	23.9
20	29.6	21.1	31	23.4	30.8	20.9	29.3	24.8	30.2	22.1	30.5	22.9	30.8	23.7	30.2	23.9
21	29.7	20.7	31	23.6	31.6	21.4	29	21.8	28	20	31.1	19.6	29.4	22.8	30.5	23.9
22	29.6	21.5	30.8	23.2	31.7	21.9	28.5	23.2	29.1	20	30.9	19	29.4	23	30.2	23.7
23	27.3	19.9	30.4	23	31.9	22	29	24	30.5	18	29.9	17.9	30.7	22.6	29	23.4
24	29.3	19.57	30.8	22.2	31.8	22.1	28.2	22.8	29	18.5	29.9	17.7	29.5	21.7	29.4	23
25	29.4	19.3	31.2	22.4	30.7	21.8	29.1	24	29	19.5	30.3	17.6	30.6	22.9	29.5	22.3
26	29.3	19.8	30.7	23	30.6	21.8	29.4	23.4	30	19	30.7	20.4	29.7	22.5	27.4	23.2
27	29.6	22.5	29.5	23	31.8	22	27.5	23	29.5	22.5	29.4	21.7	30.1	22.3	27.7	23.3
28	29.3	22.3	29.7	23.3	31.9	22.3	28.3	22.7	30	22.1	32.1	22.7	31.2	24	29	23.5
29	29.1	20.8	30	23.5	31.6	22	28.1	24.2	30	22	30.9	21.4	30.7	23.4	29.7	24
30	29.6	22.2	30	23.6	30.8	21.7	28.6	22.6	30.1	22	30.4	21.7	31.5	24.2	29	23.8
31	29.5	21.7	31.2	23	30.4	21.8	27.9	23.1	30	22	30.9	21.3	30.5	23.4	29.7	23.4
Mean	30.5	22.2	30.4	23.1	30.9	21.4	29.3	23.1	30.6	21.8	31.2	21.6	30.7	23.5	29.7	23.4

Day.	Tacloban.		Capiz.		Borongan.		Catbalogan.		Calbayog.		Masbate.		Romblon.		Batag Light-house, Laoang.	
	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.	Maxi-mum.	Mini-mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.9	23	30.8	23.4	30.1	23.8	29.4	-----	29.6	23.3	29	22.6	30.1	23.4	25.5	22.6
2	25.9	23.3	32.8	23.5	26	23.5	25.6	-----	26.9	23.5	29.6	25	29.5	24.2	27.5	22.5
3	31.9	22.8	32.2	23.5	30.8	21.6	29.5	-----	31	22.3	30.4	24	31	23.2	30.1	22
4	29.6	21.5	32.3	23.5	27.8	22.5	28.4	-----	30.7	22.4	30	24.5	29.7	23.2	30	23.4
5	25.9	21.6	30.3	23.7	27.3	22.9	26	-----	28	22.8	27.4	23	28.4	22.3	28	22.1
6	30.9	23.2	32.3	24.8	30.2	24.3	29.3	-----	28.2	23.6	30	24.2	27.5	24.4	28.5	23.5
7	31	23.4	32.3	23.9	31.1	23.5	31	-----	30.3	23.2	29.8?	24.8	30.7	24.6	28	22.5
8	30.1	23.4	31.3	23.6	27.7	23.5	28.4	-----	28.4	23.1	28.2	24.6	29	24.2	30	23.4
9	32.2	23	32	23.5	31	22.8	32.5	-----	31	22.3	29.8?	24.5	31	23.7	29.5	23.4
10	31.4	23.3	32.5	24.6	30.7	23.4	32	-----	31.5	22.6	31	24.6	30.1	24.2	29.9	25.1
11	32.6	23.3	32.4	24.4	31	22.8	31.4	-----	31.7	22.6	30.4	24.8	31.4	24.7	30.1	23.9
12	31.6	23.4	32.6	25.9	30.4	25.8	31.3	-----	30.4	23.1	30	24.4	32	24.6	29.5	23.3
13	31.8	23.2	32	24.5	30.3	23.8	29.6	-----	27.8	22.1	30	23.6	32	23.1	26	23
14	29.8	23.5	31.8	24.4	30	22.8	31.2	-----	30.6	20.8	30	23.5	30.5	24.2	28.5	23
15	29.9	23.3	31.9	24.4	30	25.7	29.5	-----	30	22.2	29.8	24.2	32	22.2	29.5	24.4
16	29.2	23	29.8	24.4	28.4	23	27.4	-----	26.9	22.7	27	22.8	27	23.2	28.9	22.4
17	29.9	23.5	31.4	24.9	30	24.8	29.4	-----	30	23.3	29	23.5	30.1	23.7	28.9	23.3
18	29.7	23.5	30.4	24.9	30.6	23.5	30.5	-----	29.7	22.9	29.6	25	30	23	29	24
19	29.4	23.6	31.9	25.4	28.4	24	29.5	-----	29.5	22	28.8	25.5	31	24.1	28.5	24.9
20	29	23.1	31.3	24.5	29	23.3	29.4	-----	28.8	21.1	28.2	25.2	29.7	23.8	27.2	22.9
21	28	22.3	30.8	22.5	28.7	22.6	28.2	-----	28.6	19.3	28	23.2	29.5	21.5	27.8	22.8
22	28	22.6	29.8	24.2	28.7	23.2	28.3	-----	27.5	20	28	24.2	30.6	22.2	28	23.1
23	29	21.1	30.8	23.6	29.7	19.6	28.8	-----	29	19.2	28	24.4	29.1	23.1	28.5	23
24	29.4	18.3	30.3	21.5	28.7	19.3	28.5	-----	28	18.1	27.8	21.5	28.2	21.6	27.1	23.1
25	28.7	19.8	29.3	22.5	29.1	18.8	29	-----	29	18	28.4	22	28	21.1	27	20
26	28.9	21.6	30.3	22.5	27.8	22.7	27.5	-----	28.2	20	27.4	20.4	29.5	21.7	26.8	20.4
27	29	22	29.8	23.5	29.6	24.4	28.3	-----	28.2	22.8	27.4	22	29.2	22.8	26.8	21.7
28	30	22.1	31.3	23.5	30.1	25.4	29.5	-----	30.1	21.9	29	22.2	30.1	23.2	28.4	21.8
29	26.2	22.2	30.8	23.9	26.6	22.2	28.5	-----	29	20.5	28.4	23	30.1	23.3	27.2	22.6
30	30.1	21.3	31.4	24.5	29.6	22	30	-----	29.4	20.3	29.4	23.6	30.6	22.9	29	22.5
31	28	22.3	30.9	23.8	28.3	23.8	29	-----	29.8	21.6	28.4	22.6	29.9	22.9	28.8	22.8
Mean	29.6	22.5	31.3	23.9	29.3	23.1	29.3	-----	29.3	21.7	29	23.7	29.9	23.2	28.3	22.9

Maximum and minimum temperatures at the stations of the Weather Bureau, December, 1920—Ctd.

Day.	Irosin.		Sorsogon.		Bacon.		Legaspi, Albay.		Guinobatan.		Polangui.		Tabaco.		Sumay, Guam.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
1	27	23.1	27	23.1	26.8	23.1	27.4	24	26.9	23.2	28.5	23	31.4	23	30.2	25.6
2	24	29	29	23.6	26.9	23.5	28.7	23.6	29	23.2	29	23	27.2	22.8	30.3	26
3	21.8	30.5	30	23.5	28.7	23.2	30.8	24.6	30.5	21.2	30	22.2	28	21.2	28	24.7
4	22.4	31.5	29	23.2	29	23.9	31.4	23.8	30.5	22.4	31	22.1	30.6	23	30.2	26.5
5	22.3	28.8	28	22.5	29.3	23.1	27.2	22.7	27	22.2	31	22.4	30.2	22.1	30	24.4
6	22.7	29.5	24	22	28	24.4	29.3	24.7	29.9	24.1	31	23.5	31.8	23.5	30	25.2
7	24.1	30.8	23.6	29.7	29.7	23.9	28.8	24.6	29.3	22.8	31	23	30.3	23.1	28.7	25.2
8	26.5	20.1	27	24.6	30.5	24.4	27.3	24.5	29.2	22.7	29	22.8	28	28.3	30	24.8
9	29.2	22.7	30.5	23.5	29.8	22.7	29.6	24.4	30.1	21.2	30.8	22.4	26.5	21	30	26
10	29.5	31.3	24.5	31.2	24.3	30.3	25.1	30.6	21.2	31	21.5	25.5	30.8	23	29.8	25
11	29.8	23.2	30.3	24	30.7	23.5	31.1	24.2	31.3	22	31.9	22.9	29.3	22.1	29	25.1
12	29	23.4	30.4	24.6	29.9	25.7	31	24.2	30.3	22.7	32	22.3	30.5	23.1	29.7	25.1
13	28.8	21	30.3	22.9	30.2	25.7	29.6	24.4	30.5	20.8	31.2	21	30.3	21.6	29.7	26
14	28.2	19.3	29.5	23	29.1	23.5	29.9	24.6	30.6	20.8	31	20.5	30.9	22.8	28.7	25.5
15	28.3	21.2	29.5	23.6	29.2	25.3	28.8	23.4	30.3	21.4	30.3	21.3	30.2	28	29	25.2
16	25.9	21.8	26.1	22.8	29.2	23	26.6	22.8	25.9	22.5	30.5	21.2	30	22.1	29.2	24.4
17	28.4	22.1	30	22.7	28.6	22.4	29.9	24.6	30.3	22	30.9	21.2	27.7	21.6	29	25.6
18	29	23.2	29.6	24.4	29.4	24.7	29.1	25.4	29.6	22.3	30.5	23	30.1	23	27.8	24.2
19	31.8	22.6	29.6	24.4	29.2	24.9	29.6	24.2	28.9	24.4	29	20.8	29.2	28.1	30	26.2
20	30	22.2	29.5	24	28.7	24.4	27.4	23.1	27.8	23.2	29	21.8	30.2	21.67	29.8	24.2
21	29.5	20.5	29	22.6	28.2	24.4	28.1	22.7	28.3	22.4	28	19.9	28	22.1	26	24.7
22	28.6	21	28.6	22.5	27.7	24	28.9	23.1	28.3	21.9	28.1	18.97	28.1	22	28.2	24.2
23	29	20.5	28.9	22.8	27.6	24.3	28.8	23.4	28.3	17.2	28	15.9	30.2	21.1	30.3	23.2
24	27	28.5	21.1	21.1	27.8	22.8	28.3	21	27.2	19.2	32.1	19.3	28.2	19.2	30.2	26.2
25	26.5	20.5	28	20.9	27.6	21.5	28.2	21.2	26.3	20.4	32.1	19.3	27.2	20.1	28.3	25
26	26.6	19.9	28.5	22	27.4	22.2	27	20.8	28.2	18.27	28.1	19.5	28.4	20.6	28.3	26.2
27	26.9	18.27	28.2	24	28	22.2	28.3	23	29.3	22.5	28.7	21.5	28.7	21.7	27.6	25
28	28.1	19.97	29.5	23	28.7	23.6	29.3	23.1	28.3	22.8	29.3	20.5	29.2	21.1	28.3	25.3
29	27.8	19.97	28.4	23.5	29.2	22.5	28.3	23	29.9	18.6	29.2	19	28.4	21.8	27.5	24.1
30	28.9	19.77	29.5	23.3	28.8	23.1	30.4	22.7	30.6	23	29	22.5	29.1	21.57	27.5	25.7
31	27.7	19.6	29.5	22.6	29.2	22.8	29.1	22.5	30.1	22.1	30	21.5	30.2	21.9	27.8	24.8
Mean	28.4	21.5	29.3	23.3	28.8	23.7	29	23.5	29.1	21.8	30	21.3	29.3	22	29	25.1

Day.	Iriga.		Calapan.		Virac.		Naga, Camarines Sur.		Tigaon.		Libmanan.		Batangas.		Calatagan.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
1	28.5	21	30.4	22.2	26.8	23.2	29	23	26.1	22.9	30	24	29.3	23	30.6	23.1
2	29.8	23.1	29.2	23	28.1	22.7	28.6	23.5	28.3	23.4	29.9	23.8	28.4	23.9	30	23.1
3	32.2	21.8	30.2	23.5	30	21	31	22.7	31	21.4	31	22.9	31.3	23.4	32	22.1
4	32	22.7	30	23	30	22.2	31.6	23.8	31.2	22.9	31.2	23.7	30.2	21.6	31.5	22.3
5	27.7	21.8	28	24	28.5	22.3	25.5	23.1	26.3	23	31.5	24	26.6	23.7	27.2	22.9
6	32.1	23.5	30.5	24.5	29.5	24	31	23.8	29.5	23.3	28.7	24	31.9	24	30.2	22.8
7	28.1	22.8	30.9	24.5	29.9	23.7	29.4	23.5	27.9	23.4	31.5	23.9	30.1	20.8	31	24.6
8	27.8	22.4	29	23.5	26.8	23	27.9	23.2	25.7	23.3	28.5	23.8	28.6	23.2	29.5	23.6
9	31.4	21	29.5	23.4	30	23.4	31.5	22.5	29.2	23.1	31.2	22.2	29.9	23.3	31.4	23.6
10	31.5	21.8	30.5	24	30.5	24.2	30.2	21.1	30.4	22.2	31.4	22.2	31.5	22.8	31.7	21.5
11	32	22	30.5	23.2	31	22.3	31.4	22.1	30.8	22	31.8	22.8	32.1	22.7	32.2	23.3
12	32.1	22.3	30.5	24	30.6	22.6	31.1	21.5	31.3	22.7	30.8	24.8	31.6	23.2	33.1	24.2
13	32.2	22.3	30.8	24	31	21.4	30.7	20.5	31.3	21.1	31.8	23.6	32.4	23.2	33.1	22.2
14	32.1	22.1	29.6	23.8	30.3	21.3	30.9	21.5	31	21.3	31.9	23	31.5	22.2	31.5	23.5
15	29.9	21.3	30.5	24	29.6	22.2	31.1	19.5	30.8	20.2	31.8	21.5	31	22.7	32.1	22.7
16	32.5	22.5	29	24.5	27.2	23.1	27.1	23	26.1	22.8	25.3	23	30.4	23	31.2	22.5
17	31.3	20.9	30.4	23.2	30.5	22.8	31.4	22.4	30.2	21.5	30.1	23.2	31	22.9	32.1	23
18	29.3	23.6	29.5	22.5	31.5	22.6	28.1	23	29.1	22.8	30	23.9	30.5	23.1	31.4	23.5
19	29.6	24.1	30.1	21.5	30	21.4	29	23.4	29.3	23.4	30.2	24	31.6	20.4	31.5	22
20	29.5	21	29	22.5	29.2	21	28.5	21.7	28.5	19.9	30	22.2	28	19.9	31.1	20.6
21	28.9	21.1	29	21.1	29	20.9	28.3	20.7	28	19.9	30	21.9	29.8	19.6	31.6	18.9
22	29.4	22	29.6	23	29	20.4	28.2	20.1	28.8	18.4	30	21.9	28.5	19.5	28.6	21
23	28.8	19.4	28.8	19	29.6	18.6	28.4	21.2	28.1	20.5	29.8	22.2	28.9	17.8	30.7	16.8
24	29.1	18.6	26.5	19	28.6	19	27.5	19.4	27.4	18	29.7	22.2	25.7	17.4	26.6	20.7
25	29.1	18.2	28	20	28.7	18.9	28	18.7	28.2	19.2	29.7	19.5	28.4	17.4	31.6	19.9
26	29.8	20.8	28.1	20.5	28.7	21.2	28.5	20	29.8	18.5	29.5	19.9	29.2	19.5	32	19.7
27	30.8	23	28	22.1	28.8	23	29.7	19	29.7	21	27.7	21.9	29.8	20.9	32.4	21.6
28	30.8	22.9	29	22	28.8	22.3	30.4	20.1	29.5	21.1	29.6	22.2	29.9	22.67	30.6	22.4
29	29.9	20.3	29.6	22	28.6	21.1	30	20.5	29.5	19.6	29.6	21.3	30	20.7	29.9	22.3
30	30.6	22.4	29	22.5	29	22.3	31	19.5	30	21	30	21.5	30.5	21	30.5	21.8
31	31.2	21.6	29.5	21.6	29.5	22	30.5	21.5	29.8	22	29.9	22.6	30.2	20.7	29	21.7
Mean	30.3	21.8	29.5	22.6	29.3	21.9	29.5	21.6	29.1	21.5	30.1	22.8	30	21.6	30.9	22.1

Maximum and minimum temperatures of the stations of the Weather Bureau, December, 1920—Ctd.

Day.	Balayan.		Lipa.		Lucena.		Atimonan.		Nasugbu.		Ambulong, Tanauan, Batangas.		Daet.		Mendez Nuñez.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	31	20.5?	27.9	21.2	27.8	21.7	26.8	24.6	33.2	21.8	26.8	24.3	28.1	23.7	23	20.5
2	28.7	23.5	28.6	20.5	29.7	22.7	29.9	23.9	32	20	29.9	24.8	29.3	23.6	24.5	21
3	29.7	24	28.7	20.5	30.5	22.6	28.8	24.2	33	20.5	31.2	24.2	30	22.5	26	20.5
4	31.5	20.7?	28.5	20.1	29.4	21	27.6	24	31	21.5	30.5	22	29.5	23.6	26.3	19.5
5	30.5	23.5	25.5	20.9	25.5	22.1	26.6	24.5	32	20.5	27	24.7	27.3	23.7	23	20.5
6	30	25	27.7	20.5	28.9	22.1	27.6	24.9	32.5	20	28.2	24.7	30.5	24.4	25	21
7	30.2	22.5	25.2	21.3	26.2	22	27.3	23.9	32.1	20	28	23.7	29.6	23.6	25	21.9
8	29	23	27.8	20.3	29	22.1	28.3	23.5	32.5	20.9	29.8	23.7	28.5	23.7	26.5	20.5
9	30	24	29.3	20.7	30.5	22.5	29.1	24	33	21.9	31.7	24.1	30.8	23.6	26.5	20.5
10	30.7	22.5	29.7	18.1	30.5	22.4	29.2	23	33.9	20.5	31.9	23.8	29.5	22.6	27.5	20.5
11	30.5	21.5	31.3	20.8	32	22.8	29.4	23	32.5	21.9	31.8	24.2	30.1	22.3	27.5	20.9
12	32.5	21.8	29.6	22.8	29.5	22.6	29.4	25.7	34	20.9	31.2	24.4	30.2	23.2	26.6	21
13	32	20.5?	28.1	20.8	29.5	22.2	28.9	23.9	34.5	22.5	30.7	23.8	29.7	24.6	26	20.5
14	31.6	22.5	29	19.9	28.5	21.6	27.2	23.9	33	24	30	23.6	29.4	24.3	25	19.9
15	30.5	24	28.8	20	30.5	21.5	29.7	23.6	33.5	22.5	29.7	23.5	29.3	23.3	25	19.9
16	31	22	28	20.7	27.6	21.1	26.9	22.3	34.5	22.5	26.4	23.4	27.3	22.8	24.5	19.8
17	30.6	23.7	27.3	18.2?	28.9	21.6	28.9	24.7	32.9	22.5	29.8	24.8	29.6	24.8	25.3	20.2
18	32	23.5	27.4	21.5	28.1	21.2	27.3	23.8	31.9	21	29.7	24.4	28.6	24.6	24.9	20.1
19	32	21.8	28.7	21.1	28.9	22.2	27.5	23.9	32.9	20.5	30	23.1	29.1	24.4	25.5	19.5
20	30.7	23	26.3	19.6?	27.4	20	26.5	22.2	34.5	21.5	28	21	28.1	22.3	24.5	18.5
21	30	20	27	18.5	27.4	19	25.3	22.2	34.5	20.9	28.3	21.9	27.9	23	24	17.5
22	29.6	21	28.1	19.1	27	19.4	25.7	23.5	33.5	22	29	18.8	27.9	22.1	24.5	16.9
23	29	20.3	29.3	17.6?	27.7	16	26.7	24	33	22	28	18.4	27.3	21.8	24.6	15.2
24	29.8	20.7	28.5	18.1	25	18	25.9	20.5	33.9	22.5	26	18.7	26.6	20.2	21.5	16.5
25	31	22.5	28.3	17.6	27	17.5	26.6	21.8	33.9	22.9	26.9	18.8	27.1	22	22.5	15.9
26	30.5	24	28.8	17.3	26.6	18.3	25.8	21.1	33	22.3	27.3	20.4	25.5	20.2	22	16.5
27	31.8	22	27.1	17.3	27	19.7	26.9	23.2	33.5	22.4	28.3	21.6	26.7	21.8	23	17.8
28	30.5	23	29.1	18.8	28	20.4	27.8	22.1	33.5	21	29.2	22.2	28.9	22.2	24	17.9
29	32.5	20.6?	28.7	16	27.4	20.1	27.1	22.8	32.9	20.9	29.3	23.2	27.5	23	24	18
30	31.5	24	29	19.8	29.5	19.7	29.8	22.5	32.5	20.8	29.8	22.2	28.5	22	25	18.5
31	31.5	24	27.3	17.3?	28	20.4	26.4	22.3	32.9	20.9	28	22.4	28	21	24	18.5
Mean	30.7	22.4	28.2	19.6	28.4	20.9	27.6	23.3	33.1	21.5	29.1	22.7	28.6	22.9	24.7	19.2

Day.	Alfonso.		Indang.		Canluban, Calamba.		Silang.		Maragondon.		Paracale.		Santa Cruz, Laguna.		Buenavista, Malabon, Cavite.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	24	21.5	28.2	21.9	27	22.2	26.1	20.3	27.3	22.3	31	24	27.7	23.1	30.5	20.3
2	26.5	21.5	26.7	21.5	29.6	22.2	26.2	21	29.6	23.1	31	24	28.9	23.4	30.3	21.9
3	27	21.5	27.7	22.1	29.3	22	26	20.1	29.3	23.1	30.8	24	27.9	22.8	29.3	21.7
4	27.2	20.7	28.2	21.2	29.8	21.8	27	20.1	30.6	21.8	31	24.2	29.6	21.1	30.2	21.1
5	23.7	21.6	24.8	22.3	26.6	22	26.7	21.2	27.7	23.3	31	24	25.3	22.8	30.8	20.7
6	25.5	21.4	25.9	22	28	22.1	26	21.8	27.4	22.8	30	29	28.2	23.2	27.7	21.2
7	26.1	22.4	27.9	22.9	28.7	22	27.3	20.3	31.2	23.8	30	29	25.5	23.7	29.8	21.8
8	27.5	21.6	27.7	22.1	29	21.5	26.9	21.5	28	20.8	30	29	28.6	22.6	29.1	21.4
9	28.1	21.5	28.8	22.2	29.8	22.1	27.5	20.1	28	22.2	30	29.2	28.2	22.9	29.7	21.6
10	28.5	21.4	29.1	21.9	30.5	21.9	28.1	21.3	31.5	22.3	30	29.5	30.3	23.3	30.5	21
11	28	21.8	29.5	22.6	31.2	22.1	28	21.6	30.1	23.1	30	29.2	31.4	23	30.2	22.5
12	28	22	28.8	22.4	31	22.2	28.2	22	30.3	22.1	30	29.5	29.6	22.8	31.1	21.7
13	27	21.6	27.9	22	30.2	22	28	21	30	22.1	30	24	28.4	22.8	30	21.3
14	26.5	21	27.3	21.2	30	22.2	27.6	21.2	29.7	21.9	31	24	26.1	23	29.9	21
15	26.2	20.8	27.2	21.4	29.6	21.8	28	20	29.9	22	31	24	29.7	23.1	28.8	21.3
16	25.5	21.6?	26.4	21.2	29	21.8	27.4	21.5	29	22.4	31	24	30.5	22.4	29.5	21.5
17	26.6	20.9	26.6	21.3	29.4	21.5	27.1	21	29.8	21.2	31	24	29.2	22.7	29.8	21
18	26	20.9	26.6	21.3	29.2	22	27.9	21.2	30.4	21.6	30	23.2	28.3	23	29.8	20.8
19	26.1	20.1	27.2	20	30.4	21.8	26	21.8	29.5	20.1	30	23.2	27.2	22.5	29.4	18.6
20	25.1	19.4	26.5	20	28.9	21.5	26.6	20.7	29.2	20.1	30	23.2	26.8	22	28.2	19.2
21	25	18.1	26.2	18.7	28	19.8	27.8	20	28.2	17.1	30	23.8	26.9	20.4	27.8	18.5
22	25.2	17.7	25.4	18	28.4	19	25.5	20.5	27.7	17.6	30.2	24	27.2	20.2	28.4	17.5
23	25	16	26.6	16.8	28.6	16	25	21.4	28	18	31	24	27.8	16.6	28.1	17
24	22.7	17.2	28.8	17.7	26.1	17.6	27.7	20.3	26.3	15.7	30.8	23.5	25.8	19.8	25.7	16.6
25	23.5	17.1	24.4	17.5	27.2	17	25	21	27.1	16.8	30.8	23.5	26.7	18.2	26.5	18.5
26	23.9	17.2	23.6	17.6	27.6	17.2	24.9	17.7	26.7	17.6	30.8	23.8	25.1	19	26.5	16.7
27	24.5	18.6	25.5	19.1	28	17.4	25.8	17.1	28.7	17.8	30.2	23.8	26.8	20.3	27.2	18
28	25.5	19.8?	26.8	19.4	28.8	17.6	25	17.9	30.1	19.8	30.8	23.5	27.1	20.7	28.9	19.9
29	25.5	19.4	26.3	19.9	29.2	19.1	26.2	19	29.5	18.5	30.2	24	26.6	21.6	27.9	19.5
30	26.2	19.1	26.3	19.8	29	20.1	25.8	16.2?	29.2	19.2	31	24.2	28.2	20.9	28.2	20
31	25	19.3	26.6	20.1	27.6	19.6	25.5	16.9?	29.3	18.1	30.5	24	26.3	21	28.7	19
Mean	25.8	20.2	26.8	20.6	28.9	20.6	26.7	20.2	29.1	20.6	30.5	23.7	27.8	21.8	29	20.1

Maximum and minimum temperatures at the stations of the Weather Bureau, December, 1920—Ctd.

Day.	Cavite Naval Station, Cavite.		Manila.		Antipolo.		Balanga.		Malolos.		San Fernando, Pampanga.		San Isidro, Nueva Ecija.		Iba.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	30.6	24.8	27.5	22.9	26.7	21.5	31.8	22.9	22.8	30.5	22.8	29.9	22.1	31.1	22.4	
2	29	24.2	30.5	22.8	30.9	21.2	29.5	23.6	29.5	22.5	29.5	22.8	23	32.4	24	
3	32	24.2	30.2	23.2	27.7	21.9	30.7	23	29.9	22.5	32	30.8	22	31.9	22.8	
4	28.2	25.7	30.5	21.2	29.5	19.5	31.8	22.4	30.4	21.5	32	31.6	20.4	31	22	
5	28.5	24.8	28.2	22.5	26.1	21.1		23	28	22.6	34	29.2	21.8	30.2	22	
6	31.5	24.5	28.6	23.2	27.3		28.6	23.1	28	22.5	29	29.6	22.8	29.5	23.6	
7	31.5	24.7	30	23.1	29	22	32.2	23.1	30.4	23	32	30.4	23	32.4	23.5	
8	32.3	24	30.8	22.3	30	20.9	31.2	22.5	30.2	22.1	30.8	28.1	22.7	33.4	23.3	
9	33	24.4	31.1	22.9	30.3	21.8	31.8	22	31.5	23.7	33	31.4	21.6	31.6	23.8	
10	33.5	25.3	32.5	22.7	31.5	21.3	32.2	23.2	31.4	22	31	31.4	22.5	31.5	23.5	
11	32.3	26	31.2	23.6	30.8	22.2	32.4	23.5	32.1	23.3	32	31.4	22	32.4	22.1	
12	31.5	24.2	31.6	21.8	31.9	21.2	32.7	22.3	31.3	22.3	32	32	21.5	31	22	
13	32	24.8	31.5	22.5	30.8	21	31.9	22.5	31.5	22.3	32	31	21.5	31.4	21.9	
14	31.5	24.8	32	22.7	31.3	20.3	31.7	22	30.5	21.7	31	31	20.2	31.4	21.1	
15	30.5	23.5	31.8	22.3	30.4	20.9	29.7	22.2	30.5	22	29	26.4	22.4	29.4	23.6	
16	31	23.7	31.1	22.9	29.5	21.5	31	22.6	30	22.2	31.2	30.8	22.5	31.2	23.5	
17	31.4	24.3	31	22.2	29.9	20.6	30.7	22.1	29.5	22	30.5	31.6	22.1	31.3	24.2	
18	32	26.7	31.7	21.7	29.7	20.3	30.6	20	29.5	22	30.2	30.4	20.4	32	20.8	
19	31.5	24	31.9	20.2	31.1	19	30.8	20	30	20	35.5	31.2	19.5	30.9	19.9	
20	29.8	23.5	30.6	19.6	29.2	18.7	30.6	18.6	29	19	30.7	30.4	18.8	30.4	19.6	
21	30	22.5	29	19.7	27.7	18	30.4	18.2	29.5	19	30.2	29.9	18.4	30	19	
22	29.5		29.2	19	28.3	17.5	29.9	18	29.5	18.6	30	29.1	18.4	29.6	19.5	
23	28	21.5	28.5	17.6	28.4	16.6	29.7	17.3	29.5	19.7	30	28.8	16.8	29.5	17	
24	28.4	23	28.3	17.3	26	16.7	28.2	17.1	29.2	17.6	30	28.4	17.4	30.3	16.2	
25	29.5	21.8	28.5	18.7	26.6	16.2	26.8	18.2	25.5	17.8	30	27	15.8	29.8	18.3	
26	29.5	21.6	28.7	18	26.8	17	28.8	18.2	27.2	18.4	28.4	28.1	18.5	30	19.5	
27	31	21.6	28.7	18.5	28.3	17.5	29.7	19.2	28.5	18.5	29	28.9	17.9	30	18	
28	30.6	22.8	30.9	19.7	29.9	18	31	19.3	29.5	20	30.5	29.7	18.7	31.2	23.4	
29	30.4	25.2	31.1	20	29.5	19	30.8	20	29.5	20	29.6	30.2	18	32	21	
30	30	23.5	29.1	19.9	29.3	18.8	30	18.7	29.9	19.9	30	28.6	18.8	30.6	17.6	
31	31.4	24	29.8	18.9	29.2	18	29.6	18.5	29.8	19	29.5	29.4	18.9	31.2	20.3	
Mean	30.7	24	30.2	21.1	29.1	19.7	30.6	20.9	29.7	20.9	30.8	29.8	20.3	31	21.3	

Day.	Tarlac.		Baler.		Dagupan.		Bolinao.		Baguio.		San Fernando, La Union.		Candon.		Vigan.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	32.8	19.7	28	22.1	32.5	22.6	31	22.5	26.1	15.3	31.6	22	30.5	23.4	30.1	23.1
2	31.8	22	29	23.3	33.3	24.5	32.7	24.3	24.7	16.2	32	23	31	23.5	31	23.5
3	33.4	20.4	27.9	22.1	31.9	22	30.2	23	22.3	15.5	31.5	22.3	31	23.9	30.5	23.1
4	33.8	19.8	30.5	21.1	34.2	22	32.7	23.6	25	15.2	32.2	22.1	31	25.2	31.5	24.6
5	31.6	20.6	31	21.8	31.2	22.3	30.6	23.7	24.8	15.2	30.5	21	30.5	23.2	29.3	22.8
6	30.4	22.4	29	23.6	31.1	24	30.3	24.8	19.7	15.2	29	23.3	29	24.2	29.6	23.2
7	33.1	22.1	30	23.5	32	24	31.5	25	22.4	16.3	31.3	23	31	24.5	29.6	24.1
8	29.8	22.6	25	22	31.2	23.3	31.8	23.7	23	16	30.7	24.3	30.5	25.2	29.1	24.1
9	33.6	20.3	28.9	21.3	33.2	22.9	31.7	23.7	23.8	15.5	30.8	22.7	30.5	23.9	30.4	22.9
10	32.6	21.2	29.1	22	33.8	23.6	31	24.1	24.8	15.5	31.2	23.1	31	24.6	30	24.2
11	34.8	20.8	29.7	22.7	31.1	23	30.4	25.2	23.3	15	31.3	22.2	31.4	24	30.3	22.8
12	34.4	20.4	29.9	21.7	31.9	24	32	22.8	24.3	16.5	31.7	21.2	31.2	24.8	31.1	23.5
13	31.6	21.2	30.6	22.3	30	23	30.5	23.8	19.9	15	31.3	23.4	29.6	24.8	31.9	23.4
14	32.3	18.8	29	22.5	31.3	21.3	30.4	22.5	23.2	14.8	30.3	21.6	32.2	22.5	31.5	22.4
15	30.6	22.1	28	22.2	30.9	21.9	30.2	22.2	23.3	14.2	30.5	20.6	31.5	23	32.6	23.2
16	33	21.6	33	23	31.2	22	31.9	23.2	23.3	14.7	30.8	22.2	31.7	23.8	34.1	23.5
17	32.6	20.7	27.6	22.4	33	23	32.7	23.9	24.1	14	31.6	22.5	30.9	24.5	33.4	25.4
18	31.8	20.4	28.9	20	33.9	21	32.1	21.5	25.2	14.8	30.8	21.7	31	22.1	30.6	22.4
19	33.4	18	30.5	19.7	31	20.3	30	21.5	22.2	13.6	30	21	30.5	21.5	30	22.1
20	31.8	17.2	30.2	20.1	31.9	19.8	30.2	21.7	21.7	12.6	30	19.9	29.6	21.5	29.6	20.9
21	32.4	16.4	29.1	18.4	30.4	19	29.2	20.4	20.2	11.6	29	18.9	29.4	20.5	29.8	19.2
22	31.6	15.8	28.7	17.8	30.2	19	29.5	19.3	21	11.3	28.7	16.5	29	19	30.5	20.9
23	31.4	16.2	27.2	16.5	29	18.2	28	19.8	20.3	10.7	28.9	16.7	28.4	19	28.4	18.1
24	30.2	15.4	27.7	17.1	30.4	18.8	28.2	18.9	19.7	10.3	29.2	16.3	28.6	19.2	29.5	20.5
25	30.4	17.4	27.2	18.2	30.9	18	28.8	18.9	20	8.6	28.7	16	28.5	18.8	30.1	21
26	29.8	18.2	29	19.3	30.4	17.5	29	17.5	21	9.8	28.8	15.5	28.5	17	30	18.5
27	30.4	17.2	29.7	20.2	30.3	17.8	30.4	18.5	22.7	12.2	29	16.2	28.8	19	28.9	19.6
28	32.6	18.8	31.5	19.9	33.2	21.6	32.2	22.2	23.8	12.7	29.8	19	29.5	20.9	29.7	20.9
29	31.4	17.8	29.1	21.3	33.2	21.3	32.6	21.6	22.3	12.6	32.8	20	29	21	31.6	20.1
30	32.2	18.4	28	21	33	19	30.5	19.2	23.5	12.7	29.5	18.5	29.5	21	29.6	20.9
31	31.6	16.8	29.2	19	29.8	20	29.2	21.4	22.7	12.8	30	20.1	29	20.5	28.1	19.5
Mean	32	19.4	29.1	20.9	31.7	21.3	30.7	22.1	22.7	13.8	30.4	20.5	30.1	22.2	30.4	22.1

Maximum and minimum temperatures at the stations of the Weather Bureau, December, 1920—Ctd.

Day.	Tuguegarao.		Laoag.		Aparri.		Cape Bojeador.		Basco.	
	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.
	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.	°C.
1	31.2	21.7	32.3	20.8	27.2	22.2	29.2	23.4	-----	24.2
2	32.5	21.8	32.2	23.6	31.4	21.8	31.6	24.9	-----	21.5
3	33.9	20.2	31.9	23.2	30.7	21.5	29.7	24.7	-----	23.4
4	32.7	21	32.1	21.8	31.4	21.5	30.8	23.8	-----	24
5	31.4	21	31	22.2	30.8	21.2	30.8	23.7	-----	24.1
6	27	22.8	29.9	22.4	29.5	22.5	30.5	23.6	-----	24.9
7	29	22.8	32.8	23.5	28.2	22.9	28.9	24.5	-----	22.6
8	25.7	22.2	29.3	23.1	25	22	25	19.6	-----	19.1
9	28.6	22	30.1	23.1	24.8	21.9	25.8	18.8	-----	20
10	28	21.8	32	22.3	27.8	21.3	28	22.4	-----	20.9
11	31.2	22.2	31.9	21.5	28.5	21.7	26.8	24.1	-----	22.5
12	27.2	23	32.9	21.2	27	23.1	26.3	23.1	-----	22.8
13	27	22.4	31.2	21.6	28.2	23.7	26.5	22.8	-----	22
14	28.2	21.6	30.7	20.5	25.6	21.1	24.6	20.7	-----	20.1
15	26.8	21.3	32.6	22.1	26.5	21.2	25.6	19.4	-----	20.5
16	29.2	21.7	32.8	21.4	27.7	21.5	26.6	22.3	-----	20.5
17	23.7	21.8	32.6	22.3	27.7	22.5	26.6	23.2	-----	20.5
18	28	21.3	32	19.4	28.5	21.5	28.6	23	-----	22.2
19	28.3	20	31.7	18.2	27.5	21.4	26.2	22.9	-----	21
20	26.2	19.8	30.6	20.4	26.9	20.5	25.3	21.6	-----	20.6
21	26.2	17.6	30.1	16.6	26.5	19.2	25.2	20.6	-----	20
22	27.3	15.6	30	14	26.1	17	25.8	19.5	-----	19
23	27	15.8	29.5	14.6	25.9	16.9	24.6	20.5	-----	18
24	26.3	17.1	28.3	15.4	26.2	18.8	24.4	20.6	-----	18
25	26.2	17.2	29.2	15	24.2	17.4	23.7	19.6	-----	20
26	27	17.5	29.9	13.6	25.8	17	23.5	19.8	-----	18.4
27	28.1	17.6	30.7	14.6	27	18.6	29.2	19.9	-----	22.6
28	29.7	17.2	31.1	15.8	27.4	17.5	30.9	21.8	-----	22.6
29	30.2	17	30.5	16.2	28.6	17.7	29.3	22.4	-----	22
30	30.2	18.3	30.8	18.5	29.8	18.7	29.3	21.4	-----	23.1
31	30.7	18	29.9	17.7	28.9	18.6	28.8	22.2	-----	23.5
Mean	28.5	20	31.1	19.6	27.7	20.5	27.5	22	-----	21.4

SEISMOLOGICAL BULLETIN FOR DECEMBER, 1920

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EARTHQUAKES FELT IN THE PHILIPPINES ¹

1, 13^h 03^m [1, 21^h 03^m]. Butuan (N Mindanao). Earthquake of intensity IV, duration 20 seconds. Light repetition, II-III, at 21^h 07.^m Near origin; surely in the Butuan Bay.

2, 17^h 55^m [3, 1^h 55^m]. Camp Kalaw (E Mindanao). Earthquake shock of intensity III.

4, 19^h 21^m [5, 3^h 21^m]. Cateel (E Mindanao). Earthquake of intensity III-IV, recorded at Butuan. It must have been felt along a great portion of the Pacific coast.

7, 5^h 30^m [7, 13^h 30^m]. Ganassi (N Mindanao). Earthquake of intensity III, three distinct shocks were noticed during about four minutes.

13, 10^h 04^m [13, 18^h 04^m]. Butuan (N Mindanao). Earthquake of intensity III, direction NNE-SSW, long duration but very slow movements.

15, 12^h 08^m 42^{s*} [15, 20^h 08^m 42^s]. Calatagan (SW Luzon). Earthquake of intensity III-IV.

20, 1^h 30^m [20, 9^h 30^m]. Basco (Batanes Islands). Earthquake of intensity IV, duration 2 seconds.

20, 11^h 56^m [20, 21^h 35^m]. Guam (Mariana Islands). Earthquake shock of intensity III.

25, 18^h 04^m [26, 3^h 43^m]. Guam (Mariana Islands). Earthquake shock of intensity III.

¹ The intensity of earthquakes is given in the notation known as the Rossi-Forel scale. The time is that indicated by the seismograph 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 report. All time indications are in Greenwich mean time (midnight=0^h), insular time being added in brackets for the convenience of Philippine readers.

RECORDS OF THE MICROSEISMOGRAPH.

(Time: Greenwich mean. Midnight=0^h. Instrument: Wiechert seismograph; 1,000 kilograms. A_N : $T_0=6.25$, $\epsilon=2,906$, $\frac{r}{T_0^2}=0.053$;
 A_E : $T_0=6.18$, $\epsilon=2,393$, $\frac{r}{T_0^2}=0.042$. Alluvium. 2.40 meters above sea level.)

No.	Date.	Character.	Phase.	Hour.	Period.	Amplitude.		Remarks.
						A_N μ	A_E μ	
354	1	Iv	eP	9 35 05				
			L	35 22				
			M _N	35 25	3	68		
			M _E	35 25	3		71	
		F	39					
355	2	I	e	6 01				
		F	29					
356	4	Ir	eP	23 11 11				
			S	14 39				
			L	15 48				
			M _E	16 42	16		26	
		M _N	16 44	12	23			
	5		F	0 08				
357	5	I	e	22 04 52				
		F	43					
358	6	I	e	1 30 50				NE of Formosa.
		F	2 49					
359	7	Iv	eP	11 57 00				
			F	59				
360	7	I	e	15 23 56				
			F	51				
361	10	Iv	eP?	4 50				Time signal not working, figures approximate. Chili.
			F?	54				
362	10	Iv	e?	5 08				Time signal not working, figures approximate.
			F?	6 52				
363	11	Iv	eP	7 33 20				
			F	35				
364	15	IIv	(PS)	12 08 42				
			L	09 02				
			M _N	09 04	2	333		
			M _E	09 04	2		211	
		F	17					
365	16	IIIr	eP	12 11 29				
			S	15 40				
			L	17 42				
			M _N	18 04	7	1,260		
		F	13 48					
366	17	Iv	eP	3 40 08				
			F	50				
367	18	Ir	e	10 07 14				
			S	09 57				
			L	10 37				
			M _N	11 48	6	59		
			M _E	12 42	7		41	
			F	45				
368	19	Ir	e	20 17 19				
			S	21 17				
			L	22 50				
			M _E	24 33	6		42	
			M _N	24 49	6	38		
			F	41				
369	25	IIr	e	11 39 00				
			S	43 02				
			L	48 45				
			M _N	48 58	12	338		
			M _E	49 13	15		209	
			F	12 54				
370	27	Iv	eP	14 29 34				
			F	32				
371	28	Ir	e	3 22 26				
			S	27 42				
			L	31 20				
			M _N	32 10	13	20		
			M _E	32 27	14		17	
			F	59				
372	30	Iv	eP	0 32 53				
			F	35				

TEMBLORES DE TIERRA SENTIDOS EN FILIPINAS ¹

1, 13^h 03^m [1, 21^h 03^m]. Butuán (N de Mindanao). Temblor de tierra de intensidad IV, duración 20 segundos: repetición débil, II-III, a 21^h 07^m. El origen se hallaba muy cerca; seguramente en la bahía de Butuán.

2, 17^h 55^m [3, 1^h 55^m]. Camp Kalaw (E de Mindanao). Temblor de tierra de intensidad III.

4, 19^h 21^m [5, 3^h 21^m]. Cateel (E de Mindanao). Temblor de tierra de intensidad III-IV. Registrado en Butuán; debió sentirse en una larga extensión de la costa del Pacífico.

7, 5^h 30^m [7, 13^h 30^m]. Ganassi (N de Mindanao). Temblor de tierra de intensidad III, notáronse tres choques distintos durante cuatro minutos.

13, 10^h 04^m [13, 18^h 04^m]. Butuán (N de Mindanao). Temblor de tierra de intensidad III, dirección NNE-SSW, duración larga pero de movimientos muy suaves.

15, 12^h 08^m 42^{s*} [15, 20^h 08^m 42^s]. Calatagan (SW de Luzón). Temblor de tierra de intensidad III-IV.

20, 1^h 30^m [20, 9^h 30^m]. Basco (Islas Batanes). Temblor de tierra de intensidad IV, duración 2 segundos.

20, 11^h 56^m [20, 21^h 35^m]. Guam (Islas Marianas). Temblor de tierra de intensidad III.

25, 18^h 04^m [26, 3^h 43^m]. Guam (Islas Marianas). Temblor de tierra de intensidad III.

¹ La intensidad de los terremotos se indica conforme a la conocida escala de Rossi-Forel. Cuanto a la hora de su ocurrencia, adoptamos la indicada por los sismógrafos 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 medio de Greenwich (medianoche=0^h). Para conveniencia de los lectores de Filipinas se añade también el tiempo insular.

**APPENDIX TO THE MONTHLY BULLETINS
FOR 1920**

**ANNUAL SUMMARY OF METEOROLOGICAL DATA FOR MANILA
DEDUCED FROM TWENTY-FOUR DAILY OBSERVATIONS
DURING THE YEAR 1920**

Month.	Pressure.		Air temperature.									
	Mean.	Departure from normal.	Mean.	Departure from normal.	Mean maximum.	Departure from normal.	Mean minimum.	Departure from normal.	Absolute maximum.	Day.	Absolute minimum.	Day.
January	761.24	+0.07	24.3	-0.5	29.9	-0.2	20.4	0.0	32.3	29	16.5	24
February	61.77	+0.51	25.1	-0.1	31.8	+1.0	20.0	-0.2	33.7	29	15.6	8
March	60.72	+0.19	26.5	-0.1	33.2	+0.7	21.0	-0.3	35.5	31	19.0	27
April	58.94	-0.41	28.0	-0.1	34.4	+0.4	22.7	0	36.0	23	20.0	4,5
May	57.77	-0.55	28.1	-0.3	33.3	-0.4	24.4	+0.5	35.9	4	23.2	14
June	56.87	-0.98	27.6	-0.2	32.4	-0.1	24.2	+0.3	34.7	17, 20	23.2	21
July	55.35	-1.80	26.9	-0.1	30.7	-0.3	24.3	+0.6	33.8	2	23.0	1
August	57.05	-0.24	27.4	+0.4	31.6	+0.9	24.7	+0.9	33.6	25	22.7	21
September	56.98	-0.48	26.8	0	31.4	+0.7	23.6	0	33.5	1	22.4	14
October	58.68	+0.08	26.2	-0.4	31.4	+0.3	22.9	-0.2	32.9	22	20.0	29
November	59.04	-0.32	25.6	-0.2	31.0	+0.5	22.1	0	33.2	22	20.4	1
December	59.86	-0.44	24.5	-0.6	30.2	+0.2	21.1	-0.1	32.5	10	17.3	24
Annual	758.69	-0.36	26.4	-0.2	31.8	+0.3	22.6	+0.1	36.0	IV, 23	15.6	II, 8

Month.	Wind.				Relative humidity.		Vapor pressure.		Cloudiness.		
	Prevailing direction.	Velocity.			Direction at the time of the maximum velocity.	Mean.	Departure from normal.	Mean.	Departure from normal.	Mean.	Departure from normal.
		Total.	Departure from normal.	Hourly maximum.							
January	NE quad.	Km. 4,325.0	Km. -864.8	Km. 26.0	N by E	Per ct. 78.9	Per ct. +0.7	mm. 17.7	mm. -0.3	0-10. 5.8	0-10. +0.3
February	E	4,858.5	-472.0	29.0	SE	75.0	+1.0	17.4	-0.1	4.4	-0.5
March	SE	6,000.0	-774.7	34.5	E	70.7	-0.8	17.8	-0.3	4.2	-0.2
April	SE	6,716.0	-124.3	30.0	SE	69.9	+0.1	19.3	-0.1	3.0	-1.1
May	SW quad.	6,994.0	+92.2	33.0	WSW	79.7	+3.7	22.3	+0.7	6.4	+0.6
June	WSW	6,264.5	-450.7	42.0	WSW	82.5	+1.6	22.4	+0.1	7.3	+0.3
July	SW	13,155.0	+4,717.6	67.0	WSW	87.2	+2.2	22.9	+0.5	8.6	+0.7
August	WSW	9,813.0	+215.8	70.0	WSW	83.5	-1.7	22.5	+0.1	7.1	-0.8
September	NE and SW quads.	5,982.0	-1,658.2	70.0	WSW	85.0	-0.8	22.1	-0.3	7.8	+0.1
October	NE quad.	3,620.5	-1,702.5	24.0	W	83.6	-0.4	20.9	-0.7	6.4	-0.4
November	NE	4,531.5	-298.5	34.0	ESE	83.4	+0.7	20.2	-0.1	6.4	+0.1
December	NE	3,577.5	-1,179.7	27.0	NE	83.5	+2.0	19.0	-0.2	6.5	+0.3
Annual		75,837.5	-2,499.8	70.0		80.2	+0.7	20.4	-0.1	6.2	0

Month.	Evaporation.		Sunshine.		Rainfall.					
	Free exposure, total.	Under shelter, total.	Total.	Departure from normal.	Total.	Departure from normal.	Greatest in a single day.	Day.	Rainy days.	Departure from normal.
January	mm. 99.0	mm. 68.1	h. m. 159 50	h. m. -23 42	mm. 1.8	mm. -23.9	mm. 0.6	3	4	-1
February	129.5	81.1	208 00	+11 21	24.9	+14.3	13.1	14	7	+4
March	178.5	109.5	242 15	+5 33	1.9	-16.3	1.9	17	1	-2
April	192.8	115.6	276 00	+13 54	10.5	-22.6	5.6	3	4	0
May	137.6	84.3	187 40	-41 28	140.9	+34.7	49.9	18	18	+8
June	99.1	64.7	134 55	-34 46	346.6	+109.9	62.9	27	17	+1
July	57.5	52.4	74 00	-66 08	702.7	+286.7	85.0	13	30	+8
August	99.5	70.3	162 10	+22 44	322.5	-69.1	79.1	31	20	-2
September	68.5	52.9	99 15	-34 22	328.3	-37.3	55.8	2	17	-3
October	79.2	56.4	151 45	-11 53	79.3	-111.8	32.6	14	15	-2
November	75.5	57.8	152 30	-10 07	123.7	-4.4	49.5	13	13	+1
December	69.9	53.7	135 45	-18 21	117.9	+55.5	20.5	5	15	+6
Annual	1,286.6	866.8	1,984 05	-187 15	2,201.0	+215.7	85.0	VII, 18	161	+18

CATALOGUE OF PHILIPPINE EARTHQUAKES, 1920^a

Date.	Time of occurrence. (Greenwich mean time.)	Place.	Probable origin or epicenter.		Approximate extension of the shaken area.		Intensity (Rossi-Forel.)	Remarks.
			ϕ	λ	Longer axis.	Shorter axis.		
Jan.	3 12 26	SE Luzon, Samar and Masbate.	12.8 N	124.5 E	Km. 250	Km. 250	V	Registered at Manila. Volcanic origin, Bulusan Volcano. Repetition, IV; 18 minutes latter. Registered at Butuan. Registered at Manila and Batavia. Origin in the Pacific, between Guam and Luzon. Registered in the Far East. Registered at Manila. Distant in the Pacific. Registered at Manila and Batavia. Recorded at Manila. Registered at Manila. Registered at Manila and Batavia. Recorded at Manila and Batavia. Registered at Manila. Recorded at Manila. Registered at Manila. Probably volcanic origin. Recorded at Butuan. Origin in the Pacific. Registered at Manila, Zikawei, and Batavia. Several shocks during a few minutes. Registered at Manila and Butuan. Recorded at Manila and Sydney. Registered at Manila. Repetitions, same intensity, at 2 ^h 0 ^m and 7 ^h 30 ^m of the next day. Very local character. Registered at Butuan. Repetitions next day at 7 ^h 18 ^m and 8 ^h 15 ^m . Volcanic character. Origin E in the Pacific. Registered at Manila. Felt at Manila. Registered at Butuan. Recorded at Manila. Light repetition at 23 ^h 50 ^m . Repetition, IV, at 5 ^h 23 ^m . Recorded at Manila. Registered at Butuan. Origin in the Pacific, SE of Mindanao. Registered over the world. Registered at Manila. Distant origin, N of New Guinea. Registered over the world. Recorded at Manila. Distant origin in the Pacific. Registered at Manila. Registered over the world.
	4 0 18	Victoria (Occidental Negros)					III	
	4 9 30	Guam (Mariana Islands)					IV	
	6 4 31	Butuan (N Mindanao)					III	
	8 9 14	Irosin (SE Luzon)					IV	
	9 11 15	Yap (Western Carolines)					III	
	9 17 05	Camp Keithley (N Mindanao)					III	
	11 2 30	Bilbao (Occidental Negros)					III	
	12 2 55	SE Luzon, Samar and Masbate.	12.4 N	124.0 E	350	300	VI-VII	
	12 13 46	SE Luzon					III	
	15 5 53	N Luzon	18.7 N	121.0 E			IV	
	15 11 54	E Mindanao			400	200	IV-V	
	16 5 01	Butuan (N Mindanao)					III	
	18 6 28	Butuan (N Mindanao)					III	
	20 13 10	Atimonan (E Luzon)					IV	
25 5 45	Aparri (NE Luzon)					IV		
28 0 45	Borongon (E Samar)					III		
31 20 30	Mailag (Central Mindanao)					III		
31 22 53	Butuan (N Mindanao)					III		
Feb.	1 17 52	NE Mindanao and E Visayas	8.6 N	125.2 E	500	300	VI	
	3 18 55	SW Mindanao	6.7 N	123.2 E			III	
	10 2 55	Baler (E Luzon)					III	
	13 15 08	Guam (Mariana Islands)					IV-V	
	15 23 01	Naga (SE Luzon)					IV	
	24 13 15	Canlaon (Occidental Negros)					IV-V	
	25 10 55	Moncayo (E Mindanao)					IV	
	25 22 42	SE Mindanao			300	300	V-VI	
	26 4 30	Mailag (Central Mindanao)					III	
	26 15 20	Central Mindanao	7.9 N	125.0 E	200	200	IV-V	
29 11 28	Guam (Mariana Islands)					IV		
Mar.	2 23 27	Catbalogan (W Samar)					IV	
	12 2 25	Guam (Mariana Islands)					IV	
	13 17 36	Guam (Mariana Islands)					III	
	19 18 16	NE Mindanao	9.0 N	125.4 E			VII	
	21 1 51	Tigaon (SE Luzon)					III	
	22 17 17	Butuan (N Mindanao)					IV	
	24 20 04	San Joaquin (S Panay)					IV	
	25 18 52	Surigao (NE Mindanao)					IV	
	26 2 34	Cebu (Cebu)					III	
	27 12 47	Tigaon (SE Luzon)					III	
30 0 46	Butuan (N Mindanao)					III-IV		
30 2 17	Tigaon (SE Luzon)					III		
Apr.	2 23 11	Camiguin Island (N of Mindanao)					III	
	6 21 15	SE Luzon			250	100	III-IV	
	9 11 41	Baguio (W Luzon)					III	
	18 13 56	S Luzon and Mindoro	13.5 N	121.0 E	350	180	V	
	23 9 40	Ganassi (N Mindanao)					III	
	29 10 04	SE Luzon			200	100	IV	
May	30 16 35	Butuan (N Mindanao)					III	
	2 22 30	Nasugbu (SW Luzon)					III	
	3 5 10	Iba (W Luzon)	15.0 N	119.7 E	250	50	III	
	6 12 33	Moncayo (E Mindanao)					III	
	7 5 43	E Mindanao and Visayas			900	400	VII	
	9 17 11	Central Visayas	11.5 N	123.8 E	300	300	IV-V	
	10 18 54	Butuan (N Mindanao)					II-III	
	11 11 39	Vigan (NW Luzon)					III	
	16 7 45	SE Luzon					III	
	16 21 13	Jolo, W Mindanao, and Visayas.	7.5 N	121.5 E	600	300	VI	
23 6 00	Camp Keithley (N Mindanao)					III		

^a See explanation in Monthly Bulletin of the Weather Bureau for December 1910, page 445.

Catalogue of Philippine Earthquakes, 1920—Continued

Date.	Time of occurrence. (Greenwich mean time.)	Place.	Probable origin or epicenter.		Approximate extension of the shaken area.		Intensity (Rossi-Forel.)	Remarks.	
			ϕ	λ	Longer axis.	Shorter axis.			
	<i>h. m.</i>		$^{\circ}$	$^{\circ}$	<i>Km.</i>	<i>Km.</i>			
May	24	11 43	Lais (SE Mindanao)					Recorded at Manila.	
	25	2 57	Butuan (N Mindanao)						
	29	20 07	SW Luzon	13.6 N	120.5 E	100	100	III	Registered at Manila.
	30	2 33	E Mindanao					III	Origin, Agusan Valley. Recorded at Manila.
	30	14 40	Bogo (N Cebu)					III	
June	1	7 11	W Luzon	16.4 N	120.2 E	150	100	IV	Registered at Manila.
	5	4 24	N Luzon					II-III	Distant origin, E of Formosa.
	6	7 04	Tuburan (N Cebu)					III	
	9	6 25	Lais (SE Mindanao)					III	Recorded at Butuan.
	10	2 31	E Mindanao and Visayas	9.0 N	127.0 E	700	400	VI-VII	Registered over the world. Aftershock, II-III, at 3 ^h 53 ^m ; repetition, IV at 8 ^h 22 ^m .
	10	20 12	Ormoc (W Leyte)					III	Repeated, III, at 21 ^h 01 ^m .
	26	12 57	Moncayo (E Mindanao)					III	Registered at Butuan.
	28	0 43	N Luzon	18.7 N	121.0 E			III-IV	Recorded at Manila.
	29	14 30	Naga (SE Luzon)					II-III	
	30	13 44	Guam (Mariana Islands)					III	
July	1	8 02	Butuan (N Mindanao)					III	
	3	0 28	Butuan (N Mindanao)					II-III	
	9	17 20	Ormoc (W Leyte)					III	
	9	23 17	Butuan (N Mindanao)					II-III	Distant origin in the Pacific. Registered at Manila and Batavia.
	22	15 52	Moncayo (E Mindanao)					IV	Origin, south Agusan Valley.
23	17 35	NE Mindanao	9.0 N	125.4 E	200	200	VII	Registered at Manila. Several instrumental aftershocks during the next fifty hours.	
28	9 52	Butuan (N Mindanao)					II-III		
31	2 19	Butuan (N Mindanao)					III		
Aug.	1	7 00	Candon (NW Luzon)					III-IV	
	1	22 32	Calatagan (SW Luzon)					III	Registered at Manila.
	2	13 16	W Mindanao	7.5 N	123.7 E	200	200	III-IV	Recorded at Manila and Butuan.
	3	3 05	Mindanao Island			600	400	V-VI	Registered in the Far East and America. Origin, probably outside of the Island. Twenty-eight instrumental aftershocks during the next seventy hours.
	4	2 50	Central Mindanao	7.6 N	124.5 E			III-IV	Registered at Butuan.
	9	5 07	Cuyo Island					V	Registered at Manila. Aftershock, III-IV, at 15 ^h 50 ^m .
	9	17 29	Capiz (N Panay)					III	Recorded at Manila.
	10	4 15	Lais (SE Mindanao)					II-III	
	10	16 25	Moncayo (E Mindanao)					IV	Registered at Butuan.
	11	23 25	Glan (S Mindanao)					III	
	12	16 11	SE Mindanao					V	Recorded at Butuan. Probably origin close to Apo Volcano.
	16	2 27	W Luzon					III	Registered at Manila. Origin in Benguet Province.
	17	0 54	Butuan (N Mindanao)					III-IV	
	17	2 10	Cateel (E Mindanao)					III	Repetition at 5 ^h 45 ^m .
	17	21 55	E Mindanao					II-III	Registered at Manila. Distant origin in the Pacific.
19	23 20	E Mindanao	7.8 N	125.5 E	400	150	III		
22	23 14	Butuan (N Mindanao)					II-III	Eleven instrumental shocks in the following twenty-four hours.	
29	8 35	E Mindanao					IV	Registered at Manila. Epicenter, W of Davao Gulf.	
Sept.	9	23 02	NW Luzon			150	150	IV	
	13	6 30	Nasugbu (SW Luzon)					III	
	19	1 51	Guam (Mariana Islands)					III	
	21	1 55	Ormoc (W Leyte)					II-III	
	23	1 21	NE Mindanao					III-IV	Origin, Butuan Bay.
	25	0 34	Butuan (N Mindanao)					II-III	
	26	5 32	Laog (NW Luzon)					III	
	26	19 20	Lais (SE Mindanao)					III	Registered at Butuan.
Oct.	5	4 28	Iba (W Luzon)					III	
	7	4 26	Butuan (N Mindanao)					III	Repetition at 7 ^h 53 ^m . Origin, Butuan Bay.
	8	7 35	Benguet and La Union (W Luzon)	16.4 N	120.5 E	150	100	VII-VIII	Repetition, VII, at 8 ^h 02 ^m . Numerous aftershocks during the next thirty-eight hours. Apparently of rockfall origin. Registered at Zikawei and Taihoku.
	9	12 54	NE Mindanao			150	100	IV	
	10	16 20	Nasugbu (SW Luzon)			300	200	III-IV	
	10	18 19	N Luzon	17.7 N	120.0 E			III-IV	Registered at Manila.
	11	14 15	Nasugbu (SW Luzon)					II-III	
	13	4 04	Guam (Mariana Islands)					IV	Recorded at Manila.
	13	22 57	Calatagan (SW Luzon)					III	Registered at Manila.
	14	18 30	E Mindanao			300	200	IV	
17	11 01	Guam (Mariana Islands)	8.0 N	125.8 E			III-IV	Repetition at 14 ^h 51 ^m .	
18	2 47	Surigao (NE Mindanao)					III	Recorded at Butuan.	

Catalogue of Philippine Earthquakes, 1920—Continued

Date.	Time of occurrence. (Greenwich mean time.)	Place.	Probable origin or epicenter.		Approximate extension of the shaken area.		Intensity (Rossi-Forel.)	Remarks.
			ϕ	λ	Longer axis.	Shorter axis.		
			°	°	Km.	Km.		
Oct. 19	18 51	Iba (W Luzon)					III-IV	Registered at Manila.
22	20 22	Guam (Mariana Islands)					III	Recorded at Manila.
23	5 00	Kidapawan (Central Mindanao)					III	Registered at Manila.
26	7 54	Butuan (N Mindanao)					III-IV	
27	5 23	Guiuan (SE Samar)					IV	Recorded at Manila and Butuan.
28	2 15	Ganassi (N Mindanao)					III-IV	Distant origin in the Pacific. Registered at Butuan.
Nov. 1	8 56	Lais (SE Mindanao)					III	Registered at Manila and Zikawei.
3	15 38	Jolo and W Mindanao	5.7 N	123.0 E	500	500	V-VI	Light repetition at 15 ^h 00 ^m . Origin, far away near Sangir Islands. Recorded over the world. After-shocks at 20 ^h 44 ^m and 4 ^h 00 ^m the next day. Registered at Manila.
5	3 54	Iba (W Luzon)					III	
11	10 25	Guam (Mariana Islands)					III	
16	19 51	Butuan (N Mindanao)					III-IV	
17	7 25	SE Luzon and Samar	13.2 N	124.8 E	400	300	IV-V	Registered at Manila and Butuan.
17	10 51	Cape Bojeador (NW Luzon)					IV-V	
19	1 26	Cotabato (SW Mindanao)					III	Recorded at Butuan.
21	6 58	Laoag (NW Luzon)					III	
25	7 32	Laoag (NW Luzon)					III-IV	
28	19 30	Lais (SE Mindanao)					III	
30	9 11	Jolo Island					II-III	
Dec. 1	13 03	Butuan (N Mindanao)	9.1 N	125.4 E			IV	Light repetition at 21 ^h 07 ^m .
2	17 55	Camp Kalaw (E Mindanao)					III	
4	19 21	Cateel (E Mindanao)					III-IV	Registered at Butuan. Origin, Philippine deep.
7	5 30	Ganassi (N Mindanao)					III	
13	10 04	Butuan (N Mindanao)					III	
15	12 09	Calatagan (SW Luzon)					III-IV	Recorded at Manila.
20	1 30	Batanes Islands					IV	
20	11 56	Guam (Mariana Islands)					III	
25	18 04	Guam (Mariana Islands)					III	

NUMBER OF EARTHQUAKES FELT IN THE PHILIPPINES, FROM 1903 TO 1920.

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1903	12	5	8	8	15	13	9	24	10	12	17	8	141
1904	22	10	10	9	6	8	11	5	11	15	4	6	117
1905	14	8	12	11	10	8	12	10	11	16	8	12	132
1906	13	6	5	12	6	11	9	9	9	11	5	7	103
1907	13	7	10	14	22	17	14	16	5	5	15	7	145
1908	17	6	11	6	13	9	5	11	8	10	15	11	122
1909	11	8	9	13	12	5	12	12	14	10	5	9	120
1910	13	13	14	12	23	18	22	8	12	21	23	17	196
1911	12	14	21	13	17	15	13	27	29	19	16	18	214
1912	14	21	28	16	15	18	22	15	15	14	12	12	202
1913	9	18	25	5	15	15	12	13	11	7	8	10	148
1914	15	17	12	10	5	11	14	12	13	10	13	14	146
1915	11	14	12	11	14	15	18	12	12	14	12	14	159
1916	13	15	12	7	8	8	15	18	20	15	7	5	143
1917	6	11	13	12	11	11	7	12	12	17	21	13	146
1918	12	17	8	12	19	11	16	14	11	13	20	14	167
1919	12	11	16	8	8	16	17	15	13	11	11	13	151
1920	19	11	12	7	15	10	8	18	8	18	12	9	147

The number of violent and destructive earthquakes (VII to X) during these years was 41; the years 1907 and 1913 figuring with 5, 1915, 1919 and 1920 with 4 each. Their monthly distribution is the following: Jan. 3, Feb. 2, Mar. 4, April 4, May 5, June 1, July 3, August 2, September 5, October 4, November 3, December 5.

NUMBER OF SEISMIC DISTURBANCES RECORDED AT MANILA, FROM 1903 TO 1920.

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1903	21	20	13	15	16	6	16	16	8	13	9	14	167
1904	15	19	11	19	17	35	25	18	16	26	18	18	237
1905	30	23	18	22	22	29	28	9	24	26	14	29	274
1906	30	17	22	27	13	35	11	14	14	86	21	26	316
1907	16	12	21	32	35	17	19	15	21	14	43	14	259
1908	16	14	23	15	20	12	14	15	9	108	25	24	295
1909	21	24	24	22	25	14	26	15	20	6	13	7	217
1910	20	17	20	17	17	21	19	11	12	18	15	29	216
1911	16	19	30	22	24	30	31	35	30	28	28	22	315
1912	27	16	30	24	23	35	27	35	20	20	31	34	322
1913	44	20	37	61	42	25	22	41	36	24	13	6	371
1914	22	35	30	48	25	23	24	20	22	26	32	22	329
1915	27	19	21	32	38	33	28	30	30	24	27	31	338
1916	37	46	43	38	37	28	31	28	31	39	22	17	397
1917	31	27	27	35	47	34	39	33	27	43	38	25	406
1918	62	35	32	30	22	37	64	68	45	34	48	53	530
1919	37	31	42	44	47	45	42	23	48	20	24	17	420
1920	30	35	17	25	48	40	30	34	32	47	15	19	372

NUMBER OF SEISMIC DISTURBANCES RECORDED AT BUTUAN, MINDANAO, FROM 1916 TO 1920.

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1916	70	81	98	80	91	85	105	82	86	85	60	97	1020
1917	89	105	70	86	102	69	81	111	77	99	154	115	1158
1918	101	75	71	51	42	---	64	468	292	117	133	151	1565
1919	117	63	212	67	64	87	140	64	79	63	63	57	1076
1920	87	73	54	40	58	81	74	141	65	87	94	70	924

The high figures of August, November, and December, 1917, August to December, 1918, March, 1919 and August 1920, are due to aftershocks following great earthquakes. From the 15th of May to the same date of July 1918 the seismograph did not work.

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	Jan- uary.	Feb- ruary.	March.	April.	May.	June.	July.	Au- gust.	Sep- tember.	Oc- tober.	No- vember.	De- cember.
Meteorological Bulletin, by Rev. José Coronas, S. J.:												
General weather notes	9	31	53	75	97	121	143	177	213	239	273	301
<i>Notas generales del tiempo</i>	11	33	55	77	99	124	152	188	218	242	278	302
Depressions and typhoons	10	32	54	76	98	122	148	178	214	240	274	305
<i>Depresiones y tifones</i>	11	33	55	77	99	124	155	188	218	242	278	305
Meteorological data for Manila	12	34	56	78	100	125	157	192	220	243	280	307
Meteorological data for Baguio	13	35	57	79	101	126	158	193	221	244	281	308
Daily rainfall at the sta- tions of the Weather Bureau	14	36	58	80	102	127	159	194	222	245	282	309
Maximum and minimum temperatures at the sta- tions of the Weather Bureau	18	40	62	84	106	131	163	198	226	249	288	315
Seismological Bulletin, by Rev. Miguel Saderra Masó, S. J.:												
Earthquakes felt in the Philippines	25	47	69	91	113	137	171	205	233	257	295	323
Records of the microseis- mographs	26	48	70	92	114	138	172	206	234	258	296	324
<i>Temblores de tierra senti- dos en Filipinas</i>	28	50	71	94	117	140	174	208	236	261	297	325

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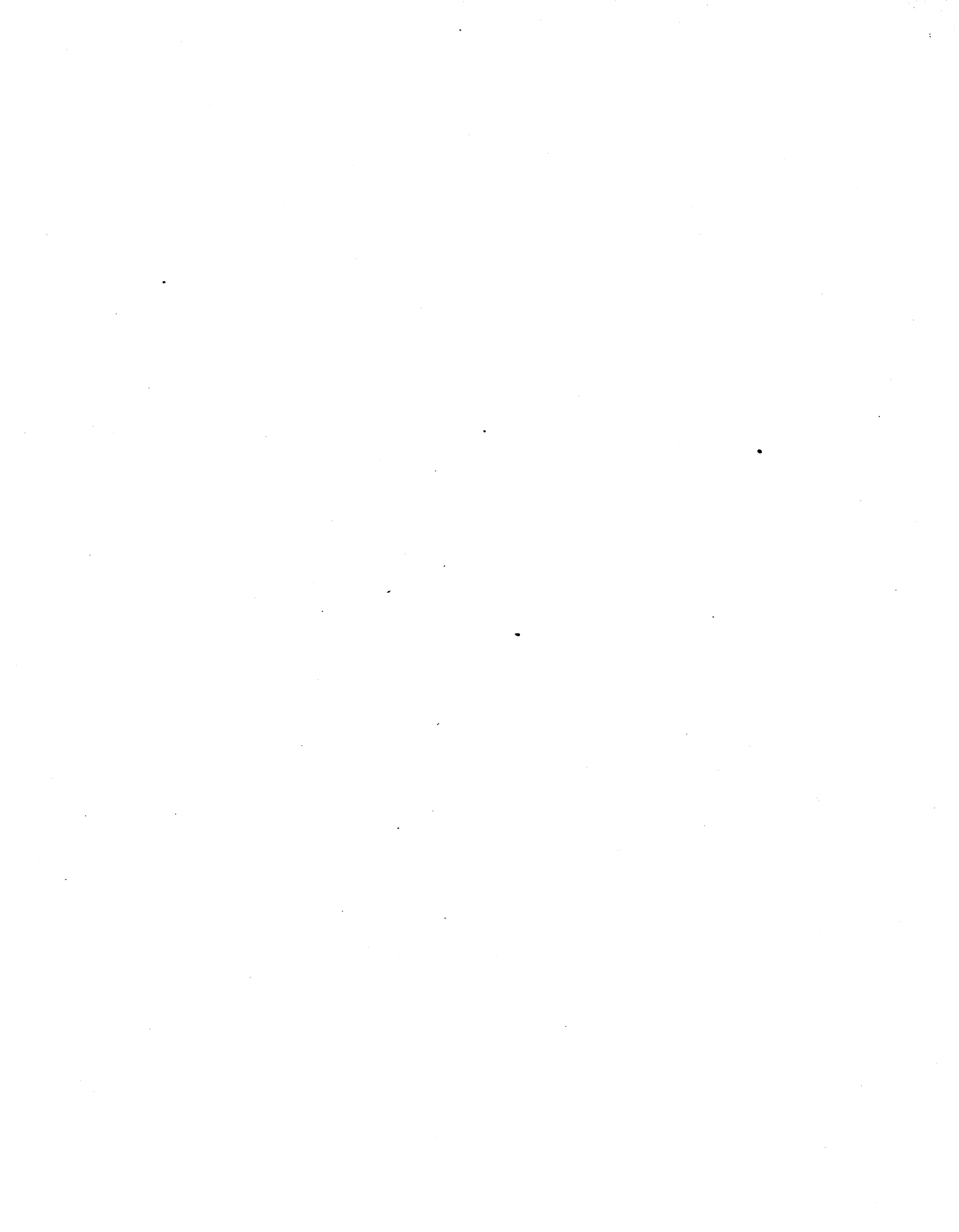
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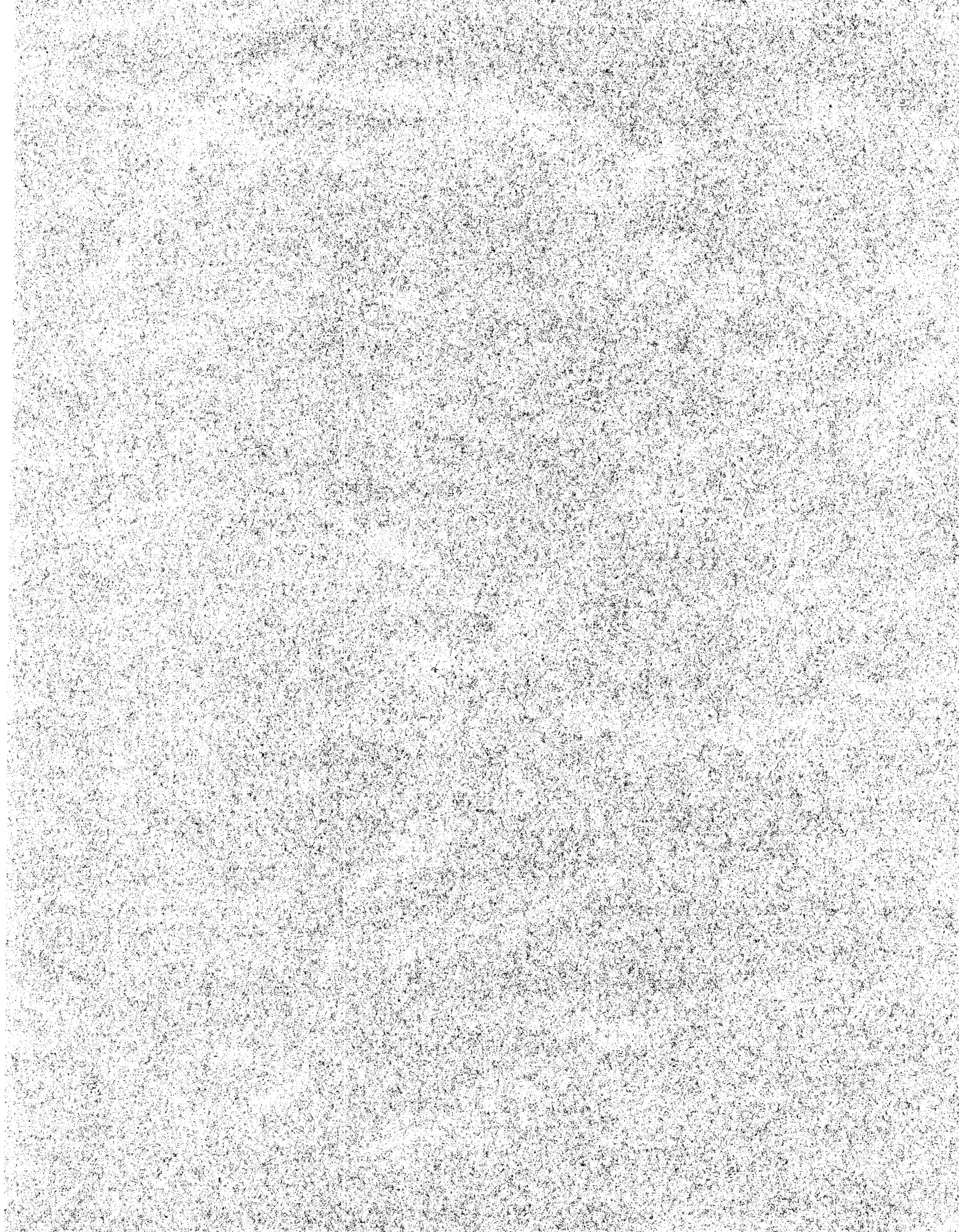
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